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October 11, 1996

ORIGINAL
FILE COPY

Ms. Blanca S. Bayó
Director, Records & Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

961230-TP

Re: MCI's Petition for Arbitration with
Sprint United Telephone Company and
Sprint Central Telephone Company of Florida
Under the Telecommunications Act of 1996

Dear Ms. Bayó:

Enclosed for filing on behalf of MCI Telecommunications Corporation and MCImetro Access Transmission Services, Inc. (collectively, "MCI") are the original and 15 copies of:

1. MCI's Petition for Arbitration Under the Telecommunications Act of 1996, together with exhibits.

2. Direct prefiled testimony of the following MCI witnesses: Don Price, Jerry Murphy, Ronald Martinez, Richard Cabe, Don Wood, and Greg Darnell.

By copy of this letter, these documents have been furnished to the parties on the attached service list.

Very truly yours,

Richard D. Melson

RDM/cc
Enclosures
cc: See service list

84070.1

DOCUMENT NUMBER-DATE
10905 OCT 11 96
FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition by MCI for arbitration of certain terms and conditions of a proposed agreement with Sprint United Telephone Company of Florida and Sprint Central Telephone Company of Florida concerning interconnection and resale under the Telecommunications Act of 1996	Docket No. 961230-TP
	Filed: October 11, 1996

MCI'S PETITION FOR ARBITRATION
UNDER THE TELECOMMUNICATIONS ACT OF 1996

MCI Telecommunications Corporation (MCIT), individually and on behalf of its affiliates, including MCImetro Access Transmission Services, Inc. (MCImetro) (collectively, MCI) hereby petitions the Florida Public Service Commission (Commission) to arbitrate, pursuant to Section 252 of the Telecommunications Act of 1996 (Act),[1] certain terms and conditions of a proposed agreement between MCI and Sprint United Telephone Company of Florida and Sprint Central Telephone Company of Florida (hereinafter collectively referred to as "Sprint").

PARTIES

1. Petitioner's full name and its official business address for its Florida operations are:

MCI Telecommunications Corporation
Suite 700
780 Johnson Ferry Road
Atlanta, GA 30342

[1] Throughout this Petition, references to sections of the Act refer to the Communications Act of 1934 (47 U.S.C. 151 et seq.) as amended by the Telecommunications Act of 1996.

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2. MCIT holds certificates from the Commission as an interexchange carrier (IXC), alternative local exchange telecommunications company (ALEC), alternative access vendor (AAV) and pay telephone service provider (PATS). MCImetro holds certificates from the Commission as an ALEC and AAV. MCIT and MCImetro are both "telecommunications carriers" and "local exchange carriers" under the terms of the Act.

3. The names and addresses of MCI's representatives in this proceeding are:

Richard D. Melson
Hopping Green Sams & Smith, P.A.
123 South Calhoun Street
P.O. Box 6526
Tallahassee, FL 32314

and

Martha McMillin
MCI Telecommunications Corporation
Suite 700
780 Johnson Ferry Road
Atlanta, GA 30342

4. Sprint is a corporation having an office at 1313 Blairstone Road, Tallahassee, Florida 32301. Sprint provides local exchange and other services within its franchised areas in Florida. Sprint is an "incumbent local exchange carrier" under the terms of the Act.

JURISDICTION

5. The Commission has jurisdiction over MCI's Petition pursuant to the provisions of the Act. On May 6, 1996, MCIT formally requested negotiations with Sprint and all of its operating companies on behalf of itself and its affiliates, including MCImetro, pursuant to Section 252(a)(1) of the Act. A copy of that request is attached as Exhibit 1. As permitted by

Section 252(b)(1) of the Act, MCI files this Petition for resolution of open issues between itself and Sprint between the 135th and 160th days following such request. Under Section 252(b)(4)(C) of the Act, the Commission must complete this arbitration within nine months of the date that MCI made its original negotiation request, that is, by February 6, 1997.

SIGNIFICANCE OF THIS PROCEEDING

6. This is an historic proceeding. In 1995, the Florida Legislature took steps to remove the statutory monopoly on local telephone service and the Commission began to conduct proceedings to implement that new law. On February 8, 1996, the President signed into law the Telecommunications Act of 1996, which authorized local competition on a nationwide basis. The federal law contains detailed provisions governing the relationship between incumbent local exchange companies and their new competitors. It gives the state commissions significant responsibilities for implementing the Act consistent with regulations established by the Federal Communications Commission (FCC). On August 8, 1996, the FCC released its decision discussing and adopting significant regulations to implement the local competition provisions of the Act. Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, First Report and Order (adopted August 1, 1996) (FCC Competition Order).

7. The goal of both the Florida and federal laws are the same -- to provide consumers with the new choices, lower prices, and advanced technologies that fair competition will bring to the local telecommunications market. At the same time,

both laws recognize that the transition from monopoly to competition will not occur overnight, that the former monopolists will not willingly embrace the new competitive paradigm, and that continued regulatory oversight is necessary to ensure that competition is given a fair chance to develop.

8. MCI brings a unique perspective to this emerging competitive market. It was born in 1968 as MICOM, renamed MCI in 1971, launched the first competitive shared private line service in 1974, and has grown to be the second largest facilities-based long distance carrier in the United States, and third largest carrier of international traffic in the world. MCI has succeeded in a competitive marketplace. It did not start as a monopolist with captive customers in hand. Every MCI customer had to choose MCI.

9. MCI "grew up the hard way" in the long distance business, and now faces the same challenges as it begins to enter the newly competitive local telecommunications market. MCI understands that competition does not happen overnight. The development of competition requires oversight and intervention by regulators -- particularly when new entrants must rely upon entrenched monopolists possessing market dominance in order to obtain the facilities and services that are vital to their entry into the marketplace.

10. This proceeding, and others like it, will establish the terms and conditions under which competition will begin to develop. It will resolve disputed issues that go to the heart of MCI's ability to compete with Sprint. Consumers can have choice, but only if all parties -- the incumbents, the new

entrants, and this Commission -- take the steps needed to open the local market for competition on fair terms as Congress envisioned in the Act.

11. As the Commission makes its determinations in this proceeding, it should ask:

- Does its decision create an environment that promotes investment and the development of a flourishing array of new services?
- Does it establish prices that mirror a fully competitive market?
- Does it provide vigilant oversight against anti-competitive practices?

If the answer to each of the questions is "yes," then the Commission will have charted a course to bring competition, and all of its benefits, to Florida consumers.

THE NEGOTIATIONS

12. By letter dated May 6, 1996, MCI formally requested negotiations with Sprint pursuant to Section 252 of the Act.

13. The first negotiating meeting pursuant to Section 252 of the Act was held on May 14, 1996. Prior to that meeting, MCI furnished Sprint a copy of Version 3.2 of a document entitled "MCI Requirements for Intercarrier Agreements" which sets forth in detail MCI's requirements for interconnection and access, unbundling, resale, ancillary services and associated arrangements pursuant to the Act (Term Sheet). The Term Sheet, as subsequently revised on June 7, 1996 (Version 4.0), served initially as the focal point of the negotiations. Thereafter,

MCI provided to Sprint a draft interconnection agreement, attached as Exhibit 2, and incorporated by reference as if fully set forth in the body of this Petition, which sets forth in further detail MCI's requirements. An Issues Matrix, in which MCI sets forth the MCI position as contained in Term Sheet Version 4.0 and its understanding of Sprint's response to each item requested by MCI's Term Sheet, is attached as Exhibit 3 and is hereby incorporated by reference as if fully set forth in the body of this petition.

14. Additional meetings and conference calls between MCI and Sprint were held June 6 and 7, 1996, July 10, 1996, September 5, 24 and 25, 1996.

15. The parties never reached agreement on pricing.

16. During the negotiations Sprint has made no proposals to MCI regarding items that Sprint may wish to obtain from MCI.

17. While there was some movement by Sprint in these negotiations, a number of the critical policy and pricing issues remain.

18. As a result of this process, there are several categories of issues, all of which are submitted for arbitration:

(a) There are a number of fundamental policy, pricing, technical, operational and administrative issues where the parties have been unable to reach any level of agreement. These include the pricing of unbundled elements, the availability of all services for resale, the pricing of resold services, and the pricing (and in some cases availability) of certain ancillary services. These issues are submitted for arbitration, and are

not candidates for the "Mediation Plus" arbitration procedures described below.[2]

(b) There are other issues where the parties have not yet reached an agreement in principle, but where further supervised negotiations would be productive. These issues are submitted for arbitration, and MCI believes they are candidates for the Mediation Plus arbitration procedures described below.[3]

(c) There are other issues where MCI believes that the parties may have reached an agreement in principle, but where the parties have not yet agreed to specific contractual language. In some instances, the agreement in principle is in broad terms and there are numerous details to be resolved before contractual language can be developed. These issues are submitted for arbitration to ensure that they are pushed to final resolution during the course of this proceeding. MCI believes that some of them are also candidates for the Mediation Plus arbitration procedures described below.

(d) The Term Sheet Items Summary document attached to this Petition as Exhibit 4, and incorporated herein by reference as though fully set forth in the body of this Petition, shows the categories into which various issues fall, and MCI's recommendation as to which of those issues are candidates for the Mediation Plus arbitration procedures.

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[2] As noted below, the FCC Competition Order resolves some of these issues in whole or in part. Absent an agreement with Sprint, however, these issues are submitted for arbitration to preserve MCI's rights in the event Sprint takes a contrary view of its federal obligations, and to ensure that these obligations are translated into appropriate contractual language.

[3] If MCI's request to apply the Mediation Plus arbitration procedures to some issues is denied, all issues will require arbitration using the procedures previously established by the Commission.

19. As indicated above, the unresolved issues include a number of major issues which will clearly need to be litigated and resolved by the Commission, unless Sprint's position changes substantially as a result of the adoption of the FCC Competition Order. The unresolved issues also include numerous other technical, operational, and administrative issues. Sprint and MCI may have reached agreement in principle on some of these other issues, but those agreements have not been fleshed-out in detail nor incorporated into specific contractual language. At this time, MCI must therefore treat them as unresolved within the meaning of the Act. MCI is optimistic that with the proper Commission-mandated and supervised mechanism in place, many of these items can still be addressed by negotiations, subject to ultimate approval by the Commission.

20. Nevertheless, because of the potentially inflexible arbitration provisions and timetables contained in the Act, MCI is requesting arbitration of all unresolved issues, including those identified for the Mediation Plus arbitration procedure described below, in order to preserve its right to obtain a final arbitrated Commission decision within the federal statutory time frame.

21. The Act does not dictate the specific procedures to be followed by state commissions in conducting arbitration proceedings, but instead leaves wide discretion to the states. The procedures that the Commission has established are well-suited to the resolution of the major issues. The application of those procedures to the multitude of other technical, operational

and administrative issues, however, could result in overburdening the Commission with detailed issues that may yet be capable of negotiated settlement by the parties.

22. MCI therefore proposes that the Commission establish a Mediation Plus arbitration procedure to be followed as part of the overall arbitration process. Under Mediation Plus, the Commission would:

(a) accept all issues for arbitration, but bifurcate the proceeding and refer certain issues to a separate portion of the docket to be addressed through a Mediation Plus arbitration procedure;

(b) direct the parties to continue to negotiate these detailed technical, operational and administrative issues with the assistance of a mediator, preferably a member of the Commission staff;

(c) establish milestones for written progress reports to the Commission and a firm deadline for the conclusion of those negotiations;

(d) require the parties to file with the Commission for approval any agreement that results from the negotiations; and

(e) arbitrate and decide, by the 9-month deadline (February 6) applicable to MCI/Sprint, any detailed technical and operational issues which the parties do not resolve through Mediation Plus.

23. For the technical, operational and administrative issues identified in Exhibit 4 as Mediation Plus issues, MCI requests that the Commission:

(a) establish a November 15, 1996 deadline for the conclusion of the Mediation Plus negotiations, together with a series of earlier progress reporting dates;

(b) establish a December 2, 1996 deadline for the parties to file with the Commission any agreement that results from the negotiations, together with supplemental testimony addressing any issues that remain unresolved; and

(c) schedule a hearing date or dates as may be required to consider these issues on a schedule which is consistent with a final decision by the February 6, 1997 federal deadline.

24. MCI believes that this bifurcated, parallel path approach -- a typical Commission hearing on the major issues together with Commission-supervised mediation followed, if necessary, by a typical Commission hearing on the other unresolved issues -- is the most efficient way to resolve the numerous issues submitted for arbitration.

SUBMISSION OF RELEVANT DOCUMENTATION

25. MCI is filing with its Petition all relevant documentation concerning the unresolved issues, the position of each of the parties with respect to those issues, and the terms and conditions which MCI believes that Sprint has agreed to in principle. Because Sprint has not responded in writing to any of MCI's proposals or positions, this documentation is in the form of an "Issues Matrix" on which MCI has indicated its understanding of Sprint's response to each item requested in MCI's Term Sheet (Version 4.0). A copy of the Issues Matrix is

attached as Exhibit 3, and has previously been incorporated by reference in this Petition.

26. As part of its proposal for Mediation Plus, MCI has categorized the issues to be arbitrated into two groups: those which it believes will require arbitration using the Commission's typical arbitration procedures, and those which it believes are candidates for arbitration using the Mediation Plus arbitration procedures. This categorization is contained in Exhibit 4, the Term Sheet Items Summary.

EFFECT OF THE FCC COMPETITION ORDER

27. The FCC Competition Order will have a significant impact on the conduct of these proceedings. The rules adopted in that order (FCC Competition Rules) are binding on the parties and the state commissions in the conduct of Section 252 arbitration proceedings.[4]

28. In some cases, the FCC Competition Rules place specific requirements on Sprint, and other incumbent LECs.[5] MCI assumes that Sprint will acknowledge the effect of these rules, and will agree to comply with these requirements. Until Sprint has done so, MCI has identified these items as issues to be

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[4] Although stay proceedings concerning the FCC Competition Order and Rules are currently pending, MCI believes that the Commission should nonetheless adhere to those Rules. The United States Court of Appeals for the Eight Circuit has temporarily stayed the Order and Rules pending its resolution of consolidated motions for a stay, and, as of October 8, 1996, it had not as yet resolved those stay motions. Even if the Court extends the stay pending resolution of the merits, states may, of course, rely on the FCC's rules as nonbinding guidelines. Using the Order and Rules in this manner would be consistent with the Comments filed by GTE during the FCC's Rulemaking proceeding, in which GTE urged the FCC to issue non-binding guidelines describing "outcomes that it believes are sufficient to comply with 1996 Act." GTE Comments at 12-13.

[5] For example, the rules (47 C.F.R. §51.319) contain a minimum list of unbundled network elements which must be offered by every incumbent LEC. (See FCC Competition Order, ¶366 et seq.)

arbitrated. Under the FCC Competition Rules, however, there is only one permissible outcome to the arbitration of those issues.

29. In other cases, the FCC Competition Rules establish standards or methodologies that state commissions must apply in resolving issues submitted for arbitration.[6] These standards typically establish the framework within which Commission fact-finding must occur and frequently allocate the burden of proof to the incumbent LEC.[7]

30. In still other cases, the FCC Competition Rules establish default pricing proxies which a state commission may apply in arbitration proceedings if it is unable to conduct or review cost studies that comply with the FCC's prescribed methodology by the arbitration deadline.[8]

31. MCI has attempted in this Petition to identify issues that are resolved or otherwise impacted, in whole or in part, by the FCC Competition Rules. MCI reserves the right to make necessary amendments to this Petition based on further analysis of the rules.

MAJOR CATEGORIES OF UNRESOLVED ISSUES

32. While there are numerous issues that remain unresolved, those issues can generally be categorized into

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[6] For example, the FCC's minimum list of unbundled network elements is not exhaustive. Parties may seek additional unbundled elements, and the state commissions can address those requests through arbitrations or rulemakings. (See FCC Competition Order, ¶366) The FCC has established standards that the state commissions must apply in evaluating such requests. (47 C.F.R. §51.317; see FCC Competition Order, ¶277 et seq.)

[7] For example, an incumbent LEC must provide interconnection for transmission and routing of telephone exchange traffic at any technically feasible point within its network, and if the LEC denies a request for interconnection at a particular point it bears the burden of proving technical infeasiblity. (47 C.F.R. §§51.305(a),(f))

[8] For example, the FCC Competition Rules establish a default ceiling for unbundled loop prices and a default range for the interim wholesale rates for resold LEC services. (47 C.F.R. §§ 51.513, 51.611)

thirteen major areas. The following identifies each of those major areas and MCI's proposal for resolution. Additional details, and specific additional requests, are identified in subsequent sections of this Petition, including the Issues Matrix (Exhibit 3) which has been incorporated by reference into the body of this Petition. Sprint's refusal to accommodate MCI's requests in each of these areas creates unwarranted barriers to local exchange competition by denying MCI the tools necessary to enter the local market and compete on a fair basis. In many cases, Sprint's position is flatly contrary to the Act and/or the FCC Competition Rules.

a. **What unbundled elements must Sprint make available to MCI?** Sprint should be ordered to make available each of the unbundled loop elements, local transport elements, switching elements, and other elements requested by MCI. The unbundling of many of the requested elements has been required by the FCC Competition Rules. (47 C.F.R. §51.319) The unbundling of the remaining requested elements is technically feasible and is not proprietary. Sprint's failure to provide access to those additional requested network elements would decrease the quality of the telecommunications services MCI seeks to offer and/or would increase the financial or administrative cost of offering such services. MCI is therefore entitled pursuant to the FCC Competition Rules to obtain these additional elements on an unbundled basis. (47 C.F.R. §51.317)

b. **Can unbundled elements be used by MCI in any manner that it chooses in order to provide service to its customers?** Yes. The FCC Competition Rules require Sprint to

allow MCI to use unbundled network elements in any combination. (47 C.F.R. §51.315) This rule permits limited exceptions only where Sprint proves that it is not technically feasible to combine elements or that the combination of elements would impair other carriers' ability to obtain access to unbundled elements. (47 C.F.R. §51.315)

c. **How should those unbundled elements be priced?** Sprint should be ordered to price all unbundled elements in accordance with the forward-looking cost methodology prescribed in the FCC Competition Rules. (47 C.F.R. §51.501, et seq.) This TELRIC costing methodology is consistent with the TSLRIC-based pricing that MCI has requested of Sprint.

d. **What services must Sprint make available to MCI for resale?** The FCC Competition Rules require Sprint to offer all retail telecommunications services for resale. (47 C.F.R. §51.605) The services which Sprint has thus far refused to offer for resale include certain promotions, voice mail, inside wire maintenance, calling cards, and volume and term discounts. Each of these is a telecommunications service offered to subscribers on a retail basis. Thus there is no basis under the FCC Competition Rules for Sprint to refuse to offer any of these services for resale.[9] (FCC Competition Order, ¶871-2) Sprint is permitted, however, to base the wholesale price for resold short-term promotions on the ordinary retail rate rather than the promotional rate. (47 C.F.R. §51.613(a)(2)) Sprint

[9] The FCC Competition Order specifically addresses volume based discounts, Lifeline services, and grandfathered services, and concludes that these are retail services that must be made available for resale. (FCC Competition Order, ¶951, 962, 968)

should be ordered to impose no use, user or other restrictions that restrict or limit the resale of any of its services.[10]

e. What is the appropriate wholesale price for services provided for resale? The FCC Competition Rules require Sprint's wholesale price for resold services to reflect all costs that reasonably can be avoided by Sprint when the service is provided on a wholesale basis. (47 C.F.R. §51.607, 51.609) Pending the establishment of wholesale rates using the avoided cost methodology specified in 47 C.F.R. §51.609, the FCC Competition Rules permit a state commission to establish interim wholesale rates that are between 17% and 25% below the incumbent LEC's existing retail rates. (47 C.F.R. §51.611) The wholesale price adjustment in this case should be set at the top end of the default range established by the FCC Competition Rules, or at such other level as is supported by the record in this proceeding.

f. To what extent must Sprint provide "branding" of services provided to end users on behalf of MCI? Sprint should be ordered to brand, as MCI, any operator services, directory assistance services, and any other like services provided to end users who use Sprint local exchange services that are being resold by MCI. Such branding is required by the FCC Competition Rules unless Sprint proves that a particular restriction is reasonable and nondiscriminatory. (47 C.F.R. §51.613(c)). In addition, Sprint should be required to provide

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[10] The Commission is permitted, but not required, to allow Sprint to restrict the resale of flat-rate basic local residential service to residential customers, grandfathered services to grandfathered customers, and Linkup services to qualifying low income customers. (47 C.F.R. §51.613(a)(1)) MCI does not object to these specific restrictions.

branding in all situations where Sprint employees or agents interact with MCI customers with respect to the provision of resold Sprint services or unbundled elements provided to end users on behalf of MCI. (See FCC Competition Order, ¶971)

g. On what time frame must Sprint provide real-time electronic interfaces for pre-ordering, order processing, provisioning and installation, maintenance and trouble resolution, billing (including customer usage data transfer), and local account maintenance with respect to resold services and unbundled network elements? Sprint must provide real-time electronic interfaces to MCI as quickly as possible, but in any event by January 1, 1997, as required by the FCC Competition Order. (¶525) Such interfaces are necessary to permit MCI to offer customer service at least equal in quality to what Sprint provides to its customers. The FCC Rule deals with this issue by defining "operations support system functions" as an unbundled network element which must be made available "as expeditiously as possible, but, in any event, no later than January 1, 1997." (47 C.F.R. §51.319(e)) The FCC Competition Order makes it clear that nondiscriminatory access to this element requires access to any electronic interfaces that are used by Sprint in performing these support functions for its own customers. (FCC Competition Order, ¶523-5) MCI expects that Sprint will comply with the time frame mandated by the FCC Competition Rules. If Sprint refuses to do so, this issue must be resolved by the Commission consistent with those rules.

h. What quality of service standards should be established to ensure that Sprint does not impair the quality

of service that MCI is able to provide to its customers when using unbundled facilities or resold services of Sprint, and what mechanism is appropriate to enforce those standards? The FCC Competition Rules require that, to the extent technically feasible, the quality of unbundled network elements provided to MCI must be at least equal in quality to that which Sprint provides to itself. (47 C.F.R. §51.311(b)) The terms and conditions on which such elements are provided, including installation intervals, must also be no less favorable than the terms and conditions under which Sprint provides such elements to itself. (47 C.F.R. §51.313(b)) Similar quality of service obligations are imposed on Sprint with respect to the provision of resold services. (47 C.F.R. §51.603(b)) Sprint should be ordered to adhere to performance metrics, installation intervals, repair intervals and other standards that are equal to the higher of the standards that Sprint is required to provide, or actually provides, to its own customers or to customers of any other carrier.

i. At what level must Sprint price interexchange carrier access in order to comply with the Act? The FCC Competition Rules prohibit either interstate or intrastate access charges from being imposed on a carrier who offers local exchange service or exchange access service through the use of unbundled network elements. (47 C.F.R. 51.515(a)) During a specified transitional period, ending no later than June 30, 1997, Sprint can collect from carriers who purchase Sprint's unbundled local switching, the interstate CCLC and 75% of the interstate TIC. (47 C.F.R. 51.515(b)) The FCC Competition Order

permits states to also impose a transitional access charge on top of the unbundled switching charge, to the extent that the state finds that such a charge is necessary to ensure that universal service goals are not jeopardized prior to the issuance of the FCC's implementation of Sections 254 and 214(e) of the Telecommunications Act of 1996, which require establishment of a competitively-neutral universal service mechanism. However, the state transitional charge, like the interstate transitional charge, must terminate no later than June 30, 1997. MCI believes that universal service in Florida will not be jeopardized by the availability of unbundled network elements at economic cost in the short interim between resolution of this arbitration and implementation of the FCC's universal service plan. Therefore, MCI opposes any requirement that requires new entrants to pay the state equivalent of the interstate CCLC or TIC for a transitional period. MCI further believes that the burden of proof that such charges are required should be on Sprint.

Additionally, in order to comply with the Act, access charges for both switched and special access must be reduced to TSLRIC as quickly as possible.

j. What is the appropriate cost recovery mechanism for remote call forwarding (RCF) provided to MCI in connection with interim local number portability? Sprint must be ordered to provide RCF on a competitively neutral basis as required by the FCC's recent order on interim local number portability.[11] MCI proposes a "bill and keep" basis, in which

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[11] Telephone Number Portability, CC Docket No. 95-116, First Report and Order and Further Notice of Proposed Rulemaking (adopted July 2, 1996) (FCC Number Portability Order).

each carrier is responsible for recovering from its customers the costs that it incurs in providing RCF.

k. What are the appropriate technical arrangements for the interconnection of MCI's local network with that of Sprint's, including appropriate provisions for colocation? Sprint must be ordered to allow interconnection at any technically feasible point and must not be allowed to require more than one point of interconnection (POI) per local calling area. Sprint must allow Sprint provided services or unbundled elements to be connected at an MCI colocation space to any other facility provided by MCI, Sprint, or any other party. Sprint must give MCI the option to convert existing virtual colocations to physical colocations and Sprint must bear the cost of such conversions.

l. What is the appropriate compensation arrangement for the transportation and termination of local traffic interchanged between Sprint and MCI? In light of the FCC's Competition Order, which apparently allows "bill and keep" arrangements to be applied to the "termination" of local traffic, but not to the "transport" of local traffic, the Commission should set symmetrical charges for transport and termination of local traffic equal to Sprint's TELRIC of providing such transport and termination.

m. What other technical, operational, and administrative provisions are required? In each of the disputed areas identified in the Issues Matrix, Sprint should be ordered to provide interconnection and access, unbundling, resale,

ancillary services and associated arrangements in accordance with the requirements identified by MCI.

ISSUES TO BE ARBITRATED

33. In this section, MCI describes in more detail each of the major categories of unresolved issues from its negotiations with Sprint, MCI's position on each issue, and MCI's understanding of Sprint's contrary position. The Issues Matrix attached as Exhibit 3, which has previously been incorporated into this Petition by reference, contains a more detailed list of the unresolved issues and the parties' respective positions.

A. UNBUNDLED ELEMENTS REQUIRED

34. In order to provide services to Florida consumers as quickly and efficiently as possible, MCI intends to buy from Sprint the "unbundled network elements" identified in paragraph 36 and to use those elements (singly or in combination) along with resold services and with MCI's own facilities, to provide retail services to MCI's customers.

35. Under Section 251(c)(3) of the Act, Sprint has a duty to provide MCI:

> nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory. . . [Sprint] shall provide such unbundled network elements in a manner that allows [MCI] to combine such elements in order to provide. . .telecommunications service.

36. "Network element" is defined in Section 3(29) of the Act as:

> a facility or equipment used in the provision of a telecommunications service. Such term also includes features, functions and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service.

37. The FCC Competition Rules require Sprint, at a minimum, to provide the following seven unbundled network elements: network interface devices, local loops, local and tandem switching capability (including all software features provided by such switches), interoffice transmission facilities, signaling networks and call-related databases, operator services and directory assistance, and, by 1/1/97, operations support systems functions. (47 C.F.R. §51.319)

38. The FCC Competition Rules also establish standards by which state commissions must consider additional unbundling requests, including requests for subloop unbundling. (47 C.F.R. §51.317; see FCC Competition Order, ¶259) Under those rules, the Commission must first make a determination of technical feasibility, using the FCC's definition of that term. (47 C.F.R. §51.5, 51.317(b)) If unbundling is technically feasible, the request for unbundling can be declined only in narrow circumstances where (I) the same telecommunications service can be provided with other unbundled network elements without a decrease in quality, or increase in the financial or administrative cost, of the service, or (ii) the network element

is proprietary and the same service could be offered using nonproprietary network elements. (47 C.F.R. §51.317(b))

39. MCI has requested that Sprint initially provide it with the ability to purchase any of the following unbundled elements.[12] These elements generally fall into six categories:

(a) UNBUNDLED LOCAL LOOPS -- network interface devices, local loops, and one subloop element: loop distribution;

(b) UNBUNDLED LOCAL TRANSPORT -- dedicated interoffice trunks, common interoffice trunks, multiplexing/digital cross connect, and dark fiber;

(c) UNBUNDLED LOCAL SWITCHING -- local and tandem switching capability (including all software features provided by such switches), and access to signaling networks and call-related databases;[13]

(d) UNBUNDLED TANDEM/TRANSIT SWITCHING -- the establishment of a temporary path between two switching offices through a third (tandem) switch;

(e) UNBUNDLED ANCILLARY SERVICES -- operator service, directory assistance service, and 911 service;

(f) UNBUNDLED INTELLIGENT NETWORK AND ADVANCED INTELLIGENT NETWORK CAPABILITIES[14]; and

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[12] This list of network elements is not intended to be exhaustive. Additional network elements may be required as competition develops and/or technology advances.

[13] These are the same as items identified in the Issues Matrix (Exhibit 3) as line ports, trunk ports, switching capacity, and signalling and databases.

[14] MCI is aware that Sprint does not at present have AIN deployed in its network. Based on Sprint's comments during negotiations, MCI believes it is Sprint's intent to, at some time in the future, deploy AIN and MCI is therefore requesting that the Commission, at this time, hear MCI's AIN unbundling request.

(g) UNBUNDLED OPERATIONS SUPPORT SYSTEMS -- the back office and business processes required for order processing, provisioning and installation, trouble resolution, maintenance, customer care, monitoring service quality, recording, and billing.[15]

MCI believes that it is technically feasible for Sprint to offer each of the additional network elements requested, that such network elements are nonproprietary, and that failure to offer such elements would decrease the quality and/or increase the cost of telecommunications service to be provided by MCI. MCI believes that Sprint has agreed to provide some but not all of the requested network elements. In addition, MCI believes that Sprint may be amenable to providing certain unbundled elements pursuant to a bona fide request. See the Issues Matrix, Exhibit 3 to this petition. Absent a written agreement, however, the need for each of these elements is submitted for arbitration. The Commission should order Sprint to unbundle each of the additional network elements as required by the FCC Competition Rules. Each of the requested items will be addresses in turn.

40. Network Interface Device. The network interface device (NID) is the point of demarcation between the end user's inside wiring and an unbundled loop. Sprint's position is that unbundling the NID is not technically feasible. The FCC Competition Rules require incumbent LECs to unbundle the NID to the extent of permitting NID-to-NID connections. (47 C.F.R.

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[15] These unbundled elements are discussed in Section G (¶52) below relating to real-time electronic interfaces.

§51.319(b)) The FCC left to the state commissions the responsibility to determine whether direct connection to the NID (i.e. without the installation by the interconnecting carrier of a second NID) is technically feasible. (FCC Competition Order, ¶396) MCI believes that such direct connection is technically feasible, and accordingly asks the Commission to arbitrate this issue.

41. Loop Distribution. Loop distribution is the subloop element that connects a customer's premises to either a feeder distribution interface or a loop concentrator/multiplexer. MCI requires unbundling of the loop distribution element where, for example, MCI has deployed a local fiber ring and its own switch, but does not own the facilities to span the "last mile" to the customer's premises. MCI is requesting this unbundling at this time only where has existing cross connects.

42. Dim or Dark Fiber. Interoffice trunks provide the ability to connect one location (such as an end office or tandem switch) with another location (such as another end office or tandem switch, or an interexchange carrier's point of presence). This capability allows end users to reach each other even when they are not served by the same end office, or by the same carrier.

MCI requires the ability to obtain interoffice transport in whatever manner is most efficient, given the number and location of its customers and the amount of traffic interchanged with Sprint. This includes the use of both common

and dedicated transport facilities, and the use of both dark and dim fiber.[16]

Sprint has agreed to provide common trunking to MCI. In addition, Sprint has agreed to provide dedicated interoffice trunks to MCI, but only when they are bundled with the electronics necessary to transmit information over the physical path. Sprint's position is that "dim fiber" and "dark fiber" are not network elements subject to the unbundling requirements of the Act.

MCI disagrees. Such facilities are subject to the Act's unbundling requirements, and it is technically feasible to provide them on an unbundled basis. If Sprint refuses to provide such facilities on an unbundled basis, MCI would be required to compensate Sprint for the use of electronics in situations where it can provide all or a portion of such electronics more efficiently itself. MCI has been an industry leader in the deployment of advanced fiber technology. Without the ability to obtain dark fiber, MCI would be limited by the type of electronics used by Sprint, and would not be able to take advantage of new or more cost-effective fiber technologies.

43. Switching Capabilities. Local switching is the network element which consists of all of the functionality residing in a central office switch. It provides a dialtone for each line, provides custom features such as call waiting and call forwarding, creates the desired transmission path for the proper routing of the call (i.e. connects lines to trunks in accordance

[16] Dark fiber refers to fiber without repeaters and without electronics on either end. Dim fiber refers to fiber with repeaters, but without electronics on either end.

with routing instructions contained in the switch), creates customer billing data, and provides data switching functionality.

Access on an unbundled basis to the functions resident in a switch is necessary to create new and innovative services for customers. MCI has begun the deployment of its own local switches in a number of key markets. Such switching capacity represents a major capital investment, and MCI is not capable of deploying such switches in all markets simultaneously.[17] Unless and until MCI installs its own switch in a given market, it must have access to the unbundled functionality resident in the Sprint switch in order to provide the widest possible array of services to its customers.

In particular, MCI needs the capability to have Sprint configure the switch to route specified types of calls originated over MCI customer loops (either unbundled loops obtained from Sprint, or MCI's own loops connected to a Sprint switch) to particular trunk groups designated by MCI. For example, MCI must have the option to specify that its customers' 411 calls be routed either to Sprint DA trunks or to trunks that will transport the call to MCI's DA platform, and the option for 0+ calls to be routed either to Sprint's operator service trunks or to trunks connected to MCI's operator service platform. Without such unbundling, MCI would be precluded from combining its own operator systems and transport facilities (owned or leased) with Sprint's switching functionality, even where that is

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[17] MCImetro has installed thirteen Class 5 switches in major cities around the country, and by the end of the year will be operating local switches in 24 markets in 20 states, including two in Florida. By the beginning of 1997, MCImetro will have invested nearly a billion dollars in local network construction, and if the right rules are in place, will spend almost that much again in 1997 alone dependent on outcomes of arbitrations such as this one.

the most efficient way for MCI to provide service to its customers.

44. Access to Call-Related Databases. MCI requires access to unbundled call-related databases. Sprint has refused to provide such access, on the grounds that it is not required by the Act. The FCC Competition Rules, however, make it clear that unbundled access to such databases is one of the minimum unbundling requirements of the Act. MCI assumes that Sprint will reconsider its position in light of the FCC Competition Order; if not, the Commission must order such unbundling in a manner consistent with that order.

45. Unbundled AIN Capabilities. Sprint today has not deployed AIN in its network. MCI is requesting that at such time when Sprint deploys AIN that MCI have the ability to (1) house MCI specific applications in the Sprint SCP; (2) have access to the Sprint SCP through MCI switching or use of Sprint unbundled switching; (3) provide to MCI access to the Sprint AIN Service Management System and Service Creation Environment. MCI will request such further unbundling/access as it may deem necessary through a bona fide request.

B. USE OF UNBUNDLED ELEMENTS IN COMBINATION

46. MCI requires the ability to use unbundled network singly, or in any combination, in order to provide service to its customers. MCI also requires the flexibility to combine both local and intraLATA traffic over a single trunk group where such combination enables MCI to increase the efficiency with which such trunk groups are utilized.

The FCC Competition Rules prohibit Sprint from placing restrictions on MCI's use of unbundled network elements. With extremely limited exceptions, those rules allow MCI to combine (or cause Sprint to combine) unbundled elements obtained from Sprint with each other, or with elements provided by MCI. (47 C.F.R. §51.315)

C. UNBUNDLED ELEMENTS MUST BE PRICED AT TSLRIC

47. Under Sections 251(c)(3) and 252(d)(1) of the Act, the rate for unbundled network elements must be "just, reasonable and nondiscriminatory." Such rates must "be based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing. . .the network element" and "may include a reasonable profit." Thus the Act requires that prices for unbundled network elements reflect their economic costs.

TSLRIC is a way to measure forward-looking economic cost. TSLRIC includes the incremental costs of providing an entire service using the most efficient available technology. Pricing at TSLRIC enables the firm providing a service to recover all of the costs of the service, including a reasonable profit in the form of a competitive rate of return on its investment. Thus, TSLRIC is the proper standard under the Act for pricing unbundled network elements, since it incorporates both direct economic costs and a reasonable profit.

The FCC Competition Rules adopt a specific TSLRIC methodology for determining the forward-looking economic cost of providing unbundled network elements. (47 C.F.R. §51.505, 51.511) The FCC has chosen to call this methodology TELRIC, to reflect the fact that it applies to "elements" rather than "services."

The FCC Competition Rules require that any price established by a state commission for an unbundled network element may not exceed the forward-looking economic cost per unit of providing the element, as shown by a cost study that complies with the FCC's TELRIC methodology. (47 C.F.R. §51.503, 51.505(e)) That rule specifically prohibits the consideration of embedded costs, retail costs, opportunity costs, or revenues to subsidize other services in the calculation of the forward-looking economic cost of an element. (47 C.F.R. §51.505(d)) The rule does permit a reasonable allocation of forward-looking common costs (47 C.F.R. §51.505(c)), although the FCC recognizes that the level of such costs will likely be small when they are allocated to "elements" rather than "services." (FCC Competition Order, ¶678, 690) The rules also require that such rates be set on a geographically deaveraged basis, for at least three cost-related rate zones. (47 C.F.R. §51.507(f))

The FCC Competition Rules put the burden of proof with respect to the level of both direct costs and common costs on the incumbent LEC, which has superior access to the information necessary to make the required cost calculations. (47 C.F.R. §51.505(e); see FCC Competition Order, ¶680, 695) To the extent that the cost information made available to the Commission by Sprint does not support the adoption of a rate consistent with the prescribed cost methodology, the Commission may establish an interim rate that is consistent with the proxies specified in 47 C.F.R. §51.513. (47 C.F.R. §51.503)

To date, Sprint has not presented to the Commission a cost study which meets the requirements of the FCC

Competition Rules. Until such a study is presented by Sprint or another party, and reviewed in a proceeding in which all affected parties have an opportunity to participate, the Commission cannot set a rate outside of the proxy ranges, or above the proxy ceilings, specified in §51.513 of the FCC's rules. (47 C.F.R. §51.505(e))

The proxy ceiling for unbundled local loops in Florida, on a statewide weighted average basis, is $13.68. Proxy ceilings and, for local switching, a proxy range, are also specified. (47 C.F.R. §51.513(c))

MCI is submitting a new version of the Hatfield Version 2.2.2 study filed on the record at the FCC to support MCI's view of the economic cost that Sprint faces for unbundled elements and transport and termination. The latest Hatfield study is consistent with the FCC's requirements for a TELRIC methodology. The Commission should therefore set rates for unbundled network elements in accordance with the results of that model.

D. ALL SERVICES MUST BE AVAILABLE FOR RESALE

48. Resale means the provision to MCI of any telecommunications service that Sprint provides at retail to end-use customers who are not telecommunications companies. Unrestricted resale is essential to the development of a competitive marketplace. Resale permits carriers to enter markets quickly, without the massive capital investment necessary to provide facilities-based competition. As facilities-based competitors enter the market, the ability of other parties to resell services of both the incumbent and the new entrants helps

to ensure that prices are driven toward cost and helps to prevent monopoly pricing which discriminates among customers based on their willingness to pay.

Section 251(c)(4) of the Act imposes on Sprint (and other incumbent local exchange carriers) the duty:

> (A) to offer for sale at wholesale rates any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers; and
>
> (B) not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of such telecommunications service, . . .
>
> (emphasis added)

The FCC Competition Rules require Sprint to make all of its retail telecommunications services available for resale on nondiscriminatory terms and conditions. (47 C.F.R. §51.603) This obligation applies to all services that meet the statutory definition of a "telecommunications service" and that are provided at retail to customers who are not "telecommunications carriers." (FCC Competition Order, ¶871) The FCC found it unnecessary to specify a minimum list of services that must be available for resale, since the available retail services can be determined by examining the LEC's retail tariffs. (Id., ¶871-2)

Consistent with the requirements of the Act and the FCC Competition Rules, MCI has requested that Sprint make all retail services available for resale. Sprint has stated that it is unwilling to sell certain services to MCI for the reasons

discussed below, none of which is a permitted reason under the Act and the FCC Competition Rules.[18]

Promotions. Promotions typically involve offering a preexisting service at a special price, for free with the purchase of another service, or with the waiver of nonrecurring charges. Sprint's position is that promotions are not required to be available for resale because they are not retail service offerings. The ability to resell these services is critical, however, to prevent Sprint from manipulating promotions in an anti-competitive manner. Without resale, promotions can be expected to extend for long periods and to target key customers. Consistent with the FCC Competition Rules, the Commission must order Sprint to make such promotions available for resale, although the wholesale price level may be computed based on the normal retail rate for any promotions (as defined in the FCC rules) of less than 90 days in duration. (47 C.F.R. §51.613(a)(2); FCC Competition Order, ¶949-50)

Voice Mail, Inside Wire Maintenance, Calling Cards. Sprint has refused to make voice mail, inside wire maintenance, and calling cards available for resale. Its position is that it will continue to offer these Sprint services directly to local exchange customers who are served by MCI in a resale environment. Each of these is a "telecommunications service" offered to persons who are not "telecommunications

[18] Based on its negotiations to date, MCI believes that this is a complete catalog of the services that Sprint refuses to provide for resale. To the extent that Sprint intends to refuse to provide any other retail service for resale, or intends to impose any limitations on MCI's resale of any other service, MCI identifies the resale of such service and the inappropriateness of such limitation as additional issues for arbitration.

carriers" and is therefore subject to the Act's resale requirements.

Volume and Term Discounts. Volume and term discounts are tariffed provisions under which a customer can obtain service at a discounted rate by agreeing to specific usage volumes, or by committing to take service for a specified period of time. Sprint has refused to make such discounts available for resale. As with the other services discussed above, the FCC concluded that volume-based discount offerings must be made available for resale. (FCC Competition Order, ¶951-3)

Lifeline and LinkUp Service. Lifeline and LinkUp provide billing credits to help defray the cost of monthly recurring service and service installation charges for customers who qualify for financial assistance. MCI is unsure of Sprint's position on the resale of Lifeline and LinkUp. The FCC specifically concluded, however, that such services must be made available for resale, subject to a restriction which prohibits their resale to persons not eligible to subscribe directly to Sprint's offering. (FCC Competition Order, ¶956, 962)

E. PRICE FOR RESOLD SERVICES MUST REFLECT AVOIDED COSTS

49. The ability to resell a Sprint service is a hollow gesture unless the resold service is priced in a manner that enables an efficient reseller to offer the service to its customers at a competitive rate. In recognition of this fact, Section 252(d)(3) of the Act provides the pricing standard that the Commission must adhere to in establishing wholesale rates:

> . . .a State commission shall determine wholesale rates on the basis of retail rates charged to

> subscribers for the telecommunications service requested, excluding the portion thereof attributable to any marketing, billing, collection, and other costs that will be avoided by the local exchange carrier.

Congress wisely decided that all marketing, billing and collection costs must be excluded in establishing a wholesale rate, since these activities are not necessary to provide service on a wholesale basis, and instead represent retailing costs comparable to those the reseller will incur when it resells the wholesale service. The Act similarly requires the exclusion of any other category of costs that will be avoided by the local exchange carrier in providing the service on a wholesale basis.

The FCC Competition Rules make it clear that this provision requires that the wholesale price level be reduced not only for costs which Sprint actually avoids, but also for costs which reasonably could be avoided, in the provision of the wholesale service. (47 C.F.R. §51.609(b))

MCI proposed to Sprint that the wholesale price for each service must be determined based on the costs that Sprint can avoid when the service is resold.

Sprint stated its agreement in principle that the price of retail services should reflect avoided costs. However, Sprint has not made a specific proposal to MCI on the wholesale price level, and has provided no specific cost data to document the costs that it claims will be avoided in a wholesale environment.

The FCC Competition Rules prescribe a detailed avoided cost methodology to be used in developing wholesale price levels. (47 C.F.R. §51.609(c)) Those rules place on the LEC the burden of proving that some costs should be included in the wholesale rate, and on the requesting party the burden of proving that other costs should be excluded from the wholesale rate. (47 C.F.R. §51.609(d)) The rules also prescribe a default wholesale price range from 17% to 25% below retail price levels which can be applied by a state commission on a temporary basis in lieu of completing an avoided cost analysis. (47 C.F.R. §51.611)

If an avoided cost study complying with the FCC rules is not submitted in a timely manner that permits its review in this proceeding, then the Commission should set interim wholesale rates at a level 25% below retail rates.

F. Sprint MUST PROVIDE "BRANDING" OF SERVICES FURNISHED ON BEHALF OF MCI

50. In order to provide service that is comparable to that provided by Sprint, MCI must be able to provide services to customers under its own name, rather than that of Sprint. MCI has therefore requested that "branding" of services as MCI be provided whenever there is a point of customer contact between Sprint and an MCI customer with respect to service provided by MCI through resale of Sprint's services, or the use of unbundled network elements. This proposal includes, but is not limited to, branding of: operator services; directory services; repair services; intercept tapes; maintenance tickets, "not at home" notices, and other documents provided to a customer; and so forth.

Sprint in connection with branding of operator services, directory services, and similar services, has indicated it will provide if technically feasible, but has stated MCI must submit a BFR. Sprint is not willing to offer the service outright as requested by MCI. In situations involving documents provided to a customer, Sprint has generally proposed to provide notices or services if MCI pays for preparation of branded materials.

The FCC Competition Rules treat refusal to provide branding upon request as a restriction on resale. (47 C.F.R. §51.613(c)) Sprint can impose such a restriction only if it proves to the Commission that the restriction is reasonable and nondiscriminatory, such as by proving that Sprint lacks the capability to comply with the branding request. (Id.) MCI believes that Sprint will be unable to meet its burden of proof, and submits for arbitration the reasonability of this restriction.

G. REAL-TIME ELECTRONIC INTERFACES MUST BE PROVIDED AS SOON AS TECHNICALLY FEASIBLE

51. When Sprint provides a retail service to its customer, it employs real-time electronic interfaces to create and/or access data for a variety of purposes. These generally fall into the following categories:

(a) ordering processing systems -- the means by which Sprint obtains information regarding a potential customer that is needed to place an order for service, assigns a phone number, and schedules installation;

(b) provisioning and installation systems -- the means by which Sprint places and fills an order for service, and tracks the status of installation activities;

(c) maintenance and trouble resolution systems -- the means by which Sprint arranges for responses to maintenance and repair requests from customers, and tracks the status of its maintenance and repair activities;

(d) billing systems (including customer usage data transfer) -- the means by which MCI is billed for services provided to it by Sprint, including the means by which the customer's usage data is collected and transmitted by Sprint to MCI for billing purposes; and

(e) local account maintenance -- the means by which Sprint can update information regarding a particular customer, such as a change in the customer's features or services.

In order for MCI to provide a comparable quality of service to its customers, it must have access to these same systems via electronic interfaces on a similar real-time basis. Without such capability, MCI will not be able to offer its customers the same quality of service as Sprint, thus hampering its ability to compete.

MCI has therefore requested that Sprint provide real-time electronic interfaces in each of these areas to support both resold services and unbundled network elements For example, real-time electronic ordering systems are required for unbundled network elements, interconnection facilities, interim number portability mechanisms, and customer listing databases.

Sprint has agreed in concept to provide many of the requested real-time electronic interfaces, but has not committed to the details of the interfaces nor the timetable on which they will be made available.

The FCC Competition Rules recognize the critical importance of these interfaces, and require them to be provided no later than January 1, 1997. (47 C.F.R. §51.319(f); see FCC Competition Order, ¶523-5) MCI expects that Sprint will agree to make these electronic interfaces available in the time frame mandated by the FCC Competition Rules. If Sprint refuses to do so, this issue must be resolved by the Commission consistent with those rules.

It is imperative to the development of a competitive local telecommunications market that electronic access to these systems be implemented in the FCC-mandated time frame. MCI's experience in the long distance market, where MCI was a customer of the incumbent LECs rather than a competitor, is that the provision of such systems can take a number of years unless an implementation schedule is established, and implementation is monitored, by an appropriate regulatory authority. MCI therefore requests that the Commission arbitrate the details of the manner in which real-time electronic interfaces to these support systems will be provided, and retain jurisdiction over this proceeding to enforce the timely provision of such interfaces.

H. QUALITY OF SERVICE STANDARDS MUST BE ESTABLISHED AND ENFORCED

52. In order to be able to provide service to its customers that meets or exceeds that provided by Sprint, MCI must receive service from Sprint that is equal in quality to the highest level of quality that Sprint is required to provide, or actually provides, to itself or any other carrier. The FCC Competition Rules incorporate this requirement, by requiring that unbundled network elements be provided on terms and conditions that are no less favorable to the requesting carrier than the terms and conditions under which the incumbent provides such elements to itself. (47 C.F.R. §51.313) A similar quality of service obligation is placed on the incumbent with respect to the provision of services for resale. (47 C.F.R. §51.603)

To ensure meaningful control over service quality, MCI requested that Sprint establish negotiated performance metrics and generally ensure that the quality of service provided to MCI is at least equal to that provided to Sprint itself. For example, MCI proposed that installation, repair, and database updating intervals for services and facilities provided to MCI must be no longer than for Sprint's own services; that services provided to MCI meet the same quality, reliability and performance standards met by Sprint's end user services; and that new comparative reporting mechanisms be established to measure service quality for resold services compared to Sprint's own services. MCI also proposed that the companies agree on a mechanism for dealing with breaches of agreed quality of service standards.

Sprint has agreed in principle that performance metrics should be established, and agreed in concept that an enforcement mechanism would be appropriate. The negotiations never proceeded, however, to the stage where specific performance criteria or a specific enforcement mechanism were agreed to. These issues, therefore, remain to be arbitrated.

In the absence of an agreed enforcement mechanism, MCI proposes that Sprint be required to compensate MCI through a credit against bills for resold services and unbundled network elements for any failure to provide service to MCI that is at least equal in quality to that provided to Sprint itself.

I. TRANSITIONAL RULES FOR INTEREXCHANGE CARRIER ACCESS MUST BE IMPLEMENTED PENDING FULL IMPLEMENTATION OF TSLRIC PRICING.

53. The FCC Competition Rules prohibit either interstate or intrastate access charges from being imposed on a carrier who offers local exchange service or exchange access through the use of unbundled network elements. (47 C.F.R. §51.515(a))

During a specified transitional period, ending no later than June 30, 1997, Sprint can collect from carriers who purchase Sprint's unbundled local switching, the interstate CCLC and 75% of the interstate TIC. (47 C.F.R. 51.515(b)) The FCC Competition Order permits states to also impose a transitional access charge on top of the unbundled switching charge, to the extent that the state finds that such a charge is necessary to ensure that universal service goals are not jeopardized prior to the issuance of the FCC's implementation of Sections 254 and 214(e) of the Telecommunications Act of 1996, which require

establishment of a competitively-neutral universal service mechanism. However, the state transitional charge, like the interstate transitional charge, must terminate no later than June 30, 1997. MCI believes that universal service in Florida will not be jeopardized by the availability of unbundled network elements at economic cost in the short interim between resolution of this arbitration and implementation of the FCC's universal service plan. Therefore, MCI opposes any requirement that requires new entrants to pay the state equivalent of the interstate CCLC or TIC for a transitional period. MCI further believes that the burden of proof that such charges are required should be on Sprint.

In addition, in order to comply with the Act, access charges for both switched and special access must be reduced to TSLRIC as quickly as possible.

J. INTERIM LOCAL NUMBER PORTABILITY COSTS MUST BE RECOVERED ON A COMPETITIVELY NEUTRAL BASIS

54. Section 251(e)(2) of the Act requires that "the cost . . . of number portability shall be borne on a competitively neutral basis as determined by the [FCC]." In Local Number Portability, CC Docket No. 96-116, First Report and Order and Further Notice of Proposed Rulemaking (released July 2, 1996) (FCC Number Portability Order), the FCC adopted rules which provide that any cost recovery mechanism for transitional methods of number portability must be designed so as not to have a disparate effect on the incremental costs of competing carriers seeking to serve the same customer, or to have a disparate effect

on the ability of competing telecommunications carriers to earn a normal return on their investment.

In its explanation of those rules, the FCC noted that a cost recovery mechanism that imposes the entire incremental cost of currently available number portability on a facilities-based new entrant would violate the first criterion in the rules. (Id., ¶134) On the other hand, a cost recovery mechanism that recovers the cost of currently available number portability through a uniform assessment on the revenues of all carriers (less any charges paid to other carriers) would satisfy this criterion. (Id.)

The cost recovery mechanism adopted by this Commission in Order No. PSC-95-1604-FOF-TP issued on December 28, 1995 in Docket No. 950737-TP violates the FCC's criteria, since it places the burden of recovering the entire incremental cost of providing remote call forwarding (RCF) as an interim number portability mechanism on the new entrants.

MCI therefore requests that the Commission arbitrate the compensation mechanism for interim number portability. MCI proposes that the costs incurred by Sprint and MCI in implementing interim number portability be recovered from their respective customers in a "bill and keep" type of arrangement.[19] This method is acceptable under the FCC's rules, and has the virtue of simplicity. It avoids the need to set specific rates and to implement billing systems to support an

[19] This mechanism would be in place unless and until the Commission concludes further generic proceedings on interim number portability to bring its overall policy into compliance with the FCC Rules.

interim number portability mechanism which soon will be supplanted by a permanent database solution.

K. INTERCONNECTION OF MCI'S LOCAL NETWORK WITH THAT OF SPRINT'S MUST BE PERMITTED AT ANY TECHNICALLY FEASIBLE LOCATION AND COLOCATION MUST BE PERMITTED ON REASONABLE TERMS AND CONDITIONS

55. MCI has requested the ability to interconnect its network with Sprint's at any feasible location, including an end office or tandem switch, or a mid-span meet. MCI must have the option, but not be required, to establish more than one point of interconnection (POI) per local calling area.

MCI has requested the ability to allow Sprint provided services or unbundled elements to be connected at an MCI colocation space to any other facility provided by MCI, Sprint, or any other party. MCI has also requested the option to convert existing virtual colocations to physical colocations, with Sprint bearing the cost of such conversions.

MCI believes that Sprint may have agreed in principle to most of these requests, except that Sprint refuses to permit the location of certain types of equipment (such as remote digital line units) in colocation spaces. The parties have not, however, agreed on contractual language.

L. RATES FOR TRANSPORT AND TERMINATION OF TRAFFIC SHOULD BE SET AT TELRIC.

56. Local interconnection relates to the transfer, transport and termination of a local call originated on the network of one local carrier (Sprint or an ALEC) to a customer located on the network of the other. In earlier proceedings under Section 364.162, Florida Statutes, the Commission established mutual traffic exchange (MTE) as the appropriate

compensation mechanism for the exchange of local traffic between Sprint and competing carriers.

The FCC Competition Order and Rules, however, appear to allow the application of "bill and keep" only to the "termination" of traffic (i.e. end-office to customer), and not to the "transport" of traffic (i.e. point-of-interconnection to end-office serving customer). This interpretation of the Act substantially diminishes the advantages of mutual traffic exchange.

In light of the FCC's ruling, MCI requests that the Commission adopt a symmetrical rate for transportation and termination of local traffic equal to Sprint's TELRIC of providing those functions. MCI is submitting an updated version of the Hatfield Model which is consistent with the FCC's requirements for a TSLRIC methodology. The Commission should set rates for transport and termination of local traffic in accordance with the results of that model.

M. OTHER TECHNICAL, OPERATIONAL AND ADMINISTRATIVE ISSUES

57. The following paragraphs discuss other significant technical, operational and administrative issues on which the parties have been unable to reach agreement, and which therefore require resolution by the Commission.

As shown by the Issues Matrix (Exhibit 3), which has been incorporated into this Petition by reference, the narrative portion of this Petition (including the following paragraphs) does not address each and every technical, operational and administrative issue on which the parties have failed to agree. As discussed above, MCI proposes the Mediation

Plus arbitration procedure as the method for handling the arbitration of many of these issues. In the event that MCI's request for Mediation Plus is denied, each of those technical, operational and administrative issues will require resolution through the normal Commission-established arbitration process.

58. Information on Service Changes. To enable MCI to provide new services to its customers in a timely manner, MCI requires Sprint to communicate knowledge of any engineering changes associated with Sprint's network elements, deployment of new technologies, or changes to its retail services as soon as they are known to Sprint. While Sprint appears to agree in principle to advance notification, there is no agreement on the timing or manner of notification.

59. PIC Changes for MCI Customers. When MCI resells a Sprint service, MCI is the appropriate point of contact for changes to the customer's interexchange carrier, regardless of whether the change is initiated by the customer or by an IXC acting pursuant to a customer's letter of authorization. Sprint should thus be prohibited from implementing any PIC changes for services resold by MCI except in response to a request submitted to it through MCI. MCI is uncertain of Sprint's position on this issue.

60. Rights-of-Way, Poles, Ducts and Conduits. Section 251 of the Act requires Sprint to afford MCI access to its rights-of-way, poles, ducts and conduits. Sprint acknowledges this requirement, but takes the position that it can "reserve" unused capacity equal to its five-year forecast of Sprint's needs.

MCI's position is that access to Sprint owned or controlled facilities should not be limited to excess capacity. Instead, MCI should have access to all capacity which is currently available or which can be made available. Sprint should be required to provide regular reports on the capacity status and planned increase in capacity of all their poles, ducts and conduits so that MCI can identify whether or not they are full and plan accordingly. MCI's position is consistent with the FCC's conclusion on this issue. (FCC Competition Order, ¶1170)

61. Bill Format for Unbundled Network Elements. MCI has requested Sprint to provide billing for unbundled network elements in a carrier access billing systems (CABS) format to facilitate standard industry auditing practices. MCI believes that Sprint has agreed in principle to provide billing in something similar to the requested format, but Sprint has not committed to a specific time frame in which such format will be developed and implemented. Until these details are resolved, this issue requires arbitration by the Commission.

62. Engineering Records for Unbundled Facilities. MCI has requested that Sprint provide engineering records for unbundled facilities that it obtains from Sprint. Sprint has refused to provide access to the records in the level of detail required by MCI.

63. Directories. MCI's customers must be able to obtain printed directories that include all customers on the public switched network within a defined geographic area regardless of their local service provider. MCI requires that such directories be available on a nondiscriminatory basis

including, for example, customized covers for directories distributed to MCI customers.

64. Dialing Parity. MCI has requested that Sprint provide dialing parity with no unreasonable dialing delays.

MCI believes that the parties may have reached agreement in principle on many of the dialing parity issues. The parties have not, however, reached agreement on contractual language.

65. Access to Telephone Numbers. MCI has requested that Sprint provide the ability for MCI to obtain code assignments and other numbering resources on the same terms and conditions that Sprint makes available to itself. MCI believes that the parties may have reached agreement in principle on many of these issues, with the exception of access arrangements for 555 line numbers and abbreviated dialing codes, but the parties have not reached agreement on contractual language.

66. General Terms and Conditions of Agreement. The final arbitrated agreement between the parties will require general contractual terms and conditions, such as dispute resolution mechanisms, performance requirements, confidentiality requirements, and other similar items. The parties have not yet reached agreement on these general contractual provisions.

67. Billing Customers of Resold Services. MCI requires the ability to bill its own customers for collect and third-party calls, including receipt of necessary billing information from Sprint. Sprint takes the position that, where MCI provides service using a resold Sprint service, Sprint will maintain the billing records for such calls and will bill the

customer directly. This is an unwarranted attempt to interfere with the business relationship between MCI and its customer.

POST DECISION IMPLEMENTATION AND ENFORCEMENT

68. Section 252(b)(4)(C) requires the Commission to conclude the resolution of the unresolved issues between MCI and Sprint within nine months after Sprint's receipt of MCI's original letter requesting the commencement of negotiations, or by December 26, 1996. That decision is not necessarily the end of the Commission's involvement.

Section 252(c)(3) authorizes the Commission to "provide a schedule for implementation of the terms and conditions by the parties to the [arbitrated] agreement." MCI submits that the Commission has implied authority under this section to retain jurisdiction over the parties to enforce their compliance with any Commission-established implementation schedules, and to resolve disputes regarding their adherence to the terms of the arbitrated agreement.

MCI therefore requests that upon the conclusion of the arbitration proceeding, the Commission expressly reserve its jurisdiction over the parties to enforce the terms and conditions, including implementation schedules, in the arbitrated agreement.

REQUEST FOR RELIEF

WHEREFORE, MCI respectfully requests that the Commission grant the following relief as a result of this Petition:

A. The Commission should arbitrate the unresolved issues between MCI and Sprint within the timetable specified in the Act.

B. The Commission should establish a parallel process known as Mediation Plus to assist the parties in resolving various technical, operational and administrative issues. The Commission should establish a timetable and procedures for the Mediation Plus which permit a final arbitrated decision by the Commission within the federal statutory time frame in the event the parties are unable to resolve the issues through this process.

C. The Commission should issue its order requiring Sprint:

1. To make available each of the unbundled network elements requested by MCI;

2. To allow MCI to use unbundled network elements in any combination;

3. To price all unbundled network elements at their TELRIC;

4. To make all retail services available for resale (including but not limited to, promotions, contract service arrangements, voice mail, inside wire maintenance, calling cards, volume and term discounts, and Lifeline and LinkUp services) with no terms and conditions that restrict or limit their resale, other than a restriction that flat-rate basic local exchange service can be resold only to residential customers, and grandfathered and Lifeline services can be resold only to qualifying customers;

5. To establish a price level for resold services that takes into account all costs that can reasonably be

avoided by Sprint when the service is provided on a wholesale basis;

6. To brand, as MCI, operator services, directory assistance services, and any other like services provided to end users who use Sprint's local exchange services that are being resold by MCI, and to provide branding in all situations where Sprint employees or agents interact with MCI customers with respect to the provision of resold Sprint services or unbundled elements provided to end users on behalf of MCI;

7. To provide real-time electronic interfaces to MCI as quickly as possible, but in any event by January 1, 1997;

8. To adhere to performance metrics, installation intervals, repair intervals and other standards that are equal to the higher of the quality of service standards that Sprint is required to provide, or actually provides, to its own customers or to customers of any other carrier, and to establish a credit mechanism to offset the charge for resold services or unbundled elements where Sprint fails to meet those quality of service standards;

9. To price exchange access in connection with unbundled network elements in a manner consistent with the FCC's transitional pricing rules, and to provide exchange access to all carriers at TSLRIC as quickly as possible;

10. To provide RCF for interim local number portability on a competitively neutral basis in which each carrier recovers its costs from is own customers until the

Commission has readdressed this issue in the generic interim local number portability docket;

11. To interconnect with MCI at any technically feasible point of interconnection, require no more than one POI per local calling area, and to provide colocation on reasonable terms and conditions;

12. To provide transportion and termination of local traffic at symmetrical rates equal to Sprint's TELRIC of providing such transport and termination; and

13. To provide the other disputed interconnection and access, unbundling, resale, ancillary services and associated arrangements in accordance with the requirements identified in the **Issues** Matrix.

D. The Commission should retain jurisdiction of this arbitration until the parties have submitted an agreement for approval by the Commission in accordance with Section 252(e) of the Act.

E. The Commission should further retain jurisdiction of this arbitration and the parties thereto until Sprint has complied with all implementation time frames specified in the arbitrated agreement and that agreement has been fully implemented.

F. The Commission should take such other and further actions as it deems appropriate.

RESPECTFULLY SUBMITTED this 11th day of October, 1996.

HOPPING GREEN SAMS & SMITH, P.A.

By: Richard D. Melson

Richard D. Melson
P.O. Box 6526
Tallahassee, FL 32314
(904) 425-2313

and

MARTHA McMILLIN
MCI Telecommunications Corporation
Suite 700
780 Johnson Ferry Road
Atlanta, GA 30342

ATTORNEYS FOR MCI

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing was furnished to the following parties by hand delivery or by UPS Overnight Delivery (*) this 11th day of October, 1996.

Jerry M. Johns (*)
United Telephone Co. of Fla.
Central Telephone Co. of Fla.
555 Lake Border Drive
Apopka, FL 32703

J. Jeffry Wahlen
Macfarlane Ausley Ferguson
& McMullen
227 S. Calhoun Street
Tallahassee, FL 32301

Donna Canzano
Division of Legal Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399

Attorney

82020.1
COS/960980

EXHIBIT 1
MCI/SPRINT ARBITRATION

MCI Telecommunications
Corporation
8521 Leesburg Pike
Vienna, VA 22182

May 6, 1996

Mr. Alan J. Sykes
Vice President, Revenues
Sprint LTD
Local Telecommunications Division
2330 Shawnee Mission Parkway
Shawnee Mission, KS 66205

Dear Mr. Sykes:

MCI hereby requests Sprint LTD to promptly commence good faith negotiations concerning Sprint LTD's duties under the Telecommunications Act of 1996 (Act) including, among others, its obligations to immediately provide intraLATA equal access (dialing parity) throughout its network. MCI is anxious to work with Sprint LTD to resolve each of the issues necessary to allow the development of full and effective competition, thereby avoiding the need to seek regulatory resolution should agreement not be achieved.

At MCI, we intend to use all of the options available to us under the terms of both Federal and state laws, plus applicable state commission rulings to bring about facilities-based competition in the local market. We intend to purchase unbundled network elements, unbundled service attributes (including directory listings, E911, 411, and others), leased facilities, leased transport, wholesale service for subsequent resale and other approaches combined with our own local network investment to accelerate the process of bringing competitive choice to all telecommunications markets.

We expect Sprint LTD to immediately provide dialing parity capabilities throughout its network. Given MCI's and Sprint LTD's experience in the states on this issue, deployment should be quick and efficient. We would like to meet with Sprint LTD as soon as possible to discuss the methods, procedures and timing of dialing parity deployment.

MCI seeks access and interconnection under the Act for the full range of local exchange, exchange access and interexchange services that MCI will provide. Accordingly, we need MCI's negotiations with Sprint LTD to be comprehensive. They should cover the terms and conditions of our mutual network interconnection, MCI s use of unbundled network elements, resale, removal of any anticompetitive terms and conditions in your current tariff, and any other provisions encompassed by the Act, including access. These negotiations will be on behalf of MCI Telecommunications and all of its affiliates, including MCImetro, and we would also expect to cover all of the Sprint LTD Operating Company operations in these negotiations.

To further expedite these negotiations, MCI has conducted a comprehensive review of the Act and is prepared to provide Sprint LTD with MCI's positions and requirements. MCI would appreciate similar information from Sprint LTD. Sprint LTD should also provide MCI with copies of incremental cost studies of Sprint LTD services and network elements. These steps will allow us to more promptly reach agreement.

We would also appreciate promptly receiving, from Sprint LTD, copies of existing agreements with all other local exchange carriers -- including agreements with incumbent LECs (such as EAS agreements) as well as with new entrants -- plus agreements entered into before February 8, 1996 consistent with Section 252 (a) (1). This information should be sent to me at my offices at the above address.

Since the way in which these issues are resolved will affect all telecommunications carriers we have no objection to making any other parties aware of the nature and content of our discussion with you. This will allow for the open and shared negotiation process that is clearly intended by the Act and is clearly needed to make the process fair and efficient.

I would suggest that a small group of (2-3) executives from each of our companies meet at our offices in Vienna, Virginia to begin discussions. I will be MCI s contact for establishing these negotiations and can be reached at 703-918-6049 to set a mutually convenient date and time.

Sincerely,

Michael A. Beach
Vice President - Local Markets
CC: DON PRICE

MCImetro/ILEC
INTERCONNECTION AGREEMENT
1996

MCImetro/ILEC
INTERCONNECTION AGREEMENT 1996

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MCImetro/ILEC
INTERCONNECTION AGREEMENT 1996

This MCImetro/ILEC Interconnection Agreement 1996 (the "Agreement"), effective *[insert date],* 1996 (the "Effective Date"), is entered into by and between MCImetro Access Transmission Services, Inc. ("MCIm"), a Delaware corporation, on behalf of itself and its Affiliates, and ILEC, a *[insert state of incorporation]* corporation, on behalf of itself and its Affiliates, to establish the rates, terms and conditions for local interconnection, local resale, and purchase of unbundled network elements (individually referred to as the "service" or collectively as the "services").

WHEREAS, the parties wish to interconnect their local exchange networks in a technically and economically efficient manner for the transmission and termination of calls, so that customers of each can seamlessly receive calls that originate on the other's network and place calls that terminate on the other's network, and for MCIm's use in the provision of exchange access ("Local Interconnection"); and

WHEREAS, MCIm wishes to purchase Telecommunications Services for resale to others "Local Resale" or "Services for Resale", and ILEC is willing to provide such service; and

WHEREAS, MCIm wishes to purchase on an unbundled basis network elements, ancillary services and functions and additional features ("Network Elements"), separately or in any combination, and to use such services for itself or for the provision of its Telecommunications Services to others, and ILEC is willing to provide such services; and

WHEREAS, the parties intend the rates, terms and conditions of s Agreement, and their performance of obligations thereunder, to comply with the Cor unications Act of 1934, as amended by the Telecommunications Act of 1996 (the "Act"), the Rules and Regulations of the Federal Communications Commission ("FCC"), and the orders, rules and regulations of the *[insert public utility commission]* (the "Commission");

Now, therefore, in consideration of the terms and conditions contained herein, MCIm and ILEC hereby mutually agree as follows:

PART A – GENERAL TERMS AND CONDITIONS

Section 1. Scope of this Agreement

1.1 This Agreement, including Parts A, B, and C, specifies the rights and obligations of each party with respect to the purchase and sale of Local Interconnection, Local Resale and Network Elements. This PART A sets forth the general terms and conditions governing this Agreement. Certain

terms used in this Agreement shall have the meanings defined in PART B -- DEFINITIONS, or as otherwise elsewhere defined throughout this Agreement. Other terms used but not defined herein will have the meanings ascribed to them in the Act and the FCC's Rules and Regulations. PART C sets forth, among other things, descriptions of the services, pricing, technical and business requirements, and physical and network security requirements.

LIST OF ATTACHMENTS COMPRISING PART C:

I. Price Schedule
II. Local Resale
III. Network Elements
IV. Interconnection
V. Collocation
VI. Rights of Way
VII. Number Portability
VIII. Business Process Requirements
IX. Security Requirements
X. Credits for Performance Standards Failures

1.2 ILEC shall provide the services pursuant to this Agreement. ILEC shall provide the services in any combination requested by MCIm. ILEC shall not discontinue or refuse to provide any service provided or required hereunder without MCIm's prior written agreement, nor shall ILEC reconfigure, reengineer or otherwise redeploy its network in a manner which would impair MCIm's ability to offer Telecommunications Services in the manner contemplated by this Agreement, the Act or the FCC's Rules and Regulations. ILEC agrees that all obligations undertaken pursuant to this Agreement, including without limitation, performance standards, intervals, and technical requirements are material obligations hereof and that time is of the essence.

Section 2. Regulatory Approvals

2.1 This Agreement, and any amendment or modification hereof, will be submitted to the Commission for approval in accordance with Section 252 of the Act. In the event any governmental authority or agency rejects any provision hereof, the parties shall negotiate promptly and in good faith such revisions as may reasonably be required to achieve approval.

2.2 In the event the FCC or the Commission promulgates rules or regulations, or issues orders, or a court with appropriate jurisdiction issues orders, which make unlawful any provision of this Agreement, the parties shall negotiate promptly and in good faith in order to amend the Agreement to substitute contract provisions which are consistent with

such rules, regulations or orders. In the event the parties cannot agree on an amendment within thirty (30) days from the date any such rules, regulations or orders become effective, then the parties shall resolve their dispute under the applicable procedures set forth in Section 23 (Dispute Resolution Procedures) hereof.

2.3 In the event ILEC is required by any governmental authority or agency to file a tariff or make another similar filing in connection with the performance of any action that would otherwise be governed by this Agreement, ILEC shall (i) consult with MCIm reasonably in advance of such filing about the form and substance of such filing, (ii) provide to MCIm its proposed tariff and obtain MCIm's agreement on the form and substance of such tariff prior to such filing, and (iii) take all steps reasonably necessary to ensure that such tariff or other filing imposes obligations upon ILEC that are as close as possible to those provided in this Agreement and preserve for MCIm the full benefit of the rights otherwise provided in this Agreement. In no event shall ILEC file any tariff that purports to govern the services provided hereunder that is inconsistent with the rates and other terms and conditions set forth in this Agreement.

2.4 In the event any governmental authority or agency orders ILEC to provide any service covered by this Agreement in accordance with any terms or conditions that individually differ from one or more corresponding terms or conditions of this Agreement, MCIm may elect to amend this Agreement to reflect any such differing terms or conditions contained in such decision or order, with effect from the date MCIm makes such election. The other services covered by this Agreement and not covered by such decision or order shall remain unaffected and shall remain in full force and effect.

2.5 The parties intend that any additional services requested by either party relating to the subject matter of this Agreement will be incorporated into this Agreement by amendment.

Section 3. Term of Agreement

This Agreement shall become binding upon execution by the parties and continue for a period of _____ years, unless earlier terminated or withdrawn in accordance with Section 20 (Termination). Renewal after the initial term for successive one-year terms shall be at MCIm's option upon written notice to ILEC.

Section 4. Charges and Payment

In consideration of the services provided by ILEC under this Agreement, MCIm shall pay the charges set forth in Attachment I. The billing and payment procedures for charges incurred by MCIm hereunder are set forth in Attachment VIII.

Section 5. Assignment and Subcontract

5.1 Any assignment or delegation by either party to any non-affiliated entity of any right, obligation or duty, or of any other interest hereunder, in whole or in part, without the prior written consent of the other party shall be void. A party assigning or delegating this Agreement or any right, obligation, duty or other interest hereunder to an Affiliate shall provide written notice to the other party. All obligations and duties of any party under this Agreement shall be binding on all successors in interest and assigns of such party. No assignment or delegation hereof shall relieve the assignor of its obligations under this Agreement.

5.2 ILEC may not subcontract the performance of any obligation under this Agreement without MCIm's prior written consent. If any obligation is performed by a subcontractor or Affiliate, ILEC shall remain fully responsible for the performance of this Agreement in accordance with its terms.

Section 6. Compliance with Laws

All terms, conditions and operations under this Agreement shall be performed in accordance with all applicable laws, regulations and judicial or regulatory decisions of all duly constituted governmental authorities with appropriate jurisdiction, and this Agreement shall be implemented consistent with the FCC's First Report and Order in CC Docket No. 96-98, released August 8, 1996 (the "FCC Interconnection Order"). Each party shall be responsible for obtaining and keeping in effect all FCC, state regulatory commission, franchise authority and other regulatory approvals that may be required in connection with the performance of its obligations under this Agreement. In the event the Act or FCC Rules and Regulations applicable to this Agreement are held invalid, this Agreement shall survive, and the parties shall promptly renegotiate any provisions of this Agreement which, in the absence of such invalidated Act, Rule or Regulation, are insufficiently clear to be effectuated.

Section 7. Governing Law

This Agreement shall be governed by and construed in accordance with the Act and the FCC's Rules and Regulations, except insofar as state law may control any aspect of this Agreement, in which case the domestic laws of the State of _____, without regard to its conflicts of laws principles, shall govern.

Section 8. Relationship of Parties

It is the intention of the parties that ILEC be an independent contractor and nothing contained herein shall constitute the parties as joint venturers, partners, employees or agents of one another, and neither party shall have the right or power to bind or obligate the other.

Section 9. No Third Party Beneficiaries

The provisions of this Agreement are for the benefit of the parties hereto and not for any other person, provided, however, that this shall not be construed to prevent MCIm from providing its Telecommunications Services to other carriers. This Agreement shall not provide any person not a party hereto with any remedy, claim, liability, reimbursement, claim of action, or other right in excess of those existing without reference hereto.

Section 10. Intellectual Property Rights and Indemnification

10.1 Any intellectual property which originates from or is developed by a party shall remain in the exclusive ownership of that party. Except for a limited license to use patents or copyrights to the extent necessary for the parties to use any facilities or equipment (including software) or to receive any service solely as provided under this Agreement, no license in patent, copyright, trademark or trade secret, or other proprietary or intellectual property right now or hereafter owned, controlled or licensable by a party, is granted to the other party or shall be implied or arise by estoppel. It is the responsibility of each party to ensure at no additional cost to the other party that it has obtained any necessary licenses in relation to intellectual property of third parties used in its network that may be required to enable the other party to use any facilities or equipment (including software), to receive any service, or to perform its respective obligations under this Agreement.

10.2 The party providing a service pursuant to this Agreement will defend the party receiving such service or data provided as a result of

such service against claims of infringement arising solely from the use by the receiving party of such service and will indemnify the receiving party for any damages awarded based solely on such claims in accordance with Section 11 of this Agreement.

Section 11. Indemnification

11.1 Notwithstanding any limitations in remedies contained in this Agreement, each party (the "Indemnifying Party") will indemnify and hold harmless the other party ("Indemnified Party") from and against any loss, cost, claim, liability, damage and expense (including reasonable attorney's fees) to third parties, relating to or arising out of the libel, slander, invasion of privacy, misappropriation of a name or likeness, negligence or willful misconduct by the Indemnifying Party, its employees, agents, or contractors in the performance of this Agreement or the failure of the Indemnifying Party to perform its obligations under this Agreement. In addition, the Indemnifying Party will, to the extent of its obligations to indemnify hereunder, defend any action or suit brought by a third party against the Indemnified Party.

11.2 The Indemnified Party will notify the Indemnifying Party promptly in writing of any written claim, lawsuit, or demand by third parties for which the Indemnified Party alleges that the Indemnifying Party is responsible under this Section 11 and tender the defense of such claim, lawsuit or demand to the Indemnifying Party. The Indemnified Party also will cooperate in every reasonable manner with the defense or settlement of such claim, demand, or lawsuit. The Indemnifying Party shall keep the Indemnified Party reasonably and timely apprised of the status of the claim, demand or lawsuit. The Indemnified Party shall have the right to retain its own counsel, at its expense, and participate in but not direct the defense, provided, however, that if there are reasonable defenses in addition to those asserted by the Indemnifying Party, the Indemnified Party and its counsel may raise and direct such defenses, which shall be at the expense of the Indemnifying Party.

11.3 The Indemnifying Party will not be liable under this Section 11 for settlements or compromises by the Indemnified Party of any claim, demand, or lawsuit unless the Indemnifying Party has approved the settlement or compromise in advance or unless the defense of the claim, demand, or lawsuit has been tendered to the Indemnifying Party in writing and the Indemnifying Party has failed to promptly undertake the defense.

Section 12. Limitation of Liability

Neither party shall be liable to the other for any indirect, incidental, special or consequential damages arising out of or related to this Agreement or the provision of service hereunder. Notwithstanding the foregoing limitation, a party's liability shall not be limited by the provisions of this Section 12 in the event of its willful or intentional misconduct, including gross negligence, or its repeated breach of any one or more of its material obligations under this Agreement. A party's lost revenue caused by the other party's breach of this Agreement shall be deemed direct damages. A party's liability shall not be limited with respect to its indemnification obligations.

Section 13. Warranties

13.1 Except as otherwise provided herein, each party shall perform its obligations hereunder at a performance level no less than the highest level which it uses for its own operations, or those of its Affiliates, but in no event shall a party use less than reasonable care in the performance of its duties hereunder.

13.2 ILEC warrants that Local Interconnection will be provided in a competitively neutral fashion, at any technically feasible point within its network at MCIm's request, and that such interconnection will contain all the same features, functions and capabilities, and be at least equal in quality to the highest level provided by ILEC to itself or its Affiliates. ILEC shall have the full burden of proving that a requested Interconnection Point ("IP") is not technically feasible. To the extent ILEC proves infeasibility, ILEC shall be required to provide to MCIm an alternative IP which will not impair MCIm's ability to provide its Telecommunications Services. Such alternative IP shall be technically equivalent to the requested IP and shall be subject to the same terms, conditions and price as the requested IP.

13.3 ILEC warrants that it will provide to MCIm on a nondiscriminatory basis unbundled Network Elements and ancillary services, including but not limited to local loop, local switching, tandem switching/transit switching, transport, data switching, intelligent network and advanced intelligent network, operator service, directory assistance, 911, white and yellow pages, and repair and maintenance, at any technically feasible points requested by MCIm, and all operations support systems used and useful in the preordering, ordering, provisioning, design, engineering, maintenance, repair, tracking, management, billing and any other function or functionality associated directly or indirectly with unbundled Network Elements and ancillary services. ILEC further warrants that these services, or their functional components, will contain all the same

features, functions and capabilities and be provided at a level of quality at least equal to the highest level which it provides to itself or its Affiliates. ILEC shall have the full burden of proving that access requested by MCIm is not technically feasible. To the extent ILEC proves infeasibility, ILEC shall be required to provide to MCIm an alternative service, which will not impair MCIm's ability to provide its Telecommunications Services. Such alternative service shall be technically equivalent to the requested service and shall be subject to the same terms, conditions and price as the requested service.

13.4 ILEC warrants that it will provide to MCIm nondiscriminatory access to poles, pole attachments, ducts, innerducts, conduits, building entrance facilities, building entrance links, equipment rooms, remote terminals, cable vaults, telephone closets, building risers, rights of way, and other pathways owned or controlled by ILEC, using capacity currently available or that can be made available. ILEC shall have the full burden of proving that such access is not technically feasible. To the extent ILEC proves infeasibility, ILEC shall be required to provide to MCIm alternative suitable access which will not impair MCIm's ability to provide its Telecommunications Services. Such alternative access shall be technically equivalent to the requested access and shall be subject to the same terms, conditions and price as the requested access.

13.5 ILEC warrants that it will provide to MCIm, in a competitively neutral fashion, unbundled local loops, network interface devices or units, loop distribution, digital loop carrier/analog cross connect, and loop feeders, that contain all the same features, functions, and capabilities that ILEC makes available to itself in provision of its Telecommunications Services or to its Affiliates, with at least the same quality of service, order processing, provisioning and installation, trouble resolution, maintenance, customer care, and billing, as the highest quality ILEC provides equivalent features, functions and capabilities to itself, its Affiliates, or its own subscribers. ILEC shall have the full burden of proving that access to the unbundled local loop or any of its unbundled components is not technically feasible. To the extent ILEC proves infeasibility, ILEC shall be required to provide to MCIm alternative suitable facilities which will not impair MCIm's ability to provide its Telecommunications Services. Such alternative facilities shall be technically equivalent to the requested access and subject to the same terms, conditions and price as the requested access.

13.6 ILEC warrants that it will provide to MCIm unbundled transport and its components, including common transport, dedicated transport, with and without electronics, and multiplexing/digital cross connect, with all the same features, functions and capabilities, and with at least the same quality level which ILEC provides to itself or its Affiliates in provision of its,

or such Affiliate's, Telecommunications Services, and that such services will be provided in a competitively neutral fashion. ILEC shall have the full burden of proving that access to unbundled transport or any unbundled transport components is not technically feasible. To the extent ILEC proves infeasibility, ILEC shall be required to provide to MCIm alternative suitable facilities which will not impair MCIm's ability to provide its Telecommunications Services. Such alternative facilities shall be technically equivalent to the requested access and subject to the same terms, conditions and price as the requested access.

13.7 ILEC warrants that it will provide unbundled local switching and its functional components, including line port, trunk port, and switching capacity, including all features, functions and capabilities, and nondiscriminatory access via electronic interface to databases and associated signaling needed for call routing, call completion, and service creation, and to create and bill the communications path, all at the same or better grade of service that ILEC provides to itself or its Affiliates, unless service degradation is due to MCIm purchasing insufficient capacity to meet its own demand. ILEC further warrants that unbundled local switching and its functional components will be provided in a competitively neutral fashion. ILEC shall have the full burden of proving that access to unbundled local switching or its functional components is not technically feasible. To the extent ILEC proves infeasibility, ILEC shall be required to provide to MCIm alternative suitable facilities which will not impair MCIm's ability to provide its Telecommunications Services. Such alternative facilities shall be technically equivalent to the requested access and subject to the same terms, conditions and price as the requested access.

13.8 ILEC warrants that it will provide nondiscriminatory access to telephone numbers.

13.9 ILEC warrants that it will provide to MCIm, in a competitively neutral fashion, interim number portability with the same features, functions and capabilities that ILEC provides to itself or its Affiliates, and with as little impairment of functioning, quality, reliability, and convenience as possible, and that it will provide such service as required by the FCC in Telephone Number Portability, CC Docket No. 95-116, First Report and Order, released July 2, 1996.

13.10 ILEC warrants that it will provide to MCIm, in a competitively neutral fashion, dialing parity for local exchange service and interexchange service with the same features, functions and capabilities that ILEC provides to itself or its Affiliates, and that it will provide such service as required by the FCC in Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Second Report and

Order and Memorandum Opinion and Order, FCC 96-333, released Aug. 8, 1996, so that MCIm's subscribers experience no greater post-dial delay than similarly-situated ILEC subscribers, and are not required to dial any greater number of digits than similarly situated ILEC subscribers.

13.11 ILEC warrants that with respect to Local Resale, order entry, provisioning, installation, trouble resolution, maintenance, customer care, billing, and service quality will be provided at least as expeditiously as ILEC provides for itself or for its own retail local service or to others, or to its Affiliates, and that it will provide such services to MCIm in a competitively neutral fashion and at a level of quality which allows MCIm in turn to provide Local Resale at a level of quality equal to the highest level of quality ILEC provides for itself for its own retail local service or to others, or to its Affiliates. ILEC warrants further that it will impose no restrictions on MCIm's resale of these services unless specifically sanctioned by the FCC.

13.12 ILEC warrants that it will provide on a nondiscriminatory basis space on its premises for physical or virtual collocation, as MCIm may specify, for equipment necessary for MCIm's interconnection and access to unbundled network elements.

Section 14. Notices

Except as otherwise provided herein, all notices or other communication hereunder shall be deemed to have been duly given when made in writing and delivered in person or deposited in the United States mail, certified mail, postage prepaid, return receipt requested and addressed as follows:

To MCIm: MCImetro Access Transmission Services, Inc.
8521 Leesburg Pike
Vienna, VA 22182

Copy to: General Counsel
MCI Communications Corporation
1801 Pennsylvania Ave, N.W.
Washington, DC 20006

To ILEC:

If personal delivery is selected to give notice, a receipt of such delivery shall be obtained. The address to which notices or communications may be given to either party may be changed by written notice given by such party to the other pursuant to this Section 14.

Section 15. Remedies

15.1 The obligations of ILEC and the services offered under this Agreement are unique. Accordingly, in addition to any other available rights or remedies, MCIm may sue in equity for specific performance and ILEC expressly waives the defense that a remedy in damages would be adequate.

15.2 In the event ILEC fails to switch a subscriber to MCIm service as requested through an MCIm service request, within the intervals set forth in this Agreement, the continued provision of Telecommunications Services by ILEC to such subscriber shall be deemed an illegal change in subscriber carrier selection commencing with the time at which ILEC failed to switch such subscriber. In such event, ILEC shall reimburse MCIm in an amount equal to all charges paid by such subscriber to ILEC from the time of such failure to switch to the time at which the subscriber switch is accomplished. This remedy shall be in addition to all other remedies available to MCIm under this Agreement or otherwise available.

15.3 All rights of termination, cancellation or other remedies prescribed in this Agreement, or otherwise available, are cumulative and are not intended to be exclusive of other remedies to which the injured party may be entitled at law or equity in case of any breach or threatened breach by the other party of any provision of this Agreement. Use of one or more remedies shall not bar use of any other remedy for the purpose of enforcing the provisions of this Agreement. The parties agree that the credits for performance standards failures contained in Attachment X are not inconsistent with any other remedy and are intended only to compensate MCIm, partially and immediately, for the loss in value to MCIm for ILEC's failure to meet Performance Standards.

Section 16. Waivers

16.1 No waiver of any provisions of this Agreement and no consent to any default under this Agreement shall be effective unless the same shall be in writing and properly executed by or on behalf of the party against whom such waiver or consent is claimed.

16.2 No course of dealing or failure of any party to strictly enforce any term, right, or condition of this Agreement in any instance shall be construed as a general waiver or relinquishment of such term, right or condition.

16.3 Waiver by either party of any default by the other party shall not be deemed a waiver of any other default.

Section 17. Survival

The following provisions of this Part A shall survive the expiration or termination of this Agreement: Sections 10, 11, 12, 21, 22, 26 and 27.

Section 18. Force Majeure

Neither party shall be held liable for any delay or failure in performance of any part of this Agreement from any cause beyond its control and without its fault or negligence, such as acts of God, acts of civil or military authority, embargoes, epidemics, war, terrorist acts, riots, insurrections, fires, explosions, earthquakes, nuclear accidents, floods, power blackouts, or unusually severe weather. No delay or other failure to perform shall be excused pursuant to this Section 18 unless delay or failure and consequences thereof are beyond the control and without the fault or negligence of the party claiming excusable delay or other failure to perform. In the event of any such excused delay in the performance of a party's obligation(s) under this Agreement, the due date for the performance of the original obligation(s) shall be extended by a term equal to the time lost by reason of the delay. In the event of such delay, the delaying party shall perform its obligations at a performance level no less than that which it uses for its own operations. In the event of such performance delay or failure by ILEC, ILEC agrees to resume performance in a nondiscriminatory manner and not favor its own provision of Telecommunications Services above that of MCIm.

Section 19. Non-Discriminatory Treatment

In addition to provisions under the Act and the FCC's Rules and Regulations, in the event ILEC provides any of the services provided hereunder to any other entity by tariff or agreement, ILEC will permit MCIm an opportunity to inspect such tariff or agreement and upon MCIm's request, ILEC will immediately offer MCIm such service on the same material terms, with effect from the date ILEC first made such tariff effective or entered into such arrangement and for the remainder of the term of this Agreement. The other services covered by this Agreement shall remain unaffected and as to such services this Agreement shall remain in full force and effect.

Section 20. Termination

20.1 In the event of breach of any material provision of this Agreement by either party, the non-breaching party shall give the other party written notice thereof, and:

20.1.1 If such material breach is for non-payment of amounts due hereunder pursuant to Attachment VIII, Section 3.1.18, the breaching party shall cure such breach within thirty (30) days of receiving such notice. The non-breaching party shall be entitled to pursue all available legal and equitable remedies for such breach. Amounts disputed in good faith and withheld or set off shall not be deemed "amounts due hereunder" for the purpose of this provision.

20.1.2 If such material breach is for any failure to perform in accordance with this Agreement, which, in the sole judgment of the non-breaching party, adversely affects the non-breaching party's subscribers, the non-breaching party shall give notice of the breach and the breaching party shall cure such breach to the non-breaching party's reasonable satisfaction within ten (10) days or within a period of time equivalent to the applicable interval required by this Agreement, whichever is shorter, and if breaching party does not, the non-breaching party may, at its sole option, terminate this Agreement, or any parts hereof. The non-breaching party shall be entitled to pursue all available legal and equitable remedies for such breach. Notice under this Subsection 20.1.2 may be given electronically or by facsimile and in such case shall be deemed received when sent.

20.1.3 If such material breach is for any other failure to perform in accordance with this Agreement, the breaching party shall cure such breach to the non-breaching party's reasonable satisfaction within forty-five (45) days, and if it does not, the non-breaching party may, at its sole option terminate this Agreement, or any parts hereof. The non-breaching party shall be entitled to pursue all available legal and equitable remedies for such breach.

20.2 MCIm may terminate this Agreement in whole or in part at any time for any reason upon sixty (60) days prior written notice, except with respect to termination of any particular service(s), in which case, upon thirty (30) days prior written notice. MCIm's sole liability shall be payment of amounts due for services provided up to the date of termination.

20.3 In the event of any termination under this Section 20, ILEC agrees to provide for an uninterrupted transition of services to MCIm or another vendor designated by MCIm.

20.4 Notwithstanding any termination hereof, the parties shall continue to comply with their obligations under the Act to provide interconnection.

Section 21. Confidentiality and Publicity

21.1 All confidential or proprietary information disclosed by either party during the negotiations and the term of this Agreement shall be protected by the parties in accordance with the terms of this Section 21. All information which is disclosed by one party ("Disclosing Party") to the other ("Recipient") in connection with this Agreement, or acquired in the course of performance of this Agreement, shall be deemed confidential and proprietary to the Disclosing Party and subject to this Agreement, such information including but not limited to, orders for services, usage information in any form, and Customer Proprietary Network Information ("CPNI") as that term is defined by the Act and the rules and regulations of the FCC ("Confidential Information").

21.1.1 For a period of ten (10) years from receipt of Confidential Information, Recipient shall (i) use it only for the purpose of performing under this Agreement, (ii) hold it in confidence and disclose it only to employees who have a need to know it in order to perform under this Agreement, and (iii) safeguard it from unauthorized use or Disclosure using no less than the degree of care with which Recipient safeguards its own Confidential Information. Recipient must obtain written authorization from Disclosing Party before disclosing Confidential Information to any third party agent or consultant, and such third party must have executed a written agreement comparable in scope to the terms of this Section 21.

21.1.2 Recipient shall have no obligation to safeguard Confidential Information (i) which was in the Recipient's possession free of restriction prior to its receipt from Disclosing Party, (ii) which becomes publicly known or available through no breach of this Agreement by Recipient, (iii) which is rightfully acquired by Recipient free of restrictions on its Disclosure, or (iv) which is independently developed by personnel of Recipient to whom the Disclosing Party's Confidential Information had not been previously disclosed. Recipient may disclose Confidential Information if required by law, a court, or governmental agency, provided that Disclosing Party has been notified of the requirement promptly after Recipient becomes aware of the requirement, and provided that Recipient undertakes all lawful measures to avoid disclosing such information until Disclosing Party has had reasonable time to obtain a protective order. Recipient agrees to comply with any protective order that covers the Confidential Information to be disclosed.

21.1.3 Each party agrees that Disclosing Party would be irreparably injured by a breach of this Section 21 by Recipient or its

representatives and that Disclosing Party shall be entitled to seek equitable relief, including injunctive relief and specific performance, in the event of any breach of this Section 21. Such remedies shall not be exclusive, but shall be in addition to all other remedies available at law or in equity.

21.2 CPNI related to MCIm's subscribers obtained by virtue of Local Interconnection or any other service provided under this Agreement shall be MCIm's proprietary information and may not be used by ILEC for any purpose except performance of its obligations under this Agreement, and in connection with such performance, shall be disclosed only to employees with a need to know, unless the MCIm subscriber expressly directs MCIm to disclose such information to ILEC pursuant to the requirements of Section 222(c)(2) of the Act. If ILEC seeks and obtains written approval to use or disclose such CPNI from MCIm's subscribers, such approval shall be obtained only in compliance with Section 222(c)(2) and, in the event such authorization is obtained, ILEC may use or disclose only such information as MCIm provides pursuant to such authorization and may not use information that ILEC has otherwise obtained, directly or indirectly, in connection with its performance under this Agreement. CPNI related to ILEC's subscribers obtained by virtue of Local Interconnection shall be ILEC's proprietary information and may not be used by MCIm for any purpose except performance of its obligations under this Agreement, and in connection with such performance shall be disclosed only to employees with a need to know, unless the ILEC subscriber expressly directs ILEC to disclose such information to MCIm pursuant to the requirements of Section 222(c)(2) of the Act. If MCIm seeks and obtains written approval to use or disclose such CPNI from ILEC's subscribers, such approval shall be obtained only in compliance with Section 222(c)(2) of the Act and, in the event such authorization is obtained, MCIm may use or disclose only such information as ILEC provides pursuant to such authorization and may not use information that MCIm has otherwise obtained, directly or indirectly, in connection with its performance under this Agreement.

21.3 Unless otherwise mutually agreed upon, neither party shall publish or use the other party's logo, trademark, service mark, name, language, pictures, or symbols or words from which the other party's name may reasonably be inferred or implied in any product, service, advertisement, promotion, or any other publicity matter.

21.4 Neither party shall produce, publish, or distribute any press release or other publicity referring to the other party or its Affiliates, or to this Agreement, without the prior written approval of the other party. Each party shall obtain the other party's prior approval before discussing this Agreement in any press or media interviews. In no event shall either party

mischaracterize the contents of this Agreement in any public statement or in any representation to a governmental entity or member thereof.

21.5 Except as otherwise expressly provided in this Section 21, nothing herein shall be construed as limiting the rights of either party with respect to its customer information under any applicable law, including without limitation Section 222 of the Act.

Section 22. Audits and Examinations

22.1 As used herein "Audit" shall mean a comprehensive review of services performed under this Agreement; "Examination" shall mean an inquiry into a specific element of or process related to services performed under this Agreement. MCIm may perform up to four Audits per 12-month period commencing with the Effective Date. MCIm may perform Examinations as MCIm deems necessary.

22.2 Upon thirty (30) days written notice by MCIm to ILEC, MCIm shall have the right through its authorized representative to make an Audit or Examination, during normal business hours, of any records, accounts and processes which contain information bearing upon the provision of the services provided and performance standards agreed to under this Agreement. Within the above-described 30-day period, the parties shall reasonably agree upon the scope of the Audit or Examination, the documents and processes to be reviewed, and the time, place and manner in which the Audit or Examination shall be performed. ILEC agrees to provide Audit or Examination support, including appropriate access to and use of ILEC's facilities (e.g., conference rooms, telephones, copying machines).

22.3 Each party shall bear its own expenses in connection with the conduct of the Audit or Examination. The reasonable cost of special data extractions required by MCIm to conduct the Audit or Examination will be paid for by MCIm. For purposes of this Section 22.3, a "Special Data Extraction" shall mean the creation of an output record or informational report (from existing data files) that is not created in the normal course of business. If any program is developed to MCIm's specifications and at MCIm's expense, MCIm shall specify at the time of request whether the program is to be retained by ILEC for reuse for any subsequent MCIm Audit or Examination. Notwithstanding the foregoing, ILEC shall pay all of MCIm's expenses in the event an Audit or Examination results in an adjustment in the charges or in any invoice paid or payable by MCIm hereunder in an amount that is, on an annualized basis, greater than one percent (1%) of the aggregate charges for all services purchased under this Agreement.

22.4 Adjustments, credits or payments shall be made and any corrective action shall commence within thirty (30) days from ILEC's receipt of the final audit report to compensate for any errors or omissions which are disclosed by such Audit or Examination and are agreed to by the parties. The highest interest rate allowable by law for commercial transactions shall be assessed and shall be computed by compounding daily from the time of the overcharge to the day of payment.

22.5 Neither such right to examine and audit nor the right to receive an adjustment shall be affected by any statement to the contrary appearing on checks or otherwise, unless such statement expressly waiving such right appears in writing, is signed by the authorized representative of the party having such right and is delivered to the other party in a manner sanctioned by this Agreement.

22.6 This Section 22 shall survive expiration or termination of this Agreement shall for a period of two (2) years after expiration or termination of this Agreement.

Section 23. Dispute Resolution Procedures

The parties recognize and agree that the Commission has continuing jurisdiction to implement and enforce all terms and conditions of this Agreement. Accordingly, the parties agree that any dispute arising out of or relating to this Agreement that the parties themselves cannot resolve, may be submitted to the Commission for resolution. The parties agree to seek expedited resolution by the Commission, and shall request that resolution occur in no event later than sixty (60) days from the date of submission of such dispute. If the Commission appoints an expert(s) or other facilitator(s) to assist in its decision making, each party shall pay half of the fees and expenses so incurred. During the Commission proceeding each party shall continue to perform its obligations under this Agreement; provided, however that neither party shall be required to act in any unlawful fashion. This provision shall not preclude the parties from seeking relief available in any other forum.

Section 24. Bona Fide Request Process for Further Unbundling

24.1 The parties recognize that because MCIm plans to maintain a technologically advanced network it is likely to seek further unbundling of Network Elements or the introduction of new Network Elements. Accordingly, MCIm may request such new unbundled Network Elements or arrangements from time to time by submitting a request in writing ("Bona Fide Request" or "BFR"). ILEC shall acknowledge in writing such

BFR within twenty-four (24) hours of receipt, and shall acknowledge acceptance or rejection of the BFR and the reason(s) therefor within ten (10) days of receipt.

24.2 If ILEC accepts the BFR, ILEC shall provide time and cost estimates within ten (10) days of such acceptance. If ILEC does not accept the BFR, or the parties are unable to reach agreement on the time and cost within twenty (20) days of ILEC's provision of such time and cost estimates, MCIm may immediately file a petition with the Commission seeking the Commission's determination that ILEC be required to provide the requested Network Element. ILEC must respond to MCIm's petition within ten (10) days of its filing and must demonstrate either the technical infeasibility of providing such Network Element or harm to its network reliability. The full burden of proof shall be ILEC's. The parties agree to seek expedited Commission approval, to be completed within twenty (20) days of ILEC's response, and in no event more than thirty (30) days after the filing of MCIm's petition.

Section 25. Branding

25.1 In all cases in which ILEC has control over handling of services MCIm may provide using services provided by ILEC under this Agreement, ILEC shall, at MCIm's sole discretion, brand any and all such services at all points of customer contact exclusively as MCIm services, or otherwise as MCIm may specify, or be provided with no brand at all, as MCIm shall determine. ILEC may not unreasonably interfere with branding by MCIm.

25.2 MCIm shall provide the exclusive interface to MCIm subscribers, except as MCIm shall otherwise specify. In those instances where MCIm requires ILEC personnel or systems to interface with MCIm subscribers, such ILEC personnel shall identify themselves as representing MCIm, or such brand as MCIm may specify, and shall not identify themselves as representing ILEC or any other entity.

25.3 All forms, business cards or other business materials furnished by ILEC to MCIm subscribers shall be provided by MCIm unless otherwise agreed by MCIm, in its sole discretion, in which case, any such customer materials shall be subject to MCIm's prior review and approval, and shall bear no corporate name, logo, trademark or trade names other than MCIm or its Affiliates or such other brand as MCIm, in its sole discretion, shall determine.

25.4 Except as specifically permitted by MCIm, in no event shall ILEC provide information to MCIm subscribers about MCIm or MCIm's products or services.

25.5 ILEC shall provide, for MCIm's review and approval, the methods and procedures, training and approaches to be used by ILEC to assure that ILEC meets MCIm's branding requirements.

25.6 This Section 25 shall confer on ILEC no rights to the service marks, trademarks and trade names owned by or used in connection with services by MCIm or its Affiliates, except as expressly permitted by MCIm.

Section 26. Taxes

Any Federal, state or local excise, license, sales, or use taxes (excluding any taxes levied on income) resulting from the performance of this Agreement shall be borne by the party upon which the obligation for payment is imposed under applicable law, even if the obligation to collect and remit such taxes is placed upon the other party. Any such taxes shall be shown as separate items on applicable billing documents between the parties. The party so obligated to pay any such taxes may contest the same in good faith, at its own expense, and shall be entitled to the benefit of any refund or recovery, provided that such party shall not permit any lien to exist on any asset of the other party by reason of the contest. The party obligated to collect and remit taxes shall cooperate fully in any such contest by the other party by providing records, testimony and such additional information or assistance as may reasonably be necessary to pursue the contest.

Section 27. Responsibility for Environmental Contamination

27.1 MCIm shall in no event be liable to ILEC for any costs whatsoever resulting from the presence or release of any environmental hazard that MCIm did not introduce to the affected work location. ILEC shall, at MCIm's request, indemnify, defend, and hold harmless MCIm, each of its officers, directors and employees from and against any losses, damages, claims, demands, suits, liabilities, fines, penalties and expenses (including reasonable attorneys fees) that arise out of or from (i) any environmental hazard that ILEC, its contractors or agents introduce to the work locations or (ii) the presence or release of any environmental hazard for which ILEC is responsible under Applicable Law.

27.2 ILEC shall in no event be liable to MCIm for any costs whatsoever resulting from the presence or release of any environmental hazard that ILEC did not introduce to the affected work location. MCIm shall, at ILEC's request, indemnify, defend, and hold harmless ILEC, each of its officers, directors and employees from and against any losses, damages, claims, demands, suits, liabilities, fines, penalties and expenses (including reasonable attorneys' fees) that arise out of or result from (i) any environmental hazard that MCIm, its contractors or agents introduce to the work locations or (ii) the presence of release of any environmental hazard for which MCIm is responsible under applicable law.

27.3 In the event any suspect materials within ILEC-owned, operated or leased facilities are identified to be asbestos-containing, MCIm will ensure that to the extent any activities which it undertakes in the facility disturb such suspect materials, such MCIm activities will be in accordance with applicable local, state and federal environmental and health and safety statutes and regulations. Except for abatement activities undertaken by MCIm or equipment placement activities that result in the generation of asbestos containing material, MCIm shall not have any responsibility for managing, nor be the owner of, not have any liability for, or in connection with, any asbestos containing material. ILEC agrees to immediately notify MCIm if ILEC undertakes any asbestos control or asbestos abatement activities that potentially could affect MCIm equipment or operations, including, but not limited to, contamination of equipment.

Section 28. Amendments and Modifications

No provision of this Agreement shall be deemed waived, amended or modified by either party unless such a waiver, amendment or modification is in writing, dated, and signed by both parties.

Section 29. Severability

Subject to Section 2 - Regulatory Approvals, if any part of this Agreement is held to be invalid for any reason, such invalidity will affect only the portion of this Agreement which is invalid. In all other respects this Agreement will stand as if such invalid provision had not been a part thereof, and the remainder of the Agreement shall remain in full force and effect.

Section 30. Headings Not Controlling

The headings and numbering of Sections, Parts and Attachments in this Agreement are for convenience only and shall not be construed to define or limit any of the terms herein or affect the meaning or interpretation of this Agreement.

Section 31. Entire Agreement

This Agreement, including all Parts and Attachments and subordinate documents attached hereto or referenced herein, all of which are hereby incorporated by reference herein, constitute the entire matter thereof, and supersede all prior oral or written agreements, representations,

statements, negotiations, understandings, proposals, and undertakings with respect to the subject matter thereof.

Section 32. Counterparts

This Agreement may be executed in counterparts. Each counterpart shall be considered an original and such counterparts shall together constitute one and the same instrument.

Section 33. Successors and Assigns

This Agreement shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and permitted assigns.

IN WITNESS WHEREOF, each of the parties has caused this Agreement to be executed by its duly authorized representatives.

MCImetro Access Transmission Services, Inc.	**ILEC**
By:_____	By: _____
Name:_____	Name:_____
Title:_____	Title:_____
Date:_____	Date:_____

PART B -- DEFINITIONS

"911 SITE ADMINISTRATOR" is a person assigned by MCIm to establish and maintain E911 service location information for its subscribers.

"911 SERVICE" means a universal telephone number which gives the public direct access to the Public Safety Answering Point (PSAP). Basic 911 service collects 911 calls from one or more local exchange switches that serve a geographic area. The calls are then sent to the correct authority designated to receive such calls.

"ASR" (ACCESS SERVICE REQUEST) means the industry standard forms and supporting documentation used for ordering Access Services. The ASR may be used to order trunking and facilities between MCIm and ILEC for Local Interconnection.

"ACCESS SERVICES" refers to interstate and intrastate switched access and private line transport services.

"ACT" means the Communications Act of 1934 as amended.

"AIN" (ADVANCED INTELLIGENT NETWORK) is a network functionality that permits specific conditions to be programmed into a switch which, when met, directs the switch to suspend call processing and to receive special instructions for further call handling instructions in order to enable carriers to offer advanced features and services.

"AFFILIATE" is an entity that directly or indirectly owns or controls, is owned or controlled by, or is under common ownership or control with,another entity. In this paragraph, "own" or "control" means to own an equity interest (or equivalent) of at least 10% with respect to ILEC, or the right to control the business decisions, management and policy of another entity.

"GATEWAY" (ALI GATEWAY) is a telephone company computer facility that interfaces with MCIm's 911administrative site to receive Automatic Location Identification (ALI) data from MCIm. Access to the Gateway will be via a dial-up modem using a common protocol.

"AMA" means the Automated Message Accounting structure inherent in switch technology that initially records telecommunication message information. AMA format is contained in the Automated Message Accounting document, published by Bellcore as GR-1100-CORE which defines the industry standard for message recording.

"ALI" (AUTOMATIC LOCATION IDENTIFICATION) is a proprietary database developed for E911 systems that provides for a visual display of the caller's

telephone number, address and the names of the emergency response agencies that are responsible for that address. The Alternative Local Exchange Company will provide ALI record information in National Emergency Number Association (NENA) Version #2 format. The ALI also shows an Interim Number Portability (INP) number if applicable.

"ALI/DMS" (AUTOMATIC LOCATION IDENTIFICATION/DATA MANAGEMENT SYSTEM) means the emergency service (E911/911) database containing customer location information (including name, address, telephone number, and sometimes special information from the local service provider) used to determine to which Public Safety Answering Point (PSAP) to route the call.

"ANI" (AUTOMATIC NUMBER IDENTIFICATION) is a feature that identifies and displays the number of a telephone that originates a call.

"ARS" (AUTOMATIC ROUTE SELECTION) is a service feature that provides for automatic selection of the least expensive or most appropriate transmission facility for each call based on criteria programmed into the system.

"BLV/BLI" (BUSY LINE VERIFY/BUSY LINE INTERRUPT) means an operator call in which the end user inquires as to the busy status of, or requests an interruption of, a call on an Exchange Service.

"CABS" means the Carrier Access Billing System which is defined in a document prepared under the direction of the Billing Committee of the OBF. The Carrier Access Billing System document is published by Bellcore in Volumes 1, 1A, 2, 3, 3A, 4 and 5 as Special Reports SR-OPT-001868, SR-OPT-0011869, SR-OPT-001871, SR-OPT-001872, SR-OPT-001873, SR-OPT-001874, and SR-OPT-001875, respectively, and contains the recommended guidelines for the billing of access and other connectivity services.

"CPN" (CALLING PARTY NUMBER) is a Common Channel Signaling parameter which refers to the number transmitted through the network identifying the calling party.

"CCS" is Common Channel Signaling.

"CENTRAL OFFICE SWITCH" or "CENTRAL OFFICE" means a switching entity within the public switched network, including but not limited to end office switches and tandem office switches. Central office switches may be employed as combination End Office/Tandem Office Switches (Combination Class 5/Class 4).

"CENTREX" means a Telecommunications Service that uses central office switching equipment for call routing to handle direct dialing of calls, and to provide numerous private branch exchange-like features.

"CHARGE NUMBER" is a CCS parameter which refers to the number transmitted through the network identifying the billing number of the calling party.

"CLASS" (Belcore Service Mark) -- Set of call-management service features that utilize the capability to forward a calling party's number between end offices as part of call setup. Features include Automatic Callback, Automatic Recall, Caller ID, Call Trace, and Distinctive Ringing.

"CLEC" means a Competitive Local Exchange Carrier.

"COLLOCATION" means the right of MCIm to place equipment of its choice in the ILEC's central offices or other ILEC locations. This equipment may be placed via either a physical or virtual collocation arrangement. With physical collocation, MCIm obtains dedicated space to place and maintain its equipment. With virtual collocation, the ILEC will install and maintain equipment that MCIm provides to ILEC.

"COMBINATIONS" means provision by ILEC of two or more connected Network Elements ordered by MCIm to provide its telecommunication services in a geographic area or to a specific customer and that are placed on the same order by MCIm.

"COMMISSION" means the [*insert name of state public utility commission*].

"CCS" (COMMON CHANNEL SIGNALING) means a method of digitally transmitting call set-up and network control data over a digital signaling network fully separate from the public switched telephone network that carries the actual call.

"CONDUIT" means a tube or protected pathway that may be used to house communication or electrical cables. Conduit may be underground or above ground (for example, inside buildings) and may contain one or more inner ducts.

"CONFIDENTIAL INFORMATION" has the meaning set forth in Section 21 of Part A -- General Terms.

"CONTRACT YEAR" means a twelve (12) month period during the term of the contract commencing on the Effective Date and each anniversary thereof.

"CONTROL OFFICE" is an exchange carrier center or office designated as its company's single point of contact for the provisioning and maintenance of its portion of local interconnection arrangements.

"CUSTOM CALLING FEATURES" -- Set of call-management service features available to residential and single-line business customers including call-waiting, call-forwarding and three-party calling.

"DBMS" (DATABASE MANAGEMENT SYSTEM) is a computer system used to store, sort, manipulate and update the data required to provide selective routing and ALI.

"DIRECTORY ASSISTANCE DATABASE" refers to any subscriber record used by the ILEC in its provision of live or automated operator-assisted directory assistance including but not limited to 411, 555-1212, NPA-555-1212.

"DIRECTORY ASSISTANCE SERVICES" provides Listings to callers. Directory Assistance Services may include the option to complete the call at the caller's direction.

"DIRECTORY LISTINGS" refers to subscriber information, including but not limited to name, address and phone numbers, that is published in any media, including but not limited to traditional white/yellow page directories, specialty directories, CD ROM, and other electronic formats.

"DISCLOSER" means that party to this Agreement which has disclosed Confidential Information to the other party.

"E911 Message Trunk" is a dedicated line, trunk or channel between two central offices or switching devices which provides a voice and signaling path for E911 calls.

"EFFECTIVE DATE" is the date indicated in Part A on which the Agreement shall become effective.

"EMERGENCY RESPONSE AGENCY" is a governmental entity authorized to respond to requests from the public to meet emergencies.

"ESN" (EMERGENCY SERVICE NUMBER) is a number assigned to the ALI and selective routing databases for all subscriber telephone numbers. The ESN designates a unique combination of fire, police and emergency medical service response agencies that serve the address location of each in-service telephone number.

"EMR" means the Exchange Message Record System used among ILECs for exchanging telecommunications message information for billable, non-billable, sample, settlement and study data. EMR format is contained in BR-010-200-010 CRIS Exchange Message Record, published by Bellcore and which defines the industry standard for exchange message records.

"E911" (ENHANCED 911 SERVICE) means a telephone communication service which will automatically route a call dialed "911" to a designated public safety answering point (PSAP) attendant and will provide to the attendant the calling party's telephone number and, when possible, the address from which the call is

being placed and the emergency response agencies responsible for the location from which the call was dialed.

"ENHANCED DIRECTORY ASSISTANCE" refers to directory Assistance services, including but not limited to reverse search, talking yellow pages, and locater services.

"ENHANCED WHITE PAGES" means optional features available for White Pages Directory listings (e.g., bold, all capitals, logos).

"ENHANCED YELLOW PAGES" means optional features available for Yellow Pages Directory listings (e.g., red type, bold, all capital, additional line of text, indented).

"EIS" (EXPANDED INTERCONNECTION SERVICE) is the collocation arrangement which ILEC provides in its designated wire centers.

"FCC Interconnection Order" is the Federal Communications Commission's First Report and Order in CC Docket No. 96-98 released August 8, 1996.

"ILEC" means the incumbent local exchange carrier.

"IXC" (INTEREXCHANGE CARRIER) means a provider of interexchange telecommunications services.

"INP" (INTERIM NUMBER PORTABILITY) is a service arrangement whereby subscribers who change local service providers may retain existing telephone numbers without impairment of quality, reliability, or convenience when remaining at their current location or changing their location within the geographic area served by the initial carrier's serving central office.

"IP" (INTERCONNECTION POINT) is a mutually agreed upon point of demarcation where the networks of ILEC and MCIm interconnect for the exchange of traffic.

"LIDB" (LINE INFORMATION DATA BASE(S)) A Service Control Point (SCP) database that provides for such functions as calling card validation for telephone line number cards issued by ILECs and other entities and validation for collect and billed-to-third services.

"NP" (NUMBER PORTABILITY) or "Number Portability" or "NP" means the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another.

"MSAG" (MASTER STREET ADDRESS GUIDE (MSAG)) is a database defining the geographic area of an E911 service. It includes an alphabetical list of the street

names, high-low house number ranges, community names, and emergency service numbers provided by the counties or their agents to ILEC.

"MCI" means MCI Telecommunications Corporation.

"MCIm" means MCImetro Access Transmission Services, Inc.

"MCIm 911 DATABASE RECORDS" are the MCIm customer records to be provided by MCIm to ILEC for inclusion in ILEC's E911 database.

"MECAB" refers to the Multiple Exchange Carrier Access Billing (MECAB) document prepared by the Billing Committee of the Ordering and Billing Forum (OBF), which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry Solutions (ATIS). The MECAB document, published by Bellcore as Special Report SR-BDS-000983, contains the recommended guidelines for the billing of an access service provided by two or more LECs (including a LEC and a CLEC), or by one LEC in two or more states within a single LATA.

"MECOD" refers to the Multiple Exchange Carriers Ordering and Design (MECOD) Guidelines for Access Services - Industry Support Interface, a document developed by the Ordering/Provisioning Committee under the auspices of the Ordering and Billing Forum (OBF), which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry Solutions (ATIS). The MECOD document, published by Bellcore as Special Report SR STS-002643, establishes recommended guidelines for processing orders for access service which is to be provided by two or more LECs (including a LEC and a CLEC). It is published by Bellcore as SRBDS 00983.

"NANP" means the "North American Numbering Plan," the system or method of telephone numbering employed in the United States, Canada, and certain Caribbean countries. It denotes the three digit Numbering Plan Area code and a seven digit telephone number made up of a three digit Central Office code plus a four digit station number.

"NENA" (NATIONAL EMERGENCY NUMBER ASSOCIATION (NENA)) is an association with a mission to foster the technological advancement, availability and implementation of 911 nationwide.

"NETWORK ELEMENT" means a facility or equipment used in the provision of a telecommunications service including all features, functions and capabilities that are embedded in such facility or equipment.

"NP" (NUMBER PORTABILITY) means the use of the Local Routing Number (LRN) database solution to provide fully transparent NP for all customers and all providers without limitation.

"NPA" (NUMBERING PLAN AREA) (sometimes referred to as an area code). Is the three digit indicator which is designated by the first three digits of each 10-digit telephone number within the NANP. Each NPA contains 800 possible NXX Codes. There are two general categories of NPA, "Geographic NPAs" and "Non-Geographic NPAs." A "Geographic NPA" is associated with a defined geographic area, and all telephone numbers bearing such NPA are associated with services provided within that Geographic area. A "Non-Geographic NPA," also known as a "Service Access Code (SAC Code)" is typically associated with a specialized telecommunications service which may be provided across multiple geographic NPA areas; 500, 800, 900, 700, and 888 are examples of Non-Geographic NPAs.

"NXX," "NXX CODE," OR "CENTRAL OFFICE CODE," OR "CO CODE" is the three digit switch entity indicator which is defined by the fourth, fifth and sixth digits of a 10 digit telephone number within the North America Numbering Plan ("NANP").

"OBF" means the Ordering and Billing Forum, which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry Solutions (ATIS).

"OPERATOR SYSTEMS" is the Network Element that provides operator and automated call handling with billing, special services, customer telephone listings, and optional call completion services.

"OPERATOR SERVICES" provides (1) operator handling for call completion (e.g. collect calls); (2) operator or automated assistance for billing after the customer has dialed the called numbed (e.g. credit card calls); and (3) special services (e.g. BLV/ELI, Emergency Agency Call).

"P.01 TRANSMISSION GRADE OF SERVICE (GOS)" means a trunk facility provisioning standard with the statistical probability of no more than one call in 100 blocked on initial attempt during the average busy hour.

"PLU" (PERCENT LOCAL USAGE) is a calculation which represents the ratio of the local minutes to the sum of local and intraLATA toll minutes between exchange carriers sent over Local Interconnection Trunks. Directory assistance, BLV/BLVI, 900, 976, transiting calls from other exchange carriers and switched access calls are not included in the calculation of PLU.

"POLE ATTACHMENT" means the connection of a facility to a utility pole. Some examples of facilities are mechanical hardware, grounding and transmission cable, and equipment boxes.

"POP" means an IXC's point of presence.

"PROPRIETARY INFORMATION" shall have the same meaning as Confidential Information.

"PSAP" (PUBLIC SAFETY ANSWERING POINT (PSAP)) is the public safety communications center where 911 calls placed by the public for a specific geographic area will be answered.

"RATE CENTER" means the geographic point and corresponding geographic area which are associated with one or more particular NPA-NXX codes which have been assigned to ILEC (or MCIm) for its provision of Basic Exchange Telecommunications Services. The "rate center point" is the finite geographic point identified by a specific V&H coordinate, which is used to measure distance-sensitive end user traffic to/from the particular NPA-NXX designations associated with the specific Rate Center. The "rate center area" is the exclusive geographic area identified as the area within which ILEC (or MCIm) will provide Basic Exchange Telecommunications Services bearing the particular NPA-NXX designations associated with the specific Rate Center. The Rate Center point must be located within the Rate Center area.

"REAL TIME" means the actual time in which an event takes place, with the reporting on or the recording of the event simultaneous with its occurrence.

"RECIPIENT" means that party to this Agreement (a) to which Confidential Information has been disclosed by the other party or (b) who has obtained Confidential Information in the course of providing services under this Agreement.

"RESELLER" is a category of Local Exchange service providers who obtain dial tone and associated telecommunications services from another provider through the purchase wholesale priced services for resale to their end user customers.

"ROW" (RIGHT OF WAY (ROW)) means the right to use the land or other property of another party to place poles, conduits, cables, other structures and equipment, or to provide passage to access such structures and equipment. A ROW may run under, on, or above public or private property (including air space above public or private property) and may include the right to use discrete space in buildings, building complexes or other locations.

"ROUTING POINT" means a location which ILEC or MCIm has designated on its own network as the homing (routing) point for traffic inbound to Basic Exchange Services provided by the ILEC or MCIm which bear a certain NPA-NXX designation. The Routing Point is employed to calculate mileage measurements for the distance-sensitive transport element charges of Switched Access Services. Pursuant to Bellcore Practice BR 795-100-100, the Routing Point may be an "End Office" location, or a "LEC Consortium Point of Interconnection." Pursuant to that same Bellcore Practice, examples of the latter shall be designated by a common language location identifier (CLLI) code with (x)KD in positions 9, 10, 11, where (x) may by

any alphanumeric A-Z or 0-9. The above referenced Bellcore document refers to the Routing Point as the Rating Point. The Rating Point/Routing Point need not be the same as the Rate Center Point, nor must it be located within the Rate Center Area, but must be in the same LATA as the NPA-NXX.

"SECAB" means the Small Exchange Carrier Access Billing document prepared by the Billing Committee of the OBF. The Small Exchange Carrier Access Billing document, published by Bellcore as Special Report SR OPT-001856, contains the recommended guidelines for the billing of access and other connectivity services.

"SELECTIVE ROUTING" is a service which automatically routes an E911 call to the PSAP that has jurisdictional responsibility for the service address of the telephone that dialed 911, irrespective of telephone company exchange or wire center boundaries.

"SWITCH" -- See Central Office Switch

"TANDEM OFFICE SWITCHES" which are Class 4 switches which are used to connect and switch trunk circuits between and among end office switches and other tandems.

"TECHNICALLY FEASIBLE" refers solely to technical or operational concerns, rather than economic, space, or site considerations.

"TELECOMMUNICATIONS" means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.

"TELECOMMUNICATION SERVICES" means the offering of telecom-munications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used. As used in this definition.

"THOUSANDS BLOCK OF NUMBERS" shall mean 1000 or more consecutive numbers beginning and ending on a digit boundary, e.g., 949-1000 to 949-1999.

"TRCO" means Trouble Reporting Control Office.

"VOLUNTARY FEDERAL CUSTOMER FINANCIAL ASSISTANCE PROGRAMS" are Telecommunications Services provided to low-income subscribers, pursuant to requirements established by the appropriate state regulatory body.

"WIRE CENTER" denotes a building or space within a building which serves as an aggregation point on a given carrier's network, where transmission facilities and circuits are connected or switched. Wire center can also denote a building in which one or more central offices, used for the provision of Basic Exchange Services and

access services, are located. However, for purposes of EIC service, Wire Center shall mean those points eligible for such connections as specified in the FCC Docket No. 91-141, and rules adopted pursuant thereto.

ATTACHMENT I

PRICE SCHEDULE

1. **General Principles**

1.1 All rates provided under this Agreement shall remain in effect for the term of this Agreement unless they are not in accordance with all applicable provisions of the Act, the Rules and Regulations of the FCC, or the Commission's rules and regulations, in which case Part A, Section 2 shall apply.

1.2 Except as otherwise specified in this Agreement, ILEC shall be responsible for (i) all costs and expenses it incurs in complying with its obligations under this Agreement and (ii) the development, modification, technical installation and maintenance of any systems or other infrastructure which it requires to comply with and to continue complying with its responsibilities and obligations under this Agreement.

2. **Non-Discriminatory Treatment**

ILEC shall offer rates to MCIm in accordance with Part A, Sections 2.4, 13 and 19.

3. **Local Service Resale**

The rates that MCIm shall pay to ILEC for Local Resale shall be an amount equal to ILEC's tariffed rates for each note element as reduced by a percentage amount equal to the Total Applicable Discount (defined below). If ILEC reduces such tariffed rates during the term of this Agreement, the Total Applicable Discount shall be applied to the reduced tariffed rates.

3.1 Total Applicable Discount

The Total Applicable Discount is the sum of two separate discounts: (i) the state by state Base Line Resale Discount; and (ii) the Volume Discount. The Volume Discount is described in Section 6 of this Attachment I.

3.2 Base Line Resale Discount

The Base Line Resale Discount is included in Table 1 of this Attachment.

4. Interconnection and Reciprocal Compensation

4.1 Each party will be responsible for bringing their facilities to the Interconnection Point. MCIm may designate an IP at any technically feasible point including but not limited to any electronic or manual cross-connect points, collocations, telco closets, entrance facilities, and mid-span meets.

4.2 At the discretion of MCIm, Local Interconnection may be accomplished via one-way local trunks, or two-way local trunks, or MCIm may choose to deliver both Local Traffic and toll traffic over the same trunk group(s). In the event MCIm chooses to deliver both types of traffic over the same trunk, and desires application of the Local Interconnection rate, it will provide Percent Local Usage (PLU) to ILEC.

4.3 Compensation for the exchange of Local Traffic is set forth in Table 1 of this Attachment and shall be based on per-minutes -of-use.

4.4 When the interconnection is at an ILEC Tandem switch, MCIm shall pay ILEC the rates for tandem switching, an average transport rate and a termination rate. ILEC will pay MCIm a reciprocal compensation and symmetrical compensation rate.

4.5 MCIm may choose to establish trunking to any given end office when there is sufficient traffic to route calls directly to such end office. If MCIm leases one-way trunks from ILEC, MCIm will pay the transport charges for dedicated or common transport. For two-way trunks the charges will be shared equally by both parties.

4.6 When the interconnection is at the ILEC end office, ILEC will pay MCIm compensation based on tandem switching, average transport and termination when ILEC originated calls are terminated to MCIm's subscribers. For calls originating on MCIm's network and terminating to ILEC subscribers, MCIm will pay ILEC compensation based on end office termination only.

4.7 Compensation for the termination of toll traffic and the origination of 800 traffic between the interconnecting parties shall based on the applicable access charges in accordance with FCC Rules and Regulations.

4.8 Where a toll call is completed through ILEC's INP arrangement (e.g., remote call forwarding, flexible DID, etc.) to MCIm's subscriber, MCIm shall be entitled to applicable access charges in accordance with FCC Rules and Regulations.

4.9 MCIm shall pay a transit rate as set forth in Table 1 of this Attachment when MCIm uses an ILEC access tandem to terminate a call to a third party LEC or another CLEC. ILEC shall pay MCIm a transit rate equal to the ILEC rate

referenced above when an ILEC uses an MCIm switch to terminate a call to a third party LEC or another CLEC.

5. **Unbundled Network Elements**

The charges that MCIm shall pay to ILEC for Network Elements are set forth in Table 1 of this Attachment I .

6. **Volume Discount**

An additional Volume Discount will be applied to any services purchased under this Agreement. The Volume Discount will be based on total revenue generated by MCIm for all services covered by this agreement across all regions served by the ILEC.

Quarterly Revenue ($Millions)	Volume Discount
	%
	%
	%
	%
	%
	%
	%

7. **Directory Listings**

7.1 ILEC shall not charge MCIm or its subscribers for (i) basic white page listings for residential customers; (ii) basic yellow page and business white page listings (as available to ILEC subscribers) for business subscribers; or (iii) distribution of white and yellow page directories. ILEC shall offer for resale enhanced directory listings at an amount equal to retail rates, less the Total Applicable Discount, and pursuant to terms and conditions no less favorable than those offered to ILEC subscribers.

7.2 MCIm is responsible for providing ILEC with accurate directory information in an established format and in a timely manner.

TABLE 1
PRICING
State: _____

Item	Type	Explanation	Price Proposal	$ Per Month				
			Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Network Interface Device	Twisted Pair	2- or 4-wire	$ per month					
	Smart Jack	T-1 line	$ per month					
	Fiber		$ per month					
	Coax		$ per month					
Loop distribution	Twisted pair		$ per month					
	Fiber		$ per month					
	Coax		$ per month					
	Hybrid		$ per month					
	Other alternatives		$ per month					
Digital Loop Carrier/Analog cross connect	Virtual remote terminal at DS0 and DS1 levels		$ per month					
Combined loop feeder, DLC and distribution	Twisted pair	2-wire 4-wire ISDN ADSL HDSL	$ per month					
	DS1		$ per month					
	DS3		$ per month					
	SONET OCn		$ per month					

Item	Type	Explanation	Price Proposal Recurring
Baseline Resale Discount			%
Interconnection and Reciprocal Compensation	Tandem End Office Transit		$ per minute $ per minute $ per minute
Local Switching	Line Port		$ per month
		Coin includes public, semi-public, COCOT and options	$ per month
		2 wire ISDN	$ per month
		DS1 ISDN	$ per month
		2 wire/4 wire analog interface to PBX	$ per month
		DS1 interface to PBX or other CPE	$ per month
		Switched Fractional DS1	$ per month
		Direct Inward Dial interface	$ per month
	Rotary Port		$ per month
	Trunk Port	CAMA ANI	$ per month
		FGB	$ per month
		FGD/IEC Operator	$ per month
		DS3	$ per month
		64 kbps clear channel	$ per month
		Switched digital - 56&64 kbps	$ per month
	Switching capacity	includes intraoffice,	$ per minute

		interoffice local originating and terminating	
	Features	Residence	none
		Business	none
		CLASS	none
		Centrex	none
		AIN	none
Local Operator Services	0+ calling card	0+ card automated card	$ per call
	Station	0- card	$ per call
		0- bill to third	$ per call
		0- collect	$ per call
		0- no attempt	$ per call
		Automated bill to third	$ per call
		0+ collect	$ per call
		Automated collect	$ per call
		Sent paid	$ per call
	Person	0- card	$ per call
		0- bill to third	$ per call
		0- collect	$ per call
		0+ calling card	$ per call
		0+ bill to third	$ per call
		0+ collect	$ per call
	Dialing instructions		$ per call
	Route 0- to live operator		none
	Time and Charges		$ per work minute
	Busy line verification		$ per call
	Emergency interrupt		$ per call
	Emergency call trace		$ per call
Local Operator Services	Operator transport		$ per month
Local Directory Assistance	Directory Assistance		$ per call
	DA Transport		$ per month
	DA interconnection		$ per month
	DA database		
	Direct access to DA database		
	DA call completion		
	Call completion		

	termination		
	Intercept		
Common Transport	Interoffice transmission path between LEC network elements		$ per minute
Dedicated transport	Voice grade	2 Wire	$ per month
		4 Wire	$ per month
		IO Channel	$ per month
	DS0	2 Wire	$ per month
		4 Wire	$ per month
		IO Channel	$ per month
	DS1	Local Channel	$ per month
		IO Channel	$ per month
	DS3	Local Channel	$ per month
		IO Channel	$ per month
	STS-1		$ per month
	Capacity on Shared circuit		$ per month
	SONET ring system		$ per month
Digital Cross Connect Systems	DCS 1/0		$ per month
	DCS 3/1	28 DS1 Channel system Per DS1 basis	$ per month
	DCS 3/3		
	STS-1 crossconnect		$ per month
Tandem Switching			$ per minute
STPs	ISUP message		$ per message
	TCAP message		$ per message
	Usage surrogate		$ per mo. per 56 kbps facility
Signaling link transport	A or D link facility	56 kbps	$ per month
Signaling Link Transport	Signaling facility termination		$ per month
SCPs databases	Line Information database LIDB	Storage	
		Use of ILEC LIDB data	

		Validation	
	NP database		
	ALI/DMS database		
	SCE/SMS/AIN access		
Additional Directory Listings			
CMDS Hosting			
Non-sent paid Reporting system			
Poles, Ducts, Conduits and ROW	Maps		
	Pole Attachment Conduit		
	Innerduct		
Virtual Collocation	Space		
	Power		
	Entrance Facilities		
	DS1 Cross Connections		
	DS3 Cross Connections		
Physical Collocation	Space		
	Power		
	Entrance Facilities		
	DS1 Cross Connections		
	DS3 Cross Connections		
Lease of unused transmission media			

ATTACHMENT II

LOCAL RESALE

Section 1. Telecommunications Services Provided for Resale

1.1 At the request of MCIm, and pursuant to the requirements of the Act, and FCC Rules and Regulations, ILEC shall make available to MCIm for unrestricted resale any Telecommunications Service that ILEC currently provides or may offer hereafter. ILEC shall also provide Service Functions, as set forth in this Attachment II. The Telecommunications Services and Service Functions provided by ILEC to MCIm pursuant to this Agreement are collectively referred to as "Local Resale."

1.2 To the extent that this Attachment describes services which ILEC shall make available to MCIm for resale pursuant to this Agreement, this list of services is neither all inclusive nor exclusive. All Telecommunications Services of ILEC which are to be offered for resale are subject to the terms herein.

1.3 **Features and Functions Subject to Resale.** ILEC shall make all of its Telecommunications Services available for resale to MCIm on terms and conditions that are reasonable and nondiscriminatory.

1.4 ILEC will provide MCIm with at least the capability to provide an MCIm subscriber at least the same level of service quality as ILEC provides its own subscribers with respect to all Telecommunications Services and shall provide such capability in accordance with the specific requirements of Attachment VIII.

1.5 The specific business process requirements and systems interface requirements are set forth in Attachment VIII.

Section 2. General Terms and Conditions for Resale

2.1 **Pricing.** The prices charged to MCIm for Local Resale are set forth in Attachment I of this Agreement.

2.2 **No Restrictions on Resale.** MCIm may resell to any and all classes of end-users Telecommunications Services obtained from

ILEC under this Agreement, except for Lifeline Assistance and Link-Up or similar services, which MCIm may only resell to those subscribers who are eligible for such services. ILEC will not prohibit, nor impose unreasonable or discriminatory conditions or limitations on the resale of its Telecommunications Service. ILEC agrees to remove all tariff restrictions which prohibit or limit the aggregation and resale of any such Telecommunication Services, including, but not limited to, CENTREX aggregation, feature and service aggregation, and resale of Telecommunications Services to another reseller.

2.3 Requirements for Specific Services

2.3.1 CENTREX Requirements

2.3.1.1 At MCIm's option, MCIm may purchase the entire set of CENTREX features or a subset of any one or any combination of such features. The CENTREX Service provided for resale will meet the requirements of this Subsection 2.3.1.

2.3.1.2 All features and functions of CENTREX Service, including CENTREX Management System (CMS), whether offered under tariff or otherwise, shall be available to MCIm for resale, without any geographic or subscriber class restrictions.

2.3.1.3 ILEC shall make CMS information available to MCIm at the End Office level via an electronic interface as specified in Attachment VIII.

2.3.1.4 ILEC shall provide to MCIm a list by central office of all CENTREX or CENTREX-like features and functions offered by ILEC within ten (10) days of the Effective Date of this Agreement, and shall provide updates to such list as specified in Attachment VIII.

2.3.1.5 All service levels and features of CENTREX Service provided by ILEC for resale by MCIm shall meet the service parity requirements set forth in Attachment VIII.

2.3.1.6 MCIm may aggregate the CENTREX local exchange and IntraLATA traffic usage of MCIm subscribers to qualify for volume discounts on the basis of such aggregated usage.

2.3.1.7 MCIm may aggregate multiple MCIm subscribers on dedicated access facilities. MCIm may require that ILEC suppress the need for MCIm subscribers to dial "9" when placing calls outside the CENTREX System.

2.3.1.8 MCIm may use among other methods remote call forwarding in conjunction with CENTREX Service to provide service to MCIm local service subscribers residing outside of the geographic territory in which ILEC provides local exchange service.

2.3.1.9 MCIm may purchase any and all levels of CENTREX Service for resale, without restriction on the minimum or maximum number of lines that may be purchased for any one level of service.

2.3.1.10 ILEC shall make available to MCIm for resale, at no additional charge, intercom calling among all MCIm subscribers who utilize resold CENTREX Service.

2.3.1.11 MCIm may utilize Automatic Route Selection ("ARS") to provision access.

2.3.2 **Voluntary Federal and State Subscriber Financial Assistance Programs**

Local Resale provided to low-income subscribers, pursuant to requirements established by the appropriate state regulatory body, include programs such as Voluntary Federal Subscriber Financial Assistance Program and Link-Up America. When an ILEC subscriber eligible for the Voluntary Federal Subscriber Financial Assistance Program or other similar state programs chooses to obtain Local Resale from MCIm, ILEC shall forward all information regarding such subscriber's eligibility to participate in such programs to MCIm in electronic format in accordance with the procedures set forth herein.

2.3.3 **Lifeline/Link-Up Service.** ILEC shall offer for resale Lifeline and Link-Up Service. ILEC will provide information about the certification process for the provisioning of Lifeline, Link-up, and similar services.

2.3.4 **Obsolete/Grandfathered Services.** ILEC shall offer for resale to MCIm all obsolete /grandfathered services. For purposes of this Agreement, an obsolete/grandfathered service is a service that ILEC offers to existing retail subscribers but not to new subscribers. MCIm shall have the right to review and approve any ILEC request for the termination of service and its grandfathering filed with the Commission.

2.3.5 **N11 Service**

2.3.5.1 ILEC agrees not to offer any new N11 services after the Effective Date of this Agreement unless ILEC makes any such service available for resale.

2.3.5.2 MCIm shall have the right to resell any N11 service, including but not limited to 411, 611 or 911 services, existing as of the Effective Date. These services shall be unbranded and routed to MCIm, as required by MCIm pursuant to Part A, Section 25.

2.3.6 **Contract Service Arrangements, Special Arrangements, and Promotions.** ILEC shall offer for resale all of its services available to any retail subscriber, including but not limited to Contract Service Arrangements, Special Arrangements, and Promotions, all in accordance with FCC Rules and Regulations.

2.3.7 **Discount Plans and Services.** ILEC shall offer for resale all Discount Plans and Services in accordance with FCC Rules and Regulations.

2.3.8 **Inside Wire Maintenance Service**. ILEC shall offer for resale inside wire maintenance service.

2.3.9 **Pay Phone Service**

ILEC shall offer for resale, at a minimum, the following: Coin Line, COCOT Line Coin, and COCOT Line Coinless features:

Billed Number Screening
Ability to "freeze" PIC selection
One bill per line
Point of demarcation at the Network Interface location
Detailed billing showing all 1+ traffic on paper, diskette or electronic format
Wire Maintenance option
Touch-tone service
Option for listed or non-listed numbers
Access to 911 service
One directory per line

2.3.9.1 ILEC shall offer for resale at a minimum, the following Coin Line features:

Access to all CO intelligence required to perform answer detection, coin collection, coin return, and disconnect
Answer Detection
Option to block all 1+ calls to international destinations
IntraLATA Call Timing
Option of one-way or two-way service on line
Flat Rate Service
Originating line screening
MCIm rate tables for local and intraLATA service
ILEC Central Office Intelligence for rating and other functions
Option of measured service
Ability to block any 1+ service that cannot be rated by the coin circuits/ TSPS/OSPS
Protect against clip on fraud
Protect against blue box fraud

2.3.9.2 ILEC shall offer for resale, at a minimum, the following COCOT Line Coin and COCOT Line Coinless features:

Originating line screening
Two-way service option
Flat rate service based on rate groups
Option of one-way service on the line
Option of measured service
Ability to keep existing serving telephone numbers if cutover to
MCIm resale line incoming/outgoing screening
Provision of Information Digit 29
Provision of International Toll Denial
Recognition Tone

2.3.9.3 ILEC shall offer for resale, at a minimum, the following COCOT Line Coin feature:

Blocking for 1+ international, 10XXXX1 + international, 101XXXX1 + international, 1+900, N111, 976
Option to block all 1-700 and 1-500 calls
Line side supervision option

2.3.9.4 ILEC shall offer for resale, at a minimum, the following COCOT Line Coinless feature:

Blocking for 1 + international, 10XXXX1 + international, 101XXXX1 + International, 1+900, N11, 976, 7 digit local, 1 +000

2.3.9.5 ILEC shall offer for resale, at a minimum, the following SemiPublic Coin features:

Ability to keep existing serving telephone numbers if cutover to MCIm
Touch-tone Service
Option for listed, nonlisted, or non published numbers
Provision 911 service
Access to ANI information
Access to all CO intelligence

Ability to keep existing serving telephone numbers if cutover to MCIm required to perform answer supervision, collect and refund
Far end disconnect recognition
Call timing
PIC protection for all 1+ local, interLATA, and intraLATA traffic
Same call restrictions as available on ILEC phones for interLATA, international, intraLATA, and local calling
One bill per line
Detailed billing showing all 1+ traffic in paper or electronic format
Option to have enclosure installed with set
One directory per line installed
Install the station to at least ILEC standards
Option to block all 1+ international calls
Option of one-way or two-way service
Wire Maintenance option
Ability to block any 1+ service that cannot be rated by the coin circuits/ TSPS/OSPS
Use of MCIm rate tables for local and intraLATA service
Option to have ILEC techs collect, count, and deposit vault contents on behalf of MCIm
Monitor vault contents for slugs and spurious non US currency or theft and notify MCIm of discrepancies
Station or enclosure equipment should only bear the name/brand designated by MCIm on the order form
Protect against clip on fraud
Protect against red box fraud
Protect against blue box fraud
Provide option for use of "bright" station technology including debit cards
Provide revenue, maintenance, collection reports as specified by MCIm on order form on a periodic basis in paper or electronic format
Blocking of inbound international calls
Point of demarcation at the set location
Provide service restoration per MCIm's Performance Standards
Service outage transfers to MCIm help center
Special screen codes unique to MCIm and/or its subscribers

Single point of Contact for bills and orders dedicated to Public
Access to MCIm Directory Assistance
Access to MCIm's Network Access Interrupt
Access to ANI Information
Provide all information requested to ensure MCIm can bill for access line
Provide all information requested to ensure MCIm can bill for usage on the line
All calls originating from stations serviced by these lines should be routed to MCIm lines, except where designated
Provide the same monitoring and diagnostic routines on the line as ILEC would on its own facilities
Provide installation intervals per MCIm Performance Standards
Ordering per MCIm Performance Standards
Call Transfer per MCIm Performance Standards
Billing per MCIm Performance Standards
PIC per MCIm Performance Standards

2.3.10 **Voice Mail Service**

2.3.10.1 MCIm shall have the right to resell ILEC Voice Mail services.

2.3.10.2 ILEC shall make available the SMDI-E (Station Message Desk Interface-Enhanced) where available, or SMDI, Station Message Desk Interface where SMDI-E is not available, feature capability allowing for Voice Mail Services. ILEC shall make available the MWI (Message Waiting Indicator) stutter dialtone and message waiting light feature capabilities. ILEC shall make available CF-B/DA (Call Forward on Busy/Don't Answer), CF/B (Call Forward on Busy), and CF/DA (Call Forward Don't Answer) feature capabilities allowing for Voice Mail services.

2.3.11 **Hospitality Service**

2.3.11.1 ILEC shall provide all blocking, screening, and all other applicable functions available for hospitality lines.

2.3.12 **Telephone Line Number Calling Cards.** Effective thirty (30) days after the date of an end-user's subscription to MCIm service or within 24 hours after MCIm has notified ILEC that it has replaced the subscriber's calling card, whichever is earlier, ILEC will terminate its existing telephone line number-based calling cards and remove any ILEC-assigned Telephone Line Calling Card Number (including area code) ("TLN") from the LIDB. MCIm may issue a new telephone calling card to such subscriber, utilizing the same TLN, and MCIm shall have the right to enter such TLN in LIDB for calling card validation purposes. ILEC will direct-bill each subscriber on the subscriber's final bill.

Section 3. Advanced Intelligent Network

3.1 MCIm may purchase the entire set of Advanced Intelligent Network ("AIN") features or functions, or a subset of any one or any combination of such features or functions, on a subscriber-specific basis. The AIN services provided by ILEC to MCIm for resale shall meet the following requirements:

3.1.1 AIN, whether offered under tariff or otherwise, shall be available to MCIm for resale, without any geographic restrictions;

3.1.2 ILEC shall provide full functionality access to MCIm on behalf of MCIm subscribers, including the Service Control Point Database and Intelligent Functions;

3.1.3 All service levels, features and function components of AIN provided by ILEC shall meet the service parity requirements set forth in this Agreement; and

3.1.4 MCIm may purchase any and all levels of AIN service for resale, without restriction on the minimum or maximum number of lines or features that may be purchased for any one level of service.

Section 4. Service Functions

4.1 ILEC shall provide MCIm with the information MCIm will need to certify subscribers as exempt from charges (including taxes), or eligible for reduced charges associated with providing services, including but not limited to handicapped individuals, and certain governmental bodies and public institutions and shall not bill MCIm for such services.

4.2 ILEC shall provide MCIm with appropriate notification of all area transfers with line level detail 120 days before service transfer, and will also notify MCIm within 120 days before such change of any LATA boundary changes.

4.3 ILEC will work cooperatively with MCIm in practices and procedures regarding the handling of law enforcement and service annoyance calls.

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ATTACHMENT III

NETWORK ELEMENTS

Section 1. Introduction

ILEC shall provide unbundled Network Elements in accordance with this Agreement, FCC Rules and Regulations. The price for each Network Element is set forth in Attachment I of this Agreement. Except as otherwise set forth in this Attachment, MCIm may order Network Elements as of the Effective Date.

Section 2. Unbundled Network Elements

2.1 ILEC shall offer Network Elements to MCIm on an unbundled basis on rates, terms and conditions that are just, reasonable, and non-discriminatory in accordance with the terms and conditions of this Agreement.

2.2 ILEC shall permit MCIm to connect MCIm's facilities or facilities provided to MCIm by third parties with each of ILEC's unbundled Network Elements at any point designated by MCIm that is technically feasible.

2.3 MCIm may use one or more Network Elements to provide any feature, function, capability, or service option that such Network Element(s) is capable of providing or any feature, function, capability, or service option that is described in the technical references identified herein, or as may otherwise be determined by MCIm.

2.3.1 MCIm may, at its option, designate any technically feasible method of access to unbundled elements, including access methods currently or previously in use.

2.4 ILEC shall offer each Network Element individually and in combination with any other Network Element or Network Elements in order to permit MCIm to provide Telecommunications Services to its customers.

2.5 For each Network Element, ILEC shall provide a demarcation point (e.g., at a Digital Signal Cross Connect, Light Guide Cross Connect panel or a Main Distribution Frame) and, if necessary, access to such

provides combined Network Elements at MCIm's direction, no demarcation point shall exist between such contiguous Network Elements.

2.6 Charges in Attachment I are inclusive and no other charges apply, including but not limited to any other consideration for connecting any Network Element(s) with other Network Element(s).

2.7 This Attachment describes the initial set of Network Elements which MCIm and ILEC have identified as of the effective date of this agreement:

Loop
Network Interface Device
Distribution
Local Switching
Operator Systems
Common Transport
Dedicated Transport
Signaling Link Transport
Signaling Transfer Points
Service Control Points/Databases
Tandem Switching
911
Directory Assistance

MCIm and ILEC agree that the Network Elements identified in this Attachment are not all possible Network Elements.

MCIm may identify additional or revised Network Elements as necessary to provide telecommunications services to its subscribers, to improve network or service efficiencies or to accommodate changing technologies, customer demand, or other requirements.

MCIm will request such Network Elements in accordance with the bona Fide request process described in Section 24 of Part A. Additionally, if ILEC provides any Network Element that is not identified in this Agreement, to itself, to its own subscribers, to an ILEC affiliate or to any other entity, ILEC shall make available the same Network Element to MCIm on terms and conditions no less favorable to MCIm than those provided to itself or to any other party at TELRIC prices.

Section 3. Standards for Network Elements

3.1 Each Network Element shall be furnished at a service level equal to or better than the requirements set forth in the technical references referenced in the following, as well as any performance or other

3.1 Each Network Element shall be furnished at a service level equal to or better than the requirements set forth in the technical references referenced in the following, as well as any performance or other requirements, identified herein. In the event Bell Communications Research, Inc. ("Bellcore"), or industry standard (e.g., American National Standards Institute ("ANSI")) technical reference or a more recent version of such reference sets forth a different requirement, MCIm may elect, where technically feasible, that such standard shall apply.

3.2 If one or more of the requirements set forth in this Agreement are in conflict, MCIm shall elect which requirement shall apply.

3.3 Each Network Element provided by ILEC to MCIm shall be at least equal in the quality of design, performance, features, functions, capabilities and other characteristics, including but not limited to levels and types of redundant equipment and facilities for power, diversity and security, that ILEC provides to itself, ILEC's own customers, to a ILEC affiliate or to any other entity.

3.3.1 ILEC shall provide to MCIm, upon request, engineering, design, performance and other network data sufficient for MCIm to determine that the requirements of this Section 3 are being met. In the event that such data indicates that the requirements of this Section 3 are not being met, ILEC shall, within 10 days, cure any design, performance or other deficiency and provide new data sufficient for MCIm to determine that such deficiencies have been cured.

3.3.2 ILEC agrees to work cooperatively with MCIm to provide Network Elements that will meet MCIm's needs in providing services to its customers.

3.4 Unless otherwise requested by MCIm, each Network Element and the connections between Network Elements provided by ILEC to MCIm shall be made available to MCIm on a priority basis, at any technically feasible point, that is equal to or better than the priorities that ILEC provides to itself, ILEC's own customers, to an ILEC affiliate or to any other entity.

Section 4. Loop

4.1 **Definition**

4.1.1 A loop is a transmission facility between a distribution frame [cross-connect], or its equivalent, in an ILEC central office or wire center, and the network interface device at a customer's premises,

to which MCIm's granted exclusive use. This includes, but is not limited to two-wire and four-wire analog voice-grade loops, and two-wire and four-wire loops that are conditioned to transmit the digital signals needed to provide ISDN, ADSL, HDSL, and DS1-level signals. A loop may be composed of the following components:

Loop Concentrator / Multiplexer
Loop Feeder
Network Interface Device (NID)
Distribution

Loop Distribution is a Network Element that is composed of two distinct component parts: a Network Interface Device and Distribution facilities. Each component part is defined in detail below.

4.1.2 If ILEC uses Integrated Digital Loop Carrier (DLCs) systems to provide the local loop, ILEC will make alternate arrangements to permit MCIm to order a contiguous unbundled local loop at no additional cost to MCIm. These arrangements may, at ILEC's option, include the following: provide MCIm with copper facilities or universal DLC that are acceptable to MCIm, deploy Virtual Remote Terminals, allow MCIm to purchase the entire Integrated DLC, or convert integrated DLCs to non-integrated systems.

4.2. Technical Requirements

Subdivided to each component as detailed below.

4.3 Interface Requirements

Subdivided to each component as detailed below.

4.4 Loop Components

4.4.1 Loop Concentrator/Multiplexer

4.4.1.1 Definition:

4.4.1.1.1 The Loop Concentrator/Multiplexer is the Network Element that:

(1) aggregates lower bit rate or bandwidth signals to

higher bit rate or bandwidth signals (multiplexing); (2) disaggregates higher bit rate or bandwidth signals to lower bit rate or bandwidth signals (demultiplexing); (3) aggregates a specified number of signals or channels to fewer channels (concentrating); (4) performs signal conversion, including encoding of signals (e.g., analog to digital and digital to analog signal conversion); and (5) in some instances performs electrical to optical (E/O) conversion.

4.4.1.1.2 The Loop Concentrator/Multiplexer function may be provided through a Digital Loop Carrier (DLC) system, channel bank, multiplexer or other equipment at which traffic is encoded and decoded, multiplexed and demultiplexed, or concentrated.

4.4.1.2 Technical Requirements

4.4.1.2.1 The Loop Concentrator/Multiplexer shall be capable of performing its functions on the signals for the following services, including but not limited to, (as needed by MCIm to provide end-to-end service capability to its customer):

4.4.1.2.1.1 two-wire & four-wire analog voice grade loops;

4.4.1.2.1.2 two-wire & four-wire loops that are conditioned to transmit the digital signals needed to provide services such as ISDN, ADSL, HDSL, and DS1-level signals.

4.4.1.2.1.3 4-wire digital data (2.4Kbps through 64Kbps and n times 64Kbps (where n $\leq$ 24);

4.4.1.2.1.4 DS3 rate private lines;

4.4.1.2.1.5 Optical SONET rate private lines;

4.4.1.2.2 The Loop Concentrator/Multiplexer shall perform the following functions as appropriate:

4.4.1.2.2.1 Analog to digital signal conversion of both incoming and outgoing (upstream and downstream) analog signals;

4.4.1.2.2.2 Multiplexing of the individual digital signals up to higher transmission bit rate signals (e.g., DS0, DS1, DS3, or optical SONET rates) for transport to the ILEC central office through the Loop Feeder; and

4.4.1.2.2.3 Concentration of end-user customer signals onto fewer channels of a Loop Feeder (The concentration ratio shall be as specified by MCIm, who shall have the right to change).

4.4.1.2.3 ILEC shall provide power for the Loop Concentrator /Multiplexer, through a non-interruptible source if the function is performed in a central office, or from a commercial AC power source with battery backup if the equipment is located outside a central office. Such power shall also adhere to the requirements stated herein.

4.4.1.2.4 The Loop Concentrator/Multiplexer shall be provided to MCIm in accordance with the following Technical References:

4.4.1.2.4.1 Bellcore TR-NWT-000057, Functional Criteria for Digital Loop Carrier Systems, Issue 2, January 1993.

4.4.1.2.4.2 Bellcore TR-NWT-000393, Generic Requirements for ISDN Basic Access Digital Subscriber Lines.

4.4.1.2.4.3 ANSI T1.106 - 1988, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode).

4.4.1.2.4.4 ANSI T1.105-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Basic

Description including Multiplex Structure, Rates and Formats.

4.4.1.2.4.5 ANSI T1.102-1993, American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces.

4.4.1.2.4.6 ANSI T1.403-1989, American National Standard for Telecommunications - Carrier to Customer Installation, DS1 Metallic Interface Specification.

4.4.1.2.4.7 Bellcore GR-253-CORE, Synchronous Optical Network Systems (SONET), Common Generic Criteria..

4.4.1.2.4.8 Bellcore TR-TSY-000008, Digital Interface Between the SLC 96 Digital Loop Carrier System and a Local Digital Switch, Issue 2, August 1987.

4.4.1.2.4.9 Bellcore TR-NWT-000303, Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, Issue 2, December 1992; Rev. 1, December 1993; Supplement 1, December 1993.

4.4.1.2.4.10 Bellcore TR-TSY-000673, Operations Systems Interface for an IDLC System, (LSSGR) FSD 20-02-2100, Issue 1, September 1989.

4.4.1.2.4.11 Bellcore Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, GR-303-CORE, Issue 1, September 1995.

4.4.1.3 Requirements for an Intelligent Loop Concentrator/ Multiplexer

4.4.1.3.1 In addition to the basic functions described above for the Loop Concentrator/Multiplexer, the Intelligent Loop Concentrator/Multiplexer (IC/M) shall provide facility grooming, facility test functions, format conversion and signaling conversion as appropriate.

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4.4.1.3.2 The underlying equipment that provides such IC/M function shall continuously monitor protected circuit packs and redundant common equipment.

4.4.1.3.3 The underlying equipment that provides such IC/M function shall automatically switch to a protection circuit pack on detection of a failure or degradation of normal operation.

4.4.1.3.4 The underlying equipment that provides such IC/M function shall be equipped with a redundant power supply or a battery back-up.

4.4.1.3.5 At MCIm's option, ILEC shall provide MCIm with real time performance monitoring and alarm data on IC/M elements that may affect MCIm's traffic. This includes IC/M hardware alarm data and facility alarm data on the underlying device that provides such IC/M function.

4.4.1.3.6 At MCIm's option, ILEC shall provide MCIm with real time ability to initiate tests on the underlying device that provides such IC/M function integrated test equipment as well as other integrated functionality for routine testing and fault isolation.

4.4.1.4 Interface Requirements

4.4.1.4.1 The Loop Concentrator/Multiplexer shall meet the following interface requirements, as appropriate for the configuration that MCIm designates:

4.4.1.4.2 The Loop Concentrator/Multiplexer shall provide an analog voice frequency copper twisted pair interface at the serving wire center, as described in the references in Section 4.4.1.2.4.

4.4.1.4.3 The Loop Concentrator/Multiplexer shall provide digital 4-wire electrical interfaces at the serving wire center, as described in the references in Section 4.4.1.2.4.

4.4.1.4.4 The Loop Concentrator/Multiplexer shall provide optical SONET interfaces at rates of OC-3, OC-12, OC-48, and OC-N, N as described in the references in Section 4.4.1.2.4.

4.4.1.4.5 The Loop Concentrator/Multiplexer shall provide the Bellcore TR-303 DS1 level interface at the serving wire center. Loop Concentrator/ Multiplexer shall provide Bellcore TR-08 modes 1&2 DS1 interfaces when designated by MCIm. Such interface requirements are specified in the references in Section 4.4.1.2.4.

4.4.1.5 The Intelligent Loop Concentrator/Multiplexer shall be provided to MCIm in accordance with the Technical References set forth in Sections 4.4.1.2.4.8 through 4.4.1.2.4.11 above.

4.4.2 Loop Feeder

4.4.2.1 **Definition:**

4.4.2.1.1 The Loop Feeder is the Network Element that provides connectivity between (1) a Feeder Distribution Interface (FDI) associated with Loop Distribution and a termination point appropriate for the media in a central office, or (2) a Loop Concentrator/Multiplexer provided in a remote terminal and a termination point appropriate for the media in a central office. ILEC shall provide MCIm physical access to the FDI, and the right to connect, the Loop Feeder to the FDI.

4.4.2.1.2 The physical medium of the Loop Feeder may be copper twisted pair, or single or multi-mode fiber or other technologies as designated by MCIm. In certain cases, MCIm will require a copper twisted pair loop even in instances where the medium of the Loop Feeder for services that ILEC offers is other than a copper facility.

4.4.2.2 **Requirements for Loop Feeder**

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4.4.2.2.1 The Loop Feeder shall be capable of transmitting analog voice frequency, basic rate ISDN, digital data, or analog radio frequency signals as appropriate.

4.4.2.2.2 ILEC shall provide appropriate power for all active elements in the Loop Feeder. ILEC will provide appropriate power from a central office source, or from a commercial AC source with rectifiers for AC to DC conversion and 8-hour battery back-up when the equipment is located in an outside plant Remote Terminal (RT).

4.4.2.3 **Additional Requirements for Special Copper Loop Feeder Medium**

In addition to requirements set forth in Section 6.2 (above), MCIm may require ILEC to provide copper twisted pair Loop Feeder which is unfettered by any intervening equipment (e.g. filters, load coils, and range extenders), so that MCIm can use these Loop Feeders for a variety of services by attaching appropriate terminal equipment at the ends.

4.4.2.4 **Additional Technical Requirements for DS1 Conditioned Loop Feeder**

In addition to the requirements set forth in Section 4.4.2.2 above, MCIm may designate that the Loop Feeder be conditioned to transport a DS1 signal. The requirements for such transport are defined in the references below in Section 4.4.2.6.

4.4.2.5 **Additional Technical Requirements for Optical Loop Feeder**

In addition to the requirements set forth in Section 4.4.2.2 above, MCIm may designate that Loop Feeder will transport DS3 and OCn (where n is defined in the technical reference in Section 4.4.1.2.4.4. The requirements for such transport are defined in the references below in Section 4.4.2.6.

4.4.2.6 ILEC shall offer Loop Feeder in accordance with the requirements set forth in the following Technical References:

4.4.2.6.1 Bellcore Technical Requirement TR-NWT-000499, Issue 5, December 1993, section 7 for DS1 interfaces; and,

4.4.2.6.2 Bellcore TR-NWT-000057, Functional Criteria for Digital Loop Carrier Systems, Issue 2, January 1993.

4.4.2.6.2 Bellcore TR-NWT-000393, Generic Requirements for ISDN Basic Access Digital Subscriber Lines.

4.4.2.6.3 ANSI T1.106-1988, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode).

4.4.2.6.4 ANSI T1.105-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Basic Description including Multiplex Structure, Rates and Formats.

4.4.2.6.5 ANSI T1.102-1993, American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces.

4.4.2.6.6 ANSI T1.403-1989, American National Standard for Telecommunications - Carrier to Customer Installation, DS1 Metallic Interface Specification

4.4.2.6.7 Bellcore GR-253-CORE, Synchronous Optical Network Systems (SONET), Common Generic Criteria.

4.4.2.7 Interface Requirements

4.4.2.7.1 The Loop Feeder point of termination (POT) within a ILEC central office will be as follows:

4.4.2.7.1.1 Copper twisted pairs shall terminate on the MDF;

4.4.2.7.1.2 DS1 Loop Feeder shall terminate on a DSX1, DCS1/0 or DCS3/1; and

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4.4.2.7.1.3 Fiber Optic cable shall terminate on a LGX.

4.4.2.7.2 Loop Feeder shall be equal to or better than each of the applicable interface requirements set forth in the following technical references:

4.4.2.7.2.1 Bellcore TR-TSY-000008, Digital Interface Between the SLC 96 Digital Loop Carrier System and a Local Digital Switch, Issue 2. August 1987.

4.4.2.7.2.2 Bellcore TR-NWT-000303, Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, Issue 2, December 19921- Rev. 1, December 1993-1 Supplement 1, December 1993.

4.4.2.7.2.3 Bellcore Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, GR-303-CORE, Issue 1, September 1995.

Section 5. Network Interface Device

5.1 **Definition**:

5.1.1 The Network Interface Device (NID) is a single-line termination device or that portion of a multiple-line termination device required to terminate a single line or circuit. The function of the NID is to establish the network demarcation point between a carrier and its subscriber. The NID features two independent chambers or divisions which separate the service provider's network from the customer's inside wiring. Each chamber or division contains the appropriate connection points or posts to which the service provider, and the subscriber each make their connections. The NID provides a protective ground connection, provides protection against lightning and other high voltage surges and is capable of terminating cables such as twisted pair cable.

5.1.2 With respect to multiple-line termination devices, MCIm shall specify the quantity of NIDs it requires within such device.

5.1.3 Figure 1 shows a schematic of a NID.

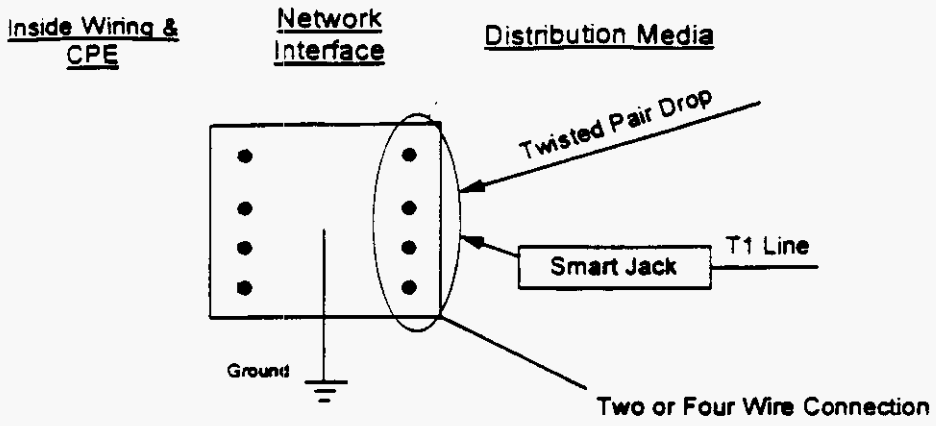


Figure 1 - Network Interface Device

5.2 Technical Requirements

5.2.1 The Network Interface Device shall provide a clean, accessible point of connection for the inside wiring and for the Distribution Media and/or cross connect to MCIm's NID and shall maintain a connection to ground that meets the requirements set forth below.

5.2.2 The NID shall be capable of transferring electrical analog or digital signals between the customer's inside wiring and the Distribution Media and/or cross connect to MCIm's NID.

5.2.3 All NID posts or connecting points shall be in place, secure, usable and free of any rust or corrosion. The protective ground connection shall exist and be properly installed. The ground wire shall be free of rust or corrosion and have continuity relative to ground.

5.2.4 The NID shall be capable of withstanding all normal local environmental variations.

5.2.5 Where the NID is not located in a larger, secure cabinet or closet, the NID shall be protected from physical vandalism. The NID shall be physically accessible to MCIm designated personnel. In cases where entrance to the customer premises is required to

give access to the NID, MCIm shall obtain entrance permission directly from the customer.

5.2.6 ILEC shall offer the NID together with, and separately from the Distribution Media component of Loop Distribution.

5.3 **Interface Requirements**

5.3.1 The NID shall be the interface to customers' premises wiring for all loop technologies.

5.3.2 The NID shall be equal to or better than all of the industry standards for NIDs set forth in the following technical references:

5.3.2.1 Bellcore Technical Advisory TA-TSY-000120 "Customer Premises or Network Ground Wire";

5.3.2.2 Bellcore Generic Requirement GR-49-CORE "Generic Requirements for Outdoor Telephone Network Interface Devices";

5.3.2.3 Bellcore Technical Requirement TR-NWT-00239 "Indoor Telephone Network Interfaces";

5.3.2.4 Bellcore Technical Requirement TR-NWT-000937 "Generic Requirements for Outdoor and Indoor Building Entrance"; and,

5.3.2.5 Bellcore Technical Requirement TR-NWT-0001 33 "Generic Requirements for Network Inside Wiring."

Section 6. Distribution

6.1 **Definition**:

6.1.1 Distribution provides connectivity between the NID component of Loop Distribution and the terminal block on the customer-side of a Feeder Distribution Interface (FDI). The FDI is a device that terminates the Distribution Media and the Loop Feeder, and cross-connects them in order to provide a continuous transmission path between the NID and a telephone company central office. There are three basic types of feeder-distribution connection: I) multiple (splicing of multiple distribution pairs onto one feeder pair); II) dedicated ("home run"); and iii) interfaced ("cross-connected"). While older plant uses multiple and dedicated

approaches, newer plant and all plant that uses DLC or other pair-gain technology necessarily uses the interfaced approach. The feeder-distribution interface (FDI) in the interfaced design makes use of a manual cross-connection, typically housed inside an outside plant device ("green box") or in a vault or manhole.

6.1.2 The Distribution may be copper twisted pair, coax cable, single or multi-mode fiber optic cable or other technologies. A combination that includes two or more of these media is also possible. In certain cases, MCIm shall require a copper twisted pair Distribution even in instances where the Distribution for services that ILEC offers is other than a copper facility.

6.2 **Requirements for All Distribution**

6.2.1 Distribution shall be capable of transmitting signals for the following services (as requested by MCIm):

6.2.1.1 Two-wire & four-wire analog voice grade loops;

6.2.1.2 Two-wire & four-wire loops that are conditioned to transmit the digital signals needed to provide services such as ISDN, ADSL, HDSL, and DS1-level signals.

6.2.2 Distribution shall transmit all signaling messages or tones. Where the Distribution includes any active elements that terminate any of the signaling messages or tones, these messages or tones shall be reproduced by the Distribution at the interfaces to an adjacent Network Element in a format that maintains the integrity of the signaling messages or tones.

6.2.3 Distribution shall support functions associated with provisioning, maintenance and testing of the Distribution itself, as well as provide necessary access to provisioning, maintenance and testing functions for Network Elements to which it is associated.

6.2.4 Where possible, Distribution shall provide performance monitoring of the Distribution itself, as well as provide necessary access for performance monitoring for Network Elements to which it is associated.

6.2.5 Distribution shall be equal to or better than all of the applicable requirements set forth in the following technical references:

6.2.5.1 Bellcore TR-TSY-000057, "Functional Criteria for Digital Loop Carrier Systems", and,

6.2.5.2 Bellcore TR-NWT-000393, "Generic Requirements for ISDN Basic Access Digital Subscriber Lines."

6.2.6 ILEC shall provide MCIm with physical access to, and the right to connect to, the FDI.

6.2.7 ILEC shall offer Distribution together with, and separately from the NID component of Loop Distribution.

6.3 Additional Requirements for Special Copper Distribution

In addition to Distribution that supports the requirements in Section 6.2. (above), MCIm may designate Distribution to be copper twisted pair which are unfettered by any intervening equipment (e.g., filters, load coils, range extenders) so that MCIm can use these loops for a variety of services by attaching appropriate terminal equipment at the ends.

6.4 Additional Requirements for Fiber Distribution

Fiber optic cable Distribution shall be capable of transmitting signals for the following services in addition to the ones under Section 6.2.1 above:

6.4.1 DS3 rate private line service;

6.4.2 Optical SONET OCn rate private lines (where n is defined in the technical reference in Section 4.4.1.2.4.4; and

6.4.3 Analog Radio Frequency based services (e.g., Cable Television (CATV)).

6.5 Additional Requirements for Coaxial Cable Distribution

Coaxial cable (coax) Distribution shall be capable of transmitting signals for the following services in addition to the ones under Section 6.2.1 above:

6.5.1 Broadband data, either one way or bi-directional, symmetric or asymmetric, at rates between 1.5 Mb/s and 45 Mb/s; and

6.5.2 Analog Radio Frequency based services (e.g., CATV).

6.6 **Interface Requirements**

6.6.1 Signal transfers between the Distribution and the NID and an adjacent Network Element shall have levels of degradation that are within the performance requirements set forth in Section 15.2 of this Attachment III.

6.6.2 Distribution shall be equal to or better than each of the applicable interface requirements set forth in the following technical references:

6.6.2.1 Bellcore TR-NWT-000049, "Generic Requirements for Outdoor Telephone Network Interface Devices," Issued December 1,1994;

6.6.2.2 Bellcore TR-NWT-000057, "Functional Criteria for Digital Loop Carrier Systems," Issued January 2, 1993;

6.6.2.3 Bellcore TR-NWT-000393, "Generic Requirements for ISDN Basic Access Digital Subscriber Lines";

6.6.2.4 Bellcore TR-NWT-000253, SONET Transport Systems: Common Criteria (A module of TSGR, FR-NWT-000440), Issue 2, December 1991;

Section 7. Local Switching

7.1 **Definition:**

7.1.1 Local Switching is the Network Element that provides the functionality required to connect the appropriate lines or trunks wired to the Main Distributing Frame (MDF) or Digital Cross Connect (DSX) panel to a desired line or trunk. The desired connection path for each call type will vary by customer and will be specified by MCIm as a routing scenario that will be implemented in advance as part of or after the purchases of the unbundled local switching. Such functionality shall include all of the features, functions, and capabilities that the underlying ILEC switch that is providing such Local Switching function is capable of providing, including but not limited to: line signaling and signaling software, digit reception, dialed number translations, call screening, routing, recording, call supervision, dial tone, switching, telephone number provisioning, announcements, calling features and capabilities (including call processing), Centrex, or Centrex like services,

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Automatic Call Distributor (ACD), Carrier pre-subscription (e.g., long distance carrier, intraLATA toll), Carrier Identification Code (CIC) portability capabilities, testing and other operational features inherent to the switch and switch software. It also provides access to transport, signaling (ISDN User Part (ISUP) and Transaction Capabilities Application Part (TCAP), and platforms such as adjuncts, Public Safety Systems (911), operator services, directory services and Advanced Intelligent Network (AIN). Remote Switching Module functionality is included in the Local Switching function. Local Switching shall also be capable of routing local, intraLATA, interLATA, calls to international customer's preferred carrier, call features (e.g., call forwarding) and Centrex capabilities.

Local Switching, including the ability to route to MCIm's transport facilities, dedicated facilities and systems, shall be unbundled from all other unbundled Network Elements, i.e., Operator Systems, Common Transport, and Dedicated Transport.

7.2. Technical Requirements

7.2.1 Local Switching shall be equal to or better than the requirements for Local Switching set forth in Bellcore's Local Switching Systems General Requirements (FR-NWT-000064).

7.2.1.1 ILEC shall route calls to the appropriate trunk or lines for call origination or termination.

7.2.1.2 ILEC shall route calls on a per line or per screening class basis to (1) ILEC platforms providing Network Elements or additional requirements, (2) MCIm designated platforms, or (3) third-party platforms.

7.2.1.3 ILEC shall provide recorded announcements as designated by MCIm and call progress tones to alert callers of call progress and disposition.

7.2.1.4 ILEC shall change a customer from ILEC's services to MCIm's services without loss of feature functionality.

7.2.1.5 ILEC shall perform routine testing (e.g., Mechanized Loop Tests (MLT) and test calls such as 105, 107 and 108 type calls) and fault isolation on a schedule designated by MCIm.

7.2.1.6 ILEC shall repair and restore any equipment or any other maintainable component that may adversely impact MCIm's use of unbundled Local Switching.

7.2.1.7 ILEC shall control congestion points such as mass calling events, and network routing abnormalities, using capabilities such as Automatic Call Gapping, Automatic Congestion Control, and Network Routing Overflow. Application of such control shall be competitively neutral and not favor any user of unbundled switching or the ILEC.

7.2.1.8 ILEC shall perform manual call trace as designated by MCIm and permit customer originated call trace.

7.2.1.9 ILEC shall record all billable events and send the appropriate billing data to MCIm as outlined in Attachment 8.

7.2.1.10 For Local Switching used as 911 Tandems, ILEC shall allow interconnection from MCIm local switching elements and ILEC shall route the calls to the appropriate Public Safety Access Point (PSAP).

7.2.1.11 Where ILEC provides the following special services, it shall provide to MCIm:

7.2.1.11.1 Essential Service Lines;

7.2.1.11.2 Telephone Service Prioritization;

7.2.1.11.3 Related services for handicapped;

7.2.1.11.4 Soft dial tone where required by law; and

7.2.1.11.5 Any other service required by law or regulation.

7.2.1.12 ILEC shall provide Switching Service Point (SSP) capabilities and signaling software to interconnect the signaling links destined to the Signaling Transfer Point Switch (STPs). In the event that Local Switching is provided out of a switch without SS7 capability, the Tandem shall provide this capability as discussed in the section on

Tandem Switching. These capabilities shall adhere to Bellcore specifications TCAP (GR-1432-CORE), ISUP (GR-905-CORE), Call Management (GR-1429-CORE), Switched Fractional DS1 (GR-1357-CORE), Toll Free Service (GR-1428-CORE), Calling Name (GR-1597-CORE), Line Information Database (GR-954-CORE), and Advanced Intelligent Network (GR-2863-CORE).

7.2.1.13 ILEC shall provide interfaces to adjuncts through industry standard and Bellcore interfaces. These adjuncts can include, but are not limited to, Service Node, Service Circuit Node, Voice Mail and Automatic Call Distributors. Examples of existing interfaces are ANSI ISDN standards Q.931 and Q.932.

7.2.1.14 ILEC shall provide performance data regarding a customer line, traffic characteristics or other measurable elements to MCIm, upon MCIm's request.

7.2.1.15 ILEC shall offer all Local Switching features that are technically feasible and provide feature offerings at parity to those provided by ILEC to itself or any other party. Such feature offerings shall include but are not limited to:

7.2.1.15.1 Basic and primary rate ISDN;

7.2.1.15.2 Residential features;

7.2.1.15.3 Custom Local Area Signaling Services (CLASS/LASS);

7.2.1.15.4 Custom Calling Features

7.2.1.15.5 Centrex (including equivalent administrative capabilities, such as customer accessible reconfiguration and detailed message recording); and

7.2.1.15.6 Advanced intelligent network triggers supporting MCIm features. ILEC shall offer to MCIm all AIN triggers currently available to ILEC for offering AIN-based services in accordance with applicable technical references:

7.2.1.15.6.1 Off-Hook Immediate;

7.2.1.15.6.2 Off-Hook Delay;

7.2.1.15.6.3 Private EAMF Trunk;

7.2.1.15.6.4 Shared Interoffice Trunk (EAMF, SS7);

7.2.1.15.6.5 Termination Attempt;

7.2.1.15.6.6 3/6/10;

7.2.1.15.6.7 N11;

7.2.1.15.6.8 Feature Code Dialing;

7.2.1.15.6.9 Custom Dialing Plan(s) including 555 services; and

7.2.1.15.6.10 Automatic Route Selection.

7.2.1.16 ILEC shall assign each MCIm customer line the class of service designated by MCIm (e.g., using line class codes or other switch specific provisioning methods), and shall route directory assistance calls from MCIm customers as directed by MCIm at MCIm's option. This includes each of the following call types:

7.2.1.16.1 O+/O- calls

7.2.1.16.2 911 calls

7.2.1.16.3 411/DA calls

7.2.1.16.4 InterLATA calls specific to PIC or regardless of PIC

7.2.1.16.5 IntraLATA calls specific to PIC or regardless of PIC

7.2.1.16.6 800/888 calls, prior to database query

7.1.2.16.7 Call forwarding of any type supported on the switch, to a line or a trunk

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7.1.2.16.8 Any other customized routing that may be supported by the ILEC switch

7.2.1.17 ILEC shall assign each MCIm customer line the class of services designated by MCIm (e.g., using line class codes or other switch specific provisioning methods) and shall route operator calls from MCIm customers as directed by MCIm at MCIm's option. For example, ILEC may translate 0- and 0+ intraLATA traffic, and route the call through appropriate trunks to an MCIm Operator Services Position System (OSPS). Calls from Local Switching must pass the ANI-II digits unchanged.

7.2.1.18 If an MCIm customer subscribes to MCIm provided voice mail and messaging services, ILEC shall redirect incoming calls to the MCIm system based upon presubscribed service arrangements (e.g., busy, don't answer, number of rings). In addition, ILEC shall provide a Standard Message Desk Interface-Enhanced (SMDI-E) interface to the MCIm system. ILEC shall support the Inter-switch Voice Messaging Service (IVMS) capability.

7.2.1.19 Local Switching shall be offered in accordance with the requirements of the following technical references and their future releases:

7.2.1.19.1 GR-1298-CORE, AIN Switching System Generic Requirements;

7.2.1.19.2 GR-1299-CORE, AIN Switch-Service Control Point (SCP)/Adjunct Interface Generic Requirements;

7.2.1.19.3 TR-NWT-001284, AIN 0.1 Switching System Generic Requirements;

7.2.1.19.4 SR-NWT-002247, AIN Release 1 Update.

7.2.2 **Interface Requirements**:

7.2.2.1 ILEC shall provide the following interfaces to loops:

7.2.2.1.1 Standard Tip/Ring interface including loopstart or groundstart, on-hook signaling (e.g., for

calling number, calling name and message waiting lamp);

7.2.2.1.2 Coin phone signaling;

7.2.2.1.3 Basic Rate Interface ISDN adhering to ANSI standards Q.931, Q.932 and appropriate Bellcore Technical Requirements;

7.2.2.1.4 Two-wire analog interface to PBX to include reverse battery, E&M, wink start and DID;

7.2.2.1.5 Four-wire analog interface to PBX to include reverse battery, E&M, wink start and DID;

7.2.2.1.6 Four-wire DS1 interface to PBX or customer provided equipment (e.g., computers and voice response systems);

7.2.2.1.7 Primary Rate ISDN to PBX adhering to ANSI standards Q.931, Q.932 and appropriate Bellcore Technical Requirements;

7.2.2.1.8 Switched Fractional DS1 with capabilities to configure Nx64 channels (where N = 1 to 24); and

7.2.2.1.9 Loops adhering to Bellcore TR-NWT-08 and TR-NWT-303 specifications to interconnect Digital Loop Carriers.

7.2.2.2 ILEC shall provide access to the following but not limited to:

7.2.2.2.1 SS7 Signaling Network or Multi-Frequency trunking if requested by MCIm;

7.2.2.2.2 Interface to MCIm operator services systems or Operator Services through appropriate trunk interconnections for the system; and

7.2.2.2.3 Interface to MCIm directory assistance services through the MCIm switched network or to Directory Services through the appropriate trunk interconnections for the system; and 950 access or

other MCIm required access to interexchange carriers as requested through appropriate trunk interfaces.

7.3 Integrated Services Digital Network (ISDN)

7.3.1 Integrated Services Digital Network (ISDN) is defined in two variations. The first variation is Basic Rate ISDN (BRI). BRI consists of 2 Bearer (B) Channels and one Data (D) Channel. The second variation is Primary Rate ISDN (PRI). PRI consists of 23 B Channels and one D Channel. Both BRI and PRI B Channels may be used for voice, Circuit Switched Data (CSD) or Packet Switched Data (PSD). The BRI D Channel may be used for call related signaling, non-call related signaling or packet switched data. The PRI D Channel may be used for call related signaling.

7.3.2 Technical Requirements — ISDN

7.3.2.1 ILEC shall offer Data Switching providing ISDN that, at a minimum:

7.3.2.2 Provides integrated Packet handling capabilities;

7.3.2.3 Allows for full 2B+D Channel functionality for BRI; and

7.3.2.4 Allows for full 23B+D Channel functionality for PRI.

7.3.2.5 Each B Channel shall allow for voice, 64 Kbps CSD, and PSD of 128 logical channels at minimum speeds of 19 Kbps throughput of each logical channel up to the total capacity of the B Channel.

7.3.2.6 Each B Channel shall provide capabilities for alternate voice and data on a per call basis.

7.3.2.7 The BRI D Channel shall allow for call associated signaling, non-call associated signaling and PSD of 16 logical channels at minimum speeds of 9.6 Kbps throughput of each logical channel up to the total capacity of the D channel.

7.3.2.8 The PRI D Channel shall allow for call associated signaling.

7.3.3 **Interface Requirements — ISDN**

7.3.3.1 ILEC shall provide the BRI U interface using 2-wire copper loops in accordance with TR-NWT-000393, January 1991, *Generic Requirements for ISDN Basic Access Digital Subscriber Lines.*

7.3.3.2 ILEC shall provide the BRI interface using Digital Subscriber Loops adhering to Bellcore TR-NWT-303 specifications to interconnect Digital Loop Carriers.

7.3.3.3 ILEC shall offer PSD interfaces adhering to the X.25, X.75 and X.75' ANSI and Bellcore requirements.

7.3.3.4 ILEC shall offer PSD trunk interfaces operating at 56 Kbps.

Section 8. Operator Systems

See Attachment VIII, Section 6.1.2 Directory Assistance Service and 6.1.3 Operator Service.

Section 9. Common Transport

9.1 **Definition:**

Common Transport is an interoffice transmission path between ILEC Network Elements (illustrated in Figure 2) shared by carriers. Where ILEC Network Elements are connected by intra-office wiring, such wiring is provided as a part of the Network Elements and is not Common Transport. ILEC shall offer Common Transport as of the effective date of the agreement, at DS0, DS1, DS3, STS-1 or higher transmission bit rate circuits. Common Transport consists of ILEC inter-office transport facilities and is distinct and separate from local switching.



Figure 2

9.2 Technical Requirements

9.2.1 ILEC shall be responsible for the engineering, provisioning, and maintenance of the underlying equipment and facilities that are used to provide Common Transport.

9.2.2 At a minimum, Common Transport shall meet all of the requirements set forth in the following technical references (as applicable for the transport technology being used):

9.2.3. ANSI T1.101-1994, American National Standard for Telecommunications - Synchronization Interface Standard Performance and Availability;

9.2.3.1 ANSI T1.102-1993, American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces;

9.2.3.2 ANSI T1.102.01-199x, American National Standard for Telecommunications - Digital Hierarchy - VT1.5;

9.2.3.3 ANSI T1.105-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Basic Description including Multiplex Structure, Rates and Formats;

9.2.3.4 ANSI T1.105.01-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) Automatic Protection Switching;

9.2.3.5 ANSI T1.105.02-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Payload Mappings;

9.2.3.6 ANSI T1.105.03-1994, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Jitter at Network Interfaces;

9.2.3.7 ANSI T1.105.03a-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET): Jitter at Network Interfaces - DS1 Supplement;

9.2.3.8 ANSI T1.105.05-1994, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Tandem Connection;

9.2.3.9 ANSI T1.105.06-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Physical Layer Specifications;

9.2.3.10 ANSI T1.105.07-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Sub STS-1 Interface Rates and Formats;

9.2.3.11 ANSI T1.105.09-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Network Element Timing and Synchronization;

9.2.3.12 ANSI T1.106-1988, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode);

9.2.3.13 ANSI T1.107-1988, American National Standard for Telecommunications - Digital Hierarchy - Formats Specifications;

9.2.3.14 ANSI T1.107a-1990 -American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications (DS3 Format Applications);

9.2.3.15 ANSI T1.107b-1991 -American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications;

9.2.3.16 ANSI T1.117-1991, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (SONET) (Single Mode - Short Reach);

9.2.3.17 ANSI T1.403-1989, Carrier to Customer Installation, DS1 Metallic Interface Specification;

9.2.3.18 ANSI T1.404-1994, Network-to-Customer Installation - DS3 Metallic Interface Specification;

9.2.3.19 ITU Recommendation G.707, Network node interface for the synchronous digital hierarchy (SDH);

9.2.3.20 ITU Recommendation G.704, Synchronous frame structures used at 1544, 6312, 2048, 8488 and 44736 kbit/s hierarchical levels;

9.2.3.21 Bellcore FR-440 and TR-NWT-000499, Transport Systems Generic Requirements (TSGR): Common Requirements;

9.2.3.22 Bellcore GR-820-CORE, Generic Transmission Surveillance: DS1 & DS3 Performance;

9.2.3.23 Bellcore GR-253-CORE, Synchronous Optical Network Systems (SONET); Common Generic Criteria;

9.2.3.24 Bellcore TR-NWT 000507, Transmission, Section 7, Issue 5 (Bellcore, December 1993). (A module of LSSGR, FR-NWT-000064.);

9.2.3.25 Bellcore TR-NWT-000776, Network Interface Description for ISDN Customer Access;

9.2.3.26 Bellcore TR-INS-000342, High-Capacity Digital Special Access Service-Transmission Parameter Limits and Interface Combinations, Issue 1 February 1991;

9.2.3.27 Bellcore ST-TEC-000052, Telecommunications Transmission Engineering Textbook, Volume 2: Facilities, Third Edition, Issue I May 1989;

9.2.3.28 Bellcore ST-TEC-000051, Telecommunications Transmission Engineering Textbook Volume 1: Principles, Third Edition. Issue 1 August 1987;

Section 10. Dedicated Transport

10.1 **Definition**:

10.1.1 Dedicated Transport is an interoffice transmission path between MCIm designated locations to which MCIm is granted exclusive use. Such locations may include ILEC central offices or other locations, MCIm network components, other carrier network components, or customer premises. Dedicated Transport is depicted below in Figure 3.



Figure 3

10.1.2 ILEC shall offer Dedicated Transport in each of the following manners:

10.1.2.1 As capacity on a shared facility.

10.1.2.2 As a circuit (e.g., DS1, DS3, STS-1) dedicated to MCIm.

10.1.2.3 As a system (i.e., the equipment and facilities used to provide Dedicated Transport such as SONET ring) dedicated to MCIm.

10.1.3 When Dedicated Transport is provided as a circuit or as capacity on a shared facility, it shall include (as appropriate):

10.1.3.1 Multiplexing functionality;

10.1.3.2 Grooming functionality; and,

10.1.3.3 Redundant equipment and facilities necessary to support protection and restoration.

10.1.4 When Dedicated Transport is provided as a system it shall include:

10.1.4.1 Transmission equipment such as multiplexers, line terminating equipment, amplifiers, and regenerators;

10.1.4.2 Inter-office transmission facilities such as optical fiber, dark fiber, copper twisted pair, and coaxial cable;

10.1.4.3 Redundant equipment and facilities necessary to support protection and restoration; and,

10.1.4.4 Dedicated Transport includes the Digital Cross-Connect System (DCS) functionality as an option. DCS is described below in Section 10.5.

10.2 Technical Requirements

This Section sets forth technical requirements for all Dedicated Transport.

10.2.1 When ILEC provides Dedicated Transport as a circuit or a system, the entire designated transmission circuit or system (e.g., DS1, DS3, STS-1) shall be dedicated to MCIm designated traffic.

10.2.2 ILEC shall offer Dedicated Transport using currently available technologies including, but not limited to, DS1 and DS3 transport systems, SONET (or SDH) Bi-directional Line Switched Rings, SONET (or SDH) Unidirectional Path Switched Rings, and SONET (or SDH) point-to-point transport systems (including linear add-drop systems), at all available transmission bit rates.

10.2.3 When requested by MCIm, Dedicated Transport shall provide physical diversity. Physical diversity means that two circuits are provisioned in such a way that no single failure of facilities or equipment will cause a failure on both circuits.

10.2.4 When physical diversity is requested by MCIm, ILEC shall provide the maximum feasible physical separation between transmission paths for all facilities and equipment (unless otherwise agreed by MCIm).

10.2.5 Upon MCIm's request, ILEC shall provide real time and continuous remote access to performance monitoring and alarm data affecting, or potentially affecting, MCIm's traffic.

10.2.6 ILEC shall offer the following interface transmission rates for Dedicated Transport:

10.2.6.1 DS1 (Extended SuperFrame - ESF/B8ZS, D4, and unframed applications shall be provided);

10.2.6.2 DS3 (C-bit Parity, M13, and unframed applications shall be provided);

10.2.6.3 SONET standard interface rates in accordance with ANSI T1.105 and ANSI T1.105.07 and physical interfaces per ANSI T1.106.06 (including referenced

interfaces). In particular, VT1.5 based STS-1s will be the interface at an MCIm service node.

10.2.6.4 SDH Standard interface rates in accordance with International Telecommunications Union (ITU) Recommendation G.707 and Plesiochronous Digital Hierarchy (PDH) rates per ITU Recommendation G.704.

10.2.7 ILEC shall provide cross-office wiring up to a suitable Point of Termination (POT) between Dedicated Transport and MCIm designated equipment. ILEC shall provide the following equipment for the physical POT:

10.2.7.1 DSX1 for DS1s or VT1.5s;

10.2.7.2 DSX3 for DS3s or STS-1s; and

10.2.7.3 LGX for optical signals (e.g., OC-3 and OC-12).

10.2.8 ILEC shall provide physical access to the POT for personnel designated by MCIm (for testing, facility interconnection, and other purposes designated by MCIm) 24 hours a day, 7 days a week.

10.2.9 For Dedicated Transport provided as a system, ILEC shall design the system (including but not limited to facility routing and termination points) according to MCIm specifications.

10.2.10 Upon MCIm's request, ILEC shall provide MCIm with electronic provisioning control of an MCIm specified Dedicated Transport.

10.2.11 ILEC shall offer Dedicated Transport together with and separately from DCS.

10.3 Technical Requirements for Dedicated Transport Using SONET Technology.

This Section sets forth additional technical requirements for Dedicated Transport using SONET technology including rings, point-to-point systems, and linear add-drop systems.

10.3.1 All SONET Dedicated Transport provided as a system shall:

10.3.1.1 Be synchronized from both a primary and secondary Stratum 1 level timing source.

10.3.1.2 Provide SONET standard interfaces which properly interwork with SONET standard equipment from other vendors. This includes, but is not limited to, SONET standard Section, Line and Path performance monitoring, maintenance signals, alarms, and data channels.

10.3.1.3 Provide Data Communications Channel (DCC) or equivalent connectivity through the SONET transport system. Dedicated Transport provided over a SONET transport system shall be capable of routing DCC messages between MCIm and SONET network components connected to the Dedicated Transport. For example, if MCIm leases a SONET ring from ILEC, that ring shall support DCC message routing between MCIm and SONET network components connected to the ring.

10.3.1.4 Support the following performance requirements for each circuit (STS-1, DS1, DS3, etc.):

10.3.1.4.1 No more than 10 Errored Seconds Per Day (Errored Seconds are defined in the technical reference at Section 10.4.5); and

10.3.1.4.2 No more than 1 Severely Errored Second Per Day (Severely Errored Seconds are defined in the technical reference at Section 10.4.5).

10.3.2 SONET rings shall:

10.3.2.1 Be provisioned on physically diverse fiber optic cables (including separate building entrances where available and diversely routed intraoffice wiring). "Diversely routed" shall be interpreted as the maximum feasible physical separation between transmission paths, unless otherwise agreed by MCIm.

10.3.2.2 Support dual ring interworking per SONET Standards.

10.3.2.3 Provide the necessary redundancy in optics, electronics, and transmission paths (including intra-office wiring) such that no single failure will cause a service interruption.

10.3.2.4 Provide the ability to disable ring protection switching at MCIm's direction (selective protection lock-out). This requirement applies to line switched rings only.

10.3.2.5 Provide the ability to use the protection channels to carry traffic (extra traffic). This requirement applies to line switched rings only.

10.3.2.6 Provide 50 millisecond restoration unless a ring protection delay is set to accommodate dual ring interworking schemes.

10.3.2.7 Have settable ring protection switching thresholds that shall be set in accordance with MCIm's specifications.

10.3.2.8 Provide revertive protection switching with a settable wait to restore delay with a default setting of 5 minutes. This requirement applies to line switched rings only.

10.3.2.9 Provide non-revertive protection switching. This requirement applies to path switched rings only.

10.3.2.10 Adhere to the following availability requirements, where availability is defined in the technical reference set forth in Section 10.4.5.

10.3.2.10.1 No more than 0.25 minutes of unavailability month; and

10.3.2.10.2 No more than 0.5 minutes of unavailability per year.

10.4 At a minimum, Dedicated Transport shall meet each of the requirements set forth in Section 9.2.3 and in the following technical references.

10.4.1 ANSI T1.105.04-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Data Communication Channel Protocols and Architectures;

10.4.2 ANSI T1.119-1994, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Operations, Administration, Maintenance, and Provisioning (OAM&P) Communications;

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10.4.3 ANSI T1.119.01-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) Operations, Administration, Maintenance, and Provisioning (OAM&P) Communications Protection Switching Fragment;

10.4.4 ANSI T1.119.02-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) Operations, Administration, Maintenance, and Provisioning (OAM&P) Communications Performance Monitoring Fragment;

10.4.5 ANSI T1.231-1993 -American National Standard for Telecommunications - Digital Hierarchy - Layer 1 In-Service Digital Transmission performance monitoring.

10.5 Digital Cross-Connect System (DCS)

10.5.1 Definition:

10.5.1.1 DCS is a function which provides automated cross connection of Digital Signal level 0 (DS0) or higher transmission bit rate digital channels within physical interface facilities. Types of DCSs include but are not limited to DCS 1/0s, DCS 3/1s, and DCS 3/3s, where the nomenclature 1/0 denotes interfaces typically at the DS1 rate or greater with cross-connection typically at the DS0 rate. This same nomenclature, at the appropriate rate substitution, extends to the other types of DCSs specifically cited as 3/1 and 3/3. Types of DCSs that cross-connect Synchronous Transport Signal level 1 (STS-1 s) or other Synchronous Optical Network (SONET) signals (e.g., STS-3) are also DCSs, although not denoted by this same type of nomenclature. DCS may provide the functionality of more than one of the aforementioned DCS types (e.g., DCS 3/3/1 which combines functionality of DCS 3/3 and DCS 3/1). For such DCSs, the requirements will be, at least, the aggregation of requirements on the "component" DCSs.

10.5.1.2 In locations where automated cross connection capability does not exist, DCS will be defined as the combination of the functionality provided by a Digital Signal Cross-Connect (DSX) or Light Guide Cross-Connect (LGX) patch panels and D4 channel banks or other DS0 and above multiplexing equipment used to provide the function of a manual cross connection.

10.5.1.3 Interconnection between a DSX or LGX, to a switch, another cross-connect, or other service platform device, is included as part of DCS.

10.6 **DCS Technical Requirements**

10.6.1 DCS shall provide completed end-to-end cross connection of the channels designated by MCIm.

10.6.2 DCS shall perform facility grooming, multipoint bridging, one-way broadcast, two-way broadcast, and facility test functions.

10.6.3 DCS shall provide multiplexing, format conversion, signaling conversion, or other functions.

10.6.4 The end-to-end cross connection assignment shall be input to the underlying device used to provide DCS from an operator at a terminal or via an intermediate system. The cross connection assignment shall remain in effect whether or not the circuit is in use.

10.6.5 ILEC shall continue to administer and maintain DCS, including updates to the control software to current available releases.

10.6.6 ILEC shall provide various types of Digital Cross-Connect Systems including:

10.6.6.1 DS0 cross-connects (typically termed DCS 1/0);

10.6.6.2 DS1/VT1.5 (Virtual Tributaries at the 1.5Mbps rate) cross-connects (typically termed DCS 3/1);

10.6.6.3 DS3 cross-connects (typically termed DCS 3/3);

10.6.6.4 STS-1 cross-connects; and

10.6.6.5 Other technically feasible cross-connects designated by MCIm.

10.6.7 ILEC shall provide immediate and continuous configuration and reconfiguration of the channels between the physical interfaces (i.e., ILEC shall establish the processes to implement cross connects on demand, or, at MCIm's option, permit MCIm control of such configurations and reconfigurations).

10.6.8 ILEC shall provide scheduled configuration and reconfiguration of the channels between the physical interfaces (i.e., ILEC shall establish the processes to implement cross connects on the schedule designated by MCIm, or, at MCIm's option, permit MCIm to control such configurations and reconfigurations).

10.6.9 DCS shall continuously monitor protected circuit packs and redundant common equipment.

10.6.10 DCS shall automatically switch to a protection circuit pack on detection of a failure or degradation of normal operation.

10.6.11 The underlying equipment used to provide DCS shall be equipped with a redundant power supply or a battery back-up.

10.6.12 ILEC shall make available to MCIm spare facilities and equipment necessary for provisioning repairs, and to meet MCIm's maintenance standards as specified in the Provisioning and Maintenance sections.

10.6.13 At MCIm's option, ILEC shall provide MCIm with real time performance monitoring and alarm data on the signals and the components of the underlying equipment used to provide DCS that actually impact or might impact MCIm's services. For example, this may include hardware alarm data and facility alarm data on a DS3 in which an MCIm DS1 is traversing.

10.6.14 At MCIm's option, ILEC shall provide MCIm with real time ability to initiate tests on integrated equipment used to test the signals and the underlying equipment used to provide DCS, as well as other integrated functionality for routine testing and fault isolation.

10.6.15 DCS shall provide SONET to asynchronous gateway functionality (e.g., STS-1 to DS1 or STS-1 to DS3).

10.6.16 DCS shall perform optical to electrical conversion where the underlying equipment used to provide DCS contains optical

interfaces or terminations (e.g., Optical Carrier level 3, i.e., OC-3, interfaces on a DCS 3/1).

10.6.17 DCS shall have SONET ring terminal functionality where the underlying equipment used to provide DCS acts as a terminal on a SONET ring.

10.6.18 DCS shall provide multipoint bridging of multiple channels to other DCSs. MCIm may designate multipoint bridging to be one-way broadcast from a single master to multiple tributaries, or two-way broadcast between a single master and multiple tributaries.

10.6.19 DCS shall multiplex lower speed channels onto a higher speed interface and demultiplex higher speed channels onto lower speed interfaces as designated by MCIm.

10.7 **DCS Interface Requirements**

10.7.1 ILEC shall provide physical interfaces on DS0, DS1, and VT1.5 channel cross-connect devices at the DS1 rate or higher. In all such cases, these interfaces shall be in compliance with applicable Bellcore, ANSI, ITU, and MCIm standards.

10.7.2 ILEC shall provide physical interfaces on DS3 channel cross-connect devices at the DS3 rate or higher. In all such cases, these interfaces shall be in compliance with applicable Bellcore, ANSI, ITU, and MCIm standards.

10.7.3 ILEC shall provide physical interfaces on STS-1 cross-connect devices at the OC-3 rate or higher. In all such cases, these interfaces shall be in compliance with applicable Bellcore, ANSI, ITU, and MCIm standards.

10.7.4 Interfaces on all other cross-connect devices shall be in compliance with applicable Bellcore, ANSI, ITU, and MCIm standards.

10.8 DCS shall, at a minimum, meet all the requirements set forth in the following technical references:

10.8.1 ANSI T1.102-1993, American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces;

10.8.2 ANSI T1.102.01-199x, American National Standard for Telecommunications - Digital Hierarchy - VT1.5;

10.8.3 ANSI T1.105-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Basic Description including Multiplex Structure, Rates and Formats;

10.8.4 ANSI T1.105.03-1994, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Jitter at Network Interfaces;

10.8.5 ANSI T1.105.03a-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET): Jitter at Network Interfaces - DS1 Supplement;

10.8.6 ANSI T1.105.06-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Physical Layer Specifications;

10.8.7 ANSI T1.106-1988, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode);

10.8.8 ANSI T1.107-1988, American National Standard for Telecommunications - Digital Hierarchy - Formats Specifications;

10.8.9 ANSI T1.107a-1990, American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications (DS3 Format Applications);

10.8.10 ANSI T1.107b-1991, American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications;

10.8.11 ANSI T1.117-1991, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (SONET) (Single Mode - Short Reach);

10.8.12 ANSI T1.403-1989, Carrier to Customer Installation, DS1 Metallic Interface Specification:

10.8.13 ANSI T1.404-1994, Network-to-Customer Installation - DS3 Metallic Interface Specification;

10.8.14 ITU Recommendation G.707, Network node interface for the synchronous digital hierarchy (SDH);

10.8.15 ITU Recommendation G.704, Synchronous frame structures used at 1544, 6312, 2048, 8488 and 44736 kbit/s hierarchical levels;

10.8.16 FR-440 and TR-NWT-000499, Transport Systems Generic Requirements (TSGR): Common Requirements;

10.8.17 GR-820-CORE, Generic Transmission Surveillance: DS1 & DS3 Performance;

10.8.18 GR-253-CORE, Synchronous Optical Network Systems (SONET); Common Generic Criteria; and

10.8.19 TR-NWT-000776, Network Interface Description for ISDN Customer Access.

Section 11. Signaling Link Transport

11.1 **Definition**:

Signaling Link Transport is a set of two or four dedicated 56 Kbps transmission paths between MCIm-designated Signaling Points of Interconnection (SPOI) that provides appropriate physical diversity and a cross connect at an ILEC STP site.

11.2 **Technical Requirements**

11.2.1 Signaling Link Transport shall consist of full duplex mode 56 Kbps transmission paths.

11.2.2 Of the various options available, Signaling Link Transport shall perform in the following two ways:

11.2.2.1 As an "A-link" which is a connection between a switch or SCP and a home Signaling Transfer Point Switch (STPs) pair; and

11.2.2.2 As a "D-link" which is a connection between two STPs pairs in different company networks (e.g., between two STPs pairs for two Competitive Local Exchange Carriers (CLECs)).

11.2.3 Signaling Link Transport shall consist of two or more signaling link layers as follows:

11.2.3.1 An A-link layer shall consist of two links.

11.2.3.2 A D-link layer shall consist of four links.

11.2.4 A signaling link layer shall satisfy a performance objective such that:

11.2.4.1 There shall be no more than two minutes down time per year for an A-link layer, and

11.2.4.2 There shall be negligible (less than 2 seconds) down time per year for a D-link layer.

11.2.5 A signaling link layer shall satisfy interoffice and intraoffice diversity of facilities and equipment, such that:

11.2.5.1 No single failure of facilities or equipment causes the failure of both links in an A-link layer (i.e., the links should be provided on a minimum of two separate physical paths end-to-end); and

11.2.5.2 No two concurrent failures of facilities or equipment shall cause the failure of all four links in a D-link layer (i.e., the links should be provided on a minimum of three separate physical paths end-to-end).

11.3 **Interface Requirements**

11.3.1 There shall be a DS1 (1.544 Mbps) interface at the MCIm-designated SPOIs. Each 56 Kbps transmission path shall appear as a DS0 channel within the DS1 interface.

Section 12. Signaling Transfer Points (STPs)

12.1 **Definition**:

Signaling Transfer Points (STPs) provide functionality that enable the exchange of SS7 messages among and between switching elements, database elements and signaling transfer points. Figure 4 depicts Signaling Transfer Points.

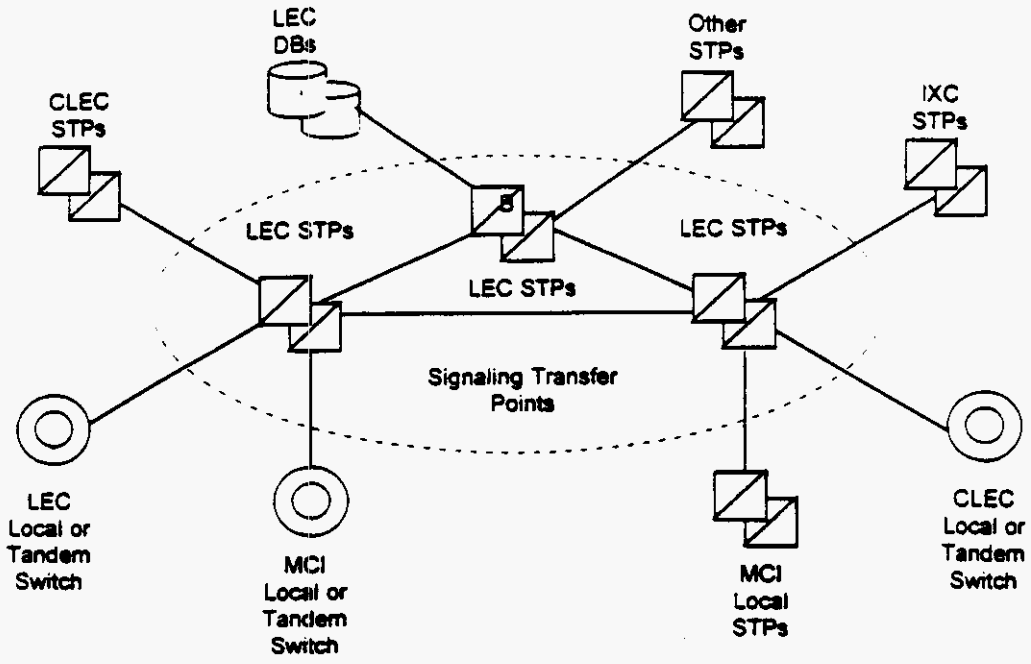


Figure 4

12.2 Technical Requirements

12.2.1 STPs shall provide access to all other Network Elements connected to the ILEC SS7 network. These include:

12.2.1.1 ILEC Local Switching or Tandem Switching;

12.2.1.2 ILEC Service Control Points/DataBases;

12.2.1.3 Third-party local or tandem switching systems; and

12.2.1.4 Third-party-provided STPs.

12.2.2 The connectivity provided by STPs shall fully support the functions of all other Network Elements connected to ILEC's SS7 network. This explicitly includes the use of ILEC's SS7 network to convey messages which neither originate nor terminate at a signaling end point directly connected to the ILEC SS7 network (i.e., transit messages). When the ILEC SS7 network is used to

convey transit messages, there shall be no alteration of the Integrated Services Digital Network User Part (ISDNUP) or Transaction Capabilities Application Part (TCAP) user data that constitutes the content of the message.

12.2.3 If a ILEC tandem switch routes calling traffic, based on dialed or translated digits, on SS7 trunks between an MCIm local switch and third party local switch, ILEC's SS7 network shall convey the TCAP messages that are necessary to provide Call Management features (Automatic Callback, Automatic Recall, and Screening List Editing) between the MCIm local STPs and the STPs that provide connectivity with the third party local switch, even if the third party local switch is not directly connected to ILEC's STPs.

12.2.4 STPs shall provide all functions of the MTP as specified in ANSI T1.111 (Reference 12.5.2). This includes:

12.2.4.1 Signaling Data Link functions, as specified in ANSI T1.111.2;

12.2.4.2 Signaling Link functions, as specified in ANSI T1.111.3; and

12.2.4.3 Signaling Network Management functions, as specified in ANSI T1.111.4.

12.2.5 STPs shall provide all functions of the SCCP necessary for Class 0 (basic connectionless) service, as specified in ANSI T1.112 (Reference 12.5.4). In particular, this includes Global Title Translation (GTT) and SCCP Management procedures, as specified in T1.112.4.

12.2.6 In cases where the destination signaling point is a ILEC local or tandem switching system or data base, or is an MCIm or third party local or tandem switching system directly connected to ILEC's SS7 network, ILEC STPs shall perform final GTT of messages to the destination and SCCP Subsystem Management of the destination. In all other cases, STPs shall perform intermediate GTT of messages to a gateway pair of STPs in an SS7 network connected with the ILEC SS7 network, and shall not perform SCCP Subsystem Management of the destination.

12.2.6 STPs shall also provide the capability to route SCCP messages based on ISNI, as specified in ANSI T1.118 (Reference 12.5.7), when this capability becomes available on ILEC STPs.

12.2.7 STPs shall provide all functions of the OMAP commonly provided by STPs, as specified in the reference in Section 12.5.6. This includes:

12.2.7.1 MTP Routing Verification Test (MRVT); and,

12.2.7.2 SCCP Routing Verification Test (SRVT).

12.2.8 In cases where the destination signaling point is a ILEC local or tandem switching system or DB, or is an MCIm or third party local or tandem switching system directly connected to the ILEC SS7 network, STPs shall perform MRVT and SRVT to the destination signaling point. In all other cases, STPs shall perform MRVT and SRVT to a gateway pair of STPs in an SS7 network connected with the ILEC SS7 network. This requirement shall be superseded by the specifications for Internetwork MRVT and SRVT if and when these become approved ANSI standards and available capabilities of ILEC STPs.

12.2.9 STPs shall be equal to or better than the following performance requirements:

12.2.9.1 MTP Performance, as specified in ANSI T1.111.6; and

12.2.9.2 SCCP Performance, as specified in ANSI T1.112.5.

12.2.10 **SS7 Advanced Intelligent Network (AIN) Access**

12.2.10.1 SS7 AIN Access shall provide the MCIm SCP access to the ILEC local switch via interconnection of the ILEC SS7 and MCIm SS7 networks. This interconnection arrangement shall result in the ILEC local switch recognizing the MCIm SCP as at least at parity with ILEC's SCPs in terms of interfaces, performance and capabilities.

12.2.10.2 SS7 AIN Access is the provisioning of AIN triggers in a ILEC local switch and interconnection of the ILEC SS7 network with the MCIm SS7 network to exchange

TCAP queries and responses with an MCIm SCP. See Figure 5 below.

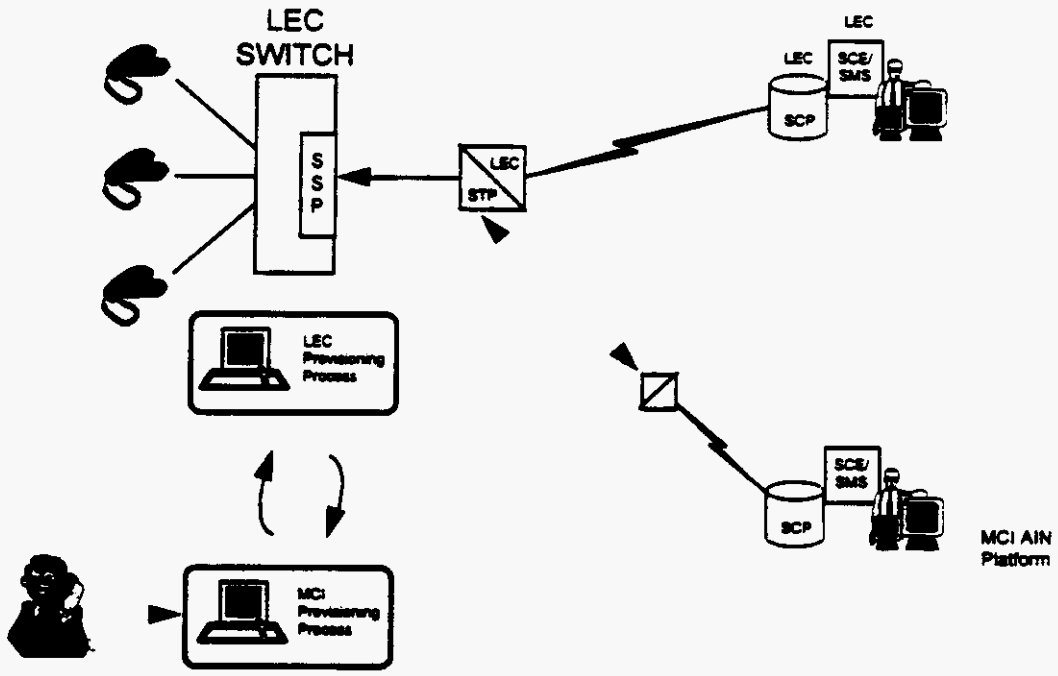


Figure 5

12.2.10.3 Physical interconnection between the ILEC SS7 and the MCIm SS7 networks shall be through facilities and protocols as specified in the SS7 Network Interconnection section of this Agreement.

12.2.10.4 Reliability of interconnection shall be consistent with requirements for diversity and survivability as specified in the SS7 Network Interconnection section of this Agreement.

12.2.10.5 Delay associated with ILEC local switch queries to the MCIm SCP shall be equal to or shorter than the delay associated with queries to the ILEC SCP.

12.2.10.6 ILEC STPs shall maintain global title translations necessary to direct AIN queries for select global title address and translation type values to the MCIm SS7 network.

12.2.10.7 ILEC STPs shall route AIN responses from the MCIm SCP via SS7 network interconnect to the local switch

designated in the Signaling Connection Control Part (SCCP) called party address.

12.2.10.8 Network management controls resulting from an overload in elements not supporting MCIm customers shall not affect queries to MCIm SCPs.

12.2.10.9 Requirements for billing and recording information to track AIN query-response usage shall be consistent with Connectivity Billing and Recording requirements as specified in Attachment VIII (e.g., recorded message format and content, timeliness of feed, data format and transmission medium).

12.2.10.10 ILEC shall provide to MCIm all necessary testing resources and staff to perform service certification testing prior to service deployment in accordance with the Cooperative section of this Agreement.

12.2.10.11 When MCIm selects SS7 AIN Access, ILEC will provide an interface to the ILEC STP provisioning process for provisioning of ILEC's STP global title translation data.

12.2.10.12 When MCIm selects SS7 AIN Access, ILEC will provide interconnection of its SS7 network with the ILEC SS7 network for exchange of AIN TCAP messages as described in Section 12.2.10.13.2.

12.2.10.13 STPs shall offer SS7 AIN Access in accordance with the requirements of the following technical references:

12.2.10.13.1 GR-2863-CORE, CCS Network Interface Specification Supporting Advanced Intelligent Network (AIN); and

12.2.10.13.2 GR-2902-CORE, CCS Network Interface Specification (CCSNIS) Supporting Toll-Free Service Using Advanced Intelligent Network (AIN).

12.3 Interface Requirements

12.3.1 ILEC shall provide the following STPs options to connect MCIm or MCIm-designated local switching systems or STPs to the ILEC SS7 network:

12.3.1.1 An A-link interface from MCIm local switching systems; and,

12.3.2 Each type of interface shall be provided by one or more sets (layers) of signaling links, as follows:

12.3.2.1 An A-link layer shall consist of two links, as depicted in Figure 6.

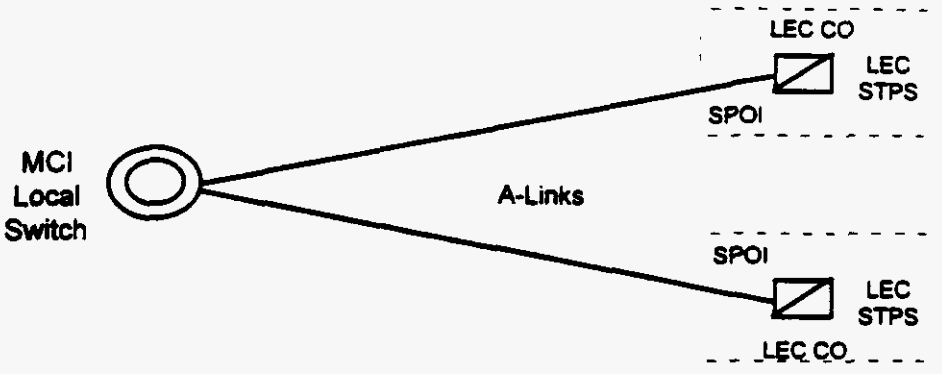


Figure 6. A-Link Interface

12.3.3 The Signaling point of Interconnection (SPOI) for each link shall be located at a cross-connect element, such as a DSX-1, in the Central Office (CO) where the ILEC STPs is located. There shall be a DSI or higher rate transport interface at each of the SPOIs. Each signaling link shall appear as a DS0 channel within the DS1 or higher rate interface.
ILEC shall offer higher rate DS1 signaling for interconnecting MCIm local switching systems or STPs with ILEC STPs as soon as these become approved ANSI standards and available capabilities of ILEC STPs.

12.3.4 ILEC shall provide MTP and SCCP protocol interfaces that shall conform to all sections relevant to the MTP or SCCP in the following specifications:

12.3.4.1 Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP); and

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12.3.4.2 Bellcore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP).

12.4 Message Screening

12.4.1 ILEC shall set message screening parameters so as to accept messages from MCIm local or tandem switching systems destined to any signaling point in the ILEC SS7 network with which the MCIm switching system has a legitimate signaling relation.

12.4.2 ILEC shall set message screening parameters so as to accept messages from MCIm local or tandem switching systems destined to any signaling point or network interconnected to the ILEC SS7 network with which the MCIm switching system has a legitimate signaling relation.

12.4.3 ILEC shall set message screening parameters so as to accept messages destined to an MCIm local or tandem switching system from any signaling point or network interconnected to the ILEC SS7 network with which the MCIm switching system has a legitimate signaling relation.

12.4.4 ILEC shall set message screening parameters so as to accept and send messages destined to an MCIm SCP from any signaling point or network interconnected to the ILEC SS7 network with which the MCIm SCP has a legitimate signaling relation.

12.5 STP Requirements

12.5.1 STPs shall be equal to or better than all of the requirements for STPs set forth in the following technical references:

12.5.2 ANSI T1.111-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP);

12.5.3 ANSI T1.111A-1994 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP) Supplement;

12.5.4 ANSI T1.112-1992 American National, Standard for Telecommunications - Signaling System Number 7 (SS7) - Signaling Connection Control Part (SCCP);

12.5.5 ANSI T1.115-1990 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Monitoring and Measurements for Networks;

12.5.6 ANSI T1.116-1990 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Operations, Maintenance and Administration Part (OMAP);

12.5.7 ANSI T1.118-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Intermediate Signaling Network Identification (ISNI);

12.5.8 Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP); and

12.5.9 Bellcore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP).

Section 13. Service Control Points/Databases

13.1 **Definition**:

13.1.1 Databases are the Network Elements that provide the functionality for storage of, access to, and manipulation of information required to offer a particular service and/or capability. Databases include, but are not limited to: Number Portability, LIDB, Toll Free Number Database, Automatic Location Identification/Data Management System, access to Service Creation Environment and Service Management System (SCE/SMS).

13.1.2 A Service Control Point (SCP) is a specific type of Database Network Element functionality deployed in a Signaling System 7 (SS7) network that executes service application logic in response to SS7 queries sent to it by a switching system also connected to the SS7 network. SCPs also provide operational interfaces to allow for provisioning, administration and maintenance of subscriber data and service application data. (e.g., an 800 database stores customer record data that provides information necessary to route 800 calls).

13.2 Technical Requirements for SCPs/Databases

Requirements for SCPs/Databases within this section address storage of information, access to information (e.g. signaling protocols, response times), and administration of information (e.g., provisioning, administration, and maintenance). All SCPs/Databases shall be provided to MCIm in accordance with the following requirements, except where such a requirement is superseded by specific requirements set forth in Subsections 13.3 through 13.7:

13.2.1 ILEC shall provide physical interconnection to SCPs through the SS7 network and protocols, as specified in Section 12 of this Attachment, with TCAP as the application layer protocol.

13.2.2 ILEC shall provide physical interconnection to databases via industry standard interfaces and protocols (e.g., ISDN and X.25).

13.2.3 The reliability of interconnection options shall be consistent with requirements for diversity and survivability as specified in Section 12 of this Attachment (which applies to both SS7 and non-SS7 interfaces).

13.2.4 Database functionality shall be unavailable a maximum of 30 minutes per year.

13.2.5 ILEC shall provide Database provisioning consistent with the provisioning requirements of this Agreement (e.g., data required, edits, acknowledgments, data format and transmission medium and notification of order completion).

13.2.6 The operational interface provided by ILEC shall complete Database transactions (i.e., add, modify, delete) for MCIm customer records stored in ILEC databases within 24 hours, or sooner where ILEC provisions its own customer records within a shorter interval.

13.2.7 ILEC shall provide Database maintenance consistent with the maintenance requirements as specified in this Agreement (e.g., notification of ILEC Network Affecting Events, testing, dispatch schedule and measurement and exception reports).

13.2.8 ILEC shall provide billing and recording information to track database usage consistent with connectivity billing and recording

requirements as specified in this Agreement (e.g., recorded message format and content, timeliness of feed, data format and transmission medium).

13.2.9 ILEC shall provide SCPs/Databases in accordance with the physical security requirements specified in this Agreement.

13.2.10 ILEC shall provide SCPs/Databases in accordance with the logical security requirements specified in this Agreement.

13.3 **Number Portability Database**

13.3.1 **Definition:**

The Number Portability (NP) database supplies routing numbers for calls involving numbers that have been ported from one local service provider to another. NP database functionality shall also include Global Title Translations (GTT) for calls involving ported numbers even if
ILEC provides GTT functionality in another Network Element. This Subsection 13.3 supplements the requirements of Subsection 13.2 and 13.7. ILEC shall provide the Number Portability Database in accordance with the following:

13.3.2 **Requirements**

13.3.2.1 ILEC shall make ILEC NP database available for MCIm switches to query to obtain the appropriate routing number on calls to ported numbers or the industry specified indication that the number is not ported for non-ported numbers in NPA-NXXs that are opened to portability. The specified indication will also be provided when the NPA-NXX is not open to portability;

13.3.2.2 Query responses shall provide such additional information, for example, Service Provider identification, as may be specified in the NP implementation in the relevant regulatory jurisdiction;

13.3.2.3 ILEC shall provide GTT for CLASS or LIDB queries routed to the ILEC network by MCIm switches. ILEC database or other Network Element shall perform the GTT function and route the query to the appropriate switch or LIDB accordingly;

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13.3.2.4 The NP database shall provide such other functionality as has been specified in the regulatory jurisdiction in which portability has been implemented;

13.3.2.5 Unavailability of the NP database query and GTT applications shall not exceed 4 minutes per year; and

13.3.2.6 The ILEC NP database shall respond to a query within 125 msec. of receipt of the query.

13.3.3 Interface Requirements

13.3.3.1 ILEC shall interconnect the signaling interface between the MCIm or other local switch and the NP database using the TCAP protocol as specified in the technical reference in Section 13.7.1, together with the signaling network interface as specified in the technical reference in Section 13.7.2, and such further requirements (e.g., AIN or IN protocols) as may be specified by bodies responsible for implementation of number portability in the jurisdiction at hand; (e.g., Generic Requirements for SCP Application and GTT Function for Number Portability, Issue 0.3, Final Draft, March 22, 1996 [Editor - Ameritech Inc.]).

13.4 Line Information Database (LIDB)

This Subsection 13.4 defines and sets forth additional requirements for the Line Information Database. This Subsection 13.4 supplements the requirements of Subsection 13.2 and 13.7.

13.4.1 **Definition:**

The Line Information Database (LIDB) is a transaction-oriented database accessible through Common Channel Signaling (CCS) networks. It contains records associated with customer Line Numbers and Special Billing Numbers (in accordance with the requirements in the technical reference in Section 13.7.5). LIDB accepts queries from other Network Elements and provides appropriate responses. The query originator need not be the owner of LIDB data. LIDB queries include functions such as screening billed numbers that provides the ability to accept Collect or Third Number Billing calls and validation of Telephone Line Number based non-proprietary calling cards. The interface for the LIDB functionality is the interface between the ILEC CCS network and other CCS networks. LIDB also interfaces to administrative

systems. The administrative system interface provides Work Centers with an interface to LIDB for functions such as provisioning, auditing of data, access to LIDB measurements and reports.

13.4.2 **Technical Requirements**

13.4.2.1 Prior to the availability of a long-term solution for Number Portability, ILEC shall enable MCIm to store in ILEC's LIDB any customer Line Number or Special Billing Number record, (in accordance with the technical reference in Section 13.7.5) whether ported or not, for which the NPA-NXX or NXX-0/1XX Group is supported by that LIDB.

13.4.2.2 Prior to the availability of a long-term solution for Number Portability, ILEC shall enable MCIm to store in ILEC's LIDB any customer Line Number or Special Billing Number (in accordance with the technical reference in Section 13.7.5) record, whether ported or not, and NPA-NXX and NXX-0/1XX Group Records, belonging to an NPA-NXX or NXX-0/1 XX owned by MCIm.

13.4.2.3 Subsequent to the availability of a long-term solution for Number Portability, ILEC shall enable MCIm to store in ILEC's LIDB any customer Line Number or Special Billing Number (in accordance with the technical reference in Section 13.7.5) record, whether ported or not, regardless of the number's NPA-NXX or NXX-0/1XX.

13.4.2.4 ILEC shall perform the following LIDB functions (i.e., processing of the following query types as defined in the technical reference in Section 13.7.5) for MCIm's customer records in LIDB:

13.4.2.4.1 Billed Number Screening (provides information such as whether the Billed Number may accept Collect or Third Number Billing calls); and

13.4.2.4.2 Calling Card Validation.

13.4.2.5 ILEC shall process MCIm's customer records in LIDB at least at parity with ILEC customer records, with respect to other LIDB functions (as defined in the technical reference in Section 13.5). ILEC shall indicate to MCIm

what additional functions (if any) are performed by LIDB in their network.

13.4.2.6 Within two (2) weeks after a request by MCIm, ILEC shall provide MCIm with a list of the customer data items which MCIm would have to provide in order to support each required LIDB function. The list shall indicate which data items are essential to LIDB function, and which are required only to support certain services. For each data item, the list shall show the data formats, the acceptable values of the data item and the meaning of those values.

13.4.2.7 ILEC shall provide LIDB systems for which operating deficiencies that would result in calls being blocked, shall not exceed 30 minutes per year.

13.4.2.8 ILEC shall provide LIDB systems for which operating deficiencies that would not result in calls being blocked shall not exceed 12 hours per year.

13.4.2.9 ILEC shall provide LIDB systems for which the LIDB function shall be in overload (degraded performance in accordance with the technical reference in Section 13.7.5) no more than 12 hours per year. Such deficiency period is in addition to the periods specified in Sections 13.4.2.7 and 13.4.2.8 above.

13.4.2.10 ILEC shall provide MCIm with the capability to provision (e.g., to add, update, and delete) NPA-NXX and NXX-0/1XX Group Records, and Line Number and Special Billing Number Records, associated with MCIm customers, directly into ILEC's LIDB provisioning process.

13.4.2.11 In the event that end user customers change their local service provider, ILEC shall maintain customer data (for line numbers, card numbers, and for any other types of data maintained in LIDB) so that such customers shall not experience any interruption of service due to the lack of such maintenance of customer data.

13.4.2.12 All additions, updates and deletions of MCIm data to the LIDB shall be solely at the direction of MCIm.

13.4.2.13 ILEC shall provide priority updates to LIDB for MCIm data upon MCIm's request (e.g., to support fraud protection).

13.4.2.14 ILEC shall provide MCIm the capability to directly obtain, through an electronic interface, reports of all MCIm data in LIDB.

13.4.2.15 ILEC shall provide LIDB systems such that no more than 0.01% of MCIm customer records will be missing from LIDB, as measured by MCIm audits.

13.4.2.16 ILEC shall perform backup and recovery of all of MCIm's data in LIDB as frequently as MCIm may reasonably specify, including sending to LIDB all changes made since the date of the most recent backup copy.

13.4.2.17 ILEC shall provide to MCIm access to LIDB measurements and reports at least at parity with the capability ILEC has for its own customer records and that ILEC provides to any other party. Such access shall be electronic.

13.4.2.18 ILEC shall provide MCIm with LIDB reports of data which are missing or contain errors, as well as any misroute errors, within the time period reasonably designated by MCIm.

13.4.2.19 ILEC shall prevent any access to or use of MCIm data in LIDB by ILEC personnel or by any other party that is not authorized by MCIm in writing.

13.4.2.20 ILEC shall provide MCIm performance of the LIDB Data Screening function, which allows a LIDB to completely or partially deny specific query originators access to LIDB data owned by specific data owners, (in accordance with the technical reference in Section 13.7.5) for Customer Data that is part of an NPA-NXX or NXX-0/1XX wholly or partially owned by MCIm at least at parity with ILEC Customer Data. ILEC shall obtain from MCIm the screening information associated with LIDB Data Screening of MCIm data in accordance with this requirement.

13.4.2.21 ILEC shall accept queries to LIDB associated with MCIm customer records, and shall return responses in accordance with the requirements of this Section 13.

13.4.2.22 ILEC shall provide mean processing time at the LIDB within 0.50 seconds under normal conditions as defined in the technical reference in Section 13.7.5.

13.4.2.23 ILEC shall provide processing time at the LIDB within 1 second for 99% of all messages under normal conditions as defined in the technical reference in Section 13.7.5.

13.4.2.24 ILEC shall provide 99.9 % of all LIDB queries in a round trip response within 2 seconds.

13.4.2.25 ILEC shall provide LIDB performance that complies with the following standards:

13.4.2.25.1 There shall be at least a 99.9% reply rate to all query attempts.

13.4.2.25.2 Queries shall time out at LIDB no more than 0.1% of the time.

13.4.2.25.3 Data in LIDB replies shall have at no more than 2% unexpected data values, for all queries to LIDB.

13.4.2.25.4 No more than 0.01% of all LIDB queries shall return a missing customer record.

13.4.2.25.5 There shall be no defects in LIDB Data Screening of responses.

13.4.2.25.6 Group troubles shall occur for no more than 1% of LIDB queries. Group troubles include:

13.4.2.25.6.1 Missing Group — When reply is returned "vacant" but there is no active record for the 6-digit NPA-NXX group.

13.4.2.25.6.2 Vacant Code — When a 6-digit code is active but is not assigned to any customer on that code.

13.4.2.25.6.3 Non-Participating Group and unavailable Network Resource — should be identified in the LARG (LIDB Access Routing Guide) so MCIm does not pay access for queries that will be denied in LIDB.

13.4.3 **Interface Requirements**

ILEC shall offer LIDB in accordance with the requirements of this subsection 13.4.3.

13.4.3.1 The interface to LIDB shall be in accordance with the technical reference in Section 13.7.3.

13.4.3.2 The CCS interface to LIDB shall be the standard interface described in Section 13.7.3.

13.4.3.3 The LIDB Data Base interpretation of the ANSI-TCAP messages shall comply with the technical reference in Section 13.7.4. Global Title Translation shall be maintained in the signaling network in order to support signaling network routing to the LIDB.

13.5 **Toll Free Number Database**

The Toll Free Number Database is a SCP that provides functionality necessary for toll free (e.g., 800 and 888) number services by providing routing information and additional so-called vertical features during call set-up in response to queries from SSPs. This Subsection 13.5 supplements the requirements of Subsection 13.2 and 13.7. ILEC shall provide the Toll Free Number Database in accordance with the following:

13.5.1 **Technical Requirements**

13.5.1.1 ILEC shall make the ILEC Toll Free Number Database available for MCIm to query with a toll-free number and originating information.

13.5.1.2 The Toll Free Number Database shall return carrier identification and, where applicable, the queried toll free

number, translated numbers and instructions as it would in response to a query from a ILEC switch.

13.5.1.3 The SCP shall also provide, at MCIm's option, such additional feature as described in SR-TSV-002275 (BOC Notes on the ILEC Networks, SR-TSV-002275, Issue 2, (Bellcore, April 1994)) as are available to ILEC. These may include but are not limited to:

13.5.1.3.1 Network Management;

13.5.1.3.2 Customer Sample Collection; and

13.5.1.3.3 Service Maintenance.

13.5.2 **Interface Requirements**

The signaling interface between the MCIm or other local switch and the Toll-Free Number database shall use the TCAP protocol as specified in the technical reference in Section 13.7.1, together with the signaling network interface as specified in the technical reference in Sections 13.7.2 and 13.7.6.

13.6 **Automatic Location Identification/Data Management System (ALI/DMS)**

The ALI/DMS Database contains customer information (including name, address, telephone information, and sometimes special information from the local service provider or customer) used to determine to which Public Safety Answering Point (PSAP) to route the call. The ALI/DMS database is used to provide more routing flexibility for E911 calls than Basic 911. This Subsection 13.6 supplements the requirements of Subsection 13.7.2 and 13.7.6. ILEC shall provide the Emergency Services Database in accordance with the following:

13.6.1 **Technical Requirements**

13.6.1.1 ILEC shall offer MCIm a data link to the ALI/DMS database or permit MCIm to provide its own data link to the ALI/DMS database.

ILEC shall provide error reports from the ALI/DMS data base to MCIm immediately after MCIm inputs information into the ALI/DMS data base. Alternately, MCIm may utilize ILEC, to

enter customer information into the data base on a demand basis, and validate customer information on a demand basis.

13.6.1.2 The ALI/DMS database shall contain the following customer information:

13.6.1.2.1 Name;

13.6.1.2.2 Address;

13.6.1.2.3 Telephone number; and

13.6.1.2.4 Other information as appropriate (e.g., whether a customer is blind or deaf or has another disability).

13.6.1.3 When ILEC is responsible for administering the ALI/DMS database in its entirety, ported number NXXs entries for the ported numbers should be maintained unless MCIm requests otherwise and shall be updated if MCIm requests.

13.6.1.4 When Remote Call Forwarding (RCF) is used to provide number portability to the local customer and a remark or other appropriate field information is available in the database, the shadow or "forwarded-to" number and an indication that the number is ported shall be added to the customer record.

13.6.1.5 If ILEC is responsible for configuring PSAP features (for cases when the PSAP or ILEC supports an ISDN interface) it shall ensure that CLASS Automatic Recall (Call Return) is not used to call back to the ported number.

13.6.2 **Interface Requirements**

13.6.2.1 The interface between the E911 Switch or Tandem and the ALI/DMS database for MCIm customers shall meet industry standards.

13.7 SCPs/Databases shall be equal to or better than all of the requirements for SCPs/Databases set forth in the following technical references:

13.7.1 GR-246-CORE, Bell Communications Research Specification of Signaling System Number 7, ISSUE 1 (Bellcore, December 199);

13.7.2 GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP). (Bellcore, March 1994);

13.7.3 GR-954-CORE, CCS Network Interface Specification (CCSNIS) Supporting Line Information Database (LIDB) Service 6, Issue 1, Rev. 1 (Bellcore, October 1995);

13.7.4 GR-1149-CORE, OSSGR Section 10: System Interfaces, Issue 1 (Bellcore, October 1995) (Replaces TR-NWT-001149);

13.7.5 GR-1158-CORE, OSSGR Section 22.3: Line Information Database 6, Issue (Bellcore, October 1995)

13.7.6 GR-1428-CORE, CCS Network Interface Specification (CCSNIS) Supporting Toll Free Service (Bellcore, May 1995); and

13.7.7 "Bellcore Special Report SR-TSV-002275, IBOC Notes on the LEC Networks - Signaling".)

13.8 **Service Creation Environment and Service Management System (SCE/SMS) Advanced Intelligent Network (AIN) Access**

13.8.1 SCE/SMS AIN Access shall provide MCIm the ability to create service applications in the ILEC SCE and deploy those applications via the ILEC SMS to the ILEC SCP. This interconnection arrangement shall provide MCIm access to the ILEC development environment and administrative system in a manner at least at parity with ILEC's ability to deliver its own AIN-based services. SCE/SMS AIN Access is the provisioning of AIN triggers in a ILEC local switch, development of service applications within the ILEC Service Creation Environment, and deployment of service applications via the ILEC Service Management System. See Figure 7 below.

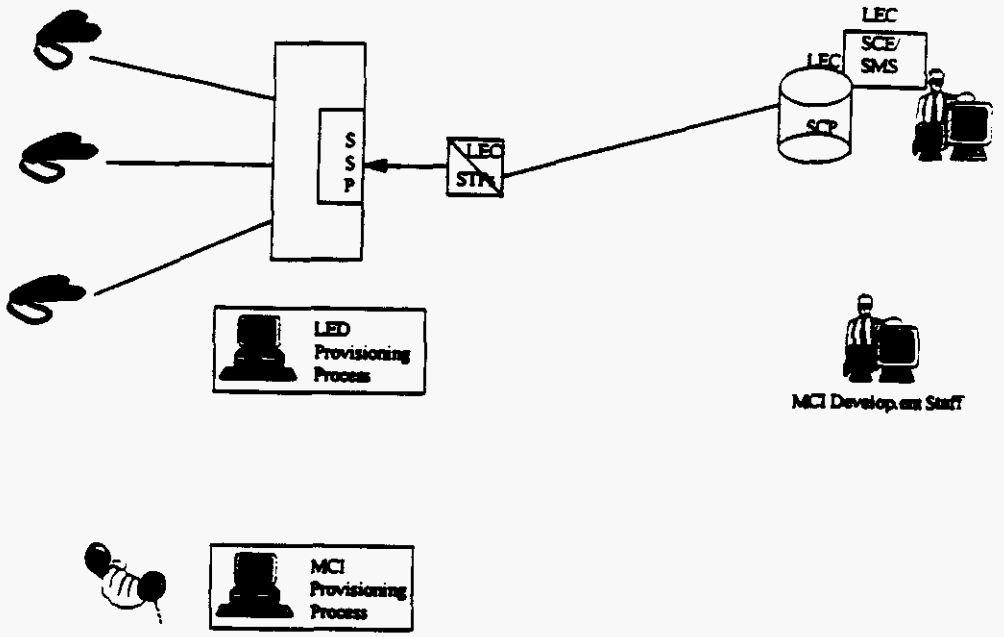


Figure 7

13.8.2 ILEC shall make SCE hardware, software, testing and technical support (e.g., help desk, system administrator) resources available to MCIm. Scheduling of SCE resources shall allow MCIm at least equal priority to ILEC.

13.8.3 The ILEC SCE/SMS shall allow for multi-user access with proper source code management and other logical security functions as specified in the Security section of this Agreement.

13.8.4 The ILEC SCP shall partition and protect MCIm service logic and data from unauthorized access, execution or other types of compromise.

13.8.5 ILEC shall provide training, documentation, and technical support of MCIm development staff in a manner at least at parity with that provided to ILEC's own development staff. Training sessions shall be "suitcased" to MCIm facilities or delivered at ILEC facilities, at MCIm's discretion.

13.8.6 When MCIm selects SCE/SMS AIN Access, ILEC shall provide for a secure, controlled access environment on-site as well as via remote data connections (e.g., dial up, LAN, WAN).

13.8.7 When MCIm selects SCE/SMS AIN Access, ILEC shall allow MCIm to download data forms and/or tables to the ILEC SCP via the ILEC SMS without intervention from ILEC (e.g., service customization and customer subscription).

13.8.8 SCPs/Databases shall offer SCE/SMS AIN Access in accordance with the requirements of: GR-1280-CORE, AIN Service Control Point (SCP) Generic Requirements.

Section 14. Tandem Switching

14.1 Definition:

Tandem Switching is the function that establishes a communications path between two switching offices through a third switching office (the tandem switch) including but not limited to CLEC, ILEC, Independent telephone companies, IXCs and wireless carriers.

14.2 Technical Requirements

14.2.1 Tandem Switching shall have the same capabilities or equivalent capabilities as those described in Bell Communications Research TR-TSY-000540 Issue 2R2, Tandem Supplement, 6/1/90. The requirements for Tandem Switching include, but are not limited to, the following:

14.2.1.1 Tandem Switching shall provide signaling to establish a tandem connection;

14.2.1.2 Tandem Switching shall provide screening and routing as designated by MCIm;

14.2.1.3 Tandem Switching shall provide recording of all billable events designated by MCIm;

14.2.1.4 Tandem Switching shall provide Advanced Intelligent Network triggers supporting AIN features;

14.2.1.5 Tandem Switching shall provide connectivity to Operator Systems as designated by MCIm;

14.2.1.6 Tandem Switching shall provide access to Toll Free number portability database as designated by MCIm;

14.2.1.7 Tandem Switching shall provide all trunk interconnections discussed under the "Network Interconnection" section (e.g., SS7, MF, DTMF, Dial Pulse, PRI-ISDN, DID, and CAMA-ANI (if appropriate for 911));

14.2.1.8 Tandem Switching shall provide connectivity to PSAPs where 911 solutions are deployed and the tandem is used for 911; and

14.2.1.9 Tandem Switching shall provide connectivity to transit traffic to and from other carriers.

14.2.2 Tandem Switching shall accept connections (including the necessary signaling and trunking interconnections) between end offices, other tandems, IECs, ICOs, CAPs and CLEC switches.

14.2.3 Tandem Switching shall provide local tandeming functionality between two end offices including two offices belonging to different CLEC's (e.g., between an MCIm end office and the end office of another CLEC).

14.2.4 Tandem Switching shall preserve CLASS/LASS features and Caller ID as traffic is processed. Additional signaling information and requirements are provided in Section 12.

14.2.5 Tandem Switching shall record billable events and send them to the area billing centers designated by MCIm. Billing requirements are specified in Attachment 8 of this Agreement.

14.2.6 ILEC shall perform routine testing and fault isolation on the underlying switch that is providing Tandem Switching and all its interconnections. When requested by MCIm, the results and reports of the testing shall be made immediately available to MCIm.

14.2.7 When requested by MCIm, ILEC shall provide performance data regarding traffic characteristics or other measurable elements to MCIm for review.

14.2.8 Tandem Switching shall control congestion using capabilities such as Automatic Congestion Control and Network Routing Overflow. Congestion control provided or imposed on MCIm traffic shall be at parity with controls being provided or

imposed on ILEC traffic (e.g., ILEC shall not block MCIm traffic and leave its traffic unaffected or less affected).

14.2.9 Tandem Switching shall route calls to ILEC or MCIm endpoints or platforms (e.g., operator services and PSAPs) on a per call basis as designated by MCIm. Detailed primary and overflow routing plans for all interfaces available within the ILEC switching network shall be mutually agreed to by MCIm and ILEC. Such plans shall meet MCIm requirements for routing calls through the local network.

14.2.10 Tandem Switching shall process originating toll-free traffic received from an MCIm local switch.

14.2.11 In support of AIN triggers and features, Tandem Switching shall provide SSP capabilities when these capabilities are not available from the Local Switching Network Element.

14.2.12 The Local Switching and Tandem Switching functions may be combined in an office. If this is done, both Local Switching and Tandem switching shall provide all of the functionality required of each of those Network Elements in this Agreement.

14.3 **Interface Requirements**

14.3.1 Tandem Switching shall provide interconnection to the E911 PSAP where the underlying Tandem is acting as the E911 Tandem.

14.3.2 Tandem Switching shall interconnect, with direct trunks, to all carriers with which ILEC interconnects.

14.3.3 ILEC shall provide all signaling necessary to provide Tandem Switching with no loss of feature functionality.

14.3.4 Tandem Switching shall interconnect with MCIm's switch, using two-way trunks, for traffic that is transiting via the ILEC network to interLATA or intraLATA carriers. At MCIm's request, Tandem Switching shall record and keep records of traffic for billing.

14.3.5 At MCIm's request, Tandem Switching shall provide overflow routing of traffic from a given trunk group or groups onto another trunk group or groups according to the methodology that MCIm designates.

14.4 Tandem Switching shall meet or exceed (i.e., be more favorable to MCIm) each of the requirements for Tandem Switching set forth in the following technical references:

14.4.1 Bell Communications Research TR-TSY-000540 Issue 2R2, Tandem Supplement, 6/I/90;

14.4.2 GR-905-CORE covering CCSNIS;

14.4.3 GR-1429-CORE for call management features; and GR-2863-CORE and GR-2902-CORE covering CCS AIN interconnection.

Section 15. Additional Requirements

This Section 15 of Attachment III sets forth the additional requirements for unbundled Network Elements which ILEC agrees to offer to MCIm under this Agreement.

15.1 **Cooperative Testing**

15.1.1 **Definition**:

Cooperative Testing means that ILEC shall cooperate with MCIm upon request or as needed to (1) ensure that the Network Elements and Ancillary Functions and additional requirements being provided to MCIm by ILEC are in compliance with the requirements of this Agreement, (2) test the overall functionality of various Network Elements and Ancillary Functions provided by ILEC to MCIm in combination with each other or in combination with other equipment and facilities provided by MCIm or third parties, and (3) ensure that all operational interfaces and processes are in place and functioning properly and efficiently for the provisioning and maintenance of Network Elements and Ancillary Functions and so that all appropriate billing data can be provided to MCIm.

15.1.2 **Requirements**

Within 45 days of the Effective Date of this Agreement, MCIm and ILEC will agree upon a process to resolve technical issues relating to interconnection of MCIm's network to ILEC's network and Network Elements and Ancillary Functions. The agreed upon process shall include procedures for escalating disputes and

unresolved issues up through higher levels of each company's management. If MCIm and ILEC do not reach agreement on such a process within 45 days, any issues that have not been resolved by the parties with respect to such process shall be submitted to the procedures set forth in Part A Section 23 of this Agreement unless both parties agree to extend the time to reach agreement on such issues.

15.1.2.1 ILEC shall provide MCIm access for testing at any interface between a ILEC Network Element or combinations and MCIm equipment or facilities. Such test access shall be sufficient to ensure that the applicable requirements can be tested by MCIm. This access shall be available seven (7) days per week, 24 hours per day.

15.1.2.2 MCIm may test any interfaces, Network Elements or Ancillary Functions and additional requirements provided by ILEC pursuant to this Agreement.

15.1.2.3 ILEC shall provide engineering data as requested by MCIm for the loop components as set forth in Sections 2, 3 and 4 of this Attachment which MCIm may desire to test. Such data shall include equipment engineering and cable specifications, signaling and transmission path data.

15.1.2.4 Upon MCIm's request, ILEC shall provide to MCIm any office records, central office layout and design records and drawings, system engineering and other applicable documentation pertaining to a Network Element or Ancillary Function or the underlying equipment that is then providing a Network Element or Ancillary Function to MCIm.

15.1.2.5 ILEC shall provide to MCIm upon request, all applicable test results, from ILEC testing activities on a Network Element or Ancillary Function or Additional Requirement or the underlying equipment providing a Network Element or Ancillary Function or Additional Requirements. MCIm may review such testing results and may notify ILEC of any deficiencies that are detected.

15.1.2.6 ILEC shall temporarily provision MCIm designated Local Switching features for testing. Within 60 days of the Effective Date of this Agreement, MCIm and ILEC shall mutually agree on the procedures to be established between ILEC and MCIm to expedite such provisioning processes for feature testing.

15.1.2.7 Upon MCIm's request, ILEC shall provide technical staff to meet with MCIm representatives to provide required support for Cooperative Testing.

15.1.2.8 Dedicated Transport and Loop Feeder may experience alarm conditions due to in-progress tests. ILEC shall not remove such facilities from service without obtaining MCIm's prior approval.

15.1.2.9 ILEC shall get acceptance from MCIm prior to conducting tests or maintenance procedures on Network Elements or Ancillary Functions or on the underlying equipment that is then providing a Network Element or Ancillary Function, that may cause a service interruption or degradation of service

15.1.2.10 ILEC shall provide a single point of contact to MCIm that is available 7 days per week, 24 hours per day for trouble status, sectionalization, resolution, escalation, and closure. Such staff shall be adequately skilled to allow expeditious problem resolution.

15.1.2.11 ILEC shall provide to MCIm electronic access to 105 responders, 100-type test lines, or 102-type test lines associated with any circuits under test.

15.1.2.12 ILEC shall participate in Cooperative Testing with MCIm upon MCIm's request to test any operational interface or process used to provide Network Elements, Ancillary Functions or Services to MCIm.

15.1.2.13 MCIm and ILEC shall endeavor to complete Cooperative Testing as stated in Attachment 8.

15.1.2.14 ILEC shall participate in Cooperative Testing requested by MCIm whenever it is deemed necessary by MCIm to insure service performance, reliability and customer serviceability.

15.1.2.15 MCIm may accept or reject the Network Element ordered by MCIm if, upon completion of cooperative acceptance testing, the tested Network Element does not meet the requirements stated herein.

15.2 **Performance**

15.2.1 **Scope**

This section addresses performance requirements for Network Elements and Ancillary Functions to provide local service. It includes requirements for the reliability and availability of Network Elements and Ancillary Functions, and quality parameters such as transmission quality (analog and digital), and speed (or delay). In addition, an overview of service performance requirements is given.

15.2.1.1 The General Performance Requirements in this section apply to all aspects of Network Elements and Ancillary Functions. Additional requirements are given in this performance section and in the individual Network Elements sections.

15.2.1.2 ILEC shall work cooperatively with MCIm to determine appropriate performance allocations across Network Elements.

15.2.2 ILEC shall provide real-time, remote data access to performance monitoring and alarm data on events affecting (or potentially affecting) MCIm's traffic.

15.2.3 ILEC shall provide performance equal to or better than all of the requirements set forth in the following technical references:

15.2.3.1 **Bell Communications Research, Inc. Documents**

15.2.3.1.1 FR-64, *LATA Switching Systems Generic Requirements (LSSGR).* This document contains 117 Technical References and Generic Requirements. Sections provide the requirements for local switching systems (also referred to as end offices) that serve customers' lines. Some modules of the LSSGR are also referenced separately in this document.

15.2.3.1.2 TR-NWT-000499, Issue 5, Rev 1, April 1992, *Transport Systems Generic Requirements (TSGR): Common Requirements.*

15.2.3.1.3 TR-NWT-000418, Issue 2, December 1992, *Generic Reliability Assurance Requirements For Fiber Optic Transport Systems.*

15.2.3.1.4 TR-NWT-000057, Issue 2, January 1993, *Functional Criteria for Digital Loop Carriers Systems.*

15.2.3.1.5 TR-NWT-000507, Issue 5, December 1993, *LSSGR - Transmission, Section 7.*

15.2.3.1.6 GR-303-CORE, Issue 1, September 1995, *Integrated Digital Loop Carrier System Generic Requirements, Objectives, and Interface.*

15.2.3.1.7 GR-334-CORE, Issue 1, June 1994, *Switched Access Service: Transmission Parameter Limits and Interface Combinations.*

15.2.3.1.8 TR-NWT-000335, Issue 3, May 1993, *Voice Grade Special Access Services - Transmission Parameter Limits and Interface Combinations.*

15.2.3.1.9 TR-TSY-000529, Issue 2, July 1987, *Public Safety - LSSGR.*

15.2.3.1.10 GR-1158-CORE, Issue 2, October 1995, *OSSGR Section 22.3: Line Information Database.*

15.2.3.1.11 TR-TSY-000511, Issue 2, July 1987, *Service Standards, a Module (Section 11) of LATA Switching Systems Generic Requirements (LSSGR, FR-NWT-000064).*

15.2.3.1.12 TR-NWT-000393, January 1991, *Generic Requirements for ISDN Basic Access Digital Subscriber Lines.*

15.2.3.1.13 TR-NWT-000909, December 1991, *Generic Requirements and Objectives for Fiber In The Loop Systems.*

15.2.3.1.14 TR-NWT-000505, Issue 3, May 1991, *LSSGR Section 5, Call Processing.*

15.2.3.1.15 FR-NWT-000271, 1993, *Operator Services Systems Generic Requirements (OSSGR).*

15.2.3.1.16 TR-NWT-001156, Issue 2, July 1993, *OSSGR Operator Services Systems Generic Requirements, Section 21, Operator Subsystem.*

15.2.3.1.17 SR-TSY-001 171, Issue 1, January 1989, *Methods and Procedures for System Reliability Analysis.*

15.2.3.1.18 Bellcore *Telecommunications Transmission Engineering,* 3rd Ed, 1990.

15.2.3.2 **ANSI Standards**

15.2.3.2.1 ANSI T1.512-1994, Network Performance - Point-to-Point Voice-Grade Special Access Network Voiceband Data Transmission Objectives.

15.2.3.2.2 ANSI T1.506-1990, Network Performance - Transmission Specifications for Switched Exchange Access Network.

15.2.3.2.3 ANSI T1.508-1992, Telecommunications - Network Performance - Loss Plan for Evolving Digital Networks. Also supplement T1.508a-1993.

15.2.3.2.4 ANSI T1.101-1994, Digital Synchronization Network Plan.

15.2.3.3 **TIA/EIA Standards**

15.2.3.3.1 Requirements not specifically addressed here shall be found in the documents listed in Electronic Industries Association/Telecommunications Industries Association Standards and Engineering Publications.

15.2.3.3.2 TIA/EIA TSB-37A, Telephone Network Transmission Model for Evaluating Modem Performance.

15.2.3.3.3 TIA/EIA TSB-38, Test Procedure for Evaluation of 2-wire 4 kHz Voiceband Duplex Modems.

15.2.3.4 **IEEE Standards**

15.2.3.4.1 IEEE Standard 743-1984, IEEE Standard Methods and Equipment for Measuring Transmission Characteristics of Analog Voice Frequency Circuits.

15.2.3.4.2 ANSI/IEEE Standard 820-1984, Telephone Loop Performance Characteristics.

15.2.4 **Services and Capabilities**

15.2.4.1 All Network Elements shall provide performance sufficient, in combination with other Network Elements, to provide the following applications in accordance with the requirements of this document:

15.2.4.1.1 All types of voice services.

15.2.4.1.2 All types of voice-band data modem connections up to and including 28.8 Kbps V-34.

15.2.4.1.3 All types of FAX transmissions up to and including 14.4 Kbps group 3.

15.2.4.1.4 All CLASS/LASS features.

15.2.4.1.5 All Operator Systems.

15.2.4.2 The following capabilities shall be provided as applicable:

15.2.4.2.1 ISDN BRI

15.2.4.2.2 ISDN PRI

15.2.4.2.3 Switched Digital Data

15.2.4.2.4 Non-Switched Digital Data

15.2.4.2.5 Any types of Video applications that a customer may order

15.2.4.2.6 Any Coin Services the customer may order

15.2.4.2.7 Frame Relay and ATM

15.2.4.2.8 Private Line Services

15.2.5 Specific Performance Requirements for Network Elements and Ancillary Functions

15.2.5.1 The following sections itemize performance parameters for Network Elements and Ancillary Functions. ILEC shall provide performance equal to or better than all of the requirements set forth in this Section. Unless noted otherwise, requirements and objectives are given in terms of specific limits. This means that all tests (acceptance and ongoing performance) shall meet the limit(s) to satisfy the requirement.

15.2.5.2 **Performance Allocation**

15.2.5.2.1 Transmission path impairments may be classified as either analog or digital, and will depend on the nature of the signal transmitted across the Network Element. Analog impairments are introduced on any analog portion of the loop, typically between the NID portion of Loop Distribution and the analog to digital (A/D) conversion, and are usually correlated with the length of the physical plant. Digital impairments are introduced by A/D conversion and by interfaces between digital Network Elements. In addition, noise can be introduced by either analog transmission or the A/D conversion.

15.2.5.3 **Loop Combination Architecture Constraints**

15.2.5.3.1 The following constraints will limit not only the variety of Loop Combination architectures that may be considered, but also the architectures ILEC may consider to deliver any Ancillary Function or Network Element. These constraints apply to the entire path between the NID portion of Loop Distribution and the ILEC switch. Any exceptions to these restrictions shall be specifically requested or approved by MCIm in writing.

15.2.5.3.1.1 No more than 1 A-D conversion.

15.2.5.3.1.2 No more than 1, 2-to-4-wire hybrid.

15.2.5.3.1.3 No voice compression.

15.2.5.3.1.4 No echo canceled or suppressers.

15.2.5.3.1.5 One digital loss pad per PBX.

15.2.5.3.1.6 No digital gain.

15.2.5.3.1.7 No additional equipment that might significantly increase intermodulation distortion.

15.2.5.4 Transmission Impairments

15.2.5.4.1 Analog Impairments

15.2.5.4.1.1 Analog impairments are those introduced on portions of the end-to-end circuit on which communications signals are transmitted in analog format. These portions of the transmission path would typically be between NID and an A/D conversion, most commonly on the metallic loop. The performance on the analog portion of a circuit is typically inversely proportional to the length of that circuit.

15.2.5.4.1.2 **Loss**

15.2.5.4.1.2.1 Electrical loss is measured using a 1004 Hz 0.0 DB one Milliwatt 900 ohm test tone.

15.2.5.4.1.2.2 Off-hook electrical loss between the NID and the switch shall be no more than 8.0 dB for any line, and the mean value for all lines shall be 3.5 dB ±0.5 dB. On-hook electrical loss between the NID and the switch shall be no more than 4.0 dB above the off-hook electrical loss for any line.

15.2.5.4.1.3 **Idle Channel Circuit Noise**

15.2.5.4.1.3.1 Idle channel circuit noise (C-message) is added by analog facilities, by the A/D conversion of signals, by digital processing equipment (e.g., echo cancelers, digital loss pads), robbed bit signaling, and errors on digital facilities.

15.2.5.4.1.3.2 Idle channel circuit noise shall be less than or equal to 18 dBrnC.

15.2.5.4.1.4 **Talker Echo**

15.2.5.4.1.4.1 The primary source of echo is improper impedance-matching at the 2-to-4 wire hybrid in the ILEC network. The impact on customer perception is a function of both echo return loss and delay.

15.2.5.4.1.4.2 Echo Return Loss (ERL) shall be greater than 26 dB to a standard termination (900 ohms, 2.16 μFd), and greater than 14 dB to a telephone set off-hook. Singing Return Loss (SRL) shall be greater than 2l dB to a standard termination, and greater than 11 dB to a telephone set off-hook.

15.2.5.4.1.5 **Listener Echo**

Listener echo is a double reflection of a transmitted signal at two different impedance mismatches in the end-to-end connection. While in extreme cases it can degrade voice transmission performance, listener echo is primarily an issue for voiceband data. The requirements on Talker Echo shall apply to Listener Echo.

15.2.5.4.1.6 **Propagation and Processing Delay**

15.2.5.4.1.6.1 Propagation delay is the delay involved in transmitting information from one

location to another. It is caused by processing delays of equipment in the network and delays associated with traveling across transmission facilities.

15.2.5.4.1.6.2 ILEC shall cooperate with MCIm to limit total service propagation and processing delay to levels at parity with that within the ILEC local network.

15.2.5.4.1.7 **Signal-to-Noise Ratio**

15.2.5.4.1.7.1 The Signal-to-Noise Ratio (S/N) is a critical parameter in determining voiceband data performance. It is typically measured with a 1004 Hz tone.

15.2.5.4.1.7.2 ILEC must provide on the Loop Combination a signal-to-noise ratio of at least 37 dB between the NID and the end office.

15.2.5.4.1.8 **C-Notched Noise**

The requirements for Signal-to-Noise Ratio shall apply to C-Notched Noise.

15.2.5.4.1.9 **Attenuation Distortion**

15.2.5.4.1.9.1 Attenuation distortion, also known as frequency distortion or gain slope, measures the variations in loss at different frequencies across the voice frequency spectrum (200 Hz - 3400 Hz). It is measured by subtracting the loss at 1004 Hz from the loss at the frequency of interest.

15.2.5.4.1.9.2 Attenuation distortion from the NID to the switch shall be within the range ±0.5 dB for frequencies between 304 and 3004 Hz; from the switch to NID attenuation distortion shall be within the range ±0.5 dB for frequencies between 204 Hz and 3004 Hz. In addition, attenuation distortion shall remain

within the range +1 dB/-3 dB for frequencies between 200 Hz and 3500 Hz.

15.2.5.4.1.10 **Envelope Delay Distortion**

15.2.5.4.1.10.1 Envelope Delay Distortion (EDD) measures the difference in transit time of signals at different frequencies. EDD is measured relative to the transit time of a 1704 Hz tone, and is given in microseconds. EDD is used as an approximation of the group delay of the channel.

15.2.5.4.1.10.2 EDD shall be: 1704 Hz to 604 Hz — ≤ 350 μsec.; 1704 Hz to 2804 Hz — ≤ 195 μsec.; 1704 Hz to 204 Hz — ≤ 580 μsec.; 1704 Hz to 3404 Hz — ≤ 400 μsec.

15.2.5.4.1.11 **Phase Jitter**

15.2.5.4.1.11.1 Phase jitter measures the unwanted angular modulation of a signal. It is caused by noise or the actual modulation of the signal by another unwanted signal. It displaces the zero crossings of a signal. It is measured in terms of peak-to-peak deviations of a 1004 Hz tone from its nominal zero crossings, and in a particular frequency band (200-300 HZ and either 4-300 Hz or 2-300 Hz). Phase jitter impacts voiceband data performance and can make modems more susceptible to other impairments, including noise.

15.2.5.4.1.11.2 From the NID to the interexchange carrier point of termination, phase jitter shall be < 1.5° point-to-point in the 0-300 Hz band, and
< 1.8° point-to-point in the 4-300 Hz band.

15.2.5.4.1.12 **Amplitude Jitter**

15.2.5.4.1.12.1 Amplitude jitter is any deviation of the peak value of a 1004 Hz signal

from its nominal value. Excessive amounts can impair voiceband data performance. It is primarily caused by noise but can also be caused by phase jitter, gain hits, or single frequency interference.

15.2.5.4.1.12.2 In NID-interexchange carrier point of termination, ≤ 2.5% of amplitude jitter is permitted in the 20-300 Hz band and ≤ 2.9% in the 4-300 Hz band.

15.2.5.4.1.13 **Intermodulation Distortion**

15.2.5.4.1.13.1 Intermodulation distortion (IMD) measures non-linear distortions of a signal. It compares the power of harmonic tones to the power of the transmitted tones. It is measured for both the 2nd and 3rd harmonics of the transmitted tones. IMD is caused by compression or clipping and can impair voiceband data performance.

15.2.5.4.1.13.2 Both 2nd and 3rd order IMD between the NID and end office must be ≥ 52 dB.

15.2.5.4.1.14 **Impulse Noise**

15.2.5.4.1.14.1 Impulse noise is a sudden and large increase in noise on a channel for a short duration of time. Impulse noise is measured as a count of the number of times a noise threshold is exceeded during a given time period (typically 5 or 15 minutes). It is caused by protection switching, maintenance activities, electromechanical switching systems, digital transmission errors, and line coding mismatches. Impulse noise sounds like clicking noises or static on voice connections. Impulse noise impairs voiceband data performance.

15.2.5.4.1.14.2 The NID to interexchange carrier point of termination portions of connections shall introduce no impulse noise events within 6 dB of the received signal power

on 93% of all 15 minute connections. In addition, there shall be no more than 1 impulse noise event within 6 dB of the received signal power during any 30-minute period.

15.2.5.4.1.15 **Phase Hits**

15.2.5.4.1.15.1 Phase hits are a sudden change in the phase of a signal lasting at least 4 msec. Phase hits are measured using a threshold which indicates how much the phase of the signal has changed with respect to its nominal phase. Phase hits are caused by protection switching and slips or other synchronization errors. Phase hits can impair voiceband data performance.

15.2.5.4.1.15.2 Between the NID and interexchange carrier point of termination, 99.75% of all 15-minute connections shall have no phase hits exceeding 10°. In addition, there shall be no more than 1 phase hit exceeding 10° in any 30-minute period.

15.2.5.4.1.16 **Gain Hits**

15.2.5.4.1.16.1 Gain hits are sudden changes in the level of a signal that last at least 4 msec. Gain hits are measured against a threshold of typically 2-5 dB relative to the signal's nominal level. Gain hits are usually caused by protection switches and can impair voiceband data performance.

15.2.5.4.1.16.2 Between the NID and the interexchange carrier point of termination, 99.5% of all 15-minute connections shall have no gain hits exceeding 3 dB. In addition, there shall be no more than 1 gain hit exceeding 3 dB in any 30-minute period.

15.2.5.4.1.17 **Dropouts**

15.2.5.4.1.17.1 Dropouts are drops in the level of a signal of 12 dB or more for at least 4

msec. They are caused by protection switching events, radio fading, and conditions causing digital carrier systems to lose frame. Dropouts are critical for voiceband data performance but, if severe enough, will also affect voice quality.

15.2.5.4.1.17.2 Between the NID and the interexchange carrier point of termination, 99.9% of all 15-minute connections shall have no dropouts and in addition, no connection shall suffer more than 1 dropout in any 60-minute period.

15.2.5.4.1.18 **Frequency Shift**

15.2.5.4.1.18.1 Frequency shift measures any frequency changes that occur when a signal is transmitted across a channel. It is typically measured using a 1004 Hz tone. Frequency shift has very little impact on voice or voiceband data performance; however, round-trip frequency shifts can affect the ability of echo cancelers to remain converged.

15.2.5.4.1.18.2 No more than 0.2 Hz frequency shift shall be on any connection. In addition, 99.5% of all calls shall have frequency shift < 0.1 Hz.

15.2.5.4.1.19 **Crosstalk**

15.2.5.4.1.19.1 Crosstalk is the presence of signals from other telephone connections on a circuit. Crosstalk can be either intelligible, when speech from other connections can be heard and understood, or unintelligible. Crosstalk is caused by inter-channel interference on the transmission system. Crosstalk is difficult to measure: it requires correlating signals on different circuits or using human listeners to identify its presence. Trouble reports may be used to estimate the probability of crosstalk.

15.2.5.4.1.19.2 99% of Loop Combinations shall have probability ≤ 0.1% of experiencing crosstalk exceeding -65 dBm0.

15.2.5.4.1.20 **Clipping**

15.2.5.4.1.20.1 Clipping occurs when part of a transmitted signal is dropped and does not reach the receiving portion on a connection. It can be caused by Digital Speech Interpolation (DSI) equipment used in Digital Circuit Multiplication Systems (DCMS) which increase the amount of traffic that transmission facilities carry, and by echo cancelers or echo suppressers.

15.2.5.4.1.20.2 No clipping incidents shall occur on any call.

15.2.5.4.2 **Digital Impairments**

Digital impairments occur in the signal wherever it is transmitted in digital format. These errors are usually introduced upon conversion of the signal from analog to digital, as well as at interfaces between digital components. While many digital impairments have little impact on subjective voice quality, they can impact voiceband data performance.

15.2.5.4.2.1 **Signal Correlated Distortion**

15.2.5.4.2.1.1 Signal correlated distortion (SCD) is unwanted noise or distortion introduced into a signal through the conversion of a signal from analog to digital format or through digital processing that changes the transmitted signal. SCD affects performance when a sign is being transmitted. The primary sources of SCD are signal encoders, echo cancelers, digital loss pads, and robbed bit signaling. SCD affects both voice and voiceband data performance.

15.2.5.4.2.1.2 The NID-to-end-office connection shall allow:

15.2.5.4.2.1.2.1 A maximum of 1 A/D conversion, using 64 Kbps μ-law (μ=255) PCM;

15.2.5.4.2.1.2.2 No voice compression;

15.2.5.4.2.1.2.3 No echo cancellation; and

15.2.5.4.2.1.2.4 Robbed bit signaling only if SS7 or ISDN are not used.

15.2.5.4.2.2 **Slips**

15.2.5.4.2.2.1 Slips occur when a frame of digital data is either deleted or repeated because of differences in the clocks used to synchronize digital facilities. Slips sound like clicks or pops on voice calls and have major impact on voiceband data performance.

15.2.5.4.2.2.2 The NID-to-interexchange carrier point of termination portion of connections shall have fewer than 0.45 slips every 24 hours on average.

15.2.5.4.2.3 **Digital Timing Jitter and Wander**

15.2.5.4.2.3.1 Digital timing jitter is the unwanted phase modulation of digital signals at rates above 10 Hz. Wander is the unwanted phase modulation of digital signals at rates below 10 Hz. Digital timing jitter is caused by imperfections in the timing recovery process of repeaters and the stuffing synchronization process used by multiplexer/demultiplexers. Wander is caused by slowly varying changes in digital signal phase due to clock frequency offset and drift, changes in propagation delay of terrestrial facilities due to temperature changes and changes in the distance of

satellites from the earth. These events have a major impact on voiceband data performance.

15.2.5.4.2.3.2 The maximum digital timing jitter allowed in the 10 Hz to 8 kHz frequency band at any network interface or any terminal equipment in the network is 5 Unit Intervals (UI). The maximum digital timing jitter allowed in the 8 kHz to 40 kHz frequency band is 0.1 UI. The objective for wander is less than 28 UI at any network interface or terminal equipment.

15.2.5.4.2.4 **DS-1 Errored Seconds**

15.2.5.4.2.4.1 An Errored Second (ES) on a DS-1 facility is any second during which at least 1 bit is in error. The impact of an ES on performance depends on the number of errors that occur during a second. Typically, voice performance is not significantly impacted by ES but they can cause errors in voiceband data transmissions.

15.2.5.4.2.4.2 Each ILEC network shall have less than 20 ESs per 24 hour period.

15.2.5.4.2.5 **DS-1 Severely Errored Seconds**

15.2.5.4.2.5.1 A severely Errored Second (SES) is any second during which a DS-1 has an error rate exceeding 0.001. An SES can be caused by a loss of framing, a slip, or a protection switch. SESs have impacts on both voice and voiceband data performance. For voice, a SES will sound like a burst of noise or static. SESs that occur during a voiceband data transmission cause a significant burst of errors and can cause modems to retrain.

15.2.5.4.2.5.2 The digital portion of each NID to POP connection shall have less than 2 SESs per 24 hour period.

15.2.5.4.2.6 **Short Failure Events**

15.2.5.4.2.6.1 A Short Failure Event (SFE) is a Loss of Frame (LOF) event of less than two minutes' duration. An LOF event is declared when, on detection of a Loss of Signal (LOS) or Out-of-Frame (OOF), a rise-slope-type integration process starts that declares a LOF after 2.5±0.5 sec. of continuous LOS or OOF. If the LOS or OOF is intermittent the integration process shall decay at a slope of 1/5 the rise slope during the period when the signal is normal. Thus, if the ratio of a LOS or OOF to a normal signal is greater than 1/2, a LOF will be declared. A LOS condition shall be declared when the Network Channel Terminating Equipment has determined that 175±75 successive pulse positions with no pulses of either positive or negative polarity have occurred. An OOF condition shall be declared when either Network equipment or Digital Terminal Equipment detects errors in the framing pattern.

15.2.5.4.2.6.2 There shall be fewer than 1 SFE per month.

15.2.5.5 **Service Availability and Reliability**

Availability refers to the time period during which the service is up and usable for its intended purpose. Reliability refers to the probability that a task will be completed successfully, given that it is successfully begun.

15.2.5.5.1 **Blocked Calls**

15.2.5.5.1.1 Blocking is the fraction of call origination attempts denied service during a stated measurement period. Blocking occurs because of competition for limited resources within the network.

15.2.5.5.1.2 For intraLATA toll service and local exchange service, the blocking level from originating (NID) to terminating NID shall not exceed 1% in any hour, except under

conditions of service disruption. For access to or egress from a long distance network, the blocking rate shall not exceed 0.5% in any hour.

15.2.5.5.2 **Downtime**

Downtime is the period of time that a system is in a failed state.

15.2.5.5.2.1 The average downtime for all subscriber Loop Combinations shall be less than 49 minutes per year. The maximum downtime for 99% of all subscriber Loop Combinations shall be less than 74 minutes per year.

15.2.5.5.2.2 The average downtime for an end office switch shall be less than 3 minutes per year. The average downtime for individual trunks shall be less than 28 minutes per year. The average downtime for digital trunk groups shall be less than 20 minutes per year. The average downtime for an individual line appearance at the switch shall be less than 28 minutes per year. The average downtime for a Remote Terminal (RT) shall be less than 17 minutes per year. The average downtime for an individual line on a Remote Terminal (RT) shall be less than 13 minutes per year.

15.2.5.5.2.3 The mean time to repair (MTTR) of any equipment at an attended site shall be less than 3 hours. The mean time to repair (MTTR) of any equipment at an unattended site shall be less than 4 hours. 95% of all repairs to the network interface (NID) shall be completed within 24 hours.

15.2.5.5.2.4 There shall be no downtime due to power failures at the switch.

15.2.5.5.2.5 The probability of a stable call being cut off shall be less than 20 cutoffs per one million 1 minute calls.

15.2.5.5.2.6 The rate of ineffective machine attempts at the end office shall be less than 0.0005 (5 failures per 10,000 call attempts).

15.2.5.5.2.7 ILEC shall meet all requirements for private line services in TR-NWT-000335, ANSI T1.512-1994.

15.2.5.5.3 **Dial Tone Delay**

15.2.5.5.3.1 Dial-Tone Delay is the time period between a customer off-hook and the receipt of dial tone from an originating end office. Dial-Tone Delay has a significant effect on customer opinion of service quality.

15.2.5.5.3.2 The average dial-tone delay shall not exceed 1.5% of calls delayed more than 3 seconds. At most 20% of calls during the high day busy hour (HDBH) shall experience dial-tone delay greater than 3 seconds.

15.2.5.5.4 **Dial Tone Removal**

15.2.5.5.4.1 Dial tone removal is the time between recognition of the first address digit to the removal of dial tone on the line.

15.2.5.5.4.2 The maximum dial tone removal interval shall be ≤500 milliseconds.

15.2.5.5.5 **Post Dial Delay**

15.2.5.5.5.1 Post Dial Delay (PDD) is the amount of time a caller must wait after entering or dialing the last digit of a Destination Telephone Number (DTN) before hearing a valid audible network response. The PDD for an end user is measured from the time the caller has pressed or dialed the last digit of a DTN until receipt of an audible network response.

15.2.5.5.5.2 The requirements given reflect an end-to-end CCS7 protocol for MCIm end users. Where a

mixture of CCS7 and inband (MF) signaling protocols are employed, an increase in the PDD can be expected.

15.2.5.5.5.2.1 **PDD 1 - A - Intra LSO**

15.2.5.5.5.2.1.1 Intra-LSO calls do not employ external signaling protocols. The PDD for intra-LSO calls flows are dependent upon the processor cycle time and traffic load conditions. This PDD is assumed to be between customers on the same LSO, between the Remote Switch Modules (RSMs) on the same Host, or between an RSM and Host customers.

15.2.5.5.5.2.1.2 The objective for intra-LSO PDD is less than 310 milliseconds for 50% of all calls and less than 460 milliseconds for 95% of all calls.

15.2.5.5.5.2.2 **PDD1 - B - LSO to Another Local LSO**

15.2.5.5.5.2.2.1 The signaling protocols from an LSO to another LSO are assumed to employ out-of-band Common Channel Signaling System 7 (CCS7) format. Local calls, that is, calls from an LSO to another LSOs are assumed to have no more than one pair of Signaling Transfer Point Switches (STPs) and no more than one data base dip.

15.2.5.5.5.2.2.2 This PDD is expected to be better than the MCIT Long Distance objective with an average PDD of ≤ 8.70 seconds with 95% ≤1.34 seconds.

15.2.5.5.5.2.3 **PDD1 - C - MCIm LSO to Other LSO**

15.2.5.5.5.2.3.1 Calls from an MCIm LSO to other LSOs are dependent upon the interface agreements between MCIm and the LSO service provider and may employ CCS7, inband (MF) or a combination of both protocols.

15.2.5.5.5.2.3.2 Calls from an MCIm LSO to another LSO via the Public Switched Telecommunications

Network (PSTN), using end-to-end CCS7 signaling protocols, can expect to meet the MCIm PDD objectives of an average of 2.0 seconds with 95% in ≤2.5 seconds. Calls from an MCIm LSO via the PSTN to LSOs outside the local service area are assumed to use CCS7 signaling protocols to the MCIm switch. The egress signaling protocols from the MCIT Switched Network to the many different local telephone company service providers however does not necessarily utilize CCS7 signaling. There are three basic egress signaling configuration. They are:

15.2.5.5.5.2.3.2.1 Network Inter-Connect, CCS7 between MCIm and the local telephone company.

15.2.5.5.5.2.3.2.2 Inband Multifrequency (MF) signaling protocols without a ILEC egress tandem in the connection.

15.2.5.5.5.2.3.2.3 Inband MF signaling protocols with a ILEC egress tandem in the connection.

15.2.4.6.5.2.3.2.3.1 Calls from an MCIm LSO to other LSOs outside the local service area are assumed to have multiple STPs for 1+ traffic in the access and PSTN portion of the connection. The egress from the PSTN for 1+ traffic is again dependent upon the interface agreements in that service area and may consist of CCS7 or inband MF protocols.

15.2.4.6.5.2.3.2.3.2 Calls from an MCIm's LSO to another MCIm LSO with a mixture of CCS7 or all inband signaling protocols are expected to receive PDDs on the average of 2.9 seconds with 95% in ≤6.5 seconds.

15.2.5.5.5.2.4 **Impact of Number Portability (NP)**

If a call forwarding option is used as an interim solution for NP, the delay due to additional switching in the local access shall not exceed 0.4 seconds (95th percentile) in addition to the PDDs described above.

15.2.5.5.5.2.5 **Custom Local Area Subscriber Services (CLASS)**

CLASS^{SM} features such as Calling Name Delivery can contribute to the PDD of a call. This delay is caused by the additional time (ILEC option) before the ringing interval commences. This default delay is 3 seconds. Optional settings are available in 1 second intervals from 1 to 6 seconds. Calls to DTNs that have CLASS^{SM} features, particularly with calling name delivery, can expect to experience from 1 to 6 seconds (3 seconds default) of additional PDD compared to the PDDs shown for PDD1-C. MCI will specify optimal settings.

15.2.5.5.5.2.6 **Partial Dial Timing**

15.2.5.5.5.2.6.1 The interval between each information digit from a customer's line, until the LSO or switching system has determined that the digit string is incomplete.

15.2.5.5.5.2.6.2 For customer lines, partial dial timing shall be ≥16 seconds and ≤24 seconds. For trunks, inband signaling time-out shall be ≥5 seconds and ≤20 seconds.

15.2.5.6 **Local Switching**

ILEC shall provide performance equal to or better than the requirements for Local Switching set forth in Bellcore LSSGR TR-TSY-000511. Post dial delay for connections to MCIm local operator services shall be no worse than Operator Services provided by ILEC. Additionally, post dial delay from the Operator Services to destination numbers shall be no worse than that provided by ILEC. Post dial delay for connections to MCIm local directory services shall be no worse than directory services provided by ILEC. Additionally, post dial delay from the directory system to destination numbers shall be no worse than that provided by ILEC.

15.2.5.7 **Operator Systems**

Operator System connections shall comply with the requirements for the Loop Combination, Local Switching, Operator Service, and Directory Assistance Service requirements.

15.2.5.8 **Common Transport**

Specific requirements for this Network Element or Ancillary Function are in the Common Transport section. In all cases the performance of this Network Element shall meet the general requirements stated in "General Performance Requirements." Allocation of impairments shall be negotiated between MCIm and ILEC consistent with sound engineering principles.

15.2.5.9 **Dedicated Transport**

Specific requirements for this Network Element are in the Dedicated Transport section. In all cases the performance of this Network Element shall meet the general requirements stated in "General Performance Requirements." (Allocation of impairments shall be negotiated between MCIm and ILEC.) consistent with sound engineering principles.

15.2.5.10 **Signaling Transfer Points**

Specific requirements for this Network Element are in the Signaling Transfer Points section. In all cases the performance of this Network Element shall meet the general requirements stated in "General Performance Requirements." (Allocation of impairments shall be negotiated between MCIm and ILEC.)

15.2.5.11 **Signaling Link Transport**
Specific requirements for this Network Element are in the Signaling Link Transport section. In all cases the performance of this Network Element shall meet the general requirements stated in "General Performance Requirements." Allocation of impairments shall be negotiated between MCIm and ILEC consistent with sound engineering principles.

15.2.5.12 **SCPs/Databases**

The performance requirements for databases (NP, LIDB, E911, etc.) vary depending or the database and the applications it supports. Database-specific performance requirements are included in the sections addressing individual Network Elements and in applicable Bellcore documents. In all cases, the query response time, availability, accuracy, updating capabilities, and other performance parameters shall at least be at parity with those services as provided to ILEC or other customer.

15.2.5.13 **Tandem Switching**

Specific requirements for this Network Element are in the Tandem Switching section. In all cases the performance of this Network Element shall meet the general requirements stated in "General Performance Requirements." Allocation of impairments shall be negotiated between MCIm and ILEC consistent with sound engineering principles.

15.2.6 **Test and Verification**

15.2.6.1 ILEC shall permit MCIm to confirm acceptable performance of any Network Element.

15.2.6.1.1 At MCIm's request, ILEC will provide access to the Network Element sufficient for MCIm to test the performance of that Network Element to MCIm's satisfaction.

15.2.6.1.2 At MCIm's request, ILEC will perform tests to confirm acceptable performance and provide MCIm with documentation of test procedures and results acceptable to MCIm.

15.3 Protection, Restoration, and Disaster Recovery

15.3.1 **Scope:**

This Section refers specifically to requirements on the use of redundant network equipment and facilities for protection, restoration, and disaster recovery.

15.3.2 **Requirements**

15.3.2.1 ILEC shall provide protection, restoration, and disaster recovery capabilities at parity with those capabilities

provided for their own services, facilities and equipment (e.g., equivalent circuit pack protection ratios, facility protection ratios).

15.3.2.2 ILEC shall provide Network Elements and Ancillary Functions equal priority in protection, restoration, and disaster recovery as provided to their own services, facilities and equipment.

15.3.2.3 ILEC shall provide Network Elements and Ancillary Functions equal priority in the use of spare equipment and facilities as provided to their own services, facilities and equipment.

15.3.2.4 ILEC shall restore Network Elements which are specific to MCIm end user customers on a priority basis as MCIm may designate.

15.4 Synchronization

15.4.1 Definition:

Synchronization is the function which keeps all digital equipment in a communications network operating at the same average frequency. With respect to digital transmission, information is coded into discrete pulses. When these pulses are transmitted through a digital communications network, all synchronous Network Elements are traceable to a stable and accurate timing source. Network synchronization is accomplished by timing all synchronous Network Elements in the network to a stratum 1 source so that transmission from these network points have the same average line rate.

15.4.2 Technical Requirements

The following requirements are applicable to the case where ILEC provides synchronization to equipment that MCIm owns and operates within a ILEC location. In addition, these requirements apply to synchronous equipment that is owned by ILEC and is used to provide a Network Element to MCIm.

15.4.2.1 The synchronization of clocks within digital networks is divided into two parts: intra-building and inter-building. Within a building, a single clock is designated as

the Building Integrated Timing Supply (BITS), which provides all of the DS1 and DS0 synchronization references required by other clocks in such building. This is referred to as intra-building synchronization. The BITS receives synchronization references from remotely located BITS. Synchronization of BITS between buildings is referred to as inter-building synchronization.

15.4.2.2 To implement a network synchronization plan, clocks within digital networks are divided into four stratum levels. All clocks in strata 2, 3, and 4 are synchronized to a stratum 1 clock, that is, they are traceable to a stratum 1 clock. A traceable reference is a reference that can be traced back through some number of clocks to a stratum 1 source. Clocks in different strata are distinguished by their free running accuracy or by their stability during trouble conditions such as the loss of all synchronization references.

15.4.2.2.1 **Intra-Building**

15.4.2.2.1.1 Within a building, there may be different kinds of equipment that require synchronization at the DS1 and DS0 rates. Synchronization at the DS1 rate is accomplished by the frequency synchronizing presence of buffer stores at various DSI transmission interfaces. Synchronization at the DS0 rate is accomplished by using a composite clock signal that phase synchronizes the clocks. Equipment requiring DS0 synchronization frequently does not have adequate buffer storage to accommodate the phase variations among different equipment. Control of phase variations to an acceptable level is accomplished by externally timing all interconnecting DS0 circuits to a single clock source and by limiting the interconnection of DS0 equipment to less than 1,500 cable feet. Therefore, a BITS shall provide DS1 and composite clock signals when the appropriate composite signal is a 64-kHz 5/8th duty cycle, return to zero with a bipolar violation every eighth pulse (B8RZ).

15.4.2.2.2 **Inter-Building**

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15.4.2.2.2.1 ILEC shall provide inter-building synchronization at the DSI rate, and the BITS shall accept the primary and secondary synchronization links from BITS in other buildings. From hierarchical considerations, the BITS shall be the highest stratum clock within the building and ILEC shall provide operations capabilities (this includes, but is not limited to: synchronization reference provisioning; synchronization reference status inquiries; timing mode status inquiries; and alarm conditions).

15.4.3 Synchronization Distribution Requirements

15.4.3.1 Central office BITS shall contain redundant clocks meeting or exceeding the requirements for a stratum 2 clock as specified in ANSI T1.101-1994 and Bellcore *TR-NWT-001244 Clocks for the Synchronized Network: Common Genetic Criteria.*

15.4.3.2 Central office BITS shall be powered by primary and backup power sources.

15.4.3.3 If both reference inputs to the BITS are interrupted or in a degraded mode (meaning off frequency greater than twice the minimum accuracy of the BITS, loss of frame, excessive bit errors, or in Alarm Indication Signal), then the stratum clock in the BITS shall provide the necessary bridge in timing to allow the network to operate without a frame repetition or deletion (slip free) with better performance than 1 frame repetition or deletion (slip) per week.

15.4.3.4 DS1s multiplexed into a SONET synchronous payload envelope within an STS-n (where n is defined in ANSI T1.105-1995) signal shall not be used as reference facilities for network synchronization.

15.4.3.5 The total number of Network Elements cascaded from the stratum 1 source shall be minimized.

15.4.3.6 A Network Element shall receive the synchronization reference signal only from another Network Element that contains a clock of equivalent or superior quality (stratum level).

15.4.3.7 ILEC shall select for synchronization those facilities shown to have the greatest degree of availability (absence of outages).

15.4.3.8 Where possible, all primary and secondary synchronization facilities shall be physically diverse (this means the maximum feasible physical separation of synchronization equipment and cabling).

15.4.3.9 No timing loops shall be formed in any combination of primary and secondary facilities.

15.4.3.10 An Operations Support System (OSS) shall continuously monitor the BITS for synchronization related failures or degradation.

15.4.3.11 An OSS shall continuously monitor all equipment transporting synchronization facilities for synchronization related failures or degradation.

15.4.3.12 For non-SONET equipment, ILEC shall provide synchronization facilities which, at a minimum, comply with the standards set forth in ANSI T1.101-1994.

15.4.3.13 For SONET equipment, ILEC shall provide synchronization facilities that have time deviation (TDEV) for integration times greater than 0.05 seconds and less than or equal to 10 seconds, that is less than or equal to 10 nanoseconds. TDEV, in nanoseconds, for integration times greater than 10 seconds and less than 1000 seconds, shall be less than 3.1623 times the square-root of the integration time. For example, for integration times of 25 seconds, TDEV shall be less than 15.8 nanoseconds.

15.5 SS7 Network Interconnection

15.5.1.1 **Definition**:

Figure 8 depicts Signaling System 7 (SS7) Network Interconnection. SS7 Network Interconnection is the interconnection of MCIm local Signaling Transfer Point (STPs) with ILEC STPs. This interconnection provides connectivity that enables the exchange of SS7 messages among ILEC switching systems and databases (DBs), MCIm

local or tandem switching systems, and other third-party switching systems directly connected to the ILEC SS7 network.

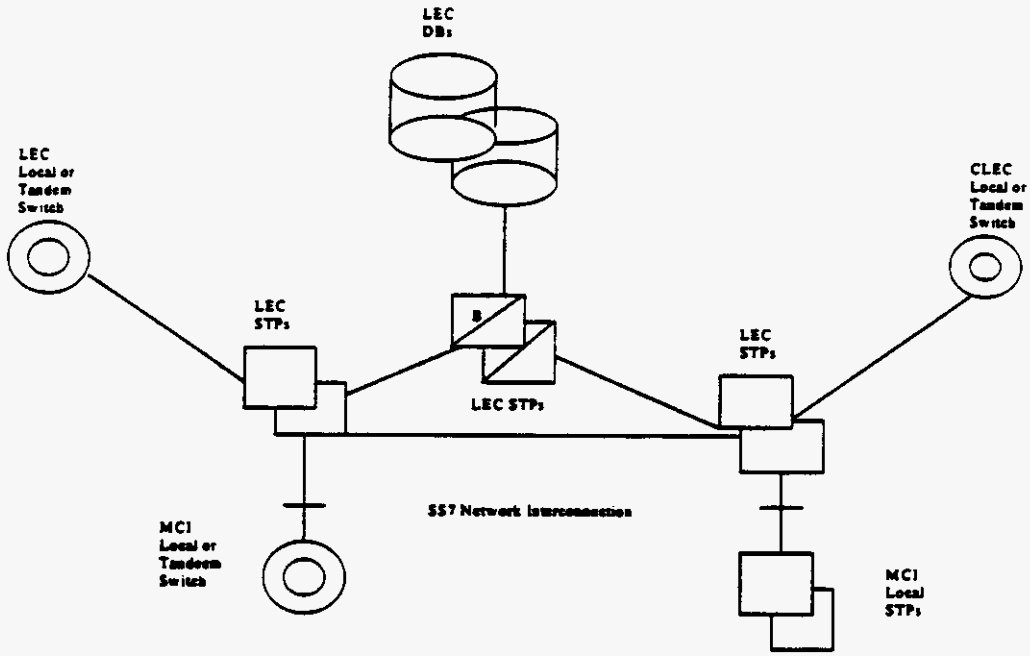


Figure 8. SS7 Network Interconnection

15.5.2 Technical Requirements

15.5.2.1 SS7 Network Interconnection shall provide connectivity to all components of the ILEC SS7 network. These include:

15.5.2.1.1 ILEC local or tandem switching systems;

15.5.2.1.2 ILEC DBs; and

15.5.2.1.3 Other third-party local or tandem switching systems.

15.5.2.2 The connectivity provided by SS7 Network Interconnection shall fully support the functions of ILEC switching systems and DBs and MCIm or other third-party switching systems with A-link access to the ILEC SS7 network.

15.5.2.3 In particular, Figure 9 depicts a circumstance where SS7 Network Interconnection shall provide transport for certain types of Transaction Capabilities Application Part (TCAP) messages. If traffic is routed based on dialed or translated digits between an MCIm local switching system and a ILEC or other third-party local switching system, either directly or via a ILEC tandem switching system, then it is a requirement that the ILEC SS7 network convey via SS7 Network Interconnection the TCAP messages that are necessary to provide Call Management services (Automatic Callback, Automatic Recall, and Screening List Editing) between the MCIm local STPs and the ILEC or other third-party local switch. switch.

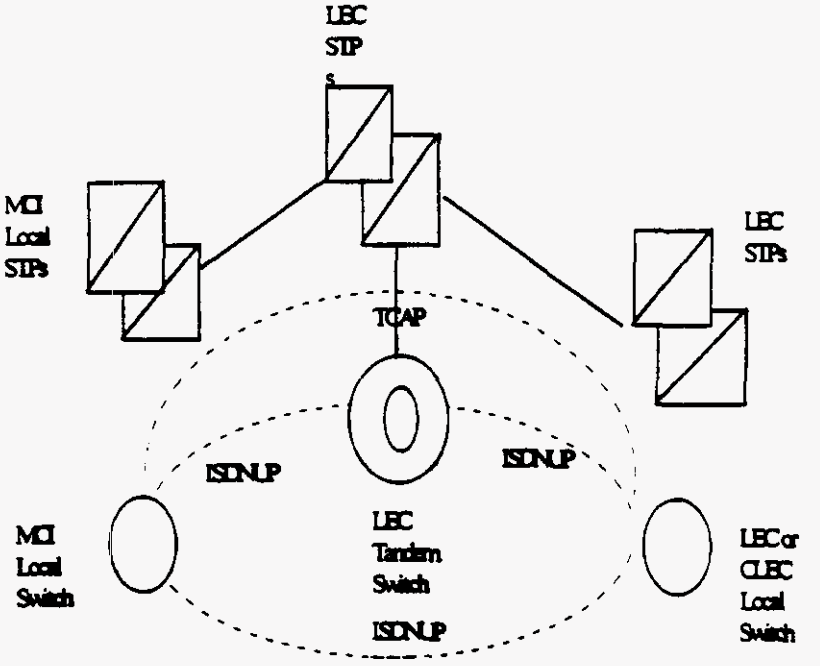


FIGURE 9. Interswitch TCAP Signaling for SS7 Network Interconnection

15.5.2.4 When the capability to route messages based on Intermediate Signaling Network Identifier (ISNI) is generally available on ILEC STPs, the ILEC SS7 Network shall also convey TCAP messages using SS7 Network Interconnection in similar circumstances where the ILEC switch routes traffic based on a Carrier Identification Code (CIC).

15.5.2.5 SS7 Network Interconnection shall provide all functions of the MTP as specified in ANSI T1. 111 (Reference 12.5.2). This includes:

15.5.2.5.1 Signaling Data Link functions, as specified in ANSI T1.111.2;

15.5.2.5.2 Signaling Link functions, as specified in ANSI T1.111.3; and

15.5.2.5.3 Signaling Network Management functions, as specified in ANSI T1.111.4.

15.5.2.6 SS7 Network Interconnection shall provide all functions of the SCCP necessary for Class 0 (basic connectionless) service, as specified in ANSI T1.112 (Reference 12.5.4). In particular, this includes Global Title Translation (GTT) and SCCP Management procedures, as specified in T1.112.4.

15.5.2.7 Where the destination signaling point is a ILEC switching system or DB, or is another third-party local or tandem switching system directly connected to the ILEC SS7 network, SS7 Network Interconnection shall include final GTT of messages to the destination and SCCP Subsystem Management of the destination.

15.5.2.8 Where the destination signaling point is an MCIm local or tandem switching system, SS7 Network Interconnection shall include intermediate GTT of messages to a gateway pair of MCIm local STPs, and shall not include SCCP Subsystem Management of the destination.

15.5.2.9 SS7 Network Interconnection shall provide all functions of the Integrated Services Digital Network User Part (ISDNUP), as specified in ANSI T1.113.

15.5.2.10 SS7 Network Interconnection shall provide all functions of the TCAP, as specified in ANSI T1.114.

15.5.2.11 If and when Internetwork MTP Routing Verification Test (MRVT) and SCCP Routing Verification Test (SRVT) become approved ANSI standards and available capabilities of ILEC STPs, SS7 Network Interconnection shall provide these functions of the OMAP.

15.5.2.12 SS7 Network Interconnection shall be equal to or better than the following performance requirements:

15.5.2.11.1 MTP Performance, as specified in ANSI T1.111.6;

15.5.2.11.2 SCCP Performance, as specified in ANSI T1.112.5; and

15.5.2.11.3 ISDNUP Performance, as specified in ANSI T1.113.5.

15.5.3 **Interface Requirements**

15.5.3.1 ILEC shall offer the following SS7 Network Interconnection options to connect MCIm or MCIm-designated STPs to the ILEC SS7 network:

15.5.3.1.1 D-link interface from MCIm STPs.

15.5.3.2 Each interface shall be provided by one or more sets (layers) of signaling links, as follows:

15.5.3.2.2 A D-link layer shall consist of four links, as depicted in Figure 10.

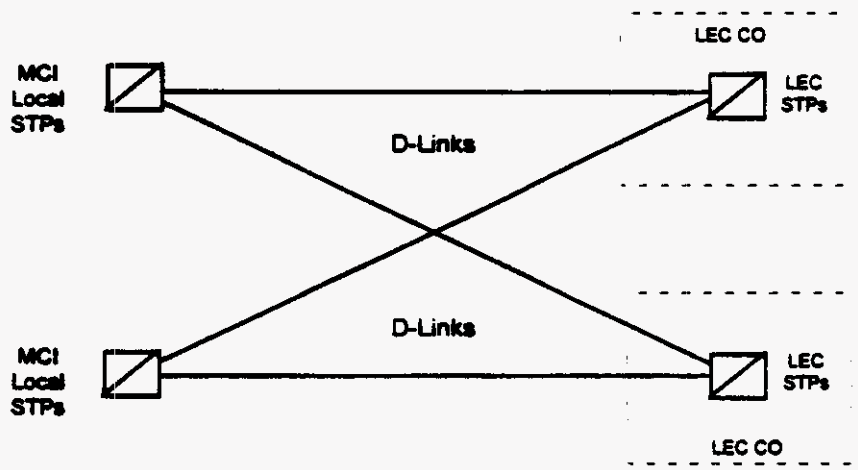


FIGURE 10. D-LINK Interface

15.5.3.3 The Signaling Point of Interconnection (SPOI) for each link shall be located at a cross-connect element, including but not limited to a DSX-1, in the Central Office (CO) where the ILEC STPs is located. There shall be a DS1 or higher rate transport interface at each of the SPOIs. Each signaling link shall appear as a DS0 channel within the DS1 or higher rate interface. ILEC shall offer higher rate DS1 signaling links for interconnecting MCIm local switching systems or STPs with ILEC STPs as soon as these become approved ANSI standards and available capabilities of ILEC STPs.

15.5.3.3.1 In each LATA, there will be two signaling points of interconnection (SPOIs). The requirement for two SPOIs is driven by the critical importance attached by all parties to signaling link diversity.

15.5.3.3.2 Each party will designate one of the two SPOIs in the LATA. A SPOI can be any existing cross connect point in the LATA. Since each party will designate a SPOI, we believe that both parties will be incented to select reasonable and efficient SPOI locations.

15.5.3.3.3 Each signaling link requires a port on each party's STP, which each party shall provide without explicit charge.

15.5.3.4 The ILEC CO shall provide intraoffice diversity between the SPOIs and the ILEC STPs, so that no single failure of intraoffice facilities or equipment shall cause the failure of both D-links in a layer connecting to a ILEC STPs.

15.5.3.5 The protocol interface requirements for SS7 Network Interconnection include the MTP, ISDNUP, SCCP and TCAP. These protocol interfaces shall conform to the following specifications:

15.5.3.5.1 Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital network User Part (ISDNUP);

15.5.3.5.2 Bellcore GR-1428-CORE, CCS Network Interface Specification (CCSNIS) Supporting Toll Free Service;

15.5.3.5.3 Bellcore GR-1429-CORE, CCS Network Interface Specification (CCSNIS) Supporting Call Management Services; and

15.5.3.5.4 Bellcore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP).

15.5.3.6 ILEC shall set message screening parameters to block accept messages from MCIm local or tandem switching systems destined to any signaling point in the ILEC SS7 network with which the MCIm switching system has a legitimate signaling relation.

15.5.4 SS7 Network Interconnection shall be equal to or better than all of the requirements for SS7 Network Interconnection set forth in the following technical references:

15.5.4.1 ANSI T1.110-1992 American National Standard Telecommunications Signaling System Number 7 (SS7) - General Information;

15.5.4.2 ANSI T1.111-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP);

15.5.4.3 ANSI T1.111A-1994 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP) Supplement;

15.5.4.4 ANSI T1.112-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Signaling Connection Control Part (SCCP);

15.5.4.5 ANSI T1.113-1995 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Integrated Services Digital Network (ISDN) User Part;

15.5.4.6 ANSI T1.114-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Transaction Capabilities Application Part (TCAP);

15.5.4.7 ANSI T1.115-1990 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Monitoring and Measurements for Networks;

15.5.4.8 ANSI T1.116-1990 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Operations, Maintenance and Administration Part (OMAP);

15.5.4.9 ANSI T1.118-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Intermediate Signaling Network Identification (ISNI);

15.5.4.10 Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP);

15.5.4.11 Bellcore GR-954-CORE, CCS Network Interface Specification (CCSNIS) Supporting Line Information Database (LIDB) Service;

15.5.4.12 Bellcore GR-1428-CORE, CCS Network Interface Specification (CCSNIS) Supporting Toll Free Service;

15.5.4.13 Bellcore GR-1429-CORE, CCS Network Interface Specification (CCSNIS) Supporting Call Management Services; and,

15.5.4.14 Bellcore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP).

15.6 Network Interconnection

15.6.1 Technical Requirements

15.6.1.1 When requested by MCIm, ILEC shall provide interconnections between the ILEC Network Elements

provided to MCIm and MCIm's network at transmission rates designated by MCIm.

15.6.1.2 Traffic shall be combined and routed as follows:

15.6.1.2.1 ILEC shall provide direct trunks for intraLATA traffic (except 911, directory assistance, operator services, and other services that may require special routing) and, at MCIm's request, ILEC shall allow MCIm to route such traffic either directly to a ILEC tandem or directly to a ILEC end-office. At MCIm's option, intraLATA toll and local traffic shall be combined onto one trunk group.

15.6.1.2.2 At MCIm's request, ILEC shall receive MCIm traffic destined to the ILEC Operator Systems Network Element, on trunks from an MCIm end-office or an MCIm tandem.

15.6.1.2.3 At MCIm's request, ILEC shall receive MCIm CAMA-ANI (Centralized Automatic Message Accounting - Automatic Number identification) traffic destined to the ILEC B911 PSAPs, or E911 tandems, on trunks from an MCIm end-office.

15.6.1.2.4 At MCIm's request, ILEC shall receive MCIm SS7 traffic destined to any ILEC S911 tandem on trunks from an MCIm end-office.

15.6.1.3 When requested by MCIm and a third party carrier, ILEC shall provide interconnections between MCIm's network, and the other carrier's network through the ILEC network at transmission rates designated by MCIm, including, but not limited to DS1, DS3, and STS-1. ILEC shall combine and route traffic to and from other local carriers and interLATA carriers through the ILEC network, and at MCIm's request, ILEC shall record and keep records of such traffic for MCIm billing purposes.

15.6.1.4 ILEC shall provide two-way trunk groups for interconnections. At MCIm's request, ILEC shall provide unidirectional traffic on such trunks, in either direction, effectively operating them as if they were one-way trunk groups.

15.6.1.5 ILEC shall provision trunks without any user restrictions (e.g., option for two-way trunking, and no unnecessary trunk group fragmentation by traffic types).

15.6.1.6 All trunking provided by ILEC shall adhere to the applicable performance requirements set forth in the "General Performance Requirements" section of this Agreement.

15.6.1.7 At MCIm's request, ILEC shall provide for overflow routing from a given trunk group or groups onto another trunk group or groups as MCIm designates.

15.6.1.8 ILEC and MCIm shall agree on the establishment of two-way trunk groups for the exchange of traffic for other IXCs. These trunk groups can be provided in a "meet point" arrangement.

15.6.1.9 Interconnection shall be made available upon MCIm's request at any technically feasible point of interface. All trunk interconnections shall be provided, including, SS7, MF, DTMF, DialPulse, PRI-ISDN (where available), DID (Direct Inward Dialing), CAMA-ANI, and trunking necessary so that interim NP can be provided.

15.6.1.10 **Trunk Interface Requirements**

15.6.1.10.1 **B911/E911 Trunks**

15.6.1.10.1.1 ILEC shall allow MCIm to provide direct trunking to each ILEC B911 serving end office, or ILEC E911 tandem, as is appropriate for the applicable serving area. These trunks are to be provided as one-way trunks from a given MCIm end office to the ILEC 911 end-office or tandem.

15.6.1.10.1.2 ILEC shall provide for overflow 911 traffic to be sent to the ILEC operator services platform or, at MCIm's direction, routed directly to MCIm's operator services platform.

15.6.1.10.2 **S911 Trunks**

In areas where S911 tandems are used, ILEC shall allow MCIm to provide direct trunking to each ILEC S911 tandem. Such SS7 trunks are to be provided as one-way trunks from a given MCIm end-office to the ILEC S911 tandem.

15.6.1.10.3 **Local Switch and Access Tandem Trunks**

15.6.1.10.3.1 ILEC shall provide trunks groups provisioned exclusively to carry intraLATA traffic, as designated by MCIm.

15.6.1.10.3.2 ILEC shall provide trunk groups provisioned exclusively to carry interLATA traffic, as designated by MCIm.

15.6.1.10.3.3 ILEC shall provide SS7 trunks which provide SS7 interconnection. At MCIm's request, MF trunks may be substituted for SS7 trunks where applicable.

15.6.1.10.3.4 ILEC shall simultaneous route calls based on dialed digits (in accordance with the standard GR-317-CORE), and Carrier Identification Code (in accordance with the standard GR-394-CORE) over a single SS7 trunk group.

15.6.1.10.4 **ILEC Operator Services Trunk**

15.6.1.10.4.1 For traffic from the ILEC network to MCIm for Operator Services, ILEC shall provide one trunk group per NPA served by the local ILEC switch.

15.6.1.10.4.2 ILEC shall provide such trunks as one-way trunks from the ILEC network to the MCIm network.

15.6.2 Network Interconnection between ILEC and MCIm shall meet or exceed all of the requirements for Network Interconnection set forth in the following technical references:

15.6.2.1 GR-317-CORE, Switching System generic requirements for Call Control Using the Integrated Services

Digital Network User Part (ISDNUP), Bellcore, February, 1994;

15.6.2.2 GR-394-CORE, Switching System generic requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP), Bellcore, February, 1994;

15.6.2.3 FR-NWT-000271, OSSGR Operator Services Systems generic requirements, Bellcore, 1994 Edition; and

15.6.2.4 FR-NWT-000064, LATA Switching Systems Generic Requirements (LSSGR), Bellcore, 1994 Edition.

Section 16. Basic 911 and E911

See Attachment VIII, Section 6.1.1 911 General Requirements and Section 6.2.1 911 System Interface and Exchanges

Section 17. Directory Assistance Data

See Attachment VIII, Section 6.1.6, Directory Assistance Data General Requirements and Section 6.2.2, Directory Assistance Data Interfaces and Exchanges.

ATTACHMENT IV

INTERCONNECTION

Section 1. Local Interconnection Trunk Arrangement

1.1 The parties shall initially reciprocally terminate local exchange traffic and IntraLATA/InterLATA toll calls originating on each other's networks as follows:

1.1.1 The parties shall make available to each other two-way trunks for the reciprocal exchange of *combined* local traffic, non-equal access IntraLATA toll traffic, and local transit traffic to other ILECs.

1.1.2 Separate two-way trunks will be made available for the exchange of equal-access InterLATA or IntraLATA interchange traffic that transits ILEC's network.

1.1.3 Separate trunks connecting MCIm's switch to each 911/E911 tandem.

1.1.4 Separate trunk group connecting MCIm's switch to ILEC's operator service center for operator-assisted busy line interrupt/verify.

1.1.5 Separate trunk group connecting MCIm's switch to ILEC's directory assistance center in instances where MCIm is purchasing ILEC's unbundled directory assistance service.

1.1.6 It is recognized by the parties that there is no technical requirement to segregate local and interexchange traffic. Further, it shall be incumbent upon ILEC to prove that a request for a revised traffic combination is technically infeasible.

1.2 Interconnection Point

1.2.1 "Interconnection Point" or "IP" means the physical point that establishes the technical interface, the test point, and the operational responsibility hand-off between MCIm and ILEC for the local interconnection of their networks.

1.2.2 MCIm shall designate at least one IP in the LATA in which MCIm originates local traffic and interconnects with ILEC. MCIm will be responsible for engineering and maintaining its network on its side of the IP. ILEC will be responsible for engineering and maintaining its network on its side of the IP. If and when the parties choose to interconnect at a mid-span meet, MCIm and ILEC will jointly provision the fiber optic facilities that connect the two networks and shall share the financial and other responsibilities for that facility.

1.2.2.1 Upon MCIm's request for additional points of interconnection, ILEC will interconnect with MCIm at any technically feasible point of MCIm's choosing using the same technical configuration or using other arrangements including but not limited to mid-span fiber meets, entrance facilities, telco closets, and physical or virtual collocation.

1.2.2.2 Within 24 hours of MCIm's request for any IP, ILEC shall provide any information in its possession or available to it regarding the environmental conditions of the IP route or location including, but not limited to, the existence and condition of asbestos, lead paint, hazardous substance contamination, or radon. Information is considered "available" under this Agreement if it is in ILEC's possession, or the possession of a current or former agent, contractor, employee, lessor, or tenant of ILEC's.

1.2.2.3 ILEC shall allow MCIm to perform any environmental site investigations, including, but not limited to, asbestos surveys, MCIm deems to be necessary in support of its collocation needs.

1.2.2.4 If interconnection is complicated by the presence of environmental contamination or hazardous materials, and an alternative route is available, ILEC shall make such alternative route available for MCIm's consideration.

Section 2. Compensation Mechanisms

2.1 Interconnection Point

2.1.1 Each party is responsible for bringing their facilities to the IP.

2.2 Compensation for Call Traffic Transport and Termination

2.2.2 The IP determines the point at which the originating carrier shall pay the terminating carrier for the completion of that traffic. The following compensation elements shall apply:

2.2.2.1 "Transport", which includes the transmission and any necessary tandem switching of local telecommunications traffic from the interconnection point between the two carriers to the terminating carrier's end-office switch that directly serves the called end-user.

2.2.2.2 "Termination", which includes the switching of local telecommunications traffic at the terminating carrier's end office switch.

2.3 When an MCIm customer places a call to ILEC's customer, MCIm will hand off that call to ILEC at the IP. Conversely, when ILEC hands over local traffic to MCIm for MCIm to transport and terminate, ILEC must use the established IP.

2.4 MCIm may designate an IP at any technically feasible point including but not limited to any electronic or manual cross-connect points, collocations, telco closets, entrance facilities, and mid-span meets. The transport and termination charges for local traffic flowing through an IP shall be as follows:

2.4.1 When calls from MCIm are terminating on ILEC's network through the ILEC tandem, MCIm will pay to ILEC transport charges from the IP to the tandem for dedicated or common transport. MCIm shall also pay a charge for tandem switching, dedicated or common transport to the end office (with mileage calculated as the weighted average of all end offices subtending that tandem), and end-office termination.

2.4.2 When ILEC terminates calls to MCIm's subscribers using MCIm's switch, ILEC shall pay to MCIm transport charges from the IP to the MCI Switching Center for dedicated or common transport. ILEC shall also pay to MCIm a charge symmetrical to its own charges for tandem switching, tandem-to-end-office transport, and end office termination as identified in Section 2.4.1.

2.4.3 MCIm may choose to establish direct trunking to any given end office. If MCIm leases trunks from ILEC, it shall pay charges for dedicated or common transport. For calls terminating from MCIm to subscribers served by these directly-trunked end offices, MCIm shall also pay an end-office termination. For ILEC traffic terminating to MCIm over the direct end office trunking,

compensation payable by ILEC shall be the same as that detailed in Section 2.4.2 above.

Section 3. Signaling

3.1 Signaling protocol. The parties will interconnect their networks using SS7 signaling as defined in GR-317 and GR-394 including ISDN User Part ("ISUP") for trunk signaling and Transaction Capabilities Application Part ("TCAP") for CCS-based features in the interconnection of their networks. All Network Operations Forum (NOF) adopted standards shall be adhered to.

3.2 The parties will provide CCS to each other in conjunction with all two-way trunk groups. The parties will cooperate on the exchange of Transactional Capabilities Application Part (TCAP) messages to facilitate full inter-operability of CCS-based features between their respective networks, including all CLASS features and functions. All CCS signaling parameters will be provided including automatic number identification (ANI), originating line information (OLI), calling party category, charge number, etc. All privacy indicators will be honored. For terminating FGD, ILEC will pass CPN if it receives CPN from FGD carriers. All privacy indicators will be honored. Where available, network signaling information such as Transit Network Selection ("TNS") parameter (CCS platform) and CIC/OZZ information (non-CCS environment) will be provided by MCIm wherever such information is needed for call routing or billing. The parties will follow all OBF adopted standards pertaining to TNS and CIC/OZZ codes.

3.3 Refer to Attachment III, Section 15.5 for detailed terms of SS7 Network Interconnection.

3.4 Standard interconnection facilities shall be Extended Superframe (ESF) with B8ZS line code. Where ESF/B8ZS is not available, MCIm will agree to using other interconnection protocols on an interim basis until the standard ESF/B8ZS is available. ILEC will provide anticipated dates of availability for those areas not currently ESF/B8ZS compatible.

3.4.1 Where MCIm is unwilling to utilize an alternate interconnection protocol, MCIm will provide ILEC an initial forecast of 64 Kbps Clear Channel Capability ("64K CCC") trunk quantities within 30 days of executing this Agreement consistent with the forecasting agreements between the parties. Upon receipt of this forecast, the parties will begin joint planning for the engineering, procurement, and installation of the segregated 64K CCC Local Interconnection Trunk Groups, and the associated B8ZS Extended Super Frame ("ESF") facilities, for the sole purpose of transmitting

64K CCC data calls between MCIm and ILEC. Where additional equipment is required, such equipment would be obtained, engineered, and installed on the same basis and with the same intervals as any similar growth job for IXC, CLEC, or ILEC internal customer demand for 64K CCC trunks. Where technically feasible, these trunks will be established as two-way.

Section 4. Network Servicing

4.1 TRUNK FORECASTING:

4.1.1 The parties shall work towards the development of joint forecasting responsibilities for traffic utilization over trunk groups. Orders for trunks that exceed forecasted quantities for forecasted locations will be accommodated as facilities and or equipment are available. parties shall make all reasonable efforts and cooperate in good faith to develop alternative solutions to accommodate orders when facilities are not available. Intercompany forecast information must be provided by the parties to each other twice a year. The semi-annual forecasts shall include:

4.1.1.1 Yearly forecasted trunk quantities (which include measurements that reflect actual tandem and end office Local Interconnection and meet point trunks and tandem-subtending Local Interconnection end office equivalent trunk requirements for no more than two years (current plus one year));

4.1.1.2 The use of Common Language Location Identifier (CLLI-MSG), which are described in Bellcore documents BR 795-100-100 and BR 795-400-100;

4.1.1.3 Description of major network projects that affect the other party will be provided in the semi-annual forecasts. Major network projects include but are not limited to trunking or network rearrangements, shifts in anticipated traffic patterns, or other activities by either party that are reflected by a significant increase or decrease in trunking demand for the following forecasting period.

4.1.2 parties shall meet to review and reconcile their forecasts if forecasts vary significantly.

4.1.2.1 If the parties are unable to reach such a reconciliation, the Local interconnection Trunk Groups shall be provisioned to the higher forecast. At the end of three

months, the utilization of the Local Interconnection Trunk Groups will be reviewed and if the average CCS utilization for the third month is under seventy five percent (75%) of capacity, either party may issue an order to resize the trunk group, which shall be left with not less than twenty five percent (25%) excess capacity.

4.1.2.2 If the parties agree on the original forecast and then it is determined that a trunk group is under seventy five percent (75%) of CCS capacity on a monthly-average basis for each month of any six-month period, either party may issue an order to resize the trunk group, which shall be left with not less than twenty five percent (25%) excess capacity.

4.1.3 Each party shall provide a specified point of contact for planning forecasting and trunk servicing purposes.

4.1.4 Trunking can be established to tandems or end offices or a combination of both via either one-way or two-way trunks. Trunking will be at the DS-0 level, DS-1 level, DS-3/OC-3 level, or higher, as designated by MCIm. Initial trunking will be established between the MCIm switching centers and ILEC's access tandem(s). The parties will utilize direct end office trunking under the following conditions:

4.1.4.1 Tandem exhaust - If a tandem through which the parties are interconnected is unable to, or is forecasted to be unable to, support additional traffic loads for any period of time, the parties will mutually agree on an end office trunking plan that will alleviate the tandem capacity shortage and ensure completion of traffic between MCIm and ILEC subscribers.

4.1.4.2 Traffic volume - The parties shall install and retain direct end office trunking sufficient to handle actual or reasonably forecast traffic volumes, whichever is greater, between an MCIm switching center and a ILEC end office where the traffic exceeds or is forecast to exceed 220,000 minutes of local traffic per month. The parties will install additional capacity between such points when overflow traffic between the MCIm switching center and ILEC access tandem exceeds or is forecast to exceed 220,000 minutes of local traffic per month.

4.1.4.3 Mutual agreement - The parties may install direct end office trunking upon mutual agreement in the absence

of conditions (1) or (2) above and agreement will not unreasonably be withheld.

4.2 GRADE OF SERVICE:

4.2.1 A blocking standard of one percent (.01) during the average busy hour, as defined by each party's standards, for final trunk groups between a MCIm end office and a ILEC access tandem carrying meet point traffic shall be maintained. All other final trunk groups are to be engineered with a blocking standard of one percent (.01). Direct end office trunk groups are to be engineered with a blocking standard of one percent (.01).

4.3 TRUNK SERVICING

4.3.1 Orders between the parties to establish, add, change or disconnect trunks shall be processed by use of an Access Service Request (ASR), or another industry standard eventually adopted to replace the ASR for local service ordering.

4.3.2 As discussed in this Agreement, both parties will jointly manage the capacity of Local Interconnection Trunk Groups. ILEC's [Trunk Servicing Group] will send a Trunk Group Service Request (TGSR) to MCIm to trigger changes ILEC desires to the Local Interconnection Trunk Groups based on ILEC's capacity assessment. MCIm will issue an ASR to ILEC:

4.3.2.1 within 10 business days after receipt of the TGSR upon review of and in response to ILEC's TGSR, or

4.3.2.2 at any time as a result of MCIm's own capacity management assessment, to begin the provisioning process.

4.3.3 The standard interval used for the provisioning of Local Interconnection Trunk Groups shall be determined by Customer Desired Due Date, but in no event shall it be longer than ten (10) working days.

4.3.4 Orders that comprise a major project that directly impacts the other party may be submitted at the same time, and their implementation shall be jointly planned and coordinated. Major projects are those that require the coordination and execution of multiple orders or related activities between and among ILEC and MCIm work groups, including but not limited to the initial establishment of Local Interconnection or Meet Point trunk groups

and service in an area, NXX code moves, re-homes, facility grooming, or network rearrangements.

4.3.5 MCIm and ILEC agree to exchange escalation lists which reflect contact personnel including vice president-level officers. These lists shall include name, department, title, phone number, and fax number for each person. MCIm and ILEC agree to exchange an up-to-date list on a quarterly basis.

Section 5. Network Management

5.1 Protective Protocols

5.1.1 Either party may use protective network traffic management controls such as 7-digit and 10-digit code gaps on traffic toward each others network, when required to protect the public switched network from congestion due to facility failures, switch congestion or failure or focused overload. MCIm and ILEC will immediately notify each other of any protective control action planned or executed.

5.2 Expansive Protocols

5.2.1 Where the capability exists, originating or terminating traffic reroutes may be implemented by either party to temporarily relieve network congestion due to facility failures or abnormal calling patterns. Reroutes will not be used to circumvent normal trunk servicing. Expansive controls will only be used when mutually agreed to by the parties.

5.3 Mass Calling

5.3.1 MCIm and ILEC shall cooperate and share pre-planning information, where available, regarding cross-network call-ins expected to generate large or focused temporary increases in call volumes, to prevent or mitigate the impact of these events on the public switched network.

Section 6. Busy Line Verify And Interrupt

6.1 Description: Each party shall establish procedures whereby its operator bureau will coordinate with the operator bureau of the other party in order to provide Busy Line Verification ("BLV") and Busy Line Verification and Interrupt ("BLVI") services on calls between their respective end users on or before the effective date of this agreement.

6.2 Compensation: Each party shall charge the other party for BLV and BLVI at rates specified in Attachment I.

Section 7. Usage Measurement

7.1 Each party shall calculate terminating interconnection minutes of use based on standard Automatic Message Accounting (AMA) recordings made within each party's network, these recordings being necessary for each party to generate bills to the other party.

7.2 Measurement of minutes of use over Local Interconnection Trunk groups shall be in actual conversation seconds. The total conversation seconds over each individual Local Interconnection Trunk Group will be totaled for the entire monthly bill-round and then rounded to the next whole minute.

7.3 Each party shall provide to the other, within 20 calendar days after the end of each quarter (commencing with the first full quarter after the effective date of this Agreement), a usage report with the following information regarding traffic terminated over the Local Interconnection Trunk Groups:

7.3.1 Total traffic volume described in terms of minutes and messages and by call type (local, toll, and other) terminated to each other over the Local Interconnection Trunk Groups, and

7.3.2. Percent Local Use (PLU)

Section 8. Responsibilities Of The parties

8.1 ILEC and MCIm agree to treat each other fairly, nondiscriminatorily, and equally for all items included in this Agreement, or related to the support of items included in this Agreement.

8.2 MCIm and ILEC agree to exchange such reports and/or data as provided in this Attachment in Section 7 to facilitate the proper billing of traffic. Either party may request an audit of such usage reports on no fewer than 10 business days' written notice and any audit shall be accomplished during normal business hours at the office of the party being audited. Such audit must be performed by a mutually agreed-to independent auditor paid for by the party requesting the audit and may include review of the data described in Section 7 above. Such audits shall be requested within six months of having received the PLU factor and usage reports from the other party.

8.3 MCIm and ILEC will review engineering requirements on a semi-annual basis and establish forecasts for trunk and facilities utilization provided under this Agreement. ILEC and MCIm will work together to begin providing these forecasts within 30 days from the Effective Date of this Agreement. New trunk groups will be implemented as dictated by engineering requirements for either ILEC or MCIm.

8.4 MCIm and ILEC shall share responsibility for all Control Office functions for Local Interconnection Trunks and Trunk Groups, and both parties shall share the overall coordination, installation, and maintenance responsibilities for these trunks and trunk groups.

8.5 MCIm is responsible for all Control Office functions for the meet point trunking arrangement trunks and trunk groups, and shall be responsible for the overall coordination, installation, and maintenance responsibilities for these trunks and trunk groups.

8.6 MCIm and ILEC shall:

8.6.1 Provide trained personnel with adequate and compatible test equipment to work with each other's technicians.

8.6.2 Notify each other when there is any change affecting the service requested, including the due date.

8.6.3 Coordinate and schedule testing activities of their own personnel, and others as applicable, to ensure its interconnection trunks/trunk groups are installed per the interconnection order, meet agreed-upon acceptance test requirements, and are placed in service by the due date.

8.6.4 Perform sectionalization to determine if a trouble is located in its facility or its portion of the interconnection trunks prior to referring the trouble to each other.

8.6.5 Advise each other's Control Office if there is an equipment failure which may affect the interconnection trunks.

8.6.6 Provide each other with a trouble reporting/repair contact number that is readily accessible and available 24 hours/7 days a week. Any changes to this contact arrangement must be immediately provided to the other party.

8.6.7 Provide to each other test-line numbers and access to test lines.

8.6.8 Cooperatively plan and implement coordinated repair procedures for the meet point and Local Interconnection Trunks and facilities to ensure trouble reports are resolved in a timely and appropriate manner.

ATTACHMENT V

COLLOCATION

Section 1. Introduction

This Attachment sets forth the requirements for Collocation.

Section 2. Technical Requirements

2.1 ILEC shall provide space, as requested by MCIm, to meet MCIm's needs for placement of equipment, interconnection, or provision of service.

2.1.1. Within twenty-four (24) hours of MCIm's request for any space, ILEC shall provide any information in its possession or available to it regarding the environmental conditions of the space provided for placement of equipment and interconnection, including, but not limited to, the existence and condition of asbestos, lead paint, hazardous substance contamination, or radon. Information is considered "available" under this Agreement if it is in ILEC's possession, or the possession of a current or former agent, contractor, employee, lessor, or tenant of ILEC's.

2.1.2 ILEC shall allow MCIm to perform any environmental site investigations, including, but not limited to, asbestos surveys, which MCIm deems to be necessary in support of its collocation needs.

2.1.3 If the space provided for the placement of equipment, interconnection, or provision of service contains environmental contamination or hazardous material, particularly but not limited to asbestos, lead paint or radon, which makes the placement of such equipment or interconnection hazardous, ILEC shall offer an alternative space, if available, for MCIm's consideration.

2.1.4 MCIm shall provide ILEC with a list of hazardous materials that are contained in any equipment it places in space provided by ILEC prior to placement of the equipment in the space.

2.2 ILEC shall provide intraoffice facilities (e.g., DS0, DS1, DS3, OC3, OC12, OC48, and STS-1 terminations) as requested by MCIm to meet MCIm's need for placement of equipment, interconnection, or provision of service.

2.3 ILEC agrees to allow MCIm's employees and designated agents unrestricted access to MCIm dedicated space in manned ILEC offices twenty-four (24) hours per day each day of the week. ILEC may place reasonable security restrictions on access by MCIm's employees and designated agents to the MCIm collocated space in unmanned ILEC offices. Notwithstanding, ILEC agrees that such space shall be available to MCIm's employees and designated agents twenty-four (24) hours per day each day of the week. In no case should any reasonable security restrictions be more restrictive than those ILEC places on their own personnel.

2.4 MCIm may collocate the amount and type of equipment it deems necessary in its collocated space (e.g., MCIm utilizing its SONET termination equipment in the collocated space to provide a hub for OC3/OC48 rings). ILEC shall not restrict the types of equipment or vendors of equipment to be installed.

2.5 ILEC shall permit a collocating telecommunications carrier to interconnect its network with that of another collocating telecommunications carrier at the ILEC premises and to connect its collocated equipment to the collocated equipment of another telecommunications carrier within the same premises.

2.6 ILEC shall permit MCIm to subcontract the construction of physical collocation arrangements with contractors approved by the ILEC, provided, however, that the ILEC shall not unreasonably withhold approval of contractors. Approval by an ILEC shall be based on the same criteria it uses in approving contractors for its own purposes.

2.7 ILEC shall provide basic telephone service with a connection jack as requested by MCIm from ILEC for the collocated space. Upon MCIm's request, this service shall be available at the MCIm collocated space on the day that the space is turned over to MCIm by ILEC.

2.8 ILEC shall provide adequate lighting, ventilation, power, heat, air conditioning, and other environmental conditions for MCIm's space and equipment. These environmental conditions shall adhere to Bell Communication Research (Bellcore) Network Equipment-Building System (NEBS) standards TR-EOP-000063 or other standards which MCIm may designate.

2.9 ILEC shall provide access to bathrooms, and drinking water within the collocated facility on a twenty-four (24) hours per day, seven (7) days per week basis for MCIm personnel and its designated agents.

2.10 ILEC shall provide all ingress and egress of fiber and power cabling to MCIm collocated spaces in compliance with MCIm's cable diversity standards. The specific level of diversity required for each site or Network Element will be provided in the collocation request.

2.11 ILEC shall ensure protection of MCIm's proprietary customer information. Any collocation arrangement shall include provisions for ILEC protecting MCIm's proprietary information.

2.12 ILEC shall participate in and adhere to negotiated service guarantees, and Performance Standards

2.13 ILEC shall provide MCIm with written notice five (5) business days prior to those instances where ILEC or its subcontractors may be performing work in the general area of the collocated space occupied by MCIm, or in the general area of the AC and DC power plants which support MCIm equipment. ILEC will inform MCIm by telephone of any emergency related activity that ILEC or its subcontractors may be performing in the general area of the collocated space occupied by MCIm, or in the general area of the AC and DC power plants which support MCIm equipment. Notification of any emergency related activity shall be made immediately prior to the start of the activity so that MCIm can take any action required to monitor or protect its service.

2.14 ILEC shall construct the collocated space in compliance with MCIm's collocation request. Any deviation to MCIm's request must be approved.

2.15 MCIm and ILEC will complete an acceptance walk through of collocated space requested from ILEC. Exceptions that are noted during this acceptance walk through shall be corrected by ILEC within five (5) days after the walk through. The correction of these exceptions from the original collocation request shall be at ILEC's expense.

2.16 ILEC shall provide Telephone drawings depicting the exact location, type, and cable termination requirements (i.e., connector type, number and type of pairs, and naming convention) for ILEC Point of Termination Bay(s) to MCIm within five (5) days of acceptance of MCIm's request for collocated space.

2.17 ILEC shall provide detailed drawings depicting the exact path, with dimensions, for MCIm Outside Plant Fiber ingress and egress into MCIm collocated space within five (5) days of the acceptance of MCIm's request for collocated space. Such path and any areas around it in which MCIm must work to perform installation shall be free of friable asbestos, lead paint (unless encapsulated), radon and other health or safety hazards.

2.18 ILEC shall provide detailed power cabling connectivity information including the sizes and number of power feeders to MCIm within ten (10) days of the acceptance of MCIm's request for collocated space.

2.19 ILEC shall provide positive confirmation to MCIm when construction of MCIm collocated space is 50% completed. This confirmation shall also include confirmation of the scheduled completion and turnover dates.

2.20 MCIm shall be compensated by ILEC in accordance with Attachment X for any delays in the negotiated completion and turnover dates which create expenditures or delays to MCIm.

2.21 ILEC shall provide the following information to MCIm within five (5) business days of receipt of a written request from MCIm:

2.21.1 Work restriction guidelines.

2.21.2 ILEC or Industry technical publication guidelines that impact the design of ILEC collocated equipment.

2.21.3 ILEC contacts (names and telephone numbers) for the following areas:

Engineering
Physical & Logical Security
Provisioning
Billing
Operations
Site and Building Managers
Environmental and Safety

2.21.4 Escalation process for the ILEC employees (names, telephone numbers and the escalation order) for any disputes or problems that might arise pursuant to MCIm's collocation.

2.22 Power as referenced in this document refers to any electrical power source supplied by ILEC for MCIm equipment. It includes all superstructure, infrastructure, and overhead facilities, including, but not limited to, cable, cable racks and bus bars. ILEC will supply power to support MCIm equipment at equipment specific DC and AC voltages. At a minimum, ILEC shall supply power to MCIm at parity with that provided by ILEC to itself or to any third party. If ILEC performance, availability, or restoration falls below industry standards, ILEC shall bring itself into compliance with such industry standards as soon as technologically feasible.

2.22.1 Central office power supplied by ILEC into the MCIm equipment area, shall be supplied in the form of power feeders (cables) on cable racking into the designated MCIm equipment area. The power feeders (cables) shall efficiently and economically support the requested quantity and capacity of MCIm equipment. The termination location shall be as requested by MCIm.

2.22.2 ILEC shall provide power as requested by MCIm to meet MCIm's need for placement of equipment, interconnection, or provision of service.

2.22.3 ILEC power equipment supporting MCIm's equipment shall:

2.22.3.1 Comply with applicable industry standards (e.g., Bellcore, NEBS and IEEE) or manufacturer's equipment power requirement specifications for equipment installation, cabling practices, and physical equipment layout;

2.22.3.2 Have redundant power feeds with physical diversity and battery back-up as required by the equipment manufacturer's specifications for MCIm equipment, or, at minimum, at parity with that provided for similar ILEC equipment;

2.22.3.3 Provide, upon MCIm's request, the capability for real time access to performance monitoring and alarm data that impacts (or potentially may impact) MCIm traffic;

2.22.3.4 Provide central office ground, connected to a ground electrode located within the MCIm collocated space, at a level above the top of MCIm equipment plus or minus 2 feet to the left or right of MCIm's final request; and

2.22.3.5 Provide feeder capacity and quantity to support the ultimate equipment layout for MCIm equipment in accordance with MCIm's collocation request.

2.22.3.6 ILEC shall, within ten (10) days of MCIm's request:

2.22.3.6.1 Provide documentation submitted to and received from contractors for any contractor bids for any work being done on behalf of MCIm (this includes, but is not limited to, power supplies, and cage construction);

2.22.3.6.2 Provide an installation sequence and access that will allow installation efforts in parallel without jeopardizing personnel safety or existing MCIm services;

2.22.3.6.3 Provide power plant alarms that adhere to Bell Communication Research (Bellcore) Network Equipment-Building System (NEBS) standards TR-EOP-000063;

2.22.3.6.4 Provide cabling that adheres to Bell Communication Research (Bellcore) Network Equipment-Building System (NEBS) standards TR-EOP-000063;

2.22.3.6.5 Provide Lock Out-Tag Out and other electrical safety procedures and devices in conformance with the most stringent of OSHA or industry guidelines.

2.22.4 ILEC will provide MCIm with written notification within ten (10) business days of any scheduled AC or DC power work or related activity in the collocated facility that will or might cause an outage or any type of power disruption to MCIm equipment located in ILEC facility. ILEC shall provide MCIm immediate notification by telephone of any emergency power activity that would impact MCIm equipment.

2.23 ILEC shall be required to expand its facilities or obtain additional space to make the necessary collocation space available pursuant to requests made under this Attachment.

2.24 Intervals for physical collocation shall be a maximum of three months from the requested date. Virtual collocations will have a maximum interval of 2 months.

2.25 MCIm shall be allowed to install equipment of its choice provided that it meets Bellcore specifications and is an ILEC approved vendor. Approved vendors will, at minimum, be vendors the ILEC currently approves for their own use. ILEC will approve additional vendors provided they meet Bellcore standards.

2.26 MCIm may choose to lease unbundled transport from the ILEC, or from a third carrier, rather than construct to the ILED facility where equipment will be collocated.

2.27 ILEC will maintain MCIm's virtually collocated equipment in a manner equal to, or better than, how it maintains its own equipment. Maintenance includes the change out of electronic cards provided by MCIm and per MCIm's request.

Section 3. License

ILEC shall grant MCIm a license to occupy any premises or rack space which contain collocated equipment for the Term of the Agreement.

Section 4. Technical References

ILEC shall provide collocation in accordance with the following standards:

4.1 Institute of Electrical and Electronics Engineers (IEEE) Standard 383, IEEE Standard for Type Test of Class 1 E Electric Cables, Field Splices, and Connections for Nuclear Power Generating Stations.

4.2 National Electrical Code (NEC) use latest issue.

4.3 TA-NPL-000286, NEBS Generic Engineering Requirements for System Assembly and Cable Distribution, Issue 2, (Bellcore, January 1989).

4.4 TR-EOP-000063 Network Equipment-Building System (NEBS) Generic Equipment Requirements, Issue 3, March 1988.

4.5 TR-EOP-000151, Generic Requirements for 24-, 48-, 130-, and 140-Volt Central Office Power Plant Rectifiers, Issue 1, (Bellcore, May 1985).

4.6 TR-EOP-000232, Generic Requirements for Lead-Acid Storage Batteries, Issue 1 (Bellcore, June 1985).

4.7 TR-NWT-000154, Generic Requirements for 24-, 48-, 130, and 140-Volt Central Office Power Plant Control and Distribution Equipment, Issue 2, (Bellcore, January 1992).

4.8 TR-NWT-000295, Isolated Ground Planes: Definition and Application to Telephone Central Offices, Issue 2, (Bellcore, July 1992).

4.9 TR-NWT-000840, Supplier Support Generic Requirements (SSGR), (A Module of LSSGR, FR-NWT-000064), Issue 1, (Bellcore, December 1991).

4.10 TR-NWT-001275 Central Office Environment Installations/Removal Generic Requirements, Issue 1, January 1993.

4.11 Underwriters' Laboratories Standard, UL 94.

ATTACHMENT VI

Rights of Way (ROW), Conduits, Pole Attachments

Section 1. Introduction

This attachment sets forth the requirements for Rights of Way, Conduits and Pole Attachments.

Section 2. Definitions

2.1 "Poles, ducts, conduits and ROW" refer to all the physical facilities and legal rights which provide for access to pathways across public and private property. These include poles, pole attachments, ducts, innerducts, conduits, building entrance facilities, building entrance links, equipment rooms, remote terminals, cable vaults, telephone closets, building risers, rights of way, or any other requirements needed to create pathways. These pathways may run over, under, across or through streets, traverse private property, or enter multi-unit buildings. A Right of Way ("ROW") is the right to use the land or other property owned, leased, or controlled by any means by ILEC to place Poles, ducts, conduits and ROW or to provide passage to access such Poles, ducts, conduits and ROW. A ROW may run under, on, or above public or private property (including air space above public or private property) and shall include the right to use discrete space in buildings, building complexes, or other locations.

Section 3. Requirements

3.1 ILEC shall make Poles, duct, conduits and ROW available to MCIm upon receipt of a request for use within the time periods provided in this Attachment VI, providing all information necessary to implement such a use and containing rates, terms and conditions, including, but not limited to, maintenance and use in accordance with this Agreement and at least equal to those which it affords itself , its Affiliates and others. Other users of these facilities, including ILEC, shall not interfere with the availability or use of the facilities by MCIm.

3.2 Within 24 hours of MCIm's request for any Poles, ducts, conduits, or ROW, ILEC shall provide any information in its possession or available to it regarding the environmental conditions of the Poles, ducts, conduits or ROW route or location including, but not limited to, the existence and condition of asbestos, lead paint, hazardous substance contamination, or

radon. Information is considered "available" under this Agreement it is in ILEC's possession, or the possession of a current or former agent, contractor, employee, lessor, or tenant of ILEC's. If the Poles, ducts, conduits or ROW contain such environmental contamination, making the placement of equipment hazardous, ILEC shall offer alternative Poles, ducts, conduits or ROW for MCIm's consideration. ILEC shall complete an Environmental, Health and Safety Questionnaire for each work location MCIm requests or ILEC suggests as a site to be covered under this Agreement. ILEC shall return the completed questionnaire to MCIm within ten (10) days and shall allow MCIm to perform any environmental site investigations, including, but not limited to, Phase I and Phase II environmental site assessments, as MCIm may deem to be necessary.

3.3 ILEC shall not prevent or delay any third party assignment of ROW to MCIm.

3.4 ILEC shall offer the use of such Poles, ducts, conduits and ROW it has obtained from a third party to MCIm, to the extent such agreement does not prohibit ILEC from granting such rights to MCIm. They shall be offered to MCIm on the same terms as are offered to ILEC.

3.5 ILEC shall provide MCIm equal and non-discriminatory access to Poles, ducts, conduit and ROW and any other pathways on terms and conditions equal to that provided by ILEC to itself or to any other party. Further, ILEC shall not preclude or delay allocation of these facilities to MCIm because of the potential needs of itself or of other parties, except a maintenance spare may be retained as described below.

3.6 ILEC shall not attach, or permit other entities to attach facilities on, within or overlashed to existing MCIm facilities without MCIm's prior written consent.

3.7 ILEC agrees to produce current detailed engineering and other plant records and drawings of Poles, ducts, conduit and ROW, as well as cost data, within a reasonable time frame, which in no case shall exceed two (2) business days following MCIm's request for access to such engineering, cost data and other plant records and drawings of additional Poles, ducts, conduits and ROW in selected areas as specified by MCIm. Such information shall be of equal type and quality as that of ILEC's own engineering and operations staff. ILEC shall also allow personnel designated by MCIm to examine such engineering records and drawings at ILEC Central Offices and ILEC Engineering Offices upon two (2) days notice to ILEC.

3.8 ILEC shall provide to MCIm a Single Point of Contact for negotiating all structure lease and ROW agreements.

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3.9 ILEC shall provide information regarding the availability and condition of Poles, ducts, conduit and ROW within twenty (20) business days of MCIm's request for use of Poles, ducts, conduits and ROW ("Request") regardless of whether the information then exists in ILEC's records or if ILEC must physically examine the ROW, conduit or pole attachments. MCIm shall have the option to be present at the field based survey and ILEC shall provide MCIm at least twenty-four (24) hours notice prior to the start of such field survey. During and after this period, ILEC shall allow MCIm personnel to enter manholes and equipment spaces and view pole structures to inspect such structures in order to confirm usability or assess the condition of the structure. ILEC shall send MCIm a written notice confirming availability pursuant to the Request within such 20 day period ("Confirmation").

3.10 For the period beginning at the time of the Request and ending ninety (90) days following Confirmation, ILEC shall reserve such Poles, ducts, conduit and ROW for MCIm and shall not allow any use thereof by any party, including ILEC. MCIm shall elect whether or not to accept such Poles, ducts, conduit and ROW within such 90 day period. MCIm may accept such facilities by sending written notice to ILEC ("Acceptance").

3.11 After Acceptance by MCIm, MCIm shall have six (6) months to begin attachment and/or installation of its facilities to the Poles, ducts, conduit and ROW or request ILEC to begin make ready or other construction activities. Any such construction, installation or make ready shall be completed by the end of one (1) year after Acceptance. MCIm shall not be in default of the 6 month or 1 year requirement above if such default is caused in any way by any action, inaction or delay on the part of ILEC or its affiliates or subsidiaries. After Acceptance, ILEC shall complete any work required to be performed by ILEC or any ILEC work requested by MCIm within 30 days of such time the work is required or within 30 days of the time such work is requested by MCIm, whichever time is earlier. MCIm shall begin payment for the use of the Poles, ducts, conduit and ROW upon the earlier of: 1) completion of construction and installation of the facilities and confirmation by appropriate testing methods to be in a condition ready to operate in MCIm's network or 2) 6 months after Acceptance.

3.12 ILEC shall relocate and/or make ready existing Poles, ducts, conduit and ROW where necessary and feasible to provide space for MCIm's requirements. Subject to the requirements above, the parties shall endeavor to mutually agree upon the time frame for the completion of such work within five (5) days following MCIm's requests of this work; however, any such work required to be performed by ILEC shall be completed with 30 days, unless otherwise agreed by MCIm in writing.

3.13 MCIm may, at its option, install its facilities on Poles, ducts, conduit and ROW and use MCIm or MCIm designated personnel to attach its equipment to such ILEC Poles, ducts, conduits and ROW.

3.14 ILEC shall provide MCIm space in manholes for racking and storage of cable and other materials as requested by MCIm.

3.15 ILEC shall remove any retired cable from conduit systems or poles to allow for the efficient use of conduit space and pole space. ILEC must expand its facilities, including placement of taller poles or additional conduits, if necessary, to accommodate MCIm's request.

3.16 Where ILEC has spare innerducts which are not, at that time, being used for providing its services, ILEC shall offer such ducts for MCIm's use. ILEC shall not reserve more than one inner duct in any conduit cross section for emergency purposes. Any other spare innerduct or conduit shall be available for use by MCIm. Where only two inner ducts remain available (including an emergency spare), ILEC shall offer MCIm the use of at least one innerduct.

3.17 Where a spare inner duct does not exist, ILEC shall allow MCIm to install an inner duct in ILEC conduit.

3.18 Where ILEC has any ownership or other rights to ROW to buildings or building complexes, or within buildings or building complexes, ILEC shall offer to MCIm:

3.18.1 The right to use any spare metallic and fiber optic cabling within the building or building complex;

3.18.2 The right to use any spare metallic and fiber optic cable from the property boundary into the building or building complex:

3.18.3 The right to use any available space owned or controlled by ILEC in the building or building complex to install MCIm equipment and facilities;

3.18.4 Ingress and egress to such space; and

3.18.5 The right to use electrical power at parity with ILEC's rights to such power.

3.19 Whenever ILEC intends to modify or alter any Poles, ducts, conduits or ROW which contains MCIm's facilities, ILEC shall provide written notification of such action to MCIm so that MCIm may have a

reasonable opportunity to add to or modify MCIm's facilities. If MCIm adds to or modifies MCIm's facilities according to this paragraph, MCIm shall bear a proportionate share of the costs incurred by ILEC in making such facilities accessible.

3.20 MCIm shall not be required to bear any of the costs of rearranging or replacing its facilities, if such rearrangement or replacement is required as a result of an additional attachment or the modification of an existing attachment sought by any entity other than MCIm, including ILEC.

3.21 ILEC shall maintain the Poles, ducts, conduits and ROW at its sole cost. MCIm shall maintain its own facilities installed within the Poles, ducts, conduits and ROW at its sole cost. In the event of an emergency, ILEC shall begin repair of its facilities containing MCIm's facilities within two (2) hours of notification by MCIm. If ILEC cannot begin repair within such 2 hour period, MCIm may begin such repairs without the presence of ILEC personnel. MCIm may climb poles and enter the manholes, handholes, conduits and equipment spaces containing ILEC's facilities in order to perform such emergency maintenance, but only until such time as qualified personnel of ILEC arrives ready to continue such repairs. For both emergency and non-emergency repairs, MCIm may use spare innerduct or conduits, including the innerduct or conduit designated by ILEC as emergency spare for maintenance purposes; however, MCIm may only use such spare conduit or innerduct for a maximum period of 90 days.

3.22 In the event of a relocation necessitated by a governmental entity exercising the power of eminent domain, when such relocation is not reimbursable, ILEC shall be solely responsible for all costs of relocation of the Poles, ducts, conduits and ROW and MCIm shall pay only the costs of any new MCIm facilities and the costs of installation of the facilities in the newly rebuilt ILEC Poles, ducts, conduits and ROW.

Section 4. Unused Transmission Media

4.1 Definitions:

4.1.1 Unused Transmission Media transmission facilities (e.g., optical fiber, copper twisted pairs, coaxial cable) which have no lightwave or electronic transmission equipment.

4.1.2 Dark Fiber, one type of unused transmission media, is unused strands of optical fiber. Dark Fiber also includes strands of optical fiber which may or may not have lightwave repeater (regenerator or optical amplifier) equipment interspliced, but which has no line terminating facilities terminated to such strands. Dark

Fiber also means unused wavelengths within a fiber strand for purposes of coarse or dense wavelength division multiplexed (WDM) applications. Typical single wavelength transmission involves propagation of optical signals at single wavelengths (1.3 or 1.55 micron wavelengths). In WDM applications, a WDM device is used to combine optical signals at different wavelengths on to a single fiber strand. The combined signal is then transported over the fiber strand. For coarse WDM applications, one signal each at 1.3 micron and 1.55 micron wavelength are combined. For dense WDM applications, many signals in the vicinity of 1.3 micron wavelength and/or 1.55 micron wavelength are combined. Spare wavelengths on a fiber strand (for coarse or dense WDM) are considered Dark Fiber.

4.2 Requirements

4.2.1 ILEC shall make available Unused Transmission Media to MCIm under an Indefeasible Right of Use or license agreement on terms at least equal to those which it affords itself and its affiliates, subsidiaries and others.

4.2.2 ILEC shall provide a Single Point of Contact (SPOC) for negotiating all Unused Transmission Media lease agreements.

4.2.3 MCIm may test the quality of the Unused Transmission Media to confirm its usability and performance specifications.

4.2.4 ILEC shall provide to MCIm information regarding the location, availability and performance of Unused Transmission Media within five (5) business days for a records based answer and ten (10) business days for a field based answer, after receiving a request from MCIm ("Request"). Within such time period, ILEC shall send written confirmation of availability of the Unused Transmission Media ("Confirmation"). From the time of the Request to 90 days after Confirmation, ILEC shall reserve such requested Unused Transmission Media for MCIm's use and may not allow any other party to use such media, including ILEC.

4.2.5 ILEC shall make Unused Transmission Media available for MCIm's use within twenty (20) business days after it receives written acceptance from MCIm that the Unused Transmission Media previously reserved by ILEC is wanted for use by MCIm. This includes identification of appropriate connection points (e.g., Light Guide Interconnection (LGX) or splice points) to enable MCIm to connect or splice MCIm provided transmission media (e.g., optical fiber) or equipment to the Unused Transmission Media.

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4.2.6 ILEC shall be required to expand or overbuild its network and capacity to accommodate requests under this Attachment

4.3 Requirements Specific to Dark Fiber

4.3.1 MCIm may splice and test Dark Fiber leased from ILEC using MCIm or MCIm designated personnel. ILEC shall provide appropriate interfaces to allow splicing and testing of Dark Fiber. ILEC shall provide an excess cable length of 25 feet minimum (for fiber in underground conduit) to allow the uncoiled fiber to reach from the manhole to a splicing van.

4.3.2 For WDM applications, ILEC shall provide to MCIm an interface to an existing WDM device or allow MCIm to install its own WDM device (where sufficient system loss margins exist or where MCIm provides the necessary loss compensation) to multiplex the traffic at different wavelengths. This applies to both the transmit and receive ends of the Dark Fiber.

ATTACHMENT VII

NUMBER PORTABILITY

Section 1. ILEC Provision of Number Portability

ILEC shall provide number portability in accordance with requirements of the Act and FCC Rules and Regulations. Currently available number portability (INP) shall be provided by ILEC to MCIm in accordance with FCC Rules and Regulations. INP shall be provided with minimum impairment of functionality, quality, reliability and convenience to subscribers of MCIm services. ILEC shall provide number portability in conformance with FCC Rules and Regulations and the Act.

Section 2. Interim Number Portability (INP)

INP shall be provided by Remote Call Forwarding ("RCF") or Direct Inward Dialing (DID) on Route Indexing (RI). In providing RCF ILEC agrees to provide Route Indexing and LERG reassignment in every local service office. MCIm shall specify on a per telephone number basis which method of INP is to be employed and ILEC shall provide such method to the extent technically feasible.

2.1 Remote Call Forwarding: Remote Call Forwarding (RCF) is an INP method to provide subscribers with service-provider portability by redirecting calls within the telephone network. When RCF is used to provide interim number portability, calls to the ported number will first route to the ILEC switch to which the ported number was previously assigned. The ILEC switch will then forward the call to a number associated with the MCIm designated switch to which the number is ported. MCIm shall not be required to order any additional paths to handle multiple simultaneous calls to the same ported telephone number.

2.2 DID is an INP method that makes use of direct inward dialing trunks. Each DID trunk group used for INP is dedicated to carrying FLEX-DID INP traffic between the ILEC end office and the MCIm switch. Traffic on these trunks cannot overflow to other trunks, so the number of trunks shall be conservatively engineered by ILEC. Also, inter-switch signaling is usually limited to multi-frequency (MF). This precludes passing CLID to the MCIm switch.

2.3 Route Indexing: Route Indexing may take two forms: Route Index-Portability Hub (RI-PH) or Directory Number-Route Index (DN-RI).

2.3.1 RI-PH will route a dialed call to the ILEC switch associated with the NXX of the dialed number. The ILEC switch shall then insert a prefix onto the dialed number which identifies how the call is to be routed to MCIm. The prefixed dialed number is transmitted to the ILEC tandem switch to which MCIm is connected.

The prefix is removed by the operation of the tandem switch and the dialed number is routed to MCIm's switch so the routing of the call can be completed by MCIm.

2.3.2 ON-RI is a form of RI-PH that requires direct trunking between the ILEC switch to which the ported number was originally assigned and the MCIm switch to which the number has been ported. The ILEC switch shall send the originally dialed number to the MCIm switch without a prefix.

2.3.3 ILEC shall provide RI-PH or ON-RI on an individual telephone number basis, as designated by MCIm. Where technically feasible, MCIm may designate both methods so that calls to ported numbers are first directed to the MCIm switch over direct trunks but may overflow to tandem trunks if all trunks in the direct group are occupied.

2.3.4 For both RI-PH and ON-RI the trunks used may, at MCIm's option, be the same as those used for exchange of other local traffic and toll traffic with ILEC. At MCIm's option, the trunks shall employ SS7 or in band signaling and may be one way or two way.

2.4 LERG Reassignment: Portability for an entire NXX or thousands block (NXX-X) of numbers shall be provided by utilizing reassignment of the block to MCIm through the Local Exchange Routing Guide (LERG). Updates to translations in the ILEC switching office from which the telephone number is ported will be made by the ILEC prior to the date on which LERG changes become effective, in order to redirect calls to the MCIm switch via route indexing.

2.5 Other Currently Available Number Portability Provisions:

2.5.1 ILEC shall exchange with MCIm, SS7 TCAP messages as required for the implementation of Custom Local Area Signaling Services (CLASS) or other features available in the ILEC network.

2.5.2 ILEC shall disclose to MCIm any technical or capacity limitations that would prevent use of a requested INP in a particular switching office. ILEC and MCIm shall cooperate in the process of porting numbers to minimize customer out-of-service time,

including updating switch translations where necessary within five (5) minutes after notification that physical cut-over has been completed (or initiated), as MCIm may designate.

2.5.3 For INP, MCIm shall have the right to use the existing ILEC 911 infrastructure for all 911 capabilities. When RCF is used for MCIm subscribers, both the ported numbers and shadow numbers shall be stored in PSAP databases. MCIm shall have the right to verify the accuracy of the information in the PSAP databases.

2.5.4 When RCF is used to port a subscriber, the donor provider must maintain the Line Information Database (LIDB) record for that number to reflect appropriate conditions as reported to it by the porting service provider. The donor must outclear call records to MCIm for billing and collection from the subscriber. MCIm shall receive revenue for LIDB look-ups.

2.5.5 LEC should send a CARE transaction 2231 to notify IXC that access is now provided by a new CLEC for that number.

Section 3. Number Portability (NP)

3.1.1 The requirements for NP shall include the following:

3.1.2 Subscribers must be able to change local service providers and retain the same telephone number(s) consistent with FCC rules and regulations.

3.1.3 The NP network architecture shall not subject alternate local exchange carriers to any degradation of service compared to ILEC in any relevant measure, including transmission quality, switching and transport costs, increased call set-up time and post-dial delay, and MCIm shall not be required to rely on the ILEC network for calls completing to its ported customers.

3.1.4 When an office is equipped with NP, all NXXs in the office shall be defined as portable and translations will be changed in all service provider switches to open those NXXs for database queries. If a switch serves multiple rate centers, then at a minimum, all of the NXXs for a rate center in that switch shall be made portable when any one of them is turned up.

3.1.5 When an NXX is defined as portable, it shall also be defined as portable in all LRN-capable offices which have direct trunks to the given switch.

3.1.6 Upon introduction of LRN in a market area, the tandems (local and access) shall be among the first converted, with no unreasonable delay. All portable NXXs shall be recognized in these tandems as portable, with queries launched from these switches.

3.1.7 Upon introduction of LRN in a market area, the switches that provide dial tone to Public Service Answering Point (PSAP) call centers shall be among the first converted and opened for LRN to allow queries to be launched from these switches. There shall be no unreasonable delay in these conversions.

3.1.8 When a subscriber ports to another service provider, the donor provider shall use information provided by the porting provider to update the 911 tandem switch routing tables and 911/ALI database to correctly route, and provide accurate information to Public Service Answering Point (PSAP) call centers.

3.1.9 When a subscriber ports to another service provider and has previously secured a reservation of line numbers from the donor provider for possible activation at some future point, these reserved but inactive numbers shall "port" along with the active numbers being ported by the subscriber in order to ensure that the end user subscriber will be permitted to expand its service using the same number range it could use if it remained with the donor provider.

3.1.10 During the process of porting a subscriber, the donor service provider shall implement the 10-Digit trigger feature. When the donor provider receives the porting request, the 10-Digit trigger shall be applied to the Subscriber's line at least 24 hours prior to the order due date in order to overcome donor network time delays in the disconnection of the subscriber. Alternatively, when an activation notice is sent to an NPAC to trigger a broadcast to service provider databases, the donor switch shall have its translations changed to disconnect the subscriber's line within fifteen (15) minutes of the donor network Local SMS's having received the broadcast.

3.2 Joint Cooperation

Both MCIm and ILEC shall:

Support all emergency and operator services.

Use scarce numbering resources efficiently and administer such resources in a competitively neutral manner.

Jointly cooperate with each other to ensure that both carriers shall be able to rate and bill all types of calls.

Jointly cooperate with each other to apply NP consistently on a nationwide basis, and in accordance with all Federal Communication Commission directives.

3.3 Location Routing Number (LRN)

ILEC and MCIm shall work to implement the LRN-NP solution.

3.3.1 A ten-digit code, consistent with the North American Numbering Plan, called the location routing number (LRN) shall be used as a network address for each switch that terminates subscriber lines, i.e. an end office. LRN shall support existing six-digit routing and may be implemented without changes to existing switch routing algorithms. In existing end offices, the LRN shall be selected from one of its existing NPA-NXXs. New end offices shall be assigned LRNs through normal administrative processes.

3.3.2 LRN employs an "N-1" Query Strategy for interLATA or intraLATA toll calls, by which the originating carrier will pass the call to the appropriate toll carrier who will perform a query to an external routing database and efficiently route the call to the appropriate terminating local carrier either directly or through an access tandem office. For a local call to a ported number, the originating carrier is the "N-1" carrier. It will perform an external database query and pass the call to the appropriate terminating carrier. The "N-1" methodology will be used to extend portability on a phased, region-by-region basis and it does not place ILEC or other carriers needlessly in the call path.

3.3.3 ILEC shall furnish MCIm with the first six digits of the originating LRN when it supplies MCIm with the Jurisdiction Information Parameter for the Initial Address Message.

3.3.4 ILEC agrees to begin the introduction of LRN to end user subscribers who may begin changing local service providers and retaining their existing telephone number based on the time line set out by the FCC in its Telephone Number Portability Order (CC Docket No. 95-116), or as per a State order if such time for introduction of LRN set by the State is earlier than would result under the FCC Order.

3.3.5 The generic requirements for LRN are specified in the following publications: Generic Switching and Signaling

Requirements for Number Portability, Issue 1.00, February 12, 1996 [Editor - Lucent Technologies, Inc.]; Generic Requirements for SCP Application and GTT Function for Number Portability, Issue 0.31, Final Draft, March 24, 1996 [Editor - Ameritech Inc.]; and Generic Operator Services Switching Requirements for Number Portability, Issue 1.00, Final Draft, April 12, 1996 [Editor - Nortel].

3.4 Additional NP Requirements

3.4.1 For local calls to a portable NXX, ILEC shall query an external database as soon as the call reaches the first NP-capable switch in the call path. An LRN-capable originating switch shall query on a local call to a portable NXX as soon as it determines that it (the originating switch) does not serve the dialed number.

3.4.2 ILEC shall be the default carrier for database queries where a participating carrier is unable to perform its own query due to abnormal conditions.

3.4.3 ILEC will provide MCIm INP and NP for subscribers moving to a different location, or staying at the same location, within the same rate center area.

3.5 SMS Administration

ILEC will work cooperatively with other local service providers to establish the NP Service Management System (SMS). The SMS shall be administered by a neutral third party, to provide for the efficient porting of numbers between carriers. There must be one exclusive NPAC per portability State or region, and ILEC shall provide all information uploads and downloads regarding ported numbers to/from, respectively, the exclusive NPAC. ILEC and MCIm shall cooperate to facilitate the expeditious deployment of LRN-based NP through the process prescribed by the FCC, including, but not limited to, participation in the selection of a neutral third party and development of SMS, as well as SMS testing for effective procedures, electronic system interfaces, and overall readiness for use consistent with that specified for Provisioning in this Agreement.

Section 4. Requirements for INP and NP

4.1 White and Yellow Page Listings

LEC shall provide and maintain for MCIm one (1) white page and one (1) yellow page (if applicable) listing for each MCIm subscriber that has ported its number from ILEC, consistent with that specified for Provisioning in this Agreement. The listing and handling of listed and nonlisted telephone numbers will be at least at parity with that provided by ILEC to its own subscribers.

4.2 Cut-Over Process

ILEC shall cooperate in the process of porting numbers from one carrier to another so as to limit service outage for the ported subscriber. This shall include, but not be limited to, updating its network element translations within five (5) minutes following notification by the industry SMS, or ported-to local service provider, and deploying such temporary translations as may be required to minimize service outage, e.g., unconditional triggers. Also, MCIm shall have the right to determine who initiates the order for INP in specific cut-over situations.

4.3 Testing

ILEC and MCIm shall cooperate in conducting MCIm's testing to ensure interconnectivity between systems. ILEC shall inform MCIm of any system updates that may affect the MCIm network and ILEC shall, at MCIm's request, perform tests to validate the operation of the network. Additional testing requirements may apply as specified by this Agreement.

4.4 Engineering and Maintenance

ILEC and MCIm will cooperate to ensure that performance of trunking and signaling capacity is engineered and managed at levels which are at least at parity with that provided by ILEC to its subscribers and to ensure effective maintenance testing through activities such as routine testing practices, network trouble isolation processes and review of operational elements for translations, routing and network fault isolation.

Additional specific engineering and maintenance requirements shall apply as specified in this Agreement.

4.5 Recording and Billing

ILEC shall provide MCIm with accurate billing and Customer Account Record Exchange data for MCIm subscribers whose numbers have been ported.

4.5.1 Calls originated from RCF ported numbers in ILEC end-offices and sent to the MCIm interLATA toll network must signal the shadow number in the Calling Party Number (CgPN) parameter and ported number in the Charge Number (CN) parameter in the SS7 Initial Address Message.

4.5.2 ILEC shall provide MCIm call detail records identified each IXC which are sufficient to allow MCIm to render bills to IXCs for calls IXCs place to ported numbers in the ILEC network which the ILEC forwards to MCIm for termination.

4.6 Operator Services and Directory Assistance

With respect to operator services and directory assistance associated with NP for MCIm subscribers, ILEC shall provide the following:

4.6.1 While INP is deployed and prior to conversion to NP:

4.6.1.1 If requested by MCIm, ILEC shall provide Emergency Interrupt (EI) trunks to the MCIm End Office for Busy Line Verification/Busy Line Identification call requests for lines that terminate at the MCIm End Office.

4.6.1.2 When a BLV/BLI request for a ported number is directed to a ILEC operator and the query is not successful (i.e., the request yields an abnormal result), the operator shall confirm whether the number has been ported and shall direct the request to the appropriate operator.

4.6.1.3 ILEC shall allow MCIm to order provisioning of Telephone Line Number (TLN) calling cards and Billed Number Screening (BNS), in its LIDB, for ported numbers, as specified by MCIm. ILEC shall continue to allow MCIm access to its LIDB. Other LIDB provisions are specified in this Agreement.

4.6.1.4 Where ILEC has control of directory listings for NXX codes containing ported numbers, ILEC shall maintain entries for ported numbers as specified by MCIm.

4.6.2 When NP is in place:

4.6.2.1 The Provisions in 4.6.1.1~.4.6.1.5 preceding, shall apply when NP is in place.

4.6.2.2 If Integrated Services Digital Network User Part (ISUP) signaling is used ILEC shall provide the Jurisdiction Information Parameter in the SS7 Initial Address Message. (See Generic Switching and Signaling Requirements for Number Portability, Issue 1.0, February 12.1996 (Editor - Lucent Technologies, Inc.])

4.6.2.3 ILEC shall provide a 10-Digit Global Title Translation (GTT) Node for routing queries for TCAP-based operator services (e.g., LIDB).

4.6.2.4 ILEC OSS shall meet all requirements specified in "Generic Operator Services Switching Requirements for Number Portability," Issue 1.00, Final Draft, April 12, 1996.

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Section 1. General Business Requirements

1.1 Procedures

1.1.1 ILEC Contact with Subscribers

1.1.1.1 MCIm at all times shall be the primary contact and account control for all interactions with its subscribers, except as specified by MCIm. MCIm subscribers include active MCIm customers as well as those for whom service orders are pending.

1.1.1.2 ILEC shall ensure that any ILEC personnel who may receive customer inquiries, or otherwise have opportunity for subscriber contact: (i) provide appropriate referrals and telephone numbers to subscribers who inquire about MCIm services or products; (ii) do not in any way disparage or discriminate against MCIm, or its products or services; and (iii) do not provide information about ILEC products or services during that same inquiry or subscriber contact.

1.1.1.3 ILEC shall not use MCIm's request for subscriber information, order submission, or any other aspect of MCIm's processes or services to aid ILEC's marketing or sales efforts.

1.1.2 Expedite, Escalation, and Disaster Procedures

1.1.2.1 No later than thirty (30) days after the Effective Date of this Agreement, ILEC and MCIm shall develop mutually acceptable escalation and expedite procedures which may be invoked at any point in the Service Ordering, Provisioning, Maintenance, and Customer Usage Data transfer processes to facilitate rapid and timely resolution of disputes. In addition, ILEC and MCIm will establish intercompany contacts lists for purposes of handling subscriber and other matters which require attention/resolution outside of normal business procedures within thirty (30) days after the Effective Date of this Agreement. ILEC shall notify MCIm of any changes to its escalation contact list at least one (1) week before such changes are effective.

1.1.2.2 No later than thirty (30) days after the Effective Date of this Agreement, ILEC and MCIm shall jointly establish contingency and disaster recovery plans for those cases in which normal Service Ordering, Provisioning, Maintenance, Billing, and other procedures for ILEC's unbundled Network Elements, features, functions, and resale services are inoperable.

1.1.3 Operational and Technological Changes

1.1.3.1 ILEC shall notify MCIm of any operational or technological (e.g., network, systems interfaces) changes that are related to any services or Network Elements purchased by MCIm no less than twelve (12) months before ILEC plans to implement such change. The parties may mutually agree to shorter notice periods.

1.1.4 Customer of Record

1.1.4.1 ILEC shall recognize MCIm as the Customer of Record for all Network Elements or services for resale ordered by MCIm and shall send all notices, invoices, and information which pertain to such ordered services directly to MCIm. MCIm will provide ILEC with addresses to which ILEC shall send all such notices, invoices, and information.

1.1.5 Work Center Interface Procedures

1.1.5.1 ILEC and MCIm shall, within 60 days of the Effective Date of this Agreement, develop and implement Work Center Interface Procedures for each function/business process.

1.2 Service Offerings

1.2.1 Changes in Retail Service Offerings

1.2.1.1 ILEC shall notify MCIm of any proposed changes in the terms and conditions under which ILEC offers Telecommunications Services to subscribers who are not Telecommunications Service providers or carriers, including, but not limited to, the introduction or discontinuance of any features, functions, services, promotions, or changes in retail rates at least forty-five (45) days prior to the effective date of

such change, or concurrent with ILEC's internal notification process for such change, or as required by state regulatory agency notification guidelines, whichever is earliest.

1.2.1.2 ILEC shall notify MCIm of any proposed changes in the terms and conditions under which it offers unbundled Network Elements including, but not limited to, the introduction or discontinuance of any features, functions, services, promotions, or changes in rates at least forty-five (45) days prior to the effective date of such change, or concurrent with ILEC's internal notification process for such change, or as required by state notification guidelines, whichever is earliest.

1.2.2 Essential Services

1.2.2.1 ILEC shall designate an access line as an Essential Service Line (ESL) upon MCIm's request.

1.2.3 Caller ID

1.2.3.1 ILEC shall cooperate with MCIm to provide equipment associated with Caller ID.

1.2.4 TTY/TDD

1.2.4.1 ILEC shall cooperate with MCIm to provide services and equipment necessary to serve TTY/TDD subscribers.

1.2.5 Blocking Services

1.2.5.1 Upon request from MCIm, ILEC shall provide blocking of 700, 900, and 976 services, or other services of similar type as may now exist or be developed in the future, and shall provide Billed Number Screening (BNS), including required LIDB updates, or equivalent service for blocking completion of bill -to- third party and collect calls, on a line, trunk, or individual service basis.

1.2.6 Training Support

1.2.6.1 MCIm and ILEC shall mutually develop and deliver training, based on MCIm's procedures and materials, for all ILEC employees who may communicate with MCIm

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subscribers. Training will be provided for all ordering, provisioning, maintenance, billing, miscellaneous services, and any other area, as requested by MCIm.

1.2.6.2 ILEC shall train MCIm employees on ILEC's systems and processes to MCIm's specifications and shall provide at least the same information available to ILEC employees. ILEC shall provide training to MCIm at no charge. Information/materials provided to MCIm should include, at a minimum, operational and procedural information, and ILEC-specific system access/interface instruction.

Section 2. Ordering and Provisioning

2.1 General Business Requirements

2.1.1 Ordering and Provisioning Parity

2.1.1.1 During the term of this Agreement, ILEC shall provide necessary ordering and provisioning business process support as well as those technical and systems interfaces as may be required to enable MCIm to provide at least the same level and quality of service for all resale services, functions, features, capabilities and unbundled Network Elements as ILEC provides itself, its affiliates or its own customers. ILEC shall provide MCIm with the same level of ordering and provisioning support as ILEC provides itself in accordance with standards and performance measurements that are at least equal to the highest level of standards and/or performance measurements that ILEC uses and/or which are required by law, regulatory agency, or by ILEC's own internal procedures, whichever are the most rigorous. These standards shall apply to the quality of the technology, equipment, facilities, processes, and techniques (including, but not limited to, such new architecture, equipment, facilities, and interfaces as ILEC may deploy) that ILEC provides to MCIm under this Agreement.

2.1.2 Local Carrier Service Center (LCSC)/Single Point of Contact (SPOC)

2.1.2.1 ILEC shall provide a Local Carrier Service Center or equivalent which shall serve as MCIm's Single Point of Contact (SPOC) for all activities involved in the ordering and provisioning of ILEC's unbundled Network Elements, features, functions, and resale services. The SPOC shall process orders (through an electronic interface) twenty-four (24) hours a day, seven days a week.

2.1.2.2 The SPOC shall provide to MCIm a toll-free nationwide telephone number (available from 8:00 a.m. to 8:00 p.m., Monday through Saturday, within each respective continental U.S. time zone) answered by competent, knowledgeable personnel dedicated to MCIm servicing matters and trained to answer questions and resolve problems in connection with the ordering and provisioning of unbundled Network Elements, features, functions, capabilities, and resale services.

2.1.2.3 ILEC shall provide, as requested through MCIm, through the SPOC, provisioning and premises visit installation support in the form of coordinated scheduling, status, and dispatch capabilities from 8:00 a.m. to 8:00 p.m. Monday through Saturday and at all other times when required by MCIm to meet customer demand.

2.1.3 Street Address Guide (SAG)

2.1.3.1 Within thirty (30) days after the Effective Date of this Agreement, ILEC shall provide to MCIm the SAG data, or its equivalent, in both electronic and hard copy forms, in a format acceptable to MCIm. All changes to the SAG shall be provided to MCIm on the same day as the change to the data is made.

2.1.4 CLASS and Custom Features

2.1.4.1 MCIm may order the entire set of CLASS and Custom features and functions, or a subset of any one or any combination of such features. In addition, ILEC shall provide MCIm with a list of features and functions available on an end office by end office basis.

2.1.5 Customer Payment History

2.1.5.1 MCIm and ILEC agree to make available to a mutually agreed upon third-party credit reporting agency, on a timely basis, such of the following customer payment history information that is available for each person or entity that applies for local service or intraLATA toll Telecommunications Service(s) from either carrier:

2.1.5.1.1 Applicant's name;
2.1.5.1.2 Applicant's address;
2.1.5.1.3 Applicant's previous phone number, if any;
2.1.5.1.4 Amount, if any, of unpaid balance in applicant's name;
2.1.5.1.5 Whether applicant is delinquent on payments;
2.1.5.1.6 Length of service with prior local or intraLATA toll provider;
2.1.5.1.7 Whether applicant had local or intraLATA toll service terminated or suspended within the last six months with an explanation of the reason therefor; and,
2.1.5.1.8 Whether applicant was required by prior local or intraLATA toll provider to pay a deposit or make an advance payment, including the amount of each.

2.1.5.2 Such information shall be provided on the condition that the credit reporting agency only make such information available to the carrier to which the person or entity in question has applied for Telecommunication Service.

2.1.5.3 ILEC shall not refuse service to MCIm for any potential MCIm customer on the basis of that subscriber's past payment history with ILEC. MCIm shall establish the credit scoring criteria for applicants for MCIm services.

2.1.6 Carrier Selection

2.1.6.1 For services for resale or unbundled Network Elements, ILEC shall provide to MCIm, no later than January 1, 1997, the capability to order local service, intraLATA, interLATA, and international toll services by entering the MCIm subscriber's choice of carrier on a single order. ILEC shall provide MCIm with the capability to order separate interLATA and intraLATA carriers on a line or trunk basis.

2.1.6.2 Where intraLATA toll carrier selection is not implemented, or if the subscriber does not select an intraLATA toll carrier, ILEC agrees to provide intraLATA toll services for resale to MCIm and to recognize MCIm as the default carrier. MCIm designate the default carrier for all other toll calls if the subscriber does not select a carrier. In all cases, ILEC will route toll calls to the appropriate carrier as designated by MCIm.

2.1.7 Notification to Long Distance Carrier

2.1.7.1 ILEC agrees to notify MCIm, using OBF-approved CARE transactions, whenever an MCIm subscriber who is provided local service through services for resale, INP/NP, or unbundled Network Elements changes MCIm PIC status.

2.1.7.2 ILEC shall support and implement new Transaction Code Status Indicators (TCSIs) defined by OBF in support of local resale to enable MCIm to provide seamless customer service.

2.1.7.2.1 ILEC shall implement TCSIs used in conjunction with the new Local Service Provider (LSP) Identification Code for handling Account Maintenance, Customer Service, and Trouble Administration issues. These TCSIs include

4001/02/05, 4201-4205, 4301, 2033, 2233, 3147, 3148, 3149, and others as OBF may define.

2.1.7.2.2 In addition, ILEC shall implement TCSIs used in conjunction with the new Ported Telephone Number field to link "shadow" and ported telephone numbers in support of Interim Number Portability. These TCSIs include 2231, 3150, 3151, and others as OBF may define.

2.1.7.3 ILEC shall provide to MCIm the Local Service Provider ID (LSP) on purchased lists of MCIm PIC'd and non-PIC'd subscribers.

2.1.7.4 ILEC shall provide the Ported Telephone Number (PTN) on purchased CARE lists of MCIm PIC'd and non-MCIm PIC'd subscribers.

2.1.8 Number Administration/Number Reservations

2.1.8.1 Until Number Administration functions are assumed by a neutral third party in accordance with FCC Rules and Regulations, ILEC shall assign NXXs to MCIm on a non-discriminatory basis with no restrictions. In addition, ILEC shall provide testing and loading of MCIm's NXX on the same basis as ILEC provides itself or its affiliates. Further, ILEC shall provide MCIm with access to abbreviated dialing codes, access arrangements for 555 line numbers, and the ability to obtain telephone numbers, including vanity numbers, while a customer is on the phone with MCIm. ILEC shall provide the same range of number choices to MCIm, including choice of exchange number, as ILEC provides its own customers. Reservation and aging of numbers shall remain ILEC's responsibility.

2.1.8.2 Where MCIm has not obtained its own NXX, ILEC shall reserve up to 100 telephone numbers, per MCIm request, per NPA-NXX, for MCIm's exclusive use. ILEC shall provide additional numbers at MCIm's request as customer demand requires. Telephone numbers reserved in this manner may be released for other than MCIm use only upon agreement of MCIm.

2.1.8.3 Where MCIm has obtained its own NXX, but has purchased ILEC services for resale or Network Elements, ILEC agrees to install the MCIm NXX in ILEC's switch according to the

local calling area defined by MCIm and perform appropriate number administration functions.

2.1.8.4 ILEC shall accept MCIm orders for vanity numbers and blocks of numbers for use with complex services including, but not limited to, DID, CENTREX, and Hunting arrangements, as requested by MCIm.

2.1.8.5 For simple services number reservations, ILEC shall provide real-time confirmation of the number reservation. For number reservations associated with complex services, ILEC shall provide confirmation of the number reservation within twenty-four (24) hours of MCIm's request.

2.2 Service Order Process Requirements

2.2.1 OBF Compliance

2.2.1.1 In accordance with OBF standards, ILEC and MCIm shall follow the OBF-developed ordering and provisioning process standards. These processes include pre-order service inquiry, pre-order service inquiry response, firm order, acknowledgment/ rejection, firm order confirmation, delay notification, and completion notification. ILEC agrees to work cooperatively to implement future OBF-developed processes related to ordering and provisioning.

2.2.2 Service Migrations and New Customer Additions

2.2.2.1 For resale services, ILEC shall not require a disconnect order from a subscriber, another local service provider, or any other entity, to process an MCIm order to establish MCIm Local Service and/or migrate a subscriber to MCIm local service.

2.2.2.2 ILEC shall not disconnect any subscriber service or existing features at any time during the migration of that subscriber to MCIm service.

2.2.2.3 For services provided through unbundled Network Elements, ILEC shall recognize MCIm as an agent for the subscriber in coordinating the disconnection of services provided by another CLEC or ILEC. In addition, ILEC shall not disconnect any ILEC services provided to the subscriber until MCIm notifies

ILEC that MCIm's unbundled elements are installed and operational.

2.2.2.4 Unless otherwise directed by MCIm, when MCIm orders resale services or Network Elements all trunk or telephone numbers currently associated existing services shall be retained without loss of feature capability and without loss of associated ancillary services including, but not limited to, Directory Assistance and 911/E911 capability.

2.2.2.5 For customer conversions requiring coordinated cut-over activities, on a per order basis, ILEC and MCIm will agree on a scheduled conversion time, which will be a designated two-hour time period within a designated date.

2.2.2.5.1 ILEC will coordinate activities of all ILEC work groups involved with the conversion. This coordination will include, but not be limited to , work centers charged with manual cross-connects, electronic cross-connect mapping, and switch translations (including but not limited to, implementation of interim local number portability translations).

2.2.2.5.2 ILEC will notify MCIm when conversion is complete.

2.2.2.5.3 End user service interruptions shall not exceed five minutes.

2.2.3 Intercept Treatment and Transfer of Service Announcements

2.2.3.1 ILEC shall provide unbranded intercept treatment and transfer of service announcements to MCIm's subscribers. ILEC shall provide such treatment and transfer of service announcement for six (6) months for all service disconnects, suspensions, or transfers.

2.2.4 Desired Due Date (DDD)

2.2.4.1 MCIm shall specify on each order the Desired Due Date (DDD). ILEC shall not complete the order prior to DDD or later than DDD unless authorized by MCIm.

2.2.4.2 If the DDD falls after the standard order completion interval (as described in Performance Measurements and Reporting), ILEC shall complete the order on the Desire. Due Date.

2.2.4.3 ILEC shall supply MCIm with due date intervals to be used by MCIm personnel to determine service installation dates.

2.2.4.4 Subsequent to an initial order submission, MCIm may require a new/revised due date that is earlier than the minimum defined interval.

2.2.4.5 Any special or preferred scheduling options available, internally or externally to ILEC, for ordering and provisioning services shall also be available to MCIm.

2.2.5 Customer Premises Inspections and Installations

2.2.5.1 MCIm shall perform or contract for all needs assessments, including equipment and installation requirements, at the customer premises.

2.2.5.2 ILEC shall provide MCIm with the ability to schedule customer premises installations.

2.2.5.3 ILEC shall provide extended demarcation beyond the NID, at MCIm's request, using intrabuilding riser and lateral beyond the NID.

2.2.6 Firm Order Confirmation (FOC)

2.2.6.1 ILEC shall provide to MCIm, via an electronic interface, a Firm Order Confirmation (FOC) for each MCIm order. The FOC shall contain on a per line and/or trunk basis an enumeration of MCIm's ordered unbundled Network Elements (and the specific ILEC naming convention applied to that element or combination), features, functions, resale services, options, physical interconnection, quantity, and ILEC Committed Due Date for order completion.

2.2.6.2 For a revised FOC, ILEC shall provide order detail on a per line or per trunk level as well as the order detail from the prior FOC. ILEC shall submit to MCIm a complete revised list of features, functions and services ordered.

2.2.6.3 ILEC shall provide to MCIm the date that service is initiated.

2.2.7 Order Rejections

2.2.7.1 ILEC shall reject and return to MCIm any order that ILEC cannot provision, due to technical reasons, missing information, or jeopardy conditions in accordance with Performance Measurements in Section 2.5. When an order is rejected, ILEC shall, in its reject notification, specifically describe all of the reasons for which the order was rejected. ILEC shall not reject any orders on account of the Desired Due Date.

2.2.7.2 ILEC agrees to accept from MCIm verbal administrative order errors. ILEC shall immediately inform MCIm by telephone of any minor issues which can be handled over the phone.

2.2.7.3 If any portion of a service order, as submitted by MCIm, is not correct, ILEC shall make all reasonable attempts to complete any portion of the work that can be completed, while awaiting correction of error conditions by MCIm.

2.2.8 Service Order Changes

2.2.8.1 If an installation or other MCIm-ordered work requires a change from the original MCIm service order in any manner, ILEC shall call MCIm in advance of performing the installation or other work to obtain authorization. ILEC shall then provide MCIm an estimate of additional labor hours and/or materials. After all installation or other work is completed, ILEC shall immediately notify MCIm of actual labor hours and/or materials used.

2.2.8.1.1 If additional work is completed on a service order, as approved by MCIm, the cost of the additional work must be reported immediately to MCIm.

2.2.8.1.2 If a service order is partially completed, notification must identify the work that was done and work remaining to complete.

2.2.8.2 If an MCIm subscriber requests a service change at the time of installation or other work being performed by ILEC on behalf of MCIm, ILEC, while at the customer premises, shall direct the MCIm subscriber to contact MCIm so as to avoid unnecessary

delays in service activation should ILEC representative leave customer premises.

2.2.9 Jeopardy Situations

2.2.9.1 ILEC shall provide to MCIm notification of any jeopardy situations prior to Committed Due Date, missed appointments and any other delay or problem in completing work specified on MCIm's service order as detailed on the FOC, in accordance with the Performance Measurements in Section 2.5.

2.2.10 Cooperative Testing

2.2.10.1 Network Testing

2.2.10.1.1 ILEC shall perform all pre-service testing prior to the completion of the order, including testing on local service facilities and switch translations, including, but not limited to, verification of features, functions, and services ordered by MCIm.

2.2.10.1.2 Within 24-hrs of MCIm's request for scheduled cooperative testing, ILEC shall perform said testing with MCIm (including trouble shooting to isolate any problems) to test Network Elements purchased by MCIm in order to identify any problems.

2.2.10.2 Systems and Process Testing

2.2.10.2.1 ILEC shall cooperate with MCIm upon request to ensure that all operational interfaces and processes are in place and functioning properly and efficiently, as determined by MCIm. Testing shall simulate actual operational procedures and systems interfaces to the greatest extent possible. Further, the testing shall not be limited by either geography or timeframe, unless otherwise agreed upon by MCIm. MCIm may request cooperative testing as deemed appropriate by MCIm to ensure service performance, reliability, and customer serviceability.

2.2.11 Service Suspensions/Restorations

2.2.11.1 Upon MCIm's request through a Suspend/Restore Order, ILEC shall suspend or restore the functionality of any Network

Element, feature, function, or resale service. ILEC shall provide restoration priority on a per network element or combination basis in a manner that conforms with MCIm requested priorities and any applicable regulatory Rules and Regulations or government requirements.

2.2.12 Disconnects

2.2.12.1 ILEC shall provide to MCIm daily information notifying MCIm of any services disconnected from MCIm in a format and detail specified by MCIm.

2.2.13 Order Completion Notification

2.2.13.1 Upon completion of a service order by the ILEC in its system(s), ILEC shall submit to MCIm an order completion which details the work performed (including a list of features and functions installed), the date completed, charges associated with the order, and verification of accurate service completion. Notification shall be provided in accordance with MCIm's specified intervals.

2.2.14 Fulfillment Process

2.2.14.1 MCIm shall conduct all activities associated with the account fulfillment process for all MCIm subscribers.

2.2.15 Specific Unbundling Requirements

2.2.15.1 MCIm may order and ILEC shall provision unbundled Network Elements either individually or in any combination on a single order. Network Elements ordered as combined shall be provisioned as combined by ILEC unless MCIm specifies that the Network Elements ordered in combination be provisioned separately.

2.2.15.2 Prior to providing service in a specific geographic area or when MCIm requires a change of network configuration, MCIm may elect to place an order with ILEC requiring ILEC to prepare Network Elements and switch translations in advance of orders for additional network elements from MCIm.

2.2.15.3 When MCIm orders Network Elements that are currently connected ILEC shall ensure such Network Elements remain

connected and functional without any disconnection or disruption. This shall be known as Contiguous Network Connection of Network Elements. There shall be no charge for such connection.

2.2.15.4 Order combinations of Contiguous Network Elements shall be available to be ordered (i) on a case-by-case basis for those Network Elements that are subscriber-specific; or (ii) on a common-use basis for those Network Elements that are shared by multiple subscribers.

2.2.15.5 Network Elements shall be identified and ordered by MCIm so that they can be provisioned together. MCIm may specify the functionality of a combination without the need to specify the configuration of the individual Network Elements needed to provide that functionality.

2.2.15.6 When ordering a Combination, MCIm shall have the option of ordering all features, functions and capabilities of each Network Element.

2.2.15.7 When MCIm orders Network Elements, ILEC shall provision all features, functions, and capabilities of the Network Elements which include, but are not limited to,

2.2.15.7.1 The basic switching function of connecting lines to lines, lines to trunks, trunks to lines, and trunks to trunks, as well as the same basic capabilities made available to the ILEC's subscribers, such as telephone number, white page listing, and dial tone; and

2.2.15.7.2 All other features that the switch is capable of providing, including, but not limited to, custom calling, custom local area signaling service features, and Centrex, as well as any technically feasible customized routing functions provided by the switch.

2.2.15.8 When MCIm orders Network Elements, ILEC shall provide technical assistance to ensure compatibility between elements.

2.2.15.9 Each order for Network Elements will contain administration, bill, contact, and customer information, as defined by the OBF.

2.3 Systems Interfaces and Information Exchanges

2.3.1 General Requirements

2.3.1.1 ILEC shall provide, in conjunction with MCIm, "electronic bonding" between ILEC and MCIm for those interfaces where real-time, transparent access to data and systems transactions are required in order for ILEC to support MCIm, and for MCIm to provide features and services to subscribers, as defined by MCIm's operational requirements and which meet internal performance standards.

2.3.1.2 ILEC shall provide to MCIm a real-time, electronic interface(s) for transferring and receiving information and executing transactions for all business functions directly or indirectly related to Service Ordering and Provisioning of Network Elements, features, functions, and resale services, as specified in Exhibit A to this Attachment. The interface(s) shall be developed/designed for the transmission of data from MCIm to ILEC, and from ILEC to MCIm. Detailed systems requirements for specific electronic interface(s) shall be negotiated in good faith by the parties and be specified in writing between MCIm and ILEC within 60 days after the Effective Date of this Agreement. ILEC agrees that the electronic interface(s) are to be provided as soon as practical, but no later than January 1, 1997, unless otherwise agreed to or requested by MCIm.

2.3.1.3 ILEC interfaces shall provide MCIm with the same process and system capabilities for both Residence and Business ordering and provisioning. MCIm shall not be required to develop distinct processes or interfaces by class of service.

2.3.1.4 ILEC and MCIm shall agree on and implement interim solutions for each interface within thirty (30) days after the Effective Date of this Agreement, unless otherwise specified in Exhibit A of this Attachment. The interim interface(s) shall, at a minimum, provide MCIm the same functionality and level of service as is currently provided by the electronic interfaces used by ILEC for its own systems, users, or subscribers.

2.3.1.5 Interim interfaces or processes may be modified, if so agreed by MCIm and ILEC, during the interim period.

2.3.1.6 Until the real-time, electronic interface is available, ILEC agrees that the Local Carrier Service Center (LCSC) or similar

function will accept MCIm orders. Orders will be transmitted to the LCSC via an interface or method agreed upon by MCIm and ILEC.

2.3.1.7 ILEC shall provide a real-time, electronic interface to perform all of the steps in the OBF-developed ordering and provisioning process by January 1, 1997. These steps include pre-order service inquiry, pre-order service inquiry response, firm order acknowledgment/rejection, firm order confirmation, delay notification, and completion notification.

2.3.1.7.1 Until such standards are completed, ILEC and MCIm agree to use an interim, mutually agreed upon order format and interface which will be defined and negotiated between the Parties no later than forty-five (45) days after the Effective Date of this Agreement.

2.3.1.7.2 ILEC agrees to implement OBF-developed ordering and provisioning standards within ninety (90) days of completion of those standards.

2.3.1.8 ILEC shall provide to MCIm a list of all CLASS and Custom features and functions within ten (10) days of the Effective Date of this Agreement and shall provide updates to such list at the time new features and functions become available.

2.3.2 Ordering and Provisioning for Resale Services

2.3.2.1 ILEC shall provide to MCIm a list of all intraLATA and interLATA carriers available for subscriber selection on a central office level.

2.3.2.2 Upon request, ILEC shall provide to MCIm a listing at the street address level of the service coverage area of each switch CLLI.

2.3.2.3 ILEC shall provide MCIm with access to Customer Proprietary Network Information (CPNI) without requiring MCIm to produce a signed Letter of Agency (LOA), based on MCIm's blanket representation that customer has authorized MCIm to obtain such CPNI.

2.3.2.3.1 Information shall be in a format which is acceptable to MCIm at the line and/or trunk level. ILEC shall provide to MCIm a real-time, electronic interface to ILEC customer information systems which will allow MCIm to

obtain the customer profile, including subscriber name, billing and service addresses, billed telephone number(s), and identification of features and services on the subscriber accounts, and to obtain information on all features and services available in the end office where subscriber's services are currently provisioned.

2.3.2.3.1.1 Until access is available via a real-time, electronic interface for customer profile information, ILEC agrees that MCIm can obtain customer profile information in an interim manner acceptable to MCIm and in accordance with subsection 2.3.1.3 to facilitate the service order process.

2.3.2.4 ILEC shall provide to MCIm a list of all Telecommunications Services features and functions, including new services, trial offers, and promotions, within ten (10) days of the Effective Date of this Agreement and shall provide updates to such list as soon as new features and functions become available. Such detail shall also provide definitions and explanations of the features and functions available.

2.3.2.5 ILEC shall provide to MCIm, upon request, a list of all current or planned services and features technically available from each switch, by switch CLLI.

2.3.2.6 ILEC shall provide to MCIm a real-time, electronic interface to ILEC information systems to allow MCIm to assign telephone number(s) (if the subscriber does not already have a telephone number or requests a change of telephone number).

2.3.2.7 ILEC shall provide to MCIm a real-time, electronic interface to schedule dispatch and installation appointments.

2.3.2.8 ILEC shall provide to MCIm a real-time, electronic interface to ILEC customer information systems which will allow MCIm to determine if a service call is needed to install the line or service.

2.3.2.9 ILEC shall provide to MCIm a real-time, electronic interface to ILEC information systems which will allow MCIm to provide service availability dates.

2.3.2.10 ILEC shall provide to MCIm a real-time, electronic interface which transmits status information on service orders. Until real-time electronic interface is available, ILEC agrees that ILEC will provide proactive status on service orders at the following

critical intervals: acknowledgment, firm order confirmation, and completion according to interim procedures to be mutually developed.

2.3.3 Ordering and Provisioning for Unbundling

2.3.3.1 ILEC shall provide to MCIm upon request a listing of all technically available functionalities for Network Elements.

2.3.3.2 ILEC shall provide to MCIm upon request all engineering design and layout information for Network Elements.

2.3.3.3 ILEC shall provide to MCIm a real-time, electronic interface which will allow MCIm to determine service due date intervals, schedule appointments, and adjust pending order due dates in real-time.

2.3.3.4 ILEC shall provide to MCIm upon request advance information of the details and requirements for planning and implementation of NPA splits at least 6 months prior to implementation of the split.

2.3.3.5 ILEC shall provide to MCIm information on charges associated with special construction. Until real-time, electronic interface is available, ILEC agrees that ILEC will immediately notify MCIm of any charges associated with necessary construction.

2.3.3.6 ILEC shall provide MCIm with results from mechanized loop tests.

2.3.3.7 ILEC shall provide MCIm with confirmation of circuit assignments.

2.4 Standards

2.4.1 General Requirements

2.4.1.1 MCIm and ILEC shall agree upon the appropriate ordering and provisioning codes to be used for Network Elements. These codes shall apply to all aspects of the unbundling of that element or combination of elements and shall be known as data elements as defined by the Telecommunications Industry Forum Electronic Data Interchange Service Order Subcommittee (TCIF-EDI-SOSC).

2.5 Performance Measurements and Reporting

2.5.1 Cycle Time Measurements

2.5.1.1 Excepting expedited due date requests, the following order intervals shall constitute the basis for measuring ILEC Service Order performance under this Agreement. MCIm may, at its discretion, modify such measurements from time to time:

2.5.1.2 ILEC shall provide and acknowledge each and every MCIm service order within one (1) hour of receipt by ILEC.

2.5.1.3 ILEC shall process MCIm service orders and provide either Firm Order Confirmation (FOC) of a correct service order or notification of a rejected order and the detail of the errors contained within any data element(s) fields contained in such order, within four (4) hours of receipt of Local Service Request (LSR) from MCIm.

2.5.1.4 ILEC shall complete any Suspend/Block/Restore order no more that four (4) hours after receipt by ILEC

2.5.1.5 When MCIm specifies a Desired Due Date that is greater than the standard intervals defined in this Agreement, ILEC shall complete ordering and provisioning activities no later or earlier than that date.

2.5.1.6 For expedited due date requests, ILEC shall confirm to MCIm within two (2) business hours after ILEC receipt of such request from MCIm whether ILEC can complete an initially-submitted order within the expedited interval requested by MCIm. Confirmation may be provided by ILEC via telephone call with follow up confirmation to be provided by ILEC according to normal procedures and measurement intervals.

2.5.1.7 Subsequent to an order which has been initially submitted by MCIm, MCIm may require a new/revised due date that is earlier than the minimum defined interval.

2.5.1.7.1 For such requests, ILEC shall confirm to MCIm within two (2) business hours after ILEC receipt of the revised due date request from MCIm whether ILEC can complete the order within the expedited interval requested by MCIm. Confirmation may be provided by ILEC via

telephone call with follow up confirmation to be provided by ILEC according to normal procedures and measurement intervals.

2.5.1.8 Cycle time intervals for ordering and provisioning of all unbundled Network Elements shall be two (2) days from the time ILEC receives an MCIm order. In the event an order is rejected for any reason agreed upon by ILEC and MCIm, this interval timeframe will restart when MCIm resubmits order to ILEC.

2.5.1.9 Cycle time intervals for ordering and provisioning of all resale services are described below:

Product or Service	**Interval**
INSTALLATION	
Lines/trunks with no premises visit:	
Business	
1-20 lines	3 business days
21-40 lines	7 business days
41-60 lines	12 business days
Over 60 lines	To be negotiated
Residential	within 24 hours of Service Order receipt by ILEC
Lines/trunks with premises visit:	
Business	
1-20 lines	5 business days
21-40 lines	10 business days
41-60 lines	14 business days
Over 60 lines	Individual case basis
Residential	within 72 hours of Service Order receipt by ILEC
Business lines/trunks; plant or other facilities not available	Individual case basis
Centrex station lines	
1-20 lines	5 business days
21-50 lines	8 business days
Over 50 lines	Individual case basis

FEATURE CHANGES	
Orders received before 12:00 p.m.	completed on day of receipt
Orders received after 12:00 p.m.	completed before 12:00 p.m. next business day

Product or Service	Interval
SERVICE DISCONNECTS	
With no premises visits	
Business or Residential	within 4 hours after receipt of Service Order
With CO change or customer premises visit	
Business or Residential	within 24 hours after receipt of Service Order
Unbundled switching elements	
Business or Residential	Within 4 hours
Other unbundled elements	
Business or Residential	Within 24 hours

2.5.1.10 ILEC shall provide switch translations within five (5) minutes after notification that a physical cut over has been completed.

2.5.1.11 ILEC shall notify MCIm of the completion of an order within thirty (30) minutes of a completion.

2.5.1.12 ILEC shall provide MCIm's appointment times within a four (4) hour block of time.

2.5.2 Quality Measurements

2.5.2.1 ILEC provisioning functions performed for MCIm shall meet the following Performance Level Measurements:

Provisioning Function	Performance Quality Measurement
Rejections of Service Caused by ILEC for Resale Services	All Orders: <1%
Rejections of Service Caused by ILEC for Unbundled Network Elements	All Orders: <1%
Resale Installation Provisioned Correctly in less than four (4) days	Residence: >99% met Business: >99.5% met
Unbundling Installation Provisioned Correctly in less than four (4) days	Residence: >99% met Business: >99.5% met
Missed Appointments for Resale Services	Residence: <1% Business: 0%
Missed Appointments for Unbundled Network Elements	Residence: <1% Business: 0%
Completion of Orders by Desired Due Date for Resale Services	All Orders: >90%
Completion of Orders by Desired Due Date for Unbundled Network Elements	All Orders: >90%
Completion of Orders by Committed Due Date for Resale Services	Residence: >99% Business: >99.5%
Completion of Orders by Committed Due Date for Unbundled Network Elements	Residence: >99% Business: >99.5%
Completion of Orders Without Error for Resale Services	All Orders: >99%
Completion of Orders Without Error for Unbundled Network Elements	All Orders: >99%
ILEC Meeting of Response to Order Request Deadline for Resale Services (i.e., FOC/Rejection issuance)	All Orders: >99.5%
ILEC Meeting of Response to	All Orders:

Order Request Deadline for Unbundled Network Elements (i.e., FOC/Rejection issuance	>99.5%

2.5.2.2 ILEC shall maintain provisioning service that results in less than 1% of orders resulting in one or more outages within thirty (30) days of installation.

2.5.2.3 ILEC shall maintain provisioning service that results in less that 1% of orders resulting in one or more dispatches within thirty (30) days of installation.

2.5.2.4 ILEC shall maintain provisioning service that results in less that 1% of orders resulting in one or more customer calls within (30) days of installation.

2.5.3 Reporting

2.5.3.1 ILEC shall provide, at a minimum, the following comparative reports to MCIm, both for MCIm orders and for ILEC orders, presented by State, Area Code, NXX, Product Feature, and issue such reports on a monthly basis with daily informational detail:

2.5.3.1.1 Total number and percent of jeopardies
2.5.3.1.2 Total number and percent of missed appointments
2.5.3.1.3 Total number and percent of missed firm order confirmation dates
2.5.3.1.4 Total number and percent of rejected orders
2.5.3.1.5 Total number and percent of late rejection notifications

2.5.3.2 MCIm may, at its discretion, further require additional and/or modified reporting as business needs demand.

Section 3. Connectivity Billing and Recording

This Section 3 describes the requirements for ILEC to bill and record all charges MCIm incurs for purchasing services under this agreement.

3.1 Procedures

3.1.1 ILEC shall comply with various industry, OBF, and other standards referred to throughout this Agreement. To satisfy these requirements ILEC shall adhere to MCIm's interpretation of all standards referred to in this Agreement.

3.1.2 ILEC shall record and bill in accordance with this Agreement those charges MCIm incurs as a result of MCIm purchasing from ILEC services, as set forth in this Agreement (hereinafter "Connectivity Charges").

3.1.3 ILEC shall format each bill for Connectivity Charges (hereinafter "Connectivity Bill") in accordance with the CABS or SECAB standard.

3.1.4 Each service purchased by MCIm shall be assigned a separate and unique billing code in the form agreed to by the parties and such code shall be provided to MCIm on each Connectivity Bill in which charges for such services appear.

3.1.4.1 Each such billing code shall enable MCIm to identify the service as ordered by MCIm.

3.1.5 Each Connectivity Bill shall set forth the quantity and description of each such service provided and billed to MCIm. All Connectivity Charges billed to MCIm shall indicate the state from which such charges were incurred.

3.1.6 ILEC shall bill MCIm for each service supplied by ILEC to MCIm pursuant to this Agreement at the rates forth in this Agreement.

3.1.7 ILEC shall bill MCIm for the Connectivity Charges incurred; provided that, for those usage based Connectivity Charges where actual charge information is not determinable by ILEC because the jurisdiction (i.e., interstate, interstate/interLATA, intrastate, intrastate /intraLATA, local) of the traffic is unidentifiable, or for

other reason, the parties shall jointly develop a process to determine the appropriate charges.

3.1.8 Measurement of usage-based Connectivity Charges shall be in actual conversation seconds. The total conversation seconds per chargeable traffic types shall be totaled for the entire monthly bill cycle and then rounded to the next whole minute.

3.1.9 ILEC shall provide to MCIm at no additional charge a Single Point of Contact through a Local Carrier Service Centre (LCSC), or similar function, for handling any Connectivity Billing questions or problems that may arise during the implementation and performance of the terms and conditions of this Agreement.

3.1.10 ILEC shall provide single point of contact for handling of any data exchange questions or problems that may arise during the implementation and performance of the terms and conditions of this Agreement.

3.1.11 As soon as possible after completion of this Agreement, each party shall provide the other party written notice of which form of the monthly Connectivity Bill is to be deemed the official bill to assist the parties in resolving any conflicts that may arise between the official bill and another form of bill received via a different media which purportedly contain the same charges as are on the official bill.

3.1.12 If either party requests an additional copy(ies) of a bill, such party shall pay the other party a reasonable fee per additional bill copy, unless such copy was requested due to errors, omissions, or corrections or the failure of the transmission to comply with the specifications set forth in this Agreement.

3.1.13 When sending Connectivity Bills via electronic transmission, to avoid transmission failures or the receipt of Connectivity Billing information that cannot be processed, MCIm shall provide ILEC process specifications. ILEC shall comply with MCIm's processing specifications when ILEC transmits Connectivity Billing data to MCIm. MCIm shall provide to ILEC notice if a Connectivity Billing transmission is received that does not meet MCIm's specifications or that such party cannot process. Such transmission shall be corrected and resubmitted to MCIm , at ILEC's sole expense, in a form that can be processed. The payment due date for such resubmitted transmissions shall be thirty five (35) days from the

date that the transmission is received in a form that can be processed and that meets the specifications set forth in this Attachment.

3.1.14 ILEC shall deliver to a location specified by MCIm, billing information via Network Data Mover (NDM), magnetic tape or paper, as agreed to by MCIm and ILEC. In the event of an emergency, system failure or other such condition which prevents ILEC from transmitting via NDM, ILEC shall notify MCIm of such difficulties within two hours of detection. ILEC shall deliver to a location specified by MCIm billing information via magnetic tape or paper, as agreed to by MCIm and ILEC. The parties acknowledge that all tapes transmitted to the other party via U.S. Mail or Overnight Delivery and which contain Connectivity Billing data shall not be returned to the sending party.

3.1.15 Subject to the terms of this Agreement, including without limitation Sections 3.1.16 and 3.1.18 of this Attachment VIII, MCIm shall pay ILEC within (45) calendar days from the Bill Date, or (35) calendar days from the receipt of the bill, whichever is later. If the payment due date is a Saturday, Sunday or a has been designated a bank holiday payment shall be made the next business day.

3.1.16 Billed amounts which are being investigated, queried, or for which claims have or may be filed are not due for payment until such investigations, claims or queries have been fully resolved by both MCIm and ILEC.

3.1.17 ILEC shall not issue late payment charges to MCIm under any circumstances.

3.1.18 Bill Reconciliation

3.1.18.1 Each party agrees to notify the other party upon the discovery of a billing discrepancy "Notice of Discrepancy".

3.1.18.2 In the event of such Notice of Discrepancy, the parties shall endeavor to resolve the discrepancy within sixty (60) calendar days notification using normal business procedures. If the discrepancy is disputed, resolution of such dispute is expected to occur at the first level of management resulting in a recommendation for settlement of the dispute and closure of a specific billing period.

3.1.18.3 Closure of a specific billing period shall occur by joint agreement of the parties whereby the parties agree that such billing period is closed to any further analysis and financial transactions, except those resulting from an Audit. Closure shall take place within nine (9) months of the Bill Date. The month being closed represents those Connectivity Charges that were billed or should have been billed by the respective Bill Date.

3.1.18.4 If the dispute is not resolved within the allotted time frame, the following resolution procedure shall begin:

3.1.18.4.1 If the dispute is not resolved within sixty (60) days of the Notice of Discrepancy, the dispute shall be escalated to the second level of management for resolution.

3.1.18.4.2 If the dispute is not resolved within ninety (90) days of Notice of Discrepancy, the dispute shall be escalated to the third level of management for resolution.

3.1.18.4.3 If the dispute is not resolved within one hundred and twenty (120) days of the Notice of Discrepancy, the dispute shall be presumed settled in MCIm's favor, or upon the written request of ILEC within such 120 day period, may be resolved pursuant to Section 23 Dispute Resolution Procedures of Part A of this Agreement.

3.1.18.5 If MCIm disputes Connectivity Charges and the dispute is resolved in favor of MCIm, ILEC shall credit the Connectivity Bill of MCIm for the amount of the disputed charges.

3.1.19 ILEC shall reimburse MCIm for incorrect Connectivity Billing charges including without limitation: overcharges, services ordered or requested but not delivered, interrupted services, services of poor quality; and installation problems if caused by ILEC. Such reimbursements shall be set forth in the appropriate section of the Connectivity Bill pursuant to CABS, or SECAB standards.

3.1.20 The parties agree to record call information in accordance with this subsection 3.1. To the extent technically feasible, each party shall record all call detail information associated with every call originated or terminated to the other party's local exchange

subscriber. The parties agree that they shall record call detail information if technically feasible, even if such records or call detail information has not been recorded in the past. These records shall be provided at a party's request and shall be formatted pursuant to Bellcore's EMR standards and the terms and conditions of this Agreement. These records shall be transmitted to the other party daily in EMR format via NDM. ILEC and MCIm agree that they shall retain, at each party's sole expense, copies of all EMR records transmitted to the other party for at least forty five (45) calendar days after transmission to the other party.

3.1.21 When MCIm collocates with ILEC in ILEC's facility as described in this Agreement, capital expenditures (e.g., costs associated with building the "cage"), shall not be included in the Connectivity Bill provided to MCIm pursuant to this Attachment VIII. All such capital expenses shall be given a unique BAN and invoice number. All invoices for capital expenses shall be sent to the location specified by MCIm for payment. All other non-capital recurring collocation expenses shall be billed to MCIm in accordance with this Agreement. (The CABS Billing Output Specifications ("BOS") documents provide the guidelines on how to bill the Connectivity Charges associated with collocation.) The bill label for such collocation charges shall be entitled 'Expanded Interconnection Service." The bill label for non-capital recurring collocation expenses shall be entitled "Collocation."

3.1.22 ILEC shall be responsible for billing and collecting charges from IXCs for access related to interexchange calls generated by resale customers.

3.1.23 When MCIm owns the end office, ILEC shall not bill RIC to either MCIm or other IXCs.

3.1.24 ILECs and MCIm shall determine the appropriate and mutually agreeable form of administrative billing between billing carriers.

3.2 Information Exchange and Interfaces

3.2.1 ILEC shall provide MCIm a monthly Connectivity Bill that includes all Connectivity Charges incurred by and credits and/or adjustments due to MCIm for those services ordered, established, utilized, discontinued or performed pursuant to this Agreement.

ILEC shall issue one bill per month, on the first day of the month and the billing cycle shall be on a calendar basis. Each Connectivity Bill provided by ILEC to MCIm shall include:

3.2.1.1 all non-usage sensitive charges incurred for the period beginning with the day after the current bill date and extending to, and including, the next bill date;

3.2.1.2 any known unbilled non-usage sensitive charges for prior periods;

3.2.1.3 unbilled usage sensitive charges for the period beginning with the last bill date and extending up to, but not including, the current bill date;

3.2.1.4 any known unbilled usage sensitive charges for prior periods;

3.2.1.5 any known unbilled adjustments.

3.2.2 At the same time as the monthly bill is transmitted, ILEC shall send a separate file summarizing all MCIm's usage sensitive messages which are contained in ILEC's suspense files and unbilled files.

3.2.3 The Bill Date (defined as the date the bill was prepared) must be present on each bill transmitted by ILEC to MCIm, must be a valid calendar date, and not more than 90 days old. Connectivity Bills shall not be rendered for any Connectivity Charges which are incurred under this Agreement on or before 90 days preceding the Bill Date, except as otherwise permitted by law.

3.2.4 On each bill where 'Jurisdiction' is identified, local and local toll charges shall be identified as 'Local' and not as interstate, interstate/ interLATA, intrastate, or intrastate/intraLATA. ILEC shall provide from and through dates for charges rendered on all Connectivity Bills.

3.2.5 ILEC shall separately identify business charges from residence charges, as appropriate, and shall assign a specific adjustment or reference number provided by MCIm to each adjustment and credit included on the Connectivity Bill.

3.2.6 In accordance with the terms and conditions set forth in this Agreement ILEC shall record and provide to MCIm all detail

information associated with a call to an MCIm local exchange Subscriber .

3.2.7 ILEC and MCIm shall issue all Connectivity Bills in accordance with the terms and conditions set forth in this Section 3. On Connectivity Bills ILEC renders to MCIm, BANs shall be 13 character alpha/numeric and there shall only be one BAN per Revenue Accounting Office ("RAO"). The Bill Date shall be the same day month to month. Each party shall provide the other party at least thirty (30) calendar days written notice prior to changing, adding or deleting a BAN. The parties shall provide one Connectivity Billing invoice associated with each BAN. Each invoice must contain an invoice number (which will vary from month to month). On each bill associated with a BAN, the appropriate invoice number and the charges contained on such invoice must be reflected. All Connectivity Bills must be received by the other party no later than ten (10) calendar days from Bill Date and at least thirty-five (35) calendar days prior to the payment due date (as described in this Attachment), whichever is earlier. Any Connectivity Bill received on a Saturday, Sunday or a day designated as a bank holiday will be deemed received the next business day. If either party fails to receive Connectivity Billing data and information within the time period specified above the payment due date will be extended by the number of days receipt has been delayed.

3.2.8 ILEC shall issue all Connectivity Bills containing such billing data and information in accordance with the most current version of CABS /SECABS published by Bellcore, or its successor, or such later versions as are adopted by Bellcore, or its successor. To the extent that there are no CABS, or SECAB standards governing the formatting of certain data, such data shall be issued in the format mutually agreed to by ILEC and MCIm.

3.2.9 ILEC and MCIm agree that each party shall transmit Connectivity Billing information and data in the appropriate CABS or SECAB format electronically via NDM to the other party at the location specified by such party. MCIm data centers will be responsible for originating the calls for data transmission. ILEC shall transmit in accordance to the technical specifications set by MCIm. MCIm will supply to ILEC its RACF ID and password before the first transmission of data via NDM. Any changes to either party's NDM Node ID must be sent to the other party no later than thirty (30) calendar days before the changes take effect.

3.2.10 In emergency situations when tape transmittal has been used ILEC shall adhere to the tape packaging requirements set forth in this Agreement. Where magnetic tape shipping containers are transported in freight compartments, adequate magnetic field protection shall be provided by keeping a 6-inch distance from any magnetic field generating device (except a magnetron-tape device). ILEC shall only use those shipping containers that contain internal insulation to prevent damage. ILEC shall clearly mark on the outside of each shipping container its name, contact and return address. ILEC shall not ship any Connectivity Billing tapes in tape canisters.

3.2.11 All emergency billing data transmitted via tape must be provided on a cartridge (cassette) tape and must be of high quality, conform to the parties' record and label standards, 9-track, odd parity, 6250 BPI group coded recording mode and extended binary-coded decimal interchange code ("EBCDIC"). Each reel of tape must be 100% tested at 20% or better "clipping" level with full width certification and permanent error free at final inspection. MCIm reserves the right to destroy a tape that has been determined to have unrecoverable errors. MCIm also reserves the right to replace a tape with one of equal or better quality.

3.2.12 Billing data tapes used in emergency circumstances shall have the following record and label standards. The dataset serial number on the first header record of an IBM standard tape label also shall have the following format.

	CABS BOS	SECAB
Record Length	bytes (fixed length)	bytes (fixed length)
Blocking factor	records per block	Not Applicable
Block size	bytes per block	Not Applicable
Labels	Standard IBM Operating System	Standard IBM Operating System

3.2.14.A single 6-digit serial number must appear on the external (flat) surface of the tape for visual identification. This number shall also appear in the "dataset serial number field" of the first header record of the IBM standard tape label. This serial number shall consist of the character "V" followed by the reporting location's four digit Originating Company Code and a numeric character chosen by the sending company. The external and internal label shall be the same. The dataset name shall appear on the flat side of the reel and also in the "data set name field" on the first header record of the IBM standard tape label. ILEC's name, address, and contact shall appear on the flat side of the cartridge or reel

3.2.15.Tape labels shall conform to IBM OSNS Operating System Standards contained in the IBM Standard Labels Manual. IBM standard labels are 80-character records recorded in EBCDIC, odd parity.

3.2.16.ILEC shall conform to the Standard Volume Label Format which will be prescribed by MCIm.

3.2.17. ILEC shall use The IBM Standard Dataset Label Format which will be prescribed by MCIm

3.2.18.ILEC shall use test & production dataset format which will be prescribed by MCIm for each CABS and SECABS.

3.3 Standards

3.3.1 Within thirty (30) days of the execution of this Agreement, ILEC shall send to MCIm connectivity bill data in the appropriate mechanized format (i.e. CABS or SECAB) for testing to ensure that bills can be processed and that bills comply with the requirements of this Attachment. After receipt of the test data from ILEC MCIm will notify ILEC if the connectivity billing transmission meets MCIm's testing specifications. If the transmission fails to meet MCIm's testing specifications, ILEC shall make the necessary corrections. At least three (3) sets of testing data must meet MCIm's testing specifications prior to ILEC sending MCIm a mechanized production connectivity bill for the first time via electronic transmission or tape. Thereafter, ILEC may begin sending MCIm production connectivity bills via electronic transfer on the next Bill Date, or within ten (10) days, whichever is later.

3.3.2 At least 90 days prior to any change in existing formats or change to a different format, ILEC shall send to MCIm connectivity bill data in the appropriate mechanized format for testing to ensure that the bills can be processed and that the bills comply with the requirements of this Attachment. ILEC agrees that it shall not send to MCIm bill data in the new mechanized format until such bill data has met the testing specifications as set forth in this subsection.

3.3.3 During the testing period, ILEC shall transmit to MCIm Connectivity Billing data and information via paper or tape as specified by MCIm. Test tapes shall be sent to a MCIm specified location.

3.3.4 ILEC agrees that if it transmits data to MCIm in a mechanized format, ILEC shall also comply with the following specifications which are not contained in CABS or SECAB guidelines but which are necessary for MCIm to process Connectivity Billing information and data:

3.3.5 The Bill Date shall not contain spaces or non-numeric values.

3.3.5.1Each Connectivity Bill must contain at least one detail record.

3.3.5.2Any "From" Date should be less than the associated "Thru" Date and neither date can contain spaces.

3.3.5.3The Invoice Number must not have embedded spaces or low values.

3.3.6 For those Connectivity Charges billed in a mechanized format and in accordance with SECAB's format, ILEC agrees to comply with the additional requirement set forth below:

3.3.6.1All data denoted as IC preference is required.

3.3.6.2When the Company Code is not a State Level Company Code, the State Identification should be the state from which charges were incurred.

3.3.6.3The SECAB Inventory and Rating Record Information for a Connectivity Bill shall be provided monthly. In a multiple state or multiple Exchange Carrier (EC) environment, the STATE IDENTIFICATION on the Face Page (SCFAC1) Record should be populated with XX. This indicates the amounts on Summary Page 1-3 (SCSUM1, SCSUM2 and SCSUM3) Records represent the sum of multiple Summary Pages 4 and 5 (SCSUM4 and SCSUM5) Records.

3.3.7 ILEC agrees that in order to ensure the proper performance and integrity of the entire Connectivity Billing process, ILEC shall be responsible and accountable for transmitting to MCIm an accurate and current bill. ILEC agrees to implement control mechanisms and procedures to render a bill that accurately reflects the services ordered and used by MCIm.

3.4 Performance Measurements & Reporting

3.4.1 ILEC shall meet the following performance measurements for the provision of EMR records:

3.4.1.1**Timeliness:** 99.94% of all records recorded each day shall be received by MCIm within one (1) calendar day of their recording. 100% of all such records should be received within five (5) calendar days of their recording.

3.4.1.2**Accuracy**: No more than 60 errors per one (1) million records transmitted

3.4.1.3**Completeness:** There shall be no more than 20 omissions per one (1) million records.

Section 4. Provision Of Customer Usage Data

This Section 4 sets forth the terms and conditions for ILEC's provision of Recorded Usage Data (as defined in this Attachment VIII) to MCIm and for information exchange regarding long distance billing.

4.1 Procedures

4.1.1 General

4.1.1.1 ILEC shall comply with various industry, OBF, and other standards referred to throughout this Agreement. To satisfy these requirements ILEC shall adhere to MCIm's interpretation of all standards referred to in this Agreement.

4.1.1.2 ILEC shall comply with OBF standards and the additional standards outlined in this agreement when recording and transmitting Usage Data.

4.1.1.3 ILEC shall record all usage originating from MCIm subscribers using services ordered by MCIm. Recorded Usage Data includes, but is not limited to, the following categories of information:

- Call Attempts
- Completed Calls
- Use of CLASS/LASS/Custom Features
- Calls To Information Providers Reached Via ILEC Facilities And Contracted By ILEC
- Calls To Directory Assistance Where ILEC Provides Such Service To An MCIm Customer
- Calls Completed Via ILEC-Provided Operator Services Where ILEC Provides Such Service To MCIm's Local Service Customer. For ILEC-Provided Centrex Service, Station Level Detail Records Shall Include Complete Call Detail And Complete Timing Information
- Recording Of Completed Calls Which ILEC Does Not Record For Its Own Service Offerings (e.g., Flat Rate Free Calling Area Service)

4.1.1.4 Retention of Records: ILEC shall maintain a machine readable back-up copy of the message detail provided to MCIm for a minimum of forty-five (45) calendar

days. ILEC shall provide any data back-up to MCIm upon the request of MCIm.

4.1.1.5 ILEC shall provide to MCIm Recorded Usage Data for MCIm subscribers. ILEC shall not submit other carrier local usage data as part of the MCIm Recorded Usage Data.

4.1.1.6 ILEC shall not bill to MCIm subscribers any recurring or non-recurring charges except where explicitly permitted to do so within a written agreement between ILEC and MCIm.

4.1.1.7 ILEC shall record and rate all calls to Information Service Providers (900 service calls) and shall bill such calls directly to the subscriber. Customer billing name and address information may be purchased from MCIm.

4.1.1.8 ILEC shall provide Recorded Usage Data to MCIm billing locations as designated by MCIm.

4.1.1.9 ILEC shall establish a Local Carrier Service Center (LCSC) or similar function to serve as MCIm's single point of contact to respond to MCIm call usage, data error, and record transmission inquiries.

4.1.1.10 ILEC shall provide MCIm with a single point of contact, Remote Identifiers (IDs), and expected usage data volumes for each sending location.

4.1.1.11 MCIm shall provide a single point of contact responsible for receiving usage transmitted by ILEC and receiving usage tapes from a courier service in the event of a facility outage.

4.1.1.12 ILEC shall bill and MCIm shall pay the charges for Recorded Usage Data. Billing and payment shall be in accordance with the applicable terms and conditions set forth in Connectivity Billing and Recording Section of this Attachment VIII.

4.1.1.13 Without waiver of, and in addition to the Audit and Examination rights in the Section 22 (Audits and Examinations of Part A) of this Agreement, upon reasonable notice and at reasonable times MCIm or its authorized

representatives may examine ILEC's documents, systems, records and procedures which relate to the recording and transmission of the Usage data to MCIm under this Attachment.

4.1.2 Charges

4.1.2.1 ILEC shall not charge any fees for recording, rating or transmitting usage data.

4.1.2.2 No charges shall be assessed for incomplete call attempts.

4.1.3 Central Clearinghouse & Settlement

4.1.3.1 ILEC shall comply with Clearinghouse and Incollect/Outcollect procedures to be determined by MCIm.

4.1.3.2 ILEC shall support and participate in a neutral third-party in and out-collect process developed for intra-region alternately billed messages as prescribed by MCIm.

4.1.3.3 ILEC shall settle with MCIm for both intra-region and inter-region billing exchanges of calling card, bill-to-third party, and collect calls.

4.1.4 Lost Data

4.1.4.1 Loss of Recorded Usage Data - MCIm Recorded Usage Data determined to have been lost, damaged or destroyed as a result of an error or omission by ILEC in its performance of the recording function shall, upon MCIm's request, be recovered by ILEC at no charge to MCIm. In the event the data cannot be recovered by ILEC, ILEC shall estimate the messages and associated revenue, with assistance from MCIm, based upon the method described below. This method shall be applied on a consistent basis, subject to modifications agreed to by ILEC and MCIm. This estimate shall be used to adjust amounts MCIm owes ILEC for services ILEC provides in conjunction with the provision of Recorded Usage Data.

4.1.4.2 Partial Loss - ILEC shall review its daily controls to determine if data has been lost. When there has been a partial loss, actual message and minute volumes shall be reported, if possible. Where actual data are not available, a full day shall be estimated for the recording entity, as outlined in the following paragraphs. The amount of the partial loss is then determined by subtracting the data actually recorded for such day from the estimated total for such day.

4.1.4.3 Complete Loss - Estimated message and minute volumes for each loss consisting of an entire AMA tape or entire data volume due to its loss prior to or during processing, lost after receipt, degaussed before processing, receipt of a blank or unreadable tape, or lost for other causes, shall be reported.

4.1.4.4 Estimated Volumes - From message and minute volume reports for the entity experiencing the loss, ILEC shall secure message/minute counts for the four (4) corresponding days of the weeks preceding that in which the loss occurred and compute an average of these volumes. ILEC shall apply the appropriate average revenue per message ("arpm") provided by MCIm to the estimated message volume to arrive at the estimated lost revenue.

4.1.4.5 If the day of loss is not a holiday but one (1) (or more) of the preceding corresponding days is a holiday, use additional preceding weeks in order to procure volumes for two (2) non-holidays in the previous two (2) weeks that correspond to the day of the week that is the day of the loss

4.1.4.6 If the loss occurs on a weekday that is a holiday (except Christmas & Mothers day), ILEC shall use volumes from the two (2) preceding Sundays.

4.1.4.7 If the loss occurs on Mother's Day or Christmas day, ILEC shall use volumes from that day in the preceding year multiplied by a growth rate specified by MCIm.

4.1.4.8 MCIm may also request data be provided that has previously been successfully provided by ILEC to MCIm.

ILEC shall re-provide such data, if available, at no additional charge to MCIm.

4.1.5 Testing, Changes and Controls

4.1.5.1 The Recorded Usage Data, EMR format, content, and transmission process shall be tested as specified by MCIm.

4.1.5.2 Interface Testing: The purpose of this test is to ensure that the usage records can be sent by ILEC to MCIm and can be accepted and processed by MCIm. ILEC shall provide a test file to MCIm's designated Regional Processing Center (RPC) in the format that shall be used for live day-to-day processing. The file shall contain one (1) full day's production usage and all potential call types. MCIm shall review the file and verify that it conforms to its data center requirements. MCIm shall notify ILEC in writing whether the format is acceptable. MCIm shall also provide ILEC with the agreed-upon control reports as part of this test.

4.1.5.3 Operational Test: The purpose of this test is to ensure that volumes of usage in consecutive sequence can be extracted. distributed, and processed by ILEC and MCIm.

4.1.5.4 For testing purposes ILEC shall provide MCIm with ILEC recorded, unrated usage for a minimum of five (5) consecutive days. MCIm shall provide ILEC with the message validation reports associated with test usage.

4.1.5.5 Test File: Test data should be transported via NDM whenever possible. In the event that courier service must be used to transport test media, the physical tape characteristics to be used are described in this Agreement.

4.1.5.6 Periodic Review: Control procedures for all usage transferred between ILEC and MCIm shall require periodic review. This review may be included as part of an annual audit of ILEC by MCIm or as part of the normal production interface management function. Breakdowns which impact the flow of usage between ILEC and MCIm must be identified and jointly resolved as they occur. The resolution may include changes to control procedures, as similar

problems would be avoided in the future. Any changes to control procedures would need to be mutually agreed upon by MCIm and ILEC.

4.1.5.7 ILEC Software Changes:

4.1.5.7.1 When ILEC plans to introduce any software changes which impact the format or content structure of the usage data feed to MCIm, designated ILEC personnel shall notify MCIm no less than one hundred twenty (120) calendar days before such changes are implemented.

4.1.5.7.2 ILEC shall communicate the projected changes to the appropriate groups in MCIm so that potential impacts on MCIm processing can be determined.

4.1.5.7.3 MCIm personnel shall review the impact of the change on the entire control structure and the Post Conversion Test Plan, herein. MCIm shall negotiate any perceived problems with ILEC and shall arrange to have the data tested utilizing the modified software.

4.1.5.7.4 If it is necessary for ILEC to request changes in the schedule, content or format of usage data transmitted to MCIm, ILEC shall notify MCIm.

4.1.5.8 MCIm Requested Changes:

4.1.5.8.1 MCIm may request changes in the schedule, content, format of the usage data transmitted from ILEC, as deemed necessary by MCIm.

4.1.5.8.2 When the negotiated changes are to be implemented, MCIm and/or ILEC shall arrange for testing of the modified data in a Post Conversion Test Plan designed to encompass all types of changes to the usage data transferred by ILEC to MCIm and the methods of transmission for that data.

4.1.5.9 ILEC System Change Description:

4.1.5.9.1 For a [illegible]C syste[illegible] change, ILEC shall provide MCIm [illegible]an ov[illegible]ll description [illegible]f the change, statir [illegible]objective and a brief explanation of the reasons for the change.

4.1.5.9.2 During the initial negotiations regarding the change, ILEC shall provide a list of the specific records and/or systems impacted by the change to designated MCIm personnel.

4.1.5.9.3 ILEC shall also provide MCIm a detailed description of the changes to be implemented. It shall include sufficient detail for designated MCIm personnel to analyze and estimate the effects of the changes and to design tests to verify the accuracy of the implementation.

4.1.5.10 Change Negotiations:

4.1.5.10.1 MCIm shall be notified in writing of all proposed negotiations initiated by ILEC. In turn, MCIm shall notify ILEC of proposed change negotiations initiated by MCIm.

4.1.5.10.2 After formal notification of planned changes, whether originated by ILEC or MCIm, designated MCIm personnel shall schedule negotiation meetings as required with designated ILEC personnel. The first meeting should produce the overall change description (if not previously furnished) and the list of records and/or systems affected.

4.1.5.10.3 In subsequent meetings, ILEC shall provide the detailed description of changes to be implemented. After reviewing the described changes, designated MCIm personnel shall negotiate a detailed test procedure with ILEC.

4.1.5.11 Changes to controls:

- MCIm may request changes to the control structure.
- ILEC shall comply with the requested changes.

4.1.5.12 Verification Of Changes

4.1.5.12.1 Based on the detailed description of changes furnished by ILEC, MCIm and ILEC personnel shall:

- Determine the type of change(s) to be implemented.
- Develop a comprehensive test plan.
- Negotiate scheduling and transfer of modified data with ILEC.
- Negotiate testing of modified data with the appropriate MCIm RPC.
- Negotiate processing of verified data through the MCIm billing system with the RPC.
- Arrange for review and verification of testing with appropriate MCIm groups.
- Arrange for review of modified controls, if applicable.

4.1.5.13 Introduction of Changes:

4.1.5.13.1 When all the testing requirements have been met and the results reviewed and accepted, designated MCIm and ILEC personnel shall:

- Negotiate an implementation schedule.
- Verify the existence of a contingency plan with the appropriate MCIm personnel.
- Arrange for the follow-up review of changes with appropriate MCIm personnel.
- Arrange for appropriate changes in control program, if applicable.
- Arrange for long-term functional review of impact of changes on the MCIm billing system, i.e., accuracy, timeliness, and completeness.

4.2 Information Exchange and Interfaces

4.2.1 Core Billing Information

4.2.1.1 Recorded Usage Data all intraLATA toll and local usage. ILEC shall provide MCIm with unrated EMR records associated with all intraLATA toll and local usage which they

record on MCIm's behalf. Any Category, Group and/or Record types approved in the future for ILEC shall be included if they fall within the definition of local service resale. MCIm shall be given notification thirty (30) days prior to implementation of a new type, category and / or record.

4.2.1.2 ILEC shall provide rated EMR records only when explicit consent for sending such records has been obtained from MCIm. The following records shall be rated by ILEC:

Category 01	Operator handled, person to person, collect calls, bill to third number, SSP record query
Category 03	Credit & adjustments
Category 41	Customer credit

4.2.1.3All messages recorded by ILEC are to be transmitted to MCIm. ILEC recorded usage includes all usage by MCIm Customers.

4.2.1.4Data Delivery Schedules: Data shall be delivered to MCIm by ILEC daily (Monday through Sunday) unless otherwise negotiated. MCIm and/or ILEC Data Center holidays are excluded. ILEC and MCIm shall exchange schedules of designated Data Center holidays.

4.2.2 Supporting Billing Information

4.2.2.1Returned Long Distance Messages and Invoices

4.2.2.1.1 ILEC shall return message records or invoices to MCIm for messages or invoices which cannot be billed to an ILEC end user because ILEC no longer serves the end user for the associated messages or invoices as a result of the end user telephone number being served by another LEC/CLEC.

4.2.2.1.2 Message records or invoices shall be returned as part of the established unbillable process. Returned messages or invoices shall be in industry-standard EMR format using the OBF-agreed return code 50, unless otherwise negotiated with MCIm.

4.2.2.1.3 Additional return codes to be used for return designations are as follows:

81 - Rated record is received and indicator 19 is set to a value of other than 1 or 3 for a CIC of zeroes.
82 - Message is determined to be interLATA, and interLATA is not determined to be applicable.
83 - field is designated as numeric field contains non-numeric values.
84 - message is terminating to number that has a NPA 900 or NXX 976

4.2.2.1.4 The above message and/or invoice returns shall contain the Operating Company Number (OCN), or another identifying number or code as may become a future industry standard, of the LEC serving the end user through resale or portability at the time the invoice or message is returned.

4.2.2.1.5 Following are the record types and positions where the OCN should be populated. The error or return code should continue to appear in the standard position.

01-XX-XX record:	positions 168-171
01-51-21 record:	positions 125-128
01-51-24 record:	positions 187-190
41-XX-XX record (detail):	positions 168-171
41-50-XX record (summary):	positions 154-157
42-50-XX record (summary):	positions 154-157

4.2.2.2 Telephone Number Activity

4.2.2.2.1 The ILEC shall provide to MCIm on a daily basis, information for all telephone numbers served through resale service, portability (INP/NP), or unbundled switching to enable accurate MCIm end user billing either by MCIm itself or through the appropriate servicing local carrier.

4.2.2.2.2 Such information shall be provided via NDM or another medium as may be mutually agreed, at daily, or at another frequency as may be mutually agreed, using a new EMR record created as an advisory of local service provider change activity for billing purposes.

4.2.2.2.3 A separate record group or record type within the designated record category as determined by OBF, or as mutually agreed, shall be used to distinguish the record. The current record type proposed is the 30-10-10 for detail ILEC. Records shall be transmitted in packs with appropriate header/trailer records as determined by OBF. ILEC shall provide the following data elements:

Record ID
Date Created
Line Range
(NPA, NXX, from line range, to line range; where from line range and to line range may be equal)
Line Range Type Indicator
L=ported, R=resale, N=non-PICable, P=paging, W=wireless/cellular,
X,Y,Z=local company use
Associated WTN (working telephone number)
Populated if the line range is a single number and Remote Call Forward is used. When Remote Call forward is used, this field is populated with the telephone number assigned by the CLEC.
BTN (billing telephone number)
Assumed to be associated with PTN from incumbent LEC or new LEC depending on which record it was received from.
Type of Change
A=add, C=change, D=delete
Effective Date
End date if received on record from incumbent LEC, start date if received on record from new LEC
Old OCN
Old OCN Name
New OCN
New OCN Name
New OCN Contact Name

New OCN Contact Number
Billing RAO
Send to RAO
Billing OCN
Billing Provider Name
Business/Residence Indicator
End User Billing Name
End User Billing Address
End User City, State, ZIP

4.2.2.2.4 When ILEC provides resale services, unbundled switching, or INP (through RCF or DID), ILEC shall send the above record whenever changes in local service provider occur subsequent to an initial change.

4.2.2.2.5 Prior to OBF resolution of this standard, ILEC agrees to work cooperatively with MCIm to implement an interim process to provide telephone number activity information in a timeframe and manner which is acceptable to MCIm. Subsequent to OBF resolution of this standard, ILEC agrees to implement the standard in accordance with the OBF resolution no later than ninety (90) days after the date of Final Closure at OBF.

4.2.2.2.6 Bill Name and Address (BNA)

4.2.2.2.6.1 At MCIm's request, ILEC shall provide to MCIm Bill Name and Address (BNA) for MCIm pic'd and non-pic'd subscribers via already-established CARE formats and processes, or another medium as MCIm may require. BNA shall be provided independent of other services and shall be at a cost no higher than ILEC's actual cost.

4.2.3 Product/Service Specific

4.2.3.2 ILEC shall provide a Specialized Service / Service Provider Charge record to support the Special Features Star Services if these features are part of ILEC's offering.

4.2.4 Emergency Information

4.2.4.2 ILEC shall provide the transport facility for transmitting usage and billing data between ILEC location and the MCIm location. ILEC shall transmit via NDM whenever possible. In the event usage transfer cannot be accommodated by NDM because of extended (one (1) business day or longer) facility outages, ILEC shall contract for a courier service to transport the data via tape

4.2.4.3 ILEC shall comply with the following standards when emergency data is transported to MCIm on tape or cartridge via a courier. The data shall be in fixed or variable block format as specified by MCIm and:

Tape: 9-track, 6250 (or 1600) BPI (Bytes per inch)
Cartridge: 38,000 BPI (Bytes per inch)
LRECL: 2,472 Bytes
Parity: Odd
Character Set: Extended Binary Coded Decimal Interchange Code (EBCDIC)
External labels: Exchange Carrier Name, Dataset Name (DSN) and volume serial number
Internal labels: IBM Industry OS labels shall be used. They consist of a single volume label and two sets of header and trailer labels.

4.2.5 Rejected Recorded Usage Data

4.2.5.1At the discretion of MCIm, any messages that cannot be rated and/or billed by MCIm may be returned to ILEC via NDM. Returned messages shall be sent directly to ILEC in EMR format. Standard EMR return codes shall be utilized.

4.2.5.2 The ILEC must return EMR/EMI records to IXCs with the OBF standard message reject code which indicates that ILEC no longer serves the end user and which includes the OCN/Local Service Provider ID of the new LEC/Reseller serving the end user.

4.2.5.3 Rejected messages or invoices shall be returned to MCIm in accordance with procedures and timeframes already established between ILEC and MCIm.

4.2.6 Interfaces

4.2.6.1 ILEC, at no cost to MCIm, shall transmit formatted Recorded Usage Data to MCIm via NDM as designated by MCIm.

4.2.6.2 MCIm shall notify ILEC of resend requirements if a pack or entire dataset must be replaced due to pack rejection, damage in transit, dataset name failure, etc.

4.2.6.3 Critical edit failure on the Pack Header or Pack Trailer records shall result in pack rejection (e.g., detail record count not equal to grand total included in the pack trailer). Notification of pack rejection shall be made by MCIm within one (1) business day of processing. Rejected packs shall be corrected by ILEC and retransmitted to MCIm within twenty-four (24) hours or within an alternate timeframe negotiated on a case by case basis.

4.2.6.4 A pack shall contain a minimum of one message record or a maximum of 9,999 message records plus a pack header record and a pack trailer record. A file transmission contains a maximum of 99 packs. A dataset shall contain a minimum of one pack. ILEC shall provide MCIm one dataset per sending location, with the agreed upon RAO/OCN populated in the Header and Trailer records.

4.2.7 Formats & Characteristics

4.2.7.1Rated in collect messages should be transmitted via the NDM and can be intermingled with the unrated messages. No special packing is needed

4.2.7.2EMR: ILEC shall provide Recorded Usage Data in the EMR format and by category, group and record type, and shall be transmitted, via a direct feed, to MCIm. The following is a list of EMR records that MCIm can expect to receive from ILEC:

Header Record	20-21-01
Trailer Record	20-21-02

Detail Records • 01-01-01, 06, 08, 09, 14, 17, 18, 31, 32, 35, 37, 80, 81, 82,
10-01-01, 06, 08, 09, 14, 17, 18, 31, 32, 35, 37
Credit Records 03-01-01, 06, 08, 09, 14, 17, 18, 31, 32, 35, 37, 80, 81, 82,
Rated Credits 41-01-01, 06, 08, 09, 14, 17, 18, 31, 32, 35, 37, 80, 81, 82,
Cancel Records 51-01-01, 06, 08, 09, 14, 17, 18, 31, 32, 35, 37, 80, 81, 82,
Correction Records 71-01-01, 06, 08, 09, 14, 17, 18, 31, 32, 35, 37, 80, 81, 82,

• Category 01 is utilized for Rated Messages; Category 10 is utilized for Unrated Messages. Category 10 records are to have indicator 13 populated with a value of 5

4.2.7.3 ILEC shall comply with the most current version of Bellcore standard practice guidelines for formatting EMR records.

4.2.7.4 The Interfacing Bell RAO, OCN, and Remote Identifiers shall be used by MCIm to control invoice sequencing and each shall have its own invoice controls. The OCN shall also be used to determine where the message returns file, containing any misdirected and unguidable usage, shall be sent.

4.2.7.5 The file's Record Format (RECFM) shall be Variable Block or fixed as negotiated, Size and the Logical Record Length (LRECL) shall be as specified by MCIm.

4.2.7.6 Initially, ILEC may elect not to comply with specific sorting requirements. However, MCIm may elect to require ILEC to sort PACKS in accordance with MCIm specifications at a later date.

4.2.7.7 ILEC shall transmit the usage to MCIm using dataset naming conventions prescribed by MCIm.

4.2.8 Controls

4.2.8.3 MCIm shall test and certify the NDM interface to ensure the accurate receipt of Recorded Usage Data.

4.2.8.4 Header and trailer records shall be populated in positions 13-27 with the following information:

Position	
13-14	Invoice numbers (1-99)
15-16	Bell Co. ID number
17-19	Interfacing Bell RAO Code
20-23	MCIm OCN - value 7229
24-27	Reseller OCN

The trailer grand total record count shall be populated with total records in pack (excluding header & trailer)

4.2.8.4 Control Reports: MCIm accepts input data provided by ILEC in EMR format in accordance with-the requirements and specifications detailed in this Section 8 of the Attachment III. In order to ensure the overall integrity of the usage being transmitted from ILEC to MCIm, data transfer control reports shall be required. These reports shall be provided by MCIm to ILEC on a daily or otherwise negotiated basis and reflect the results of the processing for each pack transmitted by ILEC.

4.2.8.5 Control Reports - Distribution: Since ILEC is not receiving control reports, dataset names shall be established during detailed negotiations.

4.2.8.6 Message Validation Reports: MCIm shall provide the following once(1) per day (or as otherwise negotiated) Message Validation reports to the designated ILEC System Control Coordinator. These reports shall be provided for all data received within ILEC Local Resale Feed and shall be transmitted Monday through Friday.

4.2.8.7 Incollect Pack Processing: This report provides vital statistics and control totals for packs rejected and accepted and dropped messages. The information is provided in the following report formats and control levels:

- ILEC Name
- Reseller Total Messages processed in a pack

- Packs processed shall reflect the number of messages initially erred and accepted within a pack
- Reseller Total Packs processed

4.2.8.8 MCIm requires information on a subscriber's selection of billing method, special language billing, and other billing options.

4.3 Standards

4.3.1 When requested by MCIm for security purposes, ILEC shall provide MCIm with Recorded Usage Data within two (2) hours of the call completion. If not available in EMR format, the Recorded Usage Data may be provided in AMA format.

4.3.2 ILEC shall include the Working Telephone Number (WTN) of the call originator on each EMR call record.

4.3.3 End user customer usage records and station level detail records shall be in packs in accordance with EMR standards.

4.3.4 ILEC shall provide Recorded Usage Data to MCIm on a schedule to be determined by the parties once a day three hundred sixty-five (365) days a year, as designated by MCIm. ILEC shall provide to MCIm the Recorded Usage Data not more than twenty-four (24) hours after termination of the call for which usage data is to be provided.

4.3.5 ILEC shall segregate and organize the Recorded Usage Data in accordance with MCIm's instructions.

4.4 Performance Measurements

4.4.1 When notified by MCIm that a subscriber has changed his/her PIC only from one interexchange carrier to another carrier, ILEC shall provision the PIC only change and convey the confirmation of the PIC change via the work order completion feed.

4.4.2 **Timelines:** ILEC shall mechanically transmit, via NDM, all usage records to MCIm's Message Processing Center once (1) per day.

Measurement:

Rating	Criteria
Exceeds Expectations	≥99.95% records delivered on the day call was recorded
Meets Expectations =	99.94% of all messages delivered on the day the call was recorded
Approaches Expectations =	99.94% of all messages delivered within 12 hours of the d ay the call was recorded
Does Not Meet Expectations	<99.94% of all messages delivered within12 hours of the d day the call was recorded

4.3.1 **Completeness:** ILEC shall provide all required Recorded Usage Data and ensure that it is processed and transmitted within thirty (15) days of the message create date.

Metric:

[(Total number of Recorded Usage Data records delivered during current month
minus
Number of Usage Call Records held in error file at the end of the current month)
divided by
Total number of Recorded Usage Data Records delivered during current month]
times 100

Measurement:

Rating	Criteria
Exceeds Expectations	100% of all recorded records delivered
Meets Expectations	≥99.99% of all recorded records delivered

Approaches Expectations	99.95% to 99.98% of recorded records delivered
Does Not Meet Expectations	≤99.94% of all recorded records delivered

Note: Failure of ILEC to transmit to MCIm 100% of all recorded messages shall result in a liability by ILEC to MCIm for the lost revenue.

4.3.2 Accuracy: ILEC shall provide Recorded Usage Data in the format and with the content as defined in the current Bellcore document.

Metric:

$$\frac{\text{Total Number of Recorded Usage Data Transmitted Correctly}}{\text{Total Number of Recorded Usage Data Transmitted}} \times 100$$

Measurement:

Rating	Criteria
Exceeds Expectations	100% of all recorded records delivered
Meets Expectations	≥99.99% of all recorded records delivered
Approaches Expectations	99.95% to 99.98% of all recorded records delivered
Does Not Meet Expectations	≤ 99-94% of all recorded records delivered

4.3.3 **Data Packs Accuracy**: ILEC shall transmit to MCIm all packs error free in the format agreed.

Rating	Criteria
Exceeds Expectations	6+ months of Transmitted Packs without a rejected pack
Meets Expectations	6 months of Transmitted Packs without a rejected pack
Does Not Meet Expectations	1 Rejected Pack in a window of less than 3 months

Notes: All measurements 4.4.5 shall be on a Rolling Period.

4.3.4 **Recorded Usage Data Accuracy**: ILEC shall ensure that the Recorded Usage Data is transmitted to MCIm error free. The level of detail includes, but is not limited to: detail required to Rating the call, Duration of the call, and Correct Originating/Terminating information pertaining to the call. The error is reported to ILEC as a Modification Request (MR). Performance is to be measured at 2 levels defined below. MCIm shall identify the priority of the MR at the time of hand off as Severity 1 or Severity 2. The following are MCIm expectations of ILEC for each:

Measurement:

Severity 1:

Rating	Criteria
Exceeds Expectations	100% of the MR fixed in ≤24 hours
Meets Expectations	≥90% of the MR fixed in ≤24 hours and 100% of the MR fixed in ≤5 days
Does Not Meet Expectations	<90% of the MR fixed in ≤24 hours or of the MR fixed in >5 days

Severity 2:

Rating	Criteria
Exceeds Expectations	100% of the MR fixed in <3 working days
Meets Expectations	≥90% of the MR fixed in 3 days and of the MR fixed in ≤10 Days
Does Not Meet Expectations or	<90% of the MR fixed In ≤3 Days of the MR fixed in >10 Days

4.3.5 Usage Inquiry Responsiveness: ILEC shall respond to all usage inquiries within twenty-four (24) hours of MCIm's request for information. It is MCIm's expectation to receive continuous status reports until the request for information is satisfied.

Measurements:

Rating	Criteria

Meets Expectations 100% of the Inquires responded to within 24 hours
Does Not Meet Expectations <99.99% of the Inquiries responded to within 24 hours

4.3.6 **File Transfer Accuracy:** ILEC shall initiate and transmit all files error free and without loss of signal.

Metric:

$$\frac{\text{Number of FILES Received}}{\text{Number of FILES Sent}} \times 100$$

Notes: All measurement shall be a on a rolling period.

Measurement:

Rating	Criteria
Exceeds Expectations	6+ months of file transfers without a failure.
Meets Expectations	6 months of file transfers without a failure.
Does Not Meet Expectations	<6 months of file transfers without failure.

4.3.7 ILEC shall meet the following performance measurements for the provision of EMR records:

4.3.7.1 **Timeliness**: 99.94% of all records recorded each day should be received by MCIm within one (1) calendar day of their recording. 100% of all such records should be received within five (5) calendar days of their recording.

4.3.7.2 **Accuracy:** There should be no more than 60 errors per one (1) million records transmitted

4.3.7.3 **Completeness:** There should be no more than 20 omissions per one (1) million records.

4.4 Reporting

4.4.1 ILEC shall agree to develop reports to be used for local usage data performance measurement within (sixty) 60 days of the Effective Date of this Agreement.

4.4.2 In addition to the reporting requirements stated above ILEC shall produce and publish annually with respect to it's network and service quality performance, a report which will provide evidence that ILEC shows no undue discrimination by ILEC amongst CLECs or between ILEC retail and other CLECs with respect to quality of service.

4.4.2.1 The specific services to be included in the Performance Measurement Report, it's format, measurement timeframe, and initial implementation date shall be as required by MCIm.

Section 5. Maintenance

5.1 General Requirements

5.1.1 ILEC shall provide repair, maintenance, testing, and surveillance for all Local Services and unbundled Network Elements and Combinations in accordance with the terms and conditions of this Agreement.

5.1.1.1 During the term of this Agreement, ILEC shall provide necessary maintenance business process support as well as those technical and systems interfaces required to enable MCIm to provide at least the same level and quality of service for all services for resale, functions, features, capabilities and unbundled elements or combinations of elements as ILEC provides itself, its subscribers any of its affiliated or subsidiaries or any other entity. ILEC shall provide MCIm with the same level of maintenance support as ILEC provides itself in accordance with standards and performance measurements that are at least equal to the highest level of standards and/or performance measurements that ILEC uses and/or which are required by law, regulatory agency, or by ILEC's own internal procedures, whichever are the most rigorous. These standards shall apply to the quality of the technology, equipment, facilities, processes, and techniques (including, but not limited to, such new architecture, equipment, facilities, and interfaces as ILEC may deploy) that ILEC provides to MCIm under this Agreement.

5.1.1.2 ILEC shall provide a SPOC (Single Point of Contact) for MCIm to report via telephone maintenance issues and trouble reports twenty four (24) hours a day and seven (7) days a week.

5.1.1.3 ILEC shall provide MCIm maintenance dispatch personnel on the same schedule that they provide their own subscribers.

5.1.2 MCIm shall handle all interaction with MCIm subscribers including all calls regarding service problems, scheduling of technician visits, and notifying the subscriber of trouble status and resolution.

5.1.3 ILEC shall cooperate with MCIm to meet maintenance standards for all Telecommunications Services, unbundled network elements and Combinations ordered under this Agreement. Such maintenance standards shall include, without limitation, standards for testing, network management, call gapping, and notification of upgrades as they become available.

5.1.4 All ILEC employee or contractors who perform repair service for MCIm subscribers shall follow procedures, supplied by MCIm, in all their communications with MCIm subscribers. At a minimum, these procedures and protocols shall ensure that: (1) ILEC employees or contractors shall perform repair service that is at least equal in quality to that provided to ILEC subscribers; (2) trouble calls from MCIm subscribers shall receive response time priority that is at least equal to that of ILEC subscribers and shall be handled on a "first come first served" basis regardless of whether the subscriber is an MCIm subscriber or an ILEC subscriber.

5.1.5 ILEC shall provide MCIm with scheduled maintenance, including, without limitation, required and recommended maintenance intervals and procedures, for all Telecommunications Services, network elements and Combinations provided to MCIm under this Agreement equal in quality to that currently provided by ILEC in the maintenance of its own network.

5.1.5.1 ILEC shall provide MCIm at least sixty (60) days advance notice of any scheduled maintenance activity which may impact MCIm's subscribers including a list of all services, elements, features, functions, and capabilities which may be impacted by ILEC maintenance activities.

5.1.5.2 Plans for scheduled maintenance shall include, at a minimum, the following information: location and type of facilities, specific work to be performed, date and time work is scheduled to commence, work schedule to be followed, date and time work is scheduled to be completed, estimated number of work-hours for completion.

5.1.6 ILEC shall notify MCIm of all non-scheduled maintenance, testing, monitoring, and surveillance activity to be performed by ILEC on any network element, including, without limitation, any

hardware, equipment, software, or system, providing service functionality which may potentially impact MCIm subscribers.

5.1.6.1 ILEC shall provide the maximum advance notice of such non-scheduled maintenance and testing activity possible, under the circumstances; but in no case shall notice be given to MCIm after the work has started to take place.

5.1.6.2 ILEC shall provide emergency maintenance as promptly as possible to maintain or restore service and shall advise MCIm promptly of any such actions it takes.

5.1.7 ILEC shall provide MCIm a detailed description of any and all emergency restoration plans and disaster recovery plans which are in place during the term of this Agreement. Such plans shall include, at a minimum, the following: (i) provisions for immediate notification to MCIm of the existence, location, and source of any emergency network outage potentially affecting an MCIm subscriber; (ii) establishment of a single point of contact responsible for initiating and coordinating the restoration of all Local Services and Network Elements or Combinations; (iii) methods and procedures to provide MCIm with real-time access to information relating to the status of restoration efforts and problem resolution during the restoration process; (iv) an inventory and description of mobile restoration equipment, by location; (v) methods and procedures for the dispatch of mobile equipment to the restoration site; (vi) methods and procedures for reprovisioning of all Telecommunications Services and network elements or Combinations after initial restoration, (vii) equal priority, as between MCIm subscribers and ILEC subscribers, for restoration efforts, consistent with FCC Service Restoration guidelines, including, without limitation, deployment of repair personnel, and access to spare parts and components, and (viii) a mutually agreeable process for escalation of maintenance problems, including a complete, up-to-date list of responsible contacts, each available twenty-four (24) hours per day, seven (7) days per week.

5.1.7.1 For purposes of this subsection 5.1, an emergency network outage is defined as 5,000 or more blocked call attempts in a ten (10) minute period for all subscribers in a single exchange.

5.1.8 ILEC and MCIm shall establish mutually acceptable methods and procedures for the immediate, on-line transfer from ILEC to MCIm of any and all misdirected calls from MCIm subscribers requesting repair.

5.1.9 ILEC shall inform MCIm of repair completion and trouble reason as soon as possible but not more than ten (10) minutes after restoration of network elements, or Combinations, and any other trouble reports by MCIm. Notification should be provided via phone (as an interim measure), and eventually electronic interface.

5.1.10 ILEC and MCIm shall mutually develop escalation procedures to be followed if, in MCIm's judgment, any performance standard defined in this Agreement is not met for any individual trouble report. The escalation procedures to be provided shall include names and telephone numbers of ILEC management personnel who are responsible for maintenance issues and who will be contacted when a trouble condition is escalated.

5.1.11 In the event ILEC shall fail to conform to any specified performance and service quality standards, MCIm may request, and ILEC shall perform and deliver to MCIm, a root cause analysis of the reasons for ILEC's failure to conform, and ILEC shall correct said cause as soon as possible, at its own expense.

5.1.12 Dispatching of ILEC technicians to MCIm subscriber premises shall be accomplished by ILEC pursuant to a request received from MCIm. MCIm shall be able to schedule maintenance appointments in half-day intervals. The electronic interface established pursuant to subsection 5.2 shall provide the capability of allowing MCIm to receive trouble reports, analyze and sectionalize the trouble, determine whether it is necessary to dispatch a service technician to the customer's premises, and verify any actual work completed on the customer's premises.

5.1.13 ILEC shall supply MCIm with a unique number to identify each MCI initial trouble report opened.

5.1.14 ILEC shall provide for resale any maintenance/protection plans to MCIm that it offers ILEC's own subscribers.

5.1.15 All MCIm subscribers shall be able to continue to use the established local dialing protocol to access the repair center. Upon dialing "611", the subscriber shall be presented with a non-branded menu that requests the input of the subscriber's telephone number. Once the telephone number is provided, the subscriber shall be transferred to the MCIm repair center. Whenever the ILEC receives a repair call directly from an MCIm subscriber, without voice response menu prompts, the call shall be unbranded and transferred to the appropriate MCIm repair center.

5.1.16 At MCIm's request, ILEC shall allow MCIm to reopen a trouble report if the initial trouble report was closed without repairs being performed to the subscriber's satisfaction. Such reopening shall reactivate the original report. For reopened trouble reports MCIm shall have the ability to escalate repair service requests.

5.1.17 ILEC shall notify MCIm via phone or electronic interface upon completion of trouble report. The report shall not be considered closed until such notification is made. MCIm will contact its subscriber to determine if repairs were completed and confirm the trouble no longer exists.

5.1.18 Additional Unbundling Requirements

5.1.19 When trouble is reported by a subscriber served through unbundled network elements, MCIm will test its network to identify any problems. If no problems are identified with the MCIm network, MCIm will open a trouble report with ILEC. ILEC shall then test its portion of the network and perform repairs as required in the timeframes set forth below in this Agreement.

5.1.19.1 MCIm will coordinate combined testing or repair activities until trouble is resolved. ILEC shall provide repair updates to MCIm.

5.1.20 Maintenance service options shall be unbundled to permit MCIm at its option use qualified third party contractors for maintenance/repair of Network Elements.

5.2 Systems Interfaces and Information Exchanges

5.2.1 ILEC shall cooperate with MCIm to establish real-time, electronic interface by MCIm to ILEC's maintenance systems and

databases. This interface shall be seamless and transparent to MCIm personnel working through MCIm's systems.

5.2.1.1 An electronic bond will be a system to system connection with immediate update capability. In no way shall this interface cause MCIm personnel to use ILEC systems via remote hook up or any other means of access.

5.2.1.2 This interface shall allow MCIm personnel to perform the following functions for MCIm subscribers: (i) enter trouble reports in the ILEC maintenance systems for an MCIm Subscriber, (ii) retrieve and track current status on all MCIm subscriber trouble report; (iii) receive "estimated time to repair" ("ETTR") on a real-time basis; (iv) receive immediate notification in the event a repair person is unable to be present for, or anticipates missing, a scheduled repair appointment, and (v) retrieve all applicable time and material charges at the time of ticket closure (itemized by time spent, price of materials used, procedures employed, amounts incurred in each such category, and total by subscriber, per event (vi) receive automated notification of case closure.

5.2.1.3 Automated interfaces must be provided into a centralized operations support systems data base for real time network monitoring to proactively identify potential service degradation. Such systems must monitor and report on the integrity of the ILEC network, isolate trouble and initiate repair operations, test individual unbundled loops and generate maintenance and repair notices that impact any end user's ability to complete calls. Ongoing maintenance practices on unbundled loops must equal or exceed the practices employed by the ILEC for facilities used to provide services for resale.

5.2.1.4 ILEC agrees to develop and implement, as soon as possible but not later than January 1, 1997, the electronic interfaces described above.

5.2.2 ILEC agrees that MCIm may report troubles directly to a single ILEC Repair/Maintenance Center for both residential and business subscribers unless otherwise agreed to by MCIm.

5.2.3 ILEC shall perform all testing for Resale Services.

5.2.3.1 ILEC shall provide test results to MCIm, if appropriate, for trouble clearance. In all instances, ILEC will provide MCIm with the disposition of the trouble.

5.2.3.2 If ILEC initiates trouble handling procedures it will bear all costs associated with that activity. If MCIm requests the trouble dispatch then MCIm's subscriber will bear the cost.

5.2.4 ILEC shall provide to MCIm the ability to obtain the status on open maintenance trouble reports via telephone or by another interface as MCIm may agree. ILEC agrees to provide the status of residence and small business trouble reports upon MCIm's request.

5.2.5 ILEC agrees to provide to MCIm the status for open maintenance trouble reports for large business subscribers anytime the status of the trouble report changes or at MCIm's request.

5.2.6 ILEC agrees that MCIm may call ILEC to verify central office features and functions as they relate to an open trouble report. ILEC agrees to work with MCIm on the initial trouble report to isolate the cause of the trouble and, where possible, resolve the feature/function related trouble at that time.

5.2.7 ILEC agrees to proactively advise MCIm of any central office failure that is known at the time of any inquiry or trouble report. ILEC agrees to continue to work with MCIm toward implementing a process to meet MCIm's requirements for notification of switch failures as soon as possible.

5.2.8 ILEC agrees to provide an Estimated Time To Repair (ETTR) on all residence and small business trouble reports.

5.2.9 ILEC agrees to develop, with MCIm's cooperation, mutually acceptable workcenter interface agreements to document methods and procedures for interim and final interfaces for each service within (30) thirty days the effective date of this Agreement of MCIm's notice to ILEC of it's initiation of that service.

5.3 Standards

5.3.1 Maintenance charges for premises visits by ILEC employees or contractors shall be billed by MCIm to its subscriber.

5.3.1.1 ILEC employees or contractors shall, present the subscriber with an MCIm provided, MCIm-branded form detailing the time spent, the materials used and an indication that the trouble has either been resolved, or that additional work will be necessary.

5.3.1.2 If additional work is required, ILEC employees or contractors shall call MCIm from subscriber premises so that MCIm can schedule a new appointment with ILEC and subscriber at the same time.

5.3.1.3 The ILEC employees or contractors shall obtain the subscriber's signature upon said form, and use the signed form to input maintenance charges into the ILEC repair and maintenance database (accessible by way of electronic interface). These charges shall include any charges for inside wiring work by ILEC employees or contractors.

5.3.2 ILEC agrees to work with MCIm to support expeditious development of an industry standard trouble report entry format and agrees to implement such standard within sixty (60) days after final resolution by the Network Operation Forum (NOF).

5.4 Performance Measurements and Reporting

5.4.1 Cycle Time Measurements

5.4.1.1 Until electronic interface exists, ILEC agrees that MCIm may report troubles to ILEC's repair bureau by telephone and or dial up modem at MCIm's discretion. ILEC repair bureau shall conform to the following performance and service quality standards when providing repair and maintenance to MCIm and MCIm subscribers under this Agreement:

5.4.1.2 When repair service is provided to MCIm subscribers before an electronic interface is established between MCIm and ILEC, the following standards shall

apply (calls placed on hold shall not be considered to meet these standards):

Maintenance Function	Performance Measurement
Incoming call answered within 20 seconds	95 % met
Incoming call answered within 30 seconds	98 % met
Incoming call answered within 40 seconds	100 % met
Automated call from modem answered on 1st ring	80 % met
Automated call from modem answered on 2nd ring	100 % met

5.4.1.3 The ILEC repair bureau shall answer its telephone and begin taking information from MCIm within twenty (20) seconds of the first ring, ninety-five percent (95%) of the time; within thirty (30) seconds of the first ring, ninety-eight percent (98%) of the time; and within forty (40) seconds of the first ring, one hundred percent (100%) of the time. Calls answered by automated response systems via a modem must be answered on the 1st ring eighty percent (80%) of the time and by the second ring one hundred percent (100%) of the time.

5.4.1.4 For all residence and small business trouble reports, ILEC agrees to adhere to repair intervals of (24) twenty-four hours for any out of service trouble tickets and (72) seventy-two hours for any non-out of service trouble tickets.

5.4.1.5 In the event the "estimated time to restore" has been missed, ILEC shall notify MCIm immediately.

5.4.1.6 Emergency network outages shall be restored within one (1) hour. The only exception to this shall be in the case of a Force Majeure event affecting an entire exchange.

5.4.1.6.1 Number of emergency network outages recorded within one (12) twelve month period shall not exceed 2.

5.4.1.7 Where an outage has not reached the threshold defining an emergency network outage, the following quality standards shall apply with respect to restoration of services.

5.4.1.7.1 Total outages requiring a premises visit by an ILEC technician that are received between 8 a.m. to 6 p.m. on any day shall be restored within four (4) hours of referral, ninety percent (90%) of the time within eight (8) hours of referral, ninety-five percent (95%) of the time, and within sixteen (16) hours of referral, ninety-nine percent (99%) of the time.

5.4.1.7.2 Total outages requiring a premises visit by a ILEC technician that are received between 6 p.m.

and 8 a.m. on any day shall be restored during the following 8 a.m. to 6 p.m. period in accordance with the following performance metrics: within four (4) hours of 8 a.m., ninety percent (90%) of the time. within eight (8) hours of 8 a.m., ninety-five percent (95%) of the time and within sixteen (16) hours of 8 a.m., ninety-nine percent (99%) of the time.

5.4.1.7.3 Total service outages which do not require a premises visit by a ILEC technician shall be restored within two (2) hours of referral, eighty-five percent (85%) of the time; within three (3) hours of referral, ninety-five percent (95%) of the time; and within four (4) hours of referral, ninety-nine percent (99%) of the time.

5.4.1.8 For maintenance and trouble management purposes, Telephone Service Prioritization (TSP) and Essential Services outages shall be designated for repair at the highest priority one hundred percent (100%) of the time.

5.4.1.9 Trouble reports for other than total service outage shall be resolved within twenty-four (24) hours of referral, ninety-five percent (95%) of the time, irrespective of whether or not resolution requires a premises visit. For purposes of this Section 5, service will be considered restored, or a trouble considered resolved, when the quality of the service is equal to that provided before the outage or the trouble occurred.

5.4.1.10 Repeat trouble reports from the same subscriber on the same service in a two-month period shall be less than one percent (1 %). Repeat trouble reports shall be measured by the number of calls received by the ILEC repair bureau relating to the same telephone service during the current and previous report months.

5.4.1.11 To support unbundling processes, ILEC agrees to support trouble sectionalization and resolution and to respond to MCIm requests for assistance within 1 hour for scheduling of testing personnel.

5.4.2 Quality

5.4.2.1 The ILEC repair bureau, including the electronic interface to be established pursuant to Section 2 preceding, shall be on-line and operational twenty-four (24) hours per day, seven (7) days per week.

5.4.2.2 The ILEC repair bureau shall provide to MCIm the "estimated time to restore," with at least ninety-seven percent (97%) percent accuracy.

5.4.3 Reporting

5.4.3.1 ILEC shall provide exception reporting which communicates both planned and unplanned outages and restorations to MCIm.

5.4.3.2 ILEC shall provide monthly performance reports detailing overall performance in repairing service, including comparative results for ILEC's own subscribers. Reports will contain at a minimum the following information presented by State, Area Code, NXX, Product Feature, and will be delivered monthly with daily information detail:

- 5.4.3.2.1 Jeopardies
  - 5.4.3.2.1.1 Total number
  - 5.4.3.2.1.2 As a percentage of trouble tickets
- 5.4.3.2.2 Appointments
  - 5.4.3.2.2.1 Total number
- 5.4.3.2.3 Missed appointments
  - 5.4.3.2.3.1 Total number
  - 5.4.3.2.3.2 As a percentage of total appointments
- 5.4.3.2.4 Repeat troubles
  - 5.4.3.2.4.1 Total number
  - 5.4.3.2.4.2 As a percentage of total troubles
- 5.4.3.2.5 Planned outages
  - 5.4.3.2.5.1 Total number
  - 5.4.3.2.5.2 As a percentage of total outages
- 5.4.3.2.6 Unplanned outages
  - 5.4.3.2.6.1 Total number
  - 5.4.3.2.6.2 As a percentage of total outages

5.4.3.2.7	Total number of trouble identified proactively.
5.4.3.2.8	Total number of proactive troubles repaired
5.4.3.2.9	Total number of subscriber affected by a network alarm
5.4.3.2.10	Total time to notify MCIm of a network alarm
5.4.3.2.11	Total number of service interruptions
5.4.3.2.12	Total number of mechanized loop tests performed
5.4.3.2.13	Total number of emergency network outages as defined by 5,000 or more blocked call attempts in a ten minute period

5.4.3.3MCIm may, at its discretion, further require additional and/or modified reporting as business needs demand.

Section 6. Miscellaneous Services & Functions

6.1 General Requirements

6.1.1 Basic 911 and E911 General Requirements

6.1.1.1 Basic 911 and E911 provides a caller access to the appropriate emergency service bureau by dialing a 3-digit universal telephone number (911). Basic 911 and E911 access from Local Switching shall be provided to MCIm in accordance with the following:

6.1.1.2 E911 shall provide additional routing flexibility for 911 calls. E911 shall use customer data, contained in the Automatic Location Identification/ Data Management System (ALI/DMS), to determine to which Public Safety Answering Point (PSAP) to route the call.

6.1.1.3 If available, ILEC shall offer a third type of 911 service, S911. All requirements for E911 also apply to S911 with the exception of the type of signaling used on the interconnection trunks from the local switch to the S911 tandem.

6.1.1.4 Basic 911 and E911 functions provided to MCIm shall be at least at parity with the support and services that ILEC provides to its customers for such similar functionality.

6.1.1.5 Basic 911 and E911 access from Local Switching shall be provided to MCIm in accordance with the following:

6.1.1.5.1 ILEC shall conform to all state regulations concerning emergency services.

6.1.1.5.2 For E911, ILEC shall use its service order process to update and maintain customer information in the ALI/DMS data base. Through this process, ILEC shall provide and validate customer information resident or entered into the ALI/DMS data base.

6.1.1.6 ILEC shall provide for overflow 911 traffic to be routed to ILEC Operator Services or, at MCIm's discretion, directly to MCIm operator services.

6.1.1.7 Basic 911 and E911 access from the MCIm local switch shall be provided to MCIm in accordance with the following:

6.1.1.7.1 If required by MCIm, ILEC shall interconnect direct trunks from the MCIm network to the E911 PSAP, or the E911 tandems as designated by MCIm. Such trunks may alternatively be provided by MCIm.

6.1.1.7.2 In government jurisdictions where ILEC has obligations under existing agreements as the primary provider of the 911 System to the county, MCIm shall participate in the provision of the 911 System as follows:

6.1.1.7.2.1 Each party shall be responsible for those portions of the 911 System for which it has control, including any necessary maintenance to each party's portion of the 911 System.

6.1.1.7.2.2 Host ILEC shall be responsible for maintaining the E-911 database. ILEC shall be responsible for maintaining the E-911 database.

6.1.1.7.3 If a third party, is the primary service provider to a government agency, MCIm shall negotiate separately with such third party with regard to the provision of 911 service to the agency. All relations between such third party and MCIm are totally separate from this Agreement and ILEC makes no representations on behalf of the third party.

6.1.1.7.4 If MCIm or Affiliate is the primary service provider to a government agency, MCIm and ILEC shall negotiate the specific provisions necessary for providing 911 service to the agency and shall include such provisions in an amendment to this Agreement.

6.1.1.7.5 Interconnection and database access shall be priced as specified in Attachment I or at any rate

charged to other interconnected carriers, whichever is lower.

6.1.1.7.6 ILEC shall comply with established, competitively neutral intervals for installation of facilities, including any collocation facilities, diversity requirements, etc.

6.1.1.7.7 In a resale situation, where it may be appropriate for ILEC to update the ALI database, ILEC shall update such database with MCIm data in an interval no less than is experienced by ILEC customers, or than for other carriers, whichever is faster, at no additional cost.

6.1.1.8 ILEC shall provide to MCIm, no later than five days after the Effective Date of this Agreement, the emergency public agency (e.g. police, fire, rescue, poison, and bomb) telephone numbers linked to all NPA NXXs for the states in which they provide service.

6.1.1.9 ILEC shall transmit to MCIm daily all changes, alterations, modifications, and updates to the emergency public agency telephone numbers linked to all NPA NXX's. This transmission shall be electronic and be a separate feed from the subscriber listing feed.

6.1.1.10 ILEC shall provide to MCIm the necessary Network Elements in order for MCIm to provide E911/911 services to government agencies no later than January 1, 1997. If such elements are not available from ILEC, ILEC shall offer E911/911 service for resale by MCIm to government agencies.

6.1.1.11 The following are Basic 911 and E911 Database Requirements:

6.1.1.11.1 The ALI database shall be managed by ILEC, but is the property of ILEC and any participating telephone company and ALEC for those records provided by the company.

6.1.1.11.2 Copies of the MSAG shall be provided within three business days from the time requested

and provided on diskette, magnetic tape, or in a format suitable for use with desktop computers.

6.1.1.11.3 MCIm shall be solely responsible for providing MCIm database records to ILEC for inclusion in ILEC's ALI database on a timely basis.

6.1.1.11.4 ILEC and MCIm shall arrange for the automated input and periodic updating of the E911 database information related to MCIm end users. ILEC shall work cooperatively with MCIm to ensure the accuracy of the data transfer by verifying it against the Master Street Address Guide (MSAG). ILEC shall accept electronically transmitted files or magnetic tape that conform to National Emergency Number Association (NENA) Version #2 format.

6.1.1.11.5 MCIm shall assign an E911 database coordinator charged with the responsibility of forwarding MCIm end user ALI record information to ILEC or via a third-party entity, charged with the responsibility of ALI record transfer. MCIm assumes all responsibility for the accuracy of the data that MCIm provides to ILEC.

6.1.1.11.6 MCIm shall provide information on new subscribers to ILEC within one (1) business day of the order completion. ILEC shall update the database within two (2) business days of receiving the data from MCIm. If ILEC detects an error in the MCIm provided data, the data shall be returned to MCIm within two (2) business days from when it was provided to ILEC. MCIm shall respond to requests from ILEC to make corrections to database record errors by uploading corrected records within two (2) business days. Manual entry shall be allowed only in the event that the system is not functioning properly.

6.1.1.11.7 ILEC agrees to treat all data on MCIm subscribers provided under this agreement as strictly confidential and to use data on MCIm subscribers only for the purpose of providing E911 services.

6.1.1.11.8 ILEC shall adopt use of a Carrier Code (NENA standard five-character field) on all ALI records received from MCIm. The Carrier Code will be used to identify the carrier of record in INP configurations. The NENA Carrier Code for MCIm is "MCIm".

6.1.1.11.9 ILEC shall identify which ALI databases cover which states, counties or parts thereof, and identify and communicate a Point of Contact for each.

6.1.1.12 The following are basic 911 and E911 Network Requirements:

6.1.1.12.1 ILEC, at MCIm's option, shall provide a minimum of two (2) E911 trunks per Numbering Plan Area (NPA) code, or that quantity which will maintain P.01 transmission grade of service, whichever is the higher grade of service. These trunks will be dedicated to routing 911 calls from MCIm's switch to a ILEC selective router.

6.1.1.12.2 ILEC shall provide the selective routing of E911 calls received from MCIm's switching office. This includes the ability to receive the ANI of MCIm's subscriber, selectively route the call to the appropriate PSAP, and forward the subscriber's ANI to the PSAP. ILEC shall provide MCIm with the appropriate CLLI codes and specifications regarding the tandem serving area associated addresses and meetpoints in the network.

6.1.1.12.3 Copies of Selective Routing Boundary Maps shall be available to MCIm. Each map shows the boundary around the outside of the set of exchange areas served by that selective router. The map provides MCIm the information necessary to set up its network to route E911 callers to the correct selective router.

6.1.1.12.4 MCIm shall ensure that its switch provides an eight-digit ANI consisting of an information digit and the seven-digit exchange code. MCIm shall also ensure that its switch provides the

line number of the calling station. Where applicable, MCIm shall send a ten-digit ANI to ILEC.

6.1.1.12.5 Each ALI discrepancy report shall be jointly researched by ILEC and MCIm. Corrective action shall be taken immediately by the responsible party.

6.1.1.12.6 The ILEC controlling the 911 network should provide MCIm with a detailed written description of, but not limited to, the following information:

6.1.1.12.6.1 Geographic boundaries of the government entities, PSAPs, and exchanges as necessary.

6.1.1.12.6.2 LECs rate centers/exchanges, where "Rate Center" is defined as a geographically specified area used for determining mileage dependent rates in the Public Switched Telephone Network.

6.1.1.12.6.3 Technical specifications for network interface, Technical specifications for database loading and maintenance.

6.1.1.12.7 ILEC shall identify special routing arrangements to complete overflow.

6.1.1.12.8 ILEC shall begin restoration of E911 and/or E911 trunking facilities immediately upon notification of failure or outage. ILEC must provide priority restoration of trunks or networks outages on the same terms/conditions it provides itself and without the imposition of Telecommunications Service Priority (TSP).

6.1.1.12.9 ILEC shall identify any special operator-assisted calling requirements to support 911.

6.1.1.12.10 Trunking shall be arranged to minimize the likelihood of central office isolation due to cable cuts or other equipment failures. There will be an

alternate means of transmitting a 911 call to a PSAP in the event of failures.

6.1.1.12.11 Circuits shall have interoffice, loop and carrier system diversity when such diversity can be achieved using existing facilities. Circuits will be divided as equally as possible across available carrier systems. Diversity will be maintained or upgraded to utilize the highest level of diversity available in the network.

6.1.1.12.12 Equipment and circuits used for 911 shall be monitored at all times. Monitoring of circuits shall be done to the individual circuit level. Monitoring shall be conducted by ILEC for trunks between the tandem and all associated PSAPs.

6.1.1.12.13 Repair service shall begin immediately upon receipt of a report of a malfunction. Repair service includes testing and diagnostic service from a remote location, dispatch of or in-person visit(s) of personnel. Technicians will be dispatched without delay.

6.1.1.12.14 All 911 trunks must be capable of transmitting and received Baudot code necessary to support the use of Telecommunications Devices for the Deaf (TTY/TDDs).

6.1.1.13 Basic 911 and E911 Additional Requirements

6.1.1.13.1 All MCIm lines that have been ported via INP shall reach the correct PSAP when 911 is dialed. ILEC shall send both the ported number and the MCIm number (if both are received from MCIm). The PSAP attendant shall see both numbers where the PSAP is using a standard ALI display screen and the PSAP extracts both numbers from the data that is sent.

6.1.1.13.2 ILEC shall work with the appropriate government agency to provide MCIm the ten-digit POTS number of each PSAP which sub-tends each

ILEC selective router/911 tandem to which MCIm is interconnected.

6.1.1.13.3 ILEC shall notify MCIm 48 hours in advance of any scheduled testing or maintenance affecting MCIm 911 service, and provide notification as soon as possible of any unscheduled outage affecting MCIm 911 service.

6.1.1.13.4 MCIm shall be responsible for reporting all errors, defects and malfunctions to ILEC. ILEC shall provide MCIm with the point of contact for reporting errors, defects, and malfunctions in the service and shall also provide escalation contacts.

6.1.1.13.5 MCIm may enter into subcontracts with third parties, including MCIm affiliates, for the performance of any of MCIm's duties and obligations stated herein.

6.1.1.13.6 ILEC shall provide sufficient planning information regarding anticipated moves to SS7 signaling for the next 12 months.

6.1.1.13.7 ILEC shall provide notification of any pending tandem moves, NPA splits, or scheduled maintenance outages, with enough time to react.

6.1.1.13.8 ILEC shall identify process for handling of "reverse ALI" inquiries by public safety entities.

6.1.1.13.9 ILEC shall establish process for the management of NPA splits by populating the ALI database with the appropriate new NPA codes.

6.1.1.13.10 ILEC must provide the ability for MCIm to update 911 database with end user information for lines that have been ported via INP or NP.

6.1.2 Directory Assistance Service

6.1.2.1 ILEC shall provide for the routing of directory assistance calls (including but not limited to 411, 555-1212,

NPA-555-1212) dialed by MCIm subscribers directly to either the MCIm DA service platform or ILEC DA service platform as specified by MCIm.

6.1.2.2 MCIm subscribers shall be provided the capability by ILEC to dial the same telephone numbers for access to MCIm Directory Assistance that ILEC subscribers to access ILEC Directory Assistance.

6.1.2.3 ILEC shall provide Directory Assistance functions and services to MCIm for its subscribers as described below until, at MCIm's discretion, ILEC routes calls to the MCIm Directory Assistance Services platform.

6.1.2.3.1 ILEC agrees to provide MCIm subscribers with the same Directory Assistance service available to ILEC subscribers.

6.1.2.3.2 ILEC shall notify MCIm in advance of any changes or enhancements to its DA service, and shall make available such service enhancements on a non-discriminatory basis to MCIm.

6.1.2.3.3 ILEC shall provide Directory Assistance to MCIm subscribers in accordance with ILEC's internal operating procedures and standards, which shall, at a minimum, comply with accepted professional and industry standards.

6.1.2.3.4 ILEC shall provide MCIm with the same level of support for the provisioning of Directory Assistance as ILEC provides itself. Quality of service standards shall be in accordance with standards and performance measurements that are at least equal to the highest level of standards and/or performance measurements that ILEC uses and/or which are required by law, regulatory agency, or by ILEC's own internal procedures, whichever are the most rigorous.

6.1.2.3.5 Service levels shall comply, at a minimum, with State Regulatory Commission requirements for number of rings to answer, average work time, and disaster recovery options.

6.1.2.3.6 ILEC agrees to maintain an adequate operator work force based on a review and analysis of actual call attempts and abandonment rate.

6.1.2.3.7 MCIm or its designated representatives may inspect any ILEC owned or sub-contracted office, which provides DA services, upon 2 days notice to ILEC.

6.1.2.3.8 Directory Assistance services provided by ILEC to MCIm subscribers shall be branded as required by MCIm. Branding includes front-end, back-end, and non-branding to be determined by MCIm. MCIm shall have the option of providing its own branding materials.

6.1.2.3.9 ILEC shall provide the following minimum Directory Assistance capabilities to MCIm's subscribers:

6.1.2.3.9.1 A minimum of two subscriber listings and/or addresses or ILEC parity per MCIm subscriber request.

6.1.2.3.9.2 Name and address to MCIm subscribers upon request, except for unlisted numbers, in the same states where such information is provided to ILEC subscribers.

6.1.2.3.9.3 Upon request, call completion to the requested number for local and intraLATA toll calls shall be sent to the network specified by MCIm. Rating and billing shall be done by MCIm.

6.1.2.3.9.4 Populate the Directory Assistance database in the same manner and in the same time frame as for ILEC subscribers.

6.1.2.3.9.5 Any information provided by a Directory Assistance Automatic Response Unit (ARU) shall be repeated the same number of times for MCIm subscribers as for ILEC's subscribers.

6.1.2.3.9.6 When requested by MCIm, ILEC shall provide instant credit on directory assistance calls as provided to ILEC subscribers or shall inform MCIm subscribers to call an 800 number for MCIm customer service to request a credit. ILEC shall provide one 800 number for business subscribers and another for residential subscribers.

6.1.2.4 ILEC shall provide data regarding billable events as requested by MCIm.

6.1.3 Operator Services

6.1.3.1 ILEC shall provide for the routing of local operator services calls (including but not limited to 0+, 0-) dialed by MCIm subscribers directly to either the MCIm operator service platform or ILEC operator service platform as specified by MCIm

6.1.3.2 MCIm subscribers shall be provided the capability by ILEC to dial the same telephone numbers to access MCIm operator service that ILEC subscribers dial to access ILEC operator service.

6.1.3.3 ILEC shall provide Operator Services to as described below until, at MCIm's discretion, ILEC routes calls to the MCIm Local Operator Services platform.

6.1.3.3.1 ILEC agrees to provide MCIm subscribers the same Operator Services available to ILEC subscribers. ILEC shall make available its service enhancements on a non-discriminatory basis at cost.

6.1.3.3.2 Operator Services provided to MCIm subscribers shall be branded as required by MCIm. Branding options include front-end, back-end, and non-branding as specified by MCIm. MCIm has the option of providing its own branding materials.

6.1.3.3.3 ILEC shall provide the following minimum Operator Service capabilities to MCIm subscribers:

6.1.3.3.3.1 ILEC shall complete 0+ and 0- dialed local calls.

6.1.3.3.3.2 ILEC shall complete 0+ intraLATA toll calls.

6.1.3.3.3.3 ILEC shall complete calls that are billed to a calling card and MCIm shall designate to ILEC the acceptable types of special billing.

6.1.3.3.3.4 ILEC shall complete person-to-person calls.

6.1.3.3.3.5 ILEC shall complete collect calls.

6.1.3.3.3.6 ILEC shall provide the capability for callers to bill to a third party and complete such calls.

6.1.3.3.3.7 ILEC shall complete station-to-station calls.

6.1.3.3.3.8 ILEC shall process emergency calls.

6.1.3.3.3.9 ILEC shall process Busy Line Verify and Emergency Line Interrupt requests.

6.1.3.3.3.10 ILEC shall process emergency call trace.

6.1.3.3.3.11 ILEC shall process operator-assisted directory assistance calls.

6.1.3.3.3.12 ILEC shall provide rate quotes.

6.1.3.3.3.13 ILEC shall process time-and-charges requests.

6.1.3.3.3.14 ILEC shall route 0- traffic directly to a "live" operator team.

6.1.3.3.3.15 When requested by MCIm, ILEC shall provide instant credit on operator services calls as provided to ILEC subscribers or shall inform MCIm subscribers to call an 800 number for MCIm customer service to request a credit. ILEC shall provide one 800 number for business subscribers and another for residential subscribers.

6.1.3.3.3.16 Caller assistance for the disabled in the same manner as provided to ILEC subscribers.

6.1.3.3.3.17 ILEC shall provide operator-assisted conference calling.

6.1.3.4 Operator Service shall provide MCIm's local service rates when providing rate quote and time-and-charges services.

6.1.3.5 Operator Service shall adhere to equal access requirements.

6.1.3.6 ILEC shall exercise at least the same level of fraud control in providing Operator Service to MCIm that ILEC provides for its own operator service.

6.1.3.7 ILEC shall perform Billed Number Screening when handling Collect, Third Party, and Calling Card Calls, both for station to station and person to person call types.

6.1.3.8 ILEC shall provide service measurements and accounting reports as designated by MCIm.

6.1.3.9 MCIm or its designated representatives may inspect any ILEC owned or sub-contracted office, which provides Operator Services, upon 2 days notice to ILEC.

6.1.3.10 ILEC shall direct subscriber account and other sirnilar inquiries to the customer service center designated by MCIm.

6.1.3.11 ILEC shall provide an electronic feed of customer call records in "EMR" format to MCIm in accordance with the time schedule designated by MCIm.

6.1.3.12 ILEC shall accept and process overflow 911 traffic routed from MCIm to the underlying platform used to provide Operator Service.

6.1.3.13 Busy Line Verification and Emergency Line Interrupt:

6.1.3.13.1 ILEC shall permit MCIm to connect its Local Operator Service to ILEC's Busy Line Verification and Emergency Line Interrupt ("BLV/ELI") systems and databases to enable MCIm to perform BLV/ELI services.

6.1.3.13.2 ILEC shall engineer its BLV/ELI facilities to accommodate the anticipated volume of BLV/ELI requests during the Busy Hour. MCIm may, from time to time, provide its anticipated volume of BLV/ELI requests to ILEC. In those instances when the BLV/ELI systems and databases become unavailable, ILEC shall promptly inform MCIm.

6.1.3.14 ILEC shall update the Line Information Data Base (LIDB) for MCIm subscribers at cost. If ILEC does not provide such updates, then MCIm must have access to LIDB, at no charge, to update it directly. Additionally, LEC must provide access to LIDB for validation of collect, third party billed, and LEC card billed calls at cost.

6.1.3.15 Where INP is deployed and when a BLV/BLI request for a ported number is directed to an ILEC operator and the query is not successful (i.e., the request yields an abnormal result), the operator shall confirm whether the number has been ported and shall direct the request to the appropriate operator.

6.1.3.16 ILEC shall allow MCIm to order provisioning of Telephone Line Number (TLN) calling cards and Billed Number Screening (BNS), in its LIDB, for ported numbers, as specified by MCIm. ILEC shall continue to allow MCIm access to its LIDB.

6.1.4 Directory Assistance and Listings Service Requests

6.1.4.1 These requirements pertain to ILECs DA and Listings Service Request process that enables MCIm to (a) submit MCIm subscriber information for inclusion in ILEC Directory Assistance and Directory Listings databases; (b) submit MCIm subscriber information for inclusion in published directories; and (c) provide MCIm subscriber delivery address information to enable ILEC to fulfill directory distribution obligations.

6.1.4.1.1 ILEC shall accept orders on a real-time basis via electronic interface in accordance with OBF Directory Service Request standards within 3 months of final standard adoption. In the interim, ILEC shall create a standard format and order process by which MCIm can place an order via electronic exchange no later than January 1, 1997.

6.1.4.1.2 LEC will provide to MCIm the following Directory Listing Migration Options, valid under all access methods, including but not limited to, Resale, Unbundled Network Elements and Facilities-Base:

6.1.4.1.2.1 Migrate with no Changes: Retain all white and yellow page listings for the customer in both DA and DL. Transfer ownership and billing for listings to MCIm.

6.1.4.1.2.2 Migrate with Additions: Retain all white and yellow page listings for the customer in both DA and DL. Incorporate the specified additional listings order. Transfer ownership and billing for the listings to MCIm.

6.1.4.1.2.3 Migrate with Deletions: Retain all white and yellow page listings for the customer in both DA and DL. Delete the specified listings from the listing order. Transfer ownership and billing for the listings to MCIm.

6.1.4.1.3 ILEC shall enable MCIm to electronically transmit multi-line listing orders.

6.1.4.1.4 ILEC will provide MCIm with a summary of completed Directory Service Requests on a daily basis. The summary information will include but is not limited to the following information:

6.1.4.1.4.1 White page listings text and format (name, address, phone, title, designation, extra line information)
6.1.4.1.4.2 Yellow page listing text and format
6.1.4.1.4.3 Yellow page heading code
6.1.4.1.4.4 Listing Instruction codes
6.1.4.1.4.5 Listed book

6.1.4.1.5 ILEC shall enable MCIm to electronically transmit multi-line listings orders.

6.1.4.1.6 ILEC shall provide ability for MCIm to electronically query the ILEC listing system to view all listings real-time. Ownership of each listing is to be masked.

6.1.4.1.7 To ensure accurate order processing, ILEC shall provide to MCIm the following information, with updates within one business day of change and via electronic exchange:

6.1.4.1.7.1 A matrix of NXX to central office
6.1.4.1.7.2 Geographical maps if available of ILEC service area
6.1.4.1.7.3 A description of calling areas covered by each directory, including but not limited to maps of calling areas and matrices depicting calling privileges within and between calling areas
6.1.4.1.7.4 Yellow page heading codes
6.1.4.1.7.5 Directory names and codes
6.1.4.1.7.6 Directory product changes
6.1.4.1.7.7 Listing format rules
6.1.4.1.7.8 Listing alphabetizing rules
6.1.4.1.7.9 Standard abbreviations acceptable for use in listings and addresses

6.1.4.1.7.10 Titles and designations
6.1.4.1.7.11 A list of all available directories and their close dates

6.1.4.1.8 Based on changes submitted by MCIm, ILEC shall update and maintain directory assistance and directory listings data for MCIm subscribers who:

6.1.4.1.8.1 Disconnect Service
6.1.4.1.8.2 Change carrier
6.1.4.1.8.3 Install Service
6.1.4.1.8.4 Change any service which affects DA information
6.1.4.1.8.5 Specify Non-Solicitation
6.1.4.1.8.6 Are Non-Published, Non-Listed, or Listed

6.1.4.1.9 ILEC shall not charge for storage of MCIm subscriber information in the DA and DL systems.

6.1.4.1.10 MCIm shall not charge for storage of ILEC subscriber information in the DA and DL systems.

6.1.5 Directory Listings General Requirements

6.1.5.1 This Section 6 pertains to Listings requirements published in any media, including but not limited to traditional white/yellow pages, specialty directories, CD ROM, or other printed or electronic formats.

6.1.5.2 ILEC shall include in its master subscriber system database all list information for MCIm subscribers.

6.1.5.3 ILEC shall not sell or license, nor allow any third party, the use of MCIm subscriber listings without the prior written consent of MCIm. Upon consent, MCIm shall receive its pro-rata share of any amounts paid by third parties to ILEC for such information. ILEC shall not disclose nor allow any third party to disclose non-listed name or address information for any purpose other than what may be necessary to complete directory distribution.

6.1.5.4 MCIm subscriber listings shall be interfiled with listings of ILEC and other CLEC subscribers.

6.1.5.5 Each MCIm subscriber account number shall be provided, at no charge, the same white page basic listings that ILEC provides its subscribers. Where an MCIm subscriber has two numbers for a line due to the implementation of interim NP, at MCIm's option both numbers shall be considered part of the one White Pages basic listing

6.1.5.6 Each MCIm business subscriber account number shall be provided; at no charge, the same yellow page basic listings that ILEC provides its subscribers.

6.1.5.7 ILEC shall also publish, or ensure that any third party publishes, all types of listings for MCIm subscribers that are available to ILEC subscribers under the same rates, terms, and conditions, including but not limited to:

6.1.5.7.1 Foreign listings
6.1.5.7.2 Reference listings
6.1.5.7.3 Information listings
6.1.5.7.4 Alternate call listings
6.1.5.7.5 Multi-line listings
6.1.5.7.6 Multi-line/Multi-owner listings

6.1.5.8 State, Local, and Federal government listings shall be included in the appropriate section of the directory at no charge.

6.1.5.9 ILEC shall provide and maintain for MCIm at least one (1) white page and at least one (1) yellow page (if applicable) listing for each MCIm subscriber that has ported its number from ILEC. The listing and handling of listed and non-listed telephone numbers shall be at least at parity with that provided by ILEC to its own subscribers.

6.1.5.10 MCIm sales, service, billing, and repair information for business and residential subscribers, along with MCIm logo, shall be included in the customer information/guide pages at no charge to MCIm.

6.1.5.11 One month prior to the date on which updates to the directory are no longer allowed (the Directory Close date), ILEC shall provide MCIm a method of reviewing and correcting MCIm subscriber directory listings.

6.1.5.12 ILEC shall agree, or ensure a third party agrees, to accept and publish directory advertising, from MCIm subscribers on a non-discriminatory basis and bill subscribers directly for any white or yellow pages advertising. At MCIm's discretion, MCIm may sell directory advertising at wholesale rates and bills its subscribers directly.

6.1.5.13 Additional and foreign White Page listing charges should be billed to MCIm and itemized at the telephone number sub-account level in CABS format.

6.1.5.14 ILEC shall distribute, or ensure a third party shall distribute, appropriate alphabetical and classified directories (white and yellow pages) to MCIm subscribers at no charge 1) upon establishment of new service; 2) during annual mass distribution; and 3) upon subscriber request.

6.1.5.15 ILEC shall permit, or ensure a third party permits, MCIm subscribers to place orders for foreign directories on the same terms and conditions such directories are made available to ILEC subscribers.

6.1.5.16 Upon request, and at no charge, ILEC shall provide, or ensure a third party provides, reasonable quantities of directories to cover areas in which MCIm is an authorized CLEC for MCIm's internal use.

6.1.5.17 The directory cover shall prominently indicate that MCIm subscriber listings are included in the directory at no charge.

6.1.5.18 At MCIm's option, MCIm subscribers shall receive a directory with a customized cover branded MCIm.

6.1.5.19 ILEC shall make available current recycling services to MCIm subscribers.

6.1.6 Directory Assistance Data

6.1.6.1 This section refers to the residential, business, and government subscriber records used by ILEC to create and maintain databases for the provision of live or automated operator assisted Directory Assistance. Directory Assistance Data is information that enables telephone exchange carriers to swiftly and accurately respond to requests for directory information, including, but not limited to name, address and phone numbers. Under the provisions of the Act and the FCC's Interconnection order, ILEC shall provide unbundled and non-discriminatory access to the residential, business and government subscriber records used by the ILEC to create and maintain databases for the provision of live or automated operator assisted Directory Assistance. MCIm may combine this element with any other Network Element for the provision of any Telecommunications Service.

6.1.6.2 ILEC shall provide an initial load of subscriber records via electronic data transfer for ILECs, CLECs and independent Telcos included in their Directory Assistance Database within 14 days of the Effective Date of this Agreement. The NPAs included shall represent the entire ILEC operating region. The initial load shall reflect all data that is current as of one business day prior to the provision date.

6.1.6.3 ILEC shall provide MCIm a complete list of ILECs, CLECs, and independent Telcos that provided data contained in the database.

6.1.6.4 All directory assistance data shall be provided in the format as specified in "Directory Assistance Data Information Exchanges and Interfaces" below or in Bellcore standard F20 format.

6.1.6.5 On a daily basis, ILEC shall provide updates (end user and mass) to the Listing Information via electronic data transfer. Updates shall be current as of one business day prior to the date provided to MCIm.

6.1.6.6 ILEC shall provide MCIm access to DA support databases. For example, MCIm requires access to Use

Restriction information including but not limited to call completion.

6.1.6.7 DA data shall specify whether the customer is a residential, business, or government subscriber. Additionally, data must include all levels of indentation and all levels of information specified in "Directory Assistance Data Information Exchanges and Interfaces" below.

6.1.6.8 DA data shall be provided on the same terms, conditions, and rates that ILEC provides to itself or other third parties.

6.1.6.9 ILEC shall provide complete refresh of the DA data upon request by MCIm.

6.1.6.10 MCIm will designate a technically feasible point at which the data will be provided.

6.2 Systems Interfaces and Exchanges

6.2.1 Basic 911 and E911 Information Exchanges and Interfaces

6.2.1.1 ILEC shall provide MCIm a data link to the ALI/DMS database or permit MCIm to provide its own data link to the ALI/DMS database. ILEC shall provide error reports from the ALI/DMS database to MCIm immediately after MCIm inputs information into the ALI/DMS database. Alternately, MCIm may utilize ILEC or a third party entity to enter subscriber information into the database on a demand basis, and validate subscriber information on a demand basis.

6.2.1.2 ILEC and MCIm shall arrange for the automated input and periodic updating of the E911 database information related to MCIm end users. ILEC shall work cooperatively with MCIm to ensure the accuracy of the data transfer by verifying it against the Master Street Address Guide (MSAG). ILEC shall accept electronically transmitted files or magnetic tape that conform to National Emergency Number Association (NENA) Version #2 format.

6.2.1.3 The ALI database shall be managed by ILEC, but is the property of ILEC and all participating telephone companies. The interface between the E911 Switch or Tandem and the ALI/DMS database for MCIm subscriber shall meet industry standards.

6.2.2 Directory Assistance Data Information Exchanges and Interfaces

6.2.2.1 Subscriber List Information

6.2.2.1.1 ILEC shall provide to MCIm, within thirty (30) days after the Effective Date of this Agreement, or at MCIm's request, all published Subscriber List Information (including such information that resides in ILEC's master subscriber system/accounts master file) via an electronic data transfer medium and in a format which is acceptable to MCIm, on the same terms and conditions and at the same rates that the ILEC provides Subscriber List Information to itself or to other third parties. All changes to the Subscriber List Information shall be provided to MCIm on the same day as the change occurred through the electronic data transfer medium used to transmit the initial Subscriber List Information. Both the initial List and all subsequent Lists shall indicate for each customer whether the customer is classified as residence or business class of service.

6.2.2.2 This section addresses data format requirements and data inclusion requirements for directory assistance data information exchange between ILEC and MCIm. ILEC shall provide MCIm the following:

6.2.2.2.1 List of NPA-NXX's relating to the listing records being provided.

6.2.2.2.2 List of Directory Section names and their associated NPA-NXX's.

6.2.2.2.3 List of Community Names expected to be associated with each of the NPA-NXX's for which

listing records shall be provided.

6.2.2.2.4 List of Independent Company names and their associated NPA-NXX's for which their listing data shall be included in ILEC's listing data.

6.2.2.2.5 List of Independent Company names and their associated NPA-NXXs for which their listing data is a part of ILECs directory database, but ILEC is not to provide the listing data to MCIm under this request.

6.2.2.2.6 Listing volume totals by directory section, NPA, and state.

6.2.2.2.7 Average daily update volume by directory section, NPA, and state.

6.2.2.2.8 Identify any area wide or universal service numbers which may be listed. Identify the telephone number to be provided to callers outside the servicing area.

6.2.2.2.9 Identify any listing condition(s) unique to ILEC's serving area which may require special handling in data processing in the directory. Indented Listings (Captions) should be identified and delivered handled as specified.

6.2.2.3 Considerations Relating to an Indented Listing (Caption) Set Requirements

6.2.2.3.1 Use of line numbers, or other methods, to ensure the integrity of the caption set and identify the sequence or placement of a listing record within the caption set. A sufficient range of numbers between listing records is required to allow for the expansion of the caption set. A method is also required to permit the caption header record to be identified, but each level of indent is not required to be recapped; placement of the indent is based on line number. This method does require stringent edits to ensure the integrity of the caption set.

6.2.2.3.2 Use of guideline or recapped data to identify previously established header and sub-header records for placement of data within the caption set. This permits flexibility to easily expand the caption set. This method also requires that, in addition to the caption header record, each level of indent be recapped in order to properly build the caption set.

6.2.2.3.3 In order to maintain the integrity of caption replacement, with end-of-day cumulative effect, one OUT record must be sent to delete the entire caption set, followed by IN activity each listing record within the caption set.

6.2.2.3.4 MCIm requires listing instruction codes on the service order which indicate how the set is to appear in the published directory.

6.2.2.4 Data Processing Requirements: ILEC and MCIm shall mutually agree to standards on the following data processing requirements:

6.2.2.4.1 Identify type of tape to be used in sending the test and initial load data. For example, reel or cartridge tape. Due to the size of an initial load, it would be generally expected to be on tape and the daily update activity via another media, such as NDM.

6.2.2.4.2 Identify tape or dataset label requirements.

6.2.2.4.3 Identify tracking information requirements. For example, use of header and trailer records for tracking date and time, cycle numbers, sending and receiving site codes, volume count for the given tape/dataset. It may also be helpful to have some filler fields for future use.

6.2.2.4.4 Identify dates MCIm should not expect to receive daily update activity.

6.2.2.4.5 Data should be received in uppercase. An asterisk (*) should be used advise of the need to apply the reverse capitalization rule. However, if the

provider determines to provide the listing data from a database that has already messaged the data and applied the capitalization rules, the asterisk may be omitted.

6.2.2.4.6 Identify information that shall enable MCIm to identify listings within an indented list (caption) set. For example:

6.2.2.4.6.1 When a particular listing has been designated to be filed as the first listing for a given level (0-7) of indent - usually out of alpha sequence.

6.2.2.4.6.2 When an alternate call listing (e.g. If no answer) relates to multiple preceding listings of the same level.

6.2.2.4.7 Identify any other pertinent information needed to properly process the data.

6.2.2.4 Listing T s

LISTED	The listing informa available for all directory requirements.
NON-LISTED	The listing information is available to all directory requirements, but the information does not appear in the published street directory.
NON-PUBLISHED	A directory service may confirm, by name and address, the presence of a listing, but the telephone number is not available. MCIm may confirm the address, but is not permitted to receive the non-published telephone number. The listing information is not available in either the published directory or directory assistance.

6.2.2.5 Listing Styles

LISTING STYLE	DESCRIPTION
STRAIGHT LINE	All listing information is formatted in a straight line. Data generally consists of Name, Address, Community, and Telephone Number. Additional data may consist of dialing instructions or other general information relating to the listing.
INDENTED LISTING SET - STRAIGHT LINE UNDER (SLU)	Two or more listing records relating to the same listed customer. The first is formatted as a straight line listing with the additional listing(s) indented one degree under the straight line listing.
INDENTED LISTING SET - CAPTION SET	Formatted with one listing header record and multiple indented listing records. See detailed description below.

INDENTED LISTING (CAPTION) SET

HEADER RECORD	Contains listed name; address and telephone number data fields are blank.
SUB-HEADER RECORD/ LISTING	May contain name data only, or may include address and telephone number data. Associated subordinate records may, or may not be present.
INDENTED NAME LISTING	Contains name data , may or may not have address data, and telephone number data.
INDENTED ADDRESS LISTING	Contains address and telephone number data; the name data text field is blank.
LEVEL OF INDENT	Header record is zero (0), sub-header and indented records range from 1 - 7.

6.2.2.6 Data Field Elements

Requirements for Initial Processing and Daily Update Activity

DATA FIELD	DATA ELEMENT	FIELD LENGTH
ACTION CODE	A = Add I = In D = Delete or O = out	Required: 1 alpha character
RECORD NUMBER	Sequentially assigned number to each record for a given process (test, initial load, or update activity). Number assignment begins with 00000001 and is incremented by 1 for each record on the file.	Required: 8 digits
NPA	Area code relating to the directory section the record is to be listed.	Required: 3 digits
COMPANY IDENTIFIER	The 4-character company code as defined in Section 8 of the National Exchange Carrier Association, Inc. Tariff.	Required: 4 digits
DIRECTORY	Name of the directory section	Required: Maximum of 50

SECTION LISTING IDENTIFIER	where the record is to be listed. F = Foreign C = Cross-Reference E = Enterprise (WX number requiring operator assistance to connect the call) W = Wide area or universal service	alpha characters Optional: 1 alpha character
FILE PLACEMENT	B = Business (4) R = Residence (1) G = Government (2) BR = Business & Residence (5) BG = Business & Government (6) BRG = Business, Residence, & Government (7)	Required: Maximum of 3 alpha characters
LISTING TYPE	L = Listed N = Non-Listed NP = Non-Published	Required: Maximum of 2 alpha characters
LISTING STYLE	S = Straight line I = Indented listing set An Indented listing relates to either a caption or Straight Line Under (SLU) set listing.	Required: 1 alpha character
INDENT LEVEL	0 = Non-indented record 1 - 8 = Level of indented record	Required: 1 digit
ADDRESS HOUSE NUMBER	For example: 123, A-123, 123-1/2	Optional: Maximum of 20 alphanumeric characters, including hyphen, space, and slash
ADDRESS PRE-DIRECTIONAL	For example: N, S, E, W, NE, SW, NORTH	Optional: Maximum of 5 alpha characters
ADDRESS STREET NAME	For example: Main, Peachtree-Dunwoody, HWY 75 at Exit 30	Optional: Maximum of 100 alpha, alphanumeric characters, including

		spaces and hyphens.
ADDRESS SUFFIX OR THOROUGHFARE	For example: SUITE 160, ST, or WAY	Optional: Maximum of 20 numeric, alpha, or alphanumeric characters
ADDRESS POST DIRECTION	For example: N, S, NE, SW	Optional: Maximum of 5 alpha characters
ADDRESS ZIP CODE	5-digits or ZIP + 4	Optional: Maximum of 10 digits, including the hyphen when using ZIP + 4
COMMUNITY NAME	Identifies the name of the community associated with the listing record. See Glossary for more details.	Maximum of 50 alphanumeric characters, including spaces and hyphen
STATE NAME ABBREVIATION	Identifies the state associated with the community name; 2-character state abbreviation used by the US Postal Office.	Maximum of 2 alpha characters
INFORMATION TEXT	Miscellaneous information relating to the listing. Including, but not limited to, for example: TOLL FREE DIAL 1 & THEN, CALL COLLECT, or TDD ONLY. The various types of Information Text must be identified to MCIm.	Optional: Maximum of 250 alpha, numeric, or alphanumeric characters
NAME - FIRST WORD	Surname of a Residence or Business listing, or first word of a Business or Government listing Multi-word or hyphenated surnames should be treated as one word.	Required for a zero (0) level record. Optional if an indented (level 1-8) record, unless the name text present in the indented record relates to a Surname. Maximum of 50 alpha, numeric, alphanumeric, or special characters

NAME - SUBSEQUENT WORD(S)	Given name and/or initial(s) of a Surname listing or Additional word(s) for a Business or Government listing	Expected if the First Word is the Surname of a Residence or Business listing. Maximum of 250 alpha, numeric, special, or alphanumeric characters.
LINEAL DESCENT	e.g. SR, JR, III. If Lineal Descent data cannot be uniquely identified, it should be included with the Listed Name Subsequent Word(s) data and placed at the end of the name data.	Optional: Maximum 10 alpha characters
TITLE(s)	e.g. MRS, LT COL, RET SGR, DR. Multiple titles are acceptable. If title data cannot be uniquely identified, it should be included with the Listed Name Subsequent Word(s) data and placed at the end of the name data stream. If lineal descent is also in the Listed Name Subsequent Word(s) data field, title data should be placed following the lineal descent data.	Optional: Maximum of 20 alpha characters
DEGREE	e.g. MD, CPA, PHD. Multiple degrees are acceptable. If degree data cannot be uniquely identified, it should be included with the Listed Name Subsequent Word(s) data and placed at the end of the name data stream. If lineal descent and/or title data is also present, it should follow title data.	Optional: Maximum of 20 alpha characters
NICKNAME	Another name the listed customer may be known by.	Optional: Maximum of 20 alpha characters
BUSINESS DESIGNATION	Term used to identify the listed customer's profession, business, or location, e.g. ATTY, CARPETS, OFC	Optional: Maximum of 50 alpha characters

STANDARD TELEPHONE NUMBER *	NPA NXX-LINE	Optional: 12 characters, including space and hyphen
NON-STANDARD TELEPHONE NUMBER *	Telephone numbers less than or more than the standard telephone number.	Optional: Minimum of 1 digit, maximum of 22 characters, including spaces and hyphens

* Either a Standard or Non-standard telephone is required for a zero level record unless the record is a Cross-reference listing or an Indented Listing (caption) Set record. A telephone number may, or may not be present on an Indented Listing Set record for level(s) 0-7.

6.3 Standards

6.3.1 ILEC shall adopt use of a Carrier Code (NENA standard five-character ID) on all ALI records received from MCIm. The Carrier Code will be used to identify the carrier of record in INP configurations. The NENA Carrier Code for MCIm is "MCIm".

6.4 Performance Measurements and Reporting

6.4.1 MCIm shall provide information on new customers to ILEC within one (1) business day of the order completion. ILEC shall update the database within one (1) business days of receiving the data from MCIm. If ILEC detects an error in the MCIm provided data, the data shall be returned to MCIm within two (2) business days from when it was provided to ILEC. MCIm shall respond to requests from ILEC to make corrections to database record errors by uploading corrected records within two (2) business days. Manual entry shall be allowed only in the event that the system is not functioning properly.

6.4.2 ILEC shall provide to MCIm, at a minimum, performance metrics and service results regarding speed of answer, average work time, abandoned from queue measurements, and disaster recovery plans/procedures.

6.4.3 ILEC shall notify MCIm 48 hours in advance of any scheduled testing or maintenance affecting MCIm 911 service, and provide notification as soon as possible of any unscheduled outage affecting MCIm 911 service.

6.4.4 In a resale situation where it may be appropriate for ILEC to update the ALI database, it must be updated with MCIm data in an interval no less than is experienced by ILEC customers, or than for other carriers, whichever is faster, at no additional cost.

6.4.5 MCIm may, at its discretion, further require additional and/or modified reporting as business needs demand.

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Business Function	Solution* (Jan 1, 1997 or alternative timeframe)	Real-Time Access to Data	Real-Time Transaction Processing	Interval	Key Characteristics	Interim Solution
Subscriber Information						
1. ILEC provides all published Subscriber List Information	Electronic Interface - within 30 days of Agreement	N	N/A	One-time only	•	To be negotiated
2. ILEC provides MCIm with changes to Subscriber List Information	Electronic Interface	N	N/A	same day as changes occurs	•	To be negotiated
3. ILEC provides all Street Address Guide Information (SAG)	Electronic Interface	N	N/A	One-time only	•	To be negotiated
1. ILEC provides changes to Street Address Guide Information (SAG)	Electronic Interface	N	N/A	same day as changes occur	•	To be negotiated
Other Information						
ILEC provides MCIm PICs available at a central office level	Electronic Interface		N/A		•	To be negotiated

• All system availability is operational twenty-four (24) hours a day, seven (7) days a week unless otherwise specified. ILEC will cooperate with MCIm to develop electronic bonding for those interfaces where real-time, transparent access to data and systems transactions are required.

Business Function	Solution* (Jan 1, 1997 or alternative timeframe)	Real-Time Access to Data	Real-Time Transaction Processing	Interval	Key Characteristics	Interim Solution
1. MCIm views customer profile information at the line and trunk level	Electronic Interface	Y	N/A	N/A	• MCIm on-line function • Data access is transparent to user (integrated with MCIm systems)	To be negotiated
2. MCIm views all features and services, including new services, trial offers and promotions available through ILEC	Electronic Interface	Y	N/A	N/A	• MCIm on-line function • Data access is transparent to user (integrated with MCIm systems) • Data will be available by end-office	To be negotiated
3. MCIm views all services and features technically available from each switch that ILEC may use to provide a Local Switching element.	Electronic Interface	Y	Y	N/A	• MCIm on-line function • Data access is transparent to user (integrated with MCIm systems) • Data will be available by end-office	To be negotiated
Telephone Number Reservations						
1. MCIm views available list of telephone numbers	Electronic Interface	Y	N/A	N/A	• MCIm on-line function • Data access is transparent to user	To be negotiated

*** All system availability is operational twenty-four (24) hours a day, seven (7) days a week unless otherwise specified. ILEC will cooperate with MCIm to develop electronic bonding for those interfaces where real-time, transparent access to data and systems transactions are required.**

Business Function	Solution* (Jan 1, 1997 or alternative timeframe)	Real-Time Access to Data	Real-Time Transaction Processing	Interval	Key Characteristics	Interim Solution
2. MCIm reserves/assigns telephone numbers for both simple and complex services from available ILEC list/number services system	Electronic Interface	Y	Y	N/A	• MCIm on-line function • Data access and processing is transparent to user	To be negotiated
3. ILEC provides confirmation of simple number reservation	Electronic Interface	Y	Y	N/A	•	To be negotiated
4. ILEC provides confirmation of complex number reservation	Electronic Interface	N	N	within 24 hours	•	To be negotiated
Order Submission						
1. MCIm submits order for desired resold features and services, Local Services, unbundled elements and/or combinations of elements from ILEC	Electronic Interface	Y	Y	N/A	• MCIm on-line function • Order is processed real-time • Data access and processing is transparent to user (integrated with MCIm systems)	To be negotiated

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*** All system availability is operational twenty-four (24) hours a day, seven (7) days a week unless otherwise specified. ILEC will cooperate with MCIm to develop electronic bonding for those interfaces where real-time, transparent access to data and systems transactions are required.**

Business Function	Solution* (Jan 1, 1997 or alternative timeframe)	Real-Time Access to Data	Real-Time Transaction Processing	Interval	Key Characteristics	Interim Solution
2. MCIm orders local, intraLATA, InterLATA, and international service on a single order	Electronic Interface	Y	Y	N/A	• MCIm on-line function • Order is processed real-time • Data access and processing is transparent to user (integrated with MCIm systems)	To be negotiated
3. MCIm requests suspension, termination or restoration of service	Electronic Interface	Y	Y	N/A	•	To be negotiated
4. MCIm adjusts pending order due dates	Electronic Interface	Y	Y	N/A	• MCIm on-line function • Adjustment is processed real-time • Data access and processing is transparent to user (integrated with MCIm systems)	To be negotiated
OrderTracking						
1. ILEC provides acknowledgment or rejection of Service Orders to MCIm	Electronic Interface	Y	Y	within 1 hour	• Although the interval period is 1 hour, the order is updated real-time to reflect the acknowledgment or rejection	To be negotiated

*** All system availability is operational twenty-four (24) hours a day, seven (7) days a week unless otherwise specified. ILEC will cooperate with MCIm to develop electronic bonding for those interfaces where real-time, transparent access to data and systems transactions are required.**

Business Function	Solution* (Jan 1, 1997 or alternative timeframe)	Real-Time Access to Data	Real-Time Transaction Processing	Interval	Key Characteristics	Interim Solution
2. ILEC provides errors in Service Orders to MCIm	Electronic Interface	Y	Y	N/A	•	To be negotiated
3. ILEC provides FOC to MCIm	Electronic Interface	N	Y	within 4 hours	• Includes all components of order	To be negotiated
Provisioning						
1. ILEC provides delay notification to MCIm	Electronic Interface	Y	Y	N/A	•	To be negotiated
2. ILEC provides completion notification to MCIm	Electronic Interface	Y	Y	within 1 hour	•	To be negotiated
3. MCIm schedules service installations	Electronic Interface	Y	Y	N/A	• MCIm on-line function • Request is processed real-time • Data access and processing is transparent to user (integrated with MCIm systems)	To be negotiated
4. ILEC provides charges on special construction to MCIm	Electronic Interface	Y	Y	N/A	•	ILEC's LCSC will immediately notify MCIm by phone

096000

***All system availability is operational twenty-four (24) hours a day, seven (7) days a week unless otherwise specified. ILEC will cooperate with MCIm to develop electronic bonding for those interfaces where real-time, transparent access to data and systems transactions are required.**

Business Function	Solution* (Jan 1, 1997 or alternative timeframe)	Real-Time Access to Data	Real-Time Transaction Processing	Interval	Key Characteristics	Interim Solution
5. ILEC supplies MCIm with Due Date Interval Guides/Job Aids	Electronic Interface	Y	N	N/A	•	To be negotiated

000361

*** All system availability is operational twenty-four (24) hours a day, seven (7) days a week unless otherwise specified. ILEC will cooperate with MCIm to develop electronic bonding for those interfaces where real-time, transparent access to data and systems transactions are required.**

Business Function	Solution* (Jan 1, 1997 or alternative timeframe)	Real-Time Access to Data	Real-Time Transaction Processing	Interval	Key Cl

* All system availability is operational twenty-four (24) hours a day, seven (7) days a week unless otherwise specified. ILEC will cooperate with MCIm to develop electronic bonding for those interfaces where real-time, transparent access to data and systems transactions are required.

ATTACHMENT IX

SECURITY REQUIREMENTS

Section 1. Physical Security

ILEC shall exercise the highest degree of care to prevent harm or damage to MCIm or its employees, agents or customers, or their property. ILEC and its employees, agents or representatives shall take reasonable and prudent steps to ensure the adequate protection of MCIm property, equipment and services including, but not limited to:

1.1 Restricting access to MCIm equipment, support equipment, systems, tools, or spaces which contain or house MCIm equipment enclosures to MCIm employees and other authorized non-MCIm personnel to the extent necessary to perform their specific job function.

1.2 Furnishing to MCIm a current written list of ILEC's employees which ILEC authorizes to enter spaces which house or contain MCIm equipment or equipment enclosures, including caged areas, authorized with current facsimiles of the identifying credentials to be carried by such persons.

1.3 Complying at all times with MCIm security and safety procedures and requirements, including but not limited to sign-in, identification, and escort requirements while in spaces which house or contain MCIm equipment or equipment enclosures and compliance with MCIm's Physical Security Guidelines Manual.

1.4 Insuring that the area which houses MCIm's equipment is adequately secured and monitored to prevent unauthorized entry.

1.5 Allowing MCIm to inspect or observe spaces which house or contain MCIm equipment or equipment enclosures at any time and to furnish MCIm with all keys, entry codes, lock combinations, or other materials or information which may be needed to gain entry into any secured MCIm space.

1.6 Agreeing to partition any access device systems, whether biometric or card reader, or types which are encoded identically or mechanical coded locks on external and or internal doors to spaces which house MCIm equipment.

1.7 Limiting the keys used in its keying systems for spaces which contain or house MCIm equipment or equipment enclosures to ILEC employees and representatives to emergency access only. MCIm shall further have

the right to change locks where deemed necessary for the protection and security of such spaces.

1.8 Installing security studs in the hinge plates of doors having exposed hinges with removable pins if such leads to spaces which contain or house MCIm equipment or equipment enclosures.

1.9 Controlling unauthorized access from passenger and freight elevators by continuous surveillance or by installing security partitions, security grills, locked gates or doors between elevator lobbies and spaces which contain or house MCIm equipment or equipment enclosures.

1.10 Providing real time notification to designated MCIm personnel to indicate an actual or attempted security breach.

1.11 Ensuring that areas designated to house MCIm equipment are environmentally appropriate for the MCIm equipment installation, and adequate to maintain proper operating conditions for the MCIm equipment.

Section 2. Network Security

2.1 Providing an acceptable back-up and recovery plan to be used in the event of a system failure or emergency.

2.2 Installing controls:
to disconnect a user for a pre-determined period of inactivity on authorized ports;
to protect customer proprietary information; and
to databases to ensure both ongoing operational and update integrity.

2.3 Network Security:
Ensuring that all MCIm-approved systems and modem access be secured through MCIm-approved security devices.
Ensuring that access to or connection with a network element must be established through MCIm security-approved networks or gateways.
Agreeing to comply with MCIm Corporate Security Standards, including but not limited to "MCIm Information Asset Security Standards", February, 1996, Document Number 076-0004-01-01.OF-ER and "MCIm Minimum Security Baseline Standard for Information Systems", January 1996, Document Number 076-0003-01.OF-ER.

Section 3. Revenue Protection

3.1 ILEC shall make available to MCIm all present and future fraud prevention or revenue protection features, including prevention, detection, or control functionality embedded within any of the Network Elements. These features include, but are not limited to screening codes, information digits assigned such as information digits '29' and '70' which indicate prison and COCOT pay phone originating line types respectively, call blocking of domestic, international, 800, 888, 900, NPA-976, 700, 500 and specific line numbers, and the capability to require end-user entry of an authorization code for dial tone. ILEC shall additionally provide partitioned access to fraud prevention, detection and control functionality within pertinent Operations Support Systems ("OSS") which include but are not limited to Line Information Data Base Fraud monitoring systems, High Toll Notifiers, SS7 suspect traffic alerts, AMA suspect traffic alerts, etc.

Uncollectible or unbillable revenues resulting from, but not confined to provisioning, maintenance, or signal network routing errors shall be the responsibility of the party causing such error.

3.2 Uncollectible or unbillable revenues resulting from the accidental or malicious alteration of software underlying Network Elements or their subtending operational support systems by unauthorized third parties shall be the responsibility of the party having administrative control of access to said Network Element or operational support system software.

3.3 ILEC shall be responsible for any uncollectible or unbillable revenues resulting from the unauthorized use of the service provider network whether that compromise is initiated by software or physical attachment to loop facilities from the Main Distribution Frame up to and including the Network Interface Device, including clip-on fraud. ILEC shall provide soft dial tone to allow only the completion of calls to final termination points required by law.

3.4 ILEC shall restrict system access to MCIm confidential Information, to authorized ILEC employees and other non-MCIm personnel, to that which is necessary to perform their specific job function and otherwise pursuant to Part A, Section 21.

Section 4. Law Enforcement Interface

ILEC shall provide seven day a week / twenty-four hour a day installation and information retrieval pertaining to traps, assistance involving emergency traces and information retrieval on customer invoked CLASS services, including, without limitation, call traces requested by MCIm. ILEC shall provide all necessary assistance to facilitate the execution of wiretap or dialed number recorder orders from law enforcement authorities.

ATTACHMENT X

Credits for Performance Standards Failures

Section 1. General

1.1 ILEC shall satisfy all service standards, intervals, measurements, specifications, performance requirements, technical requirements and Performance Standards (collectively referred to herein as "Performance Standards") that are specified in this Agreement. In addition, ILEC's performance under this Agreement shall provide MCIm with the capability to meet Performance Standards that are at least equal to the highest level that ILEC provides or is required to provide by law or its own internal procedures, whichever is higher. In the event that the Performance Standards specified in the Agreement are different than the standards or measurements that ILEC provides or is required to provide by law or its own internal procedures, the highest Performance Standard shall apply.

1.2 ILEC and MCIm agree that delays in the provision of services, failures to meet the Performance Standards required by this Agreement and delays in providing Customer Usage Data in accordance with the requirements of this Agreement, will cause MCIm to suffer damages. The credits set forth in this Attachment X are intended to compensate MCIm, partially and immediately, for the loss in value caused by ILEC's failure to meet Performance Standards, and are not intended to be liquidated damages.

1.3 In the event that any service is not installed, provisioned, or maintained in accordance with the Due Dates specified in this Agreement, ILEC shall grant MCIm a credit ("Delay Credit") calculated as provided herein.

1.4 In the event that a service fails to meet the Performance Standard requirements imposed by this Agreement (or is interrupted causing loss of continuity or functionality), ILEC shall grant MCIm a credit ("Performance Failure Credit"), as set forth herein.

1.5 In the event that Customer Usage Data is not provided within the time period required by this Agreement, or in the event that Customer Usage Data is not provided in accordance with the specifications of this Agreement, ILEC shall pay to MCIm an amount ("Customer Usage Credit") calculated as provided herein.

1.6 MCIm also shall have the option to obtain an alternative service from ILEC to replace service for which a Performance Failure Credit or Delay Credit is due. ILEC will be responsible for any amounts (including installation charges) in excess of the otherwise applicable charges under this Agreement for the affected service. MCIm may obtain an alternative service from another vendor, if available. MCIm shall choose the least costly service provided by such vendor that reasonably meets its needs, shall subscribe to such service for the minimum commercially available period and shall move all affected traffic to the newly installed, repaired or restored service as soon as possible after the end of such period. ILEC shall be fully responsible for all obligations and shall pay in full all charges associated with the cost of such replacement service. Any minimum volume commitments shall be reduced by the amount of service which MCIm has substituted.

1.7 ILEC and MCIm agree that remedies at law alone are inadequate to compensate MCIm for failures to meet the Performance Standard requirements specified by this Agreement, failures to install or provision services in accordance with the Due Dates specified in this Agreement, or for failures to provide Customer Usage Data in accordance with this Agreement. MCIm shall have the right to seek injunctive relief and other equitable remedies (in addition to remedies provided in this Agreement, at law and through administrative process) to require ILEC (i) to cause the service ordered by MCIm to meet the Performance Standards specified by this Agreement, (ii) install or provision service ordered by MCIm within the Due Dates specific in this Agreement and (iii) to provide Customer Usage Data in accordance with this Agreement.

Section 2. Credits for Failure to Meet Performance Standards

ILEC shall pay to MCIm the amount of any credits due hereunder, or MCIm may, at MCIm's option, offset against charges due to ILEC the amounts specified in this Attachment for delays in the provision of services, failures to meet the Performance Standards required by this Agreement or delays in the provision of Customer Usage Data or failures to provide such data in accordance with the requirements of this Agreement. Unless otherwise specified by MCIm, performance against Performance Standards will be measured on a monthly basis.

Section 3. Delay Credits.

3.1 **Customer-Specific Services.**

3.1.1 If ILEC does not satisfy any Performance Standard related to: (i) a deadline for the provisioning to MCIm of Local Resale, (ii) a deadline for the provisioning of service or support functions related

to Local Resale, or (iii) the delivery date(s) for error-free provisioning of Network Elements or Local Interconnection, ILEC will be liable to MCIm for a credit for each and every order for service that has been delayed or not properly completed.

3.1.2 Credits shall consist of: (i) a waiver of any associated provisioning/installation charge; and (ii) a delay credit equal to the associated monthly charge for the service for each month or partial month of delay.

3.2 **Non-Customer Specific Services.**

3.2.1 If ILEC fails to satisfy any Performance Standard related to the delivery dates for error-free provisioning Network Elements (Attachments III and VIII), ILEC will be liable to MCIm for a Delay Credit for each and every order for non-customer specific Network Elements that has been delayed or not properly completed.

3.2.2 The Delay Credit shall consist of: (i) a waiver of any associated provisioning/installation charge; and (ii) a delay credit equal to $25,000 per day for each day of delay.

Section 4. Performance Failure Credits

4.1 If ILEC fails to satisfy any Performance Standard specified in this Agreement, ILEC will be liable for a Performance Failure Credit in the amounts set forth below for each and every outage/trouble call that is not restored/resolved in the specified interval.

Interval	Standard	Performance Failure Credit (per line or equivalent DSO circuit per 24 hour period or part thereof)
Outage Requiring Premises Visit*		
4 hours	90%	$ 50.00
8 hours	95%	$ 75.00
16 hours	99%	$100.00
Outage Not Requiring Premises Visit		

2 hours	85%	$ 50.00
3 hours	95%	$ 75.00
4 hours	99%	$100.00
Trouble Calls 24 hours	95%	$ 75.00

- A referral received between 6.00 P.M. and 8:00 A.M. shall be treated as though it were received at 8:00 A.M. for Performance Standard purposes.

Section 5.Credits for Delayed or Improperly Provided Customer Usage Data

5.1 If ILEC fails to satisfy the "Does Not Meet Expectations" Rating Criteria set forth in Section 4 of Attachment VIII of this Agreement for providing Customer Usage Data. ILEC will be liable for a Customer Usage Credit for each day that such data is delayed. The daily amount of the Customer Usage Credit shall be calculated using the following formula:

$$\frac{\text{(Number of Messages Delayed x Average Revenue Per Message)}}{30}$$

MCIm shall provide the Average Revenue Per Message factor.

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I. INTERCONNECTION

Definition: The connection of the telecommunications facilities and equipment of any telecommunications carrier with the ILEC's network for the transmission and routing of telephone exchange and exchange access services.

Interconnection can occur at any technically feasible point within the ILEC's network, and must be at least equal in quality to that provided by the ILEC to itself and at rates, terms and conditions that are just, reasonable and non-discriminatory.

REQUIREMENTS

1. Point of Interconnection
2. Trunking
3. Traffic Types
4. Signaling
5. Compensation
6. Business Processes
   - 6.1 Order Processing
   - 6.2 Provisioning & Installation
   - 6.3 Trouble Resolution, Maintenance, Customer Care
   - 6.4 Billing
7. Quality of Service
8. Information

Access #	MCI Position	Sprint Position	FCC Ruling
	I. POINT OF INTERCONNECTION (POI):		
1.1	Each interconnecting carrier must designate at least one POI on the other carrier's network for each local calling area. Each carrier has the responsibility for providing its own facilities to route calls (1) originating on its network and terminating on the other carrier's network to its POI, and (2) originating on the other local exchange carrier's network, but terminating on its network from that carrier's POI. There is no requirement that a carrier establish more than one POI for any local calling area, but nothing should prevent MCI from designating more than one POI upon mutual agreement of the carriers. There should be no charge for provision of the POI facilities.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 220,1035 51.305

000378

Access #	MCI Position	Sprint Position	FCC Ruling
1.2	POIs may be at any technically feasible point on the networks, including, but not limited to: tandem switches, end office switches or other wire centers. Collocation is not a requirement for establishing a POI. POIs can be established via meetpoint, collocation and other mutually agreed to methods.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 198,201,210 51.305, 51.321(b), 51.323
1.3	Carriers agree to install efficient and sufficient facilities to route calls (1) originating on its network and terminating on the other carrier's network to its POI, and (2) originating on the other local exchange carrier's network, but terminating on its network from that carrier's POI, and will work cooperatively to ensure such.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 224 - 225 51.305
1.4	ILEC may not impose any restrictions on traffic types delivered to/from the POI(s).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 214 - 220
1.5	A carrier may make any modifications or additions to its designated POIs in order to add capacity or establish new POIs. Such changes should not require a new contract, but should be covered by a master service agreement.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a)(5)
1.6	Each carrier preserves the option to designate its POI at the most efficient point for its purposes.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.321(b)

000379

Access #	MCI Position	Sprint Position	FCC Ruling
1.7	A carrier should not impose on the other the inefficiencies of its network design; any additional costs resulting from the inefficiencies of an ILEC's network design should be borne by the ILEC and not imposed on MCI.	No. Sprint cannot agree to limit it's ability to reconfigure its network. Inefficiencies need further clarification.	51.305(a)(2)
1.8	Once traffic is delivered to the POI, it is the terminating carrier's responsibility to terminate the traffic to its end users. Calls should be terminated using the same network, ensuring the same quality of service, as the carrier provides its own customers.	Same quality, not necessarily the same network. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a)(3)
	2. TRUNKING		
2.1	Trunking should be available to any switching center designated by either carrier: including end offices, local tandems, access tandems, 911 routing switches, directory assistance/operator services switches, or any other feasible point in the network. Carriers should have the option for either one-way or two-way trunking. Directionality in this case refers to the traffic flowing between two networks, not to the logical or physical configuration of the trunk. All trunks should be configured two way for testing purposes.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305
2.2	There should be no restrictions on the types of traffic that can be combined on a single trunk group. In the eventuality that there is good reason for traffic separation then the carrier receiving the traffic should determine the types of traffic that can be combined (e.g. local, intraLATA toll, interLATA access). To the extent necessary to apply the appropriate compensation arrangement, Percent Usage reporting should be established.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305

000380

Access #	MCI Position	Sprint Position	FCC Ruling
2.3	Carriers should offer B8ZS Extended Super Frame (ESF) facilities to each other, and will make these facilities available to allow for transmission of voice and data traffic.	Sprint has agreed in principle to provide where available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305
2.4	Trunking should be available at any feasible point that is used in the transmission of voice, data or other types of traffic (e.g., file servers, SCPs, DXCs, ATM switches, etc.)	Sprint has requested that MCI better define this request and consideration deletion.	51.305
	3. TRAFFIC TYPES		
3.1	Carriers should provide the necessary facilities and equipment to allow for the exchange of the following types of traffic between ILEC(s) and MCI:	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.309, 51.319
3.2	**Local Exchange** - local traffic to be terminated on each party's local network so that customers of either party have the ability to reach customers of the other party without the use of access codes.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.309, 51.319
3.3	**Exchange Access** - The offering of access to telephone exchange services or facilities origination and termination of intraLATA or interLATA toll services.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.309, 51.319

000381

Access #	MCI Position	Sprint Position	FCC Ruling
3.4	**IXC Transit** - the ILEC must provide intermediary network access service between MCI and any IXC for the purpose of completing interLATA or intraLATA toll traffic. Each carrier will provide their own network access services to the IXC on a meet-point basis.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.309, 51.319
3.5	**Other Transit functions** - the ILEC must provide intermediary tandem switching and transport services for MCI's connection of its end user to a local end user of other CLECs, ITCs, and wireless telecommunications providers.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.309, 51.319
3.6	**Intelligent network** - The ILEC must provide open logical and physical interconnection points to AIN/IN interface in their network. Refer to Section X, Part 6.	See Section X, Part 6.	51.305, 51.309, 51.319
3.7	**Other Services** - The ILEC must provide connection and call routing for 911, E-911, directory assistance, and operator assistance services.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.309, 51.319
3.8	**Network surveillance** - The ILEC must provide access to monitoring, surveillance and other fraud control functions in its network.	Sprint has stated that it will consider this request based on technical feasibility. Sprint to complete assessment. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.309, 51.319
	4. SIGNALING		

000382

Access #	MCI Position	Sprint Position	FCC Ruling
4.1	ILEC must provide interconnection to and from intelligent network, signaling, monitoring, surveillance and fraud control points.	Sprint has indicated that it agrees in principle on ISUP but has asked MCI to provide further explanation as to what needs the rest.	51.305(a)(2)(v), 51.319(e)
4.2	ILEC shall provide and implement all SS7 Mandatory and Optional parameters as well as procedures that are defined in the ANSI standards even if today's services do not specifically requires these features. These functions shall include: a. All functions of the ISUP, TCAP, MTP as specified in the ANSI specifications. b. All functions of the OMAP including MTP Routing verification Test(MRVT) and SCCP Routing Verification Test(SRVT).	Sprint is willing to consider on a negotiated case by case basis only as not all compliant equipment may have functions available. In addition, Sprint states that all functions is to too broad. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a)(2)(v), 51.319(e)
4.3	ILEC shall provide options to interconnect all the systems connected to the ILEC SS7 network. These options shall include: A & E-Link access from the MCI local switching system. D-Link access from MCI STPs. F-link access to the ILEC EO/AT and to ILEC Data Bases.	Sprint states it will provide upon a bona fide request however, there is a compensation issue to be resolved. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(e)(2)(iii), 51.319(e)(I)(IV)

000383

Access #	MCI Position	Sprint Position	FCC Ruling
4.4	ILEC shall provide a signaling link which consists of a 56 kbs transmission path or other rates as defined by ANSI standards between MCI designated signaling Points of Interconnect (SPOIs), satisfying an appropriate requirement for physical diversity.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(e), 51.305(a)
4.5	ILEC shall meet or exceed SS7 performance objectives as described in Bellcore TR-905 section 7, MTP and SCCP performance as specified in ANSI.	This requires further review by Sprint SMEs. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a), 51.319(e) ¶481
4.6	Carriers shall have the option for Multi-frequency (MF) signaling, but only when either party does not have the technical capability to provide SS7 facilities.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a) 51.319(e)
4.7	Other Requirements:		
	a. CIP (CIC within the SS7 call set-up signaling protocol) at no charge.	Sprint has this tariffed and if requested when implemented, there is no charge. There is a NRC if requested thereafter. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection order

000384

Access #	MCI Position	Sprint Position	FCC Ruling
	b. All SS7 signaling parameters must be provided including Calling Party Number (CPN). All privacy indicators must be honored	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(e), 51.305(a)
	c. Carriers must provide to one another signaling System 7 (SS7) trunking. - GR-394 SS7 interconnect to IXCS - GR 317 SS7 interconnection between ILEC/MCI switches	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(e), 51.305(a)
4.8	Carriers must support intercompany 64 kbps clear channel.	Sprint agrees in principle to provide where available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a) 51.311 51.319(e)
4.9	Carriers will cooperate in the exchange of TCAP messages to facilitate full inter-operability of SS7- based features between their respective networks, including all CLASS features and functions, to the extent each carrier offers such features and functions to its own end users.	Sprint agrees in principle to provide where available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307(c)

000385

Access #	MCI Position	Sprint Position	FCC Ruling
4.10	Inter-network connection and protocol must be based on industry standards developed through a competitively neutral process, consistent with section 256 of the Federal Telecommunications Act of 1996, open to all companies for participation. All carriers must adhere to the standard.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a)(3) 51.305(a)(5) 51.313
4.11	The standards and ILEC developed requirements/ specifications for the network-user interface must be compatible with the network-network interface.	Sprint has to further research this issue.	¶ 481 51.305(a)(3) 51.305(a)(5) 51.319(e)
	5. COMPENSATION		
5.1	**Exchange Access:**		
5.1.1	Exchange access must be priced at TSLRIC. This includes both switched and special access.	No.	51.515
5.2	**Reciprocal Compensation:**		
5.2.1	See XIII. Reciprocal Compensation Arrangements for Local Exchange Traffic.	See Section XIII. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	
5.2.2	There should be no charge for the provision of POI facilities.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	

000386

Access #	MCI Position	Sprint Position	FCC Ruling
5.2.3	The ILEC will absorb any Non Recurring Charges (NRCs) incurred by MCI as a result of network redesigns/ reconfigurations initiated by the ILEC to its own network.	No. Sprint agrees, that there are some instances where this is appropriate, but takes the position that there will be cases where we will want mutually agree that NRCs are appropriate.	51.507(e)
5.3	SS7 - SS7 links must be priced at TSLRIC	Unbundled element, for which TELRIC plus a reasonable allocation of forward looking common costs is appropriate.	51.503, 51.505, 51.507, 51.509, 51.511
5.4	Transit - Transit must be priced at TSLRIC	Unbundled element, for which TELRIC plus a reasonable allocation of forward looking common costs is appropriate.	51.503, 51.505, 51.507, 51.509, 51.511
	6. BUSINESS PROCESSES		
6.1	**Order Processing:**		
6.1.1	The ILECs must establish dedicated carrier ordering centers, available 7 days a week, 24 hours a day.	Business hours only, not 7 x 24 as requested.	51.313 51.319
6.1.2	Standardized electronic interfaces for the exchange of ordering information must be made available using industry standard order formats and methods. Electronic bonding should be established to provide direct access to the ILEC order processing database.	Sprint will use dedicated switched access trunk ASR process until OBF rules and systems implemented. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319(f) ¶ 516-528

000387

Access #	MCI Position	Sprint Position	FCC Ruling
6.1.3	The ILEC is responsible for ordering facilities to terminate traffic to MCI. MCI will supply Firm Order Commitments (FOC) and Design Layout Reports (DLR) as described in 6.2.1.	DOC should be considered, rather that FOC and DLR combination. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
6.1.4	When 2-way trunking is employed, the parties will select a mutually agreeable automated ordering process.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a)(5)(f) 51.319
6.2	**Provisioning & Installation:**		
6.2.1	ILECs need to establish and adhere to competitive intervals for the delivery of FOCs, DLRs and facilities. Such intervals need to ensure that facilities are provisioned in timeframes and according to standards that meet or exceed those that the ILEC provides to itself for its own network and/or to end users. Intervals should not exceed 10 business days where facilities are available.	Sprint suggests that 10 days may be acceptable, but needs protection if longer. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(a)(5) 51.319
6.3	**Trouble Resolution, Maintenance, Customer Care**		
6.3.1	The ILECs must establish dedicated carrier service centers available 7 days a week, 24 hours a day.	Business hours only, not 7 x 24 as requested.	51.319
6.3.2	Voice response units or similar technologies should be used to refer/transfer calls from customers to the proper carrier for action.	Sprint will not transfer misdirected service calls.	51.319

000388

Access #	MCI Position	Sprint Position	FCC Ruling
6.3.3	MCI must have real time read and write access via an electronic interface to the ILEC's maintenance and trouble report systems including the following systems and/or functionality: Trouble reporting/dispatch capability - access must be real time • Repair status/confirmations; maintenance/trouble report systems • Planned/Unplanned outage reports	Sprint states this will eventually happen, but not near term.	¶ 516 - 528 51.313(c) 51.319
6.3.4	Each carrier has the duty to alert the other(s) to any network events that can result or has resulted in service interruption, blocked calls, changes in network performance, on a real time basis.	MCI needs to define what qualifies as a reportable network event. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313(c) 51.319
6.3.5	Maintenance service options must be unbundled to permit the use of qualified third party contractors for maintenance/repair of interconnect facilities.	No.	51.311, 51.313, 51.319
6.3.6	ILECs need to adopt multi-ILEC trouble management procedures developed by the Network Operations Forum (NOF) (See Appendix 3).	Sprint will follow as best as possible, but may want to do some things differently, assuming MCI mutually agrees. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313(c) 51.319

000389

Access #	MCI Position	Sprint Position	FCC Ruling
6.3.7	Escalation process - NOF (See Appendix 3).	Sprint will follow as best as possible, but may want to do some things differently, assuming MCI mutually agrees. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313 51.319
6.3.8	Carriers must work cooperatively to plan and implement coordinated repair procedures for the local interconnection trunks and facilities to ensure trouble reports are resolved in a timely and appropriate manner.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
6.3.9	Carriers will provide each other with a trouble reporting number that is readily accessible and available 24 hours a day, 7 days a week. In addition, carriers will provide each other test-line numbers and access to test lines.	Sprint does not plan to provide other carriers with test line numbers.	51.319
6.3.10	Cooperative practices and processes for law enforcement and annoyance call handling must be specified.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
6.4	**Billing**		

Access #	MCI Position	Sprint Position	FCC Ruling
6.4.1	ILECs and MCI agree to conform to MECAB and MECOD guidelines. They will exchange Billing Account Reference and Bill Account Cross Reference information and will coordinate Initial Billing Company/Subsequent Billing Company billing cycle.	Sprint will provide to the extent it is for flat rates services today, since CABS will be used for this. OK for the future. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(f)
6.4.2	Meet point billing arrangements should be made available to MCI as a CLEC on the same terms and conditions as made available to other independent LECs engaged in meet point billing arrangements with the ILEC. MCI requires multiple bill/single tariff arrangements to be implemented.	MCI needs to clarify its requirements to advise if it really wants a single tariff. The independent requirement needs to be dropped.	51.321(b)(2)
6.4.3	There should be no discrete development charges imposed on MCI for the establishment of meet point billing arrangements.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	
6.4.4	The ILEC will prepare and transmit Inward Terminating call records for the appropriate IXC to MCI.	We believe we may have reached agreement in principle with Sprint, but details need to be worked out and we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(f)

000390

Access #	MCI Position	Sprint Position	FCC Ruling
6.4.5	The ILEC will receive EMR summary records from MCI for Inward Terminating and Outward Originating calls for the appropriate IXC, and use these records to bill access charges to the IXC.	Sprint states that it will clearly not be used for transit, problem if it is. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(f)
6.4.6	The ILEC must agree to capture inward terminating call records and send them to MCI or their billing agent in a format to be advised by MCI.	Mutually agreed, not advised, in an industry standard format. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
	MCI agrees to capture EMR summary records for Inward Terminating and outward originating calls and send them to ILEC in daily files via a media to be advised by MCI.		51.319
6.4.7	ILEC will provide MCI with IXC billing information for IXCs that transit ILEC tandem. Any IXC billing information provided by ILEC to MCI with respect to Meet Point Billing will be used solely for that purpose.	Mutually agreed, not advised, in an industry standard format. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319

000391

Access #	MCI Position	Sprint Position	FCC Ruling
6.4.8	ILEC must agree to exchange test files to support implementation of meeting point billing prior to live bill production.	Sprint agrees conceptually but has indicated there are many details to be negotiated/agreed upon to cause this to happen.	51.319
6.4.9	When MCI owns the end-office, the ILEC will not bill the RIC to either MCI or the IXC.	No test file needed as long as both MCI and Sprint on same EMI standard.	51.515
6.4.10	The ILECs must indemnify MCI for any fraud due to network compromise (e.g., Clip-on, missing information digits, missing toll restriction, etc.).	Clip on cannot possibly be Sprint's responsibility. Sprint is willing to cooperate with the industry to detect, deter, identify, and bring justice those responsible for fraud. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.319.
	7. QUALITY OF SERVICE		
7.1	Interconnection quality of service should be no less than that provided by the ILEC for its own services.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.311, 51.313, 51.319 ¶ 224 - 225
7.2	Both parties must agree to specified design objectives on local interconnection facilities. MCI's standard is P.01 in the busy day busy hour.	Sprint is willing to use average busy hour, not busy day busy hour.	51.305, 51.311, 51.313, 51.319 ¶ 224 - 225

000392

Access #	MCI Position	Sprint Position	FCC Ruling
7.3	Interconnect circuit provision and restoration should take priority over any other non-emergency ILEC network requirement.	Sprint will offer equal terms with Sprint's interoffice trunks. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.311, 51.313, 51.319.
7.4	ILEC should adhere to competitive intervals for installation of POIs and in no case should be longer than 60 calendar days.	Sprint states although reasonable conceptually, there will be no circumstances where this may not be possible, so that contract language needs to take into account. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.313, 51.319.
7.5	The parties must agree to a process for emergency, short-interval augmentations to account.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.313, 51.319.

000393

Access #	MCI Position	Sprint Position	FCC Ruling
7.6	The companies must agree upon a mechanism for deal with breach of agreed quality-of-service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.313, 51.319.
7.7	ILEC must provide maintenance services to MCI customers in a manner that is timely, consistent and at parity with the ILEC's customers. At a minimum, the quality of the leased elements should match that of the ILEC's own elements and in general conform to all applicable Bellcore and ANSI requirements specific to the type of service to be provided.	Deleted from Section.	51.305, 51.313, 51.319. ¶ 224 - 225
	8. INFORMATION		
8.1	Completion confirmation must be provided to ensure that all necessary translation work is completed on newly installed facilities or augments.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.319
8.2	The ILEC must publish comparative data reporting ILEC vs. CLEC quality of service (average length of outages, percentage of call failures, etc.).	Sprint agrees conceptually, but will need to research how to implement. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 311 51.305, 51.319

0003494

Access #	MCI Position	Sprint Position	FCC Ruling
8.3	The parties shall periodically exchange technical descriptions and forecasts of their interconnection and traffic requirements in sufficient detail to assure traffic completion to and from all customers within the appropriate calling areas.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 311 51.305, 51.319
8.4	ILEC must provide and update an electronic copy of their switch Network ID Database with complete list of feature/functions by switch, NPA/NXXs, bus/res counts and identification, rate centers, etc.	Sprint is not opposed to providing information which is publicly available. However, the information requested is not available today in an electronic much less consolidated format. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305, 51.319.

(See Appendix 5 for Interconnect Architecture and Trunking Topology Diagrams)

000395

II. NON-DISCRIMINATORY ACCESS TO NETWORK ELEMENTS

DEFINITION: ILEC must offer to any requesting telecommunications carrier unbundled access to all physical and logical network elements at any technically feasible point without restriction as to how they are combined with each other or with components supplied by the requesting telecommunications carrier to provide a telecommunications service.

REQUIREMENTS

1. Unbundled Element List
2. General Requirements
3. Compensation
4. Quality of Service
5. Information
6. Business Processes
   - 6.1 Order Processing
   - 6.2 Provisioning and Installation
   - 6.3 Trouble Resolution, Maintenance and Customer Care
   - 6.4 Billing

Issue #	MCI Position	Sprint Position	FCC Ruling
1.	**Unbundled Element List**		
1.1	**LOCAL LOOP** (detailed in section IV), composed of the following elements which can be purchased separately:	See Section IV.	
	Network Interface Device/Unit		51.319(a)(b) ¶ 392 ¶ 233
	Loop Distribution		¶ 391 51.307 ¶ 384 ¶ 233
	Digital Loop Carrier/analog cross connect		¶ 391 51.307 ¶ 384 ¶ 233
	Loop Feeder		¶ 391 51.307 ¶ 384

000396

Issue #	MCI Position	Sprint Position	FCC Ruling
1.2	**LOCAL SWITCHING** (detailed in section VI) composed of the following rate elements:		
	Line Port Trunk Port Switch Capacity including Signaling/Database required to create or bill call path	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 410 - 424 51.319(c) ¶ 233
1.3	**TANDEM/TRANSIT SWITCHING**		
	The establishment of a temporary path between two switching offices through a third (tandem) switch.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 425 - 426 51.319(c)
1.4	**ANCILLARY SERVICES** (detailed in sections VII and VIII) Operator Service DA 911	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(g) ¶ 536
1.5	**TRANSPORT** (detailed in section V) Dedicated Interoffice Trunks, with and without electronics Common Interoffice Trunks Multiplexing/Digital Cross Connect	No. Sprint will not offer dim or dark fiber.	¶ 439 - 444 51.319(d)
1.6	**DATA SWITCHING** An element that provides data services (e.g., frame relay or ATM) switching functionality.	Withdrawn subject to BFR process later.	51.319(e) ¶ 427
1.7	**INTELLIGENT NETWORK and ADVANCED INTELLIGENT NETWORK** (detailed in section I and X)	See Section X	¶ 488 - 492 51.319(e)

000397

Issue #	MCI Position	Sprint Position	FCC Ruling
2.	**General Requirements**		
2.1	Any telecommunications carrier must have nondiscriminatory access to the unbundled ILEC network elements, and their functional components, used in any ILEC products or service including: Grandfathered products and services Tariffed and non-tariffed products and services Existing products and services e.g. expanded interconnection, or physical collocation, must be unbundled into placement cage and fiber route components Enhanced products and services e.g. ADSL, BDSL, ISDN, BISDN services, Future products and services e.g. ATM services using non-E.164	Need further discussion on enhanced/future. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 292 51.307, 51.309, 51.311, 51.315.
2.2	Carrier access must not be restricted. ILEC should not take any steps to construct the network in such a way that prevents access to network elements. The ILEC should work to facilitate access to network elements.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 292 51.307, 51.309, 51.311, 51.315.
	Artificial restrictions on use of components to be eliminated. e.g. No restrictions on the carrier's selection of equipment to deploy in the placement cage. No restrictions on the type of traffic that the carrier provides using the components	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 292

000398

Issue #	MCI Position	Sprint Position	FCC Ruling
	Components be combined without restriction. e.g. The carrier installs selected equipment in a placement cage at an ILEC central office and terminates ILEC unbundled loops into that cage. The carrier purchases ILEC or CAP transport to extend the unbundled loops back to its switching network.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.315 ¶ 292 - 293
2.3	Carrier must be at parity with the ILEC (or its affiliates) in provision of unbundled elements. This must at a minimum include:		51.307, 51.309, 51.311, 51.315
	Switch features at parity Treatment during overflow/congestion conditions at parity Equipment/interface protection at parity Power redundancy at parity Sufficient spare facilities to ensure provisioning, repair, performance, and availability at parity Standard interfaces Real time control over switch traffic parameters. Real time access to integrated test functionality. Real time access to performance monitoring and alarm data affecting MCI network.	Real time access is not currently available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	
2.4	ILECs must implement open Physical and Logical interconnection points to fully unbundle their AIN/IN network (See Section X Part 6.0).	Sprint has no AIN today. When available, access must be mediated.	¶ 488 - 492 51.307, 51.309, 51.311, 51.315, 51.319(e)(3)(D)
3.	**Compensation**		

000399

Issue #	MCI Position	Sprint Position	FCC Ruling
3.1	All unbundled network elements and their unbundled functional components must be priced at TSLRIC *Example: transport services not priced at current special access transport rates*	TELRIC plus a reasonable allocation of forward looking common costs.	51.503, 51.505, 51.507.
3.2	ILEC pricing must reflect the full imputation of all costs of the factors of production utilized in providing any given service	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 848 - 850 51.503, 51.505, 51.507.
3.3	Ability to purchase any equipment from ILEC at prices that reflect their costs.	No.	51.503, 51.505, 51.507
4.	**Quality of Service**		
4.1	The companies must agree on a mechanism for dealing with breaches of agreed quality-of-service standards	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.319
4.2	Provisioning support 7 days a week, 24 hours a day	Sprint does not provision its own services 7 x 24 and will not offer to MCI.	51.307, 51.309, 51.311, 51.319
4.3	Any new electronic interface must have no negative impact on existing interfaces MCI or other carriers have with the ILEC today for traditional services	Sprint has requested that MCI clarify this issue.	¶ 516 - 528 51.307, 51.309, 51.311, 51.313(c), 51.319

000400

Issue #	MCI Position	Sprint Position	FCC Ruling
4.4	Intervals and level of service no less than tariff or, if it is higher, no less than currently being performed by the ILEC for its own customers or for other carriers, whichever is higher	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311(b), 51.319
4.5	Negotiated performance metrics with the ILEC. Results to be reviewed quarterly or on an as needed basis.	Sprint agrees in principle subject to ability to measure and report. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516 - 528 ¶ 311 51.307, 51.309, 51.311, 51.319
4.6	The ability to determine customer's existing service and feature configuration by access to the appropriate database with the appropriate authorization	Subject to CPNI guidelines Sprint will provide only after customer has chosen MCI for local service (LOA required pre-sale).	¶ 516 - 528 51.307, 51.309, 51.311, 51.319
4.7	ILEC must provide maintenance services on Unbundled Elements provisioned to MCI in a manner that is timely, consistent and at parity with the ILEC's customers. At a minimum, the quality of the leased elements should match that of the ILEC's own elements and in general conform to all applicable Bellcore and ANSI requirements specific to the type of service to be/being provided.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309(c), 51.311, 51.319

000401

Issue #	MCI Position	Sprint Position	FCC Ruling
4.8	The ILEC must develop a formal process to track, analyze and continuously improve service levels.	Sprint currently does for its services provided to carriers and end users. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319
5.	**Information**		
5.1	Identification and description of all elements related to providing service	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
5.2	A list/description of all services and features available down to street address detail, including: Type of Class 5 Switch by CLLI, line features availability by LSO, and service and capacity availability by LSO. MCI further requires a complete layout of the data elements that will be required to provision all such services and features	Sprint cannot provide services by street address. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319

000402

Issue #	MCI Position	Sprint Position	FCC Ruling
5.3	Detailed description of the criteria and process used for handling facility and power outages on an agreed upon severity and priority basis	MCI and Sprint network operations personnel need to further discuss.	51.307, 51.311, 51.313. 51.319
5.4	The ILEC must provide an initial electronic copy and a hard copy of the service address guide (SAG), or its equivalent, on a going forward basis. Updates are expected as changes are made to the SAG	Sprint will provide if compensated but also needs to determine its ability to provide. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
5.5	The ILEC to provide engineering information on all unbundled elements/combinations used for data, private line, foreign exchange, voice, etc. This would include the information that would normally be provided on records such as the detailed design layout records for loops and circuits.	Sprint to research what will be provided.	51.307, 51.311, 51.313, 51.319
5.6	Parity with the ILEC regarding knowledge of any engineering changes associated with the incumbent's network elements and deployment of new technologies	No.	51.307, 51.311, 51.313, 51.319
6.	**Business Processes**		
6.1	**Order Processing**		
6.1.1	A real-time Electronic Communication interface to the ILEC for ordering and provisioning. (i.e. Electronic Access to SAG or its equivalent.)	Not at this time. Sprint states it will build interfaces to standards once they are established. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516 - 528 51.313(c), 51.319

000403

Issue #	MCI Position	Sprint Position	FCC Ruling
6.1.2	The ability to order any defined element using agreed A real-time Electronic Communication interface to the ILEC for ordering and provisioning. (i.e. Electronic Access to SAG or its equivalent)upon ordering/provisioning codes and have those codes flow through for billing.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516 - 528 51.313(e), 51.315(a), 51.319
6.1.3	Although MCI shall purchase the Unbundled Local Switching (ULS) element by committing to a minimum amount of line port, trunk ports and switch capacity on an end office by end office basis, business processes must be in place to allow that capacity to be utilized by individual customers, in combination with other network elements.	Sprint has asked that MCI clarify this request.	51.307, 51.319
6.1.4	Particular combinations of elements, hereafter referred to as combinations, identified and described by MCI can be ordered and provisioned as combinations, and not require the enumeration of each element within that combination on each provisioning order. When MCI removes or replaces one element of Not technically feasible, a combination they must not be required to reorder the remaining elements of the combination over again.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.315(d), 51.319 ¶ 294
6.1.5	Appropriate ordering/provisioning codes must be established for each identified combination	If combinations are offered, we believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 294 51.315(a), 51.319
6.1.6	When combinations are ordered where the elements are currently interconnected and functional, those elements must remain interconnected and functional	Sprint has asked that MCI clarify this request.	¶ 294 51.315, 51.319

000404

Issue #	MCI Position	Sprint Position	FCC Ruling
6.1.7	When purchasing switching capabilities, until such time as numbering is administered by a third party, MCI requires the ability to obtain telephone numbers on-line from the ILEC, and to assign these numbers with MCI customer on-line. This includes vanity numbers. Reservation and aging of numbers remain the responsibility of the ILEC.	May not be immediately available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(e)(2)
6.1.8	When purchasing switching capabilities, MCI requires the ability to order all available features on that switch. (e.g., call blocking of 800, 900, 976, 700 calls by line or trunk on an individual service basis).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(c)(1)
6.1.9	The ability to have the ILEC end office AIN triggers initiated via a service order from MCI.	Not applicable at this time as Sprint does not have AIN.	51.313, 51.319
6.1.10	MCI and the ILEC must negotiate a standard service order/disconnect order format	Sprint will provide consistent with the OBF outcome on this. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313(b)(c), 51.319

000405

Issue #	MCI Position	Sprint Position	FCC Ruling
6.1.11	When necessary, MCI requires the "real time" ability to schedule installation appointments with the customer on-line and access to the ILEC's schedule availability.	Capability does not exist now. Will consider in future if capability exists. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516 - 528 51.313(c), 51.319
6.1.12	"Real-time" response for: Firm order confirmation, due date availability/scheduling, dispatch required or not, identify line option availability by LSO (such as Digital Copper, Copper Analog, ISDN, etc.), completion with all service order and time and cost related fees, rejections/errors on service order data element(s), jeopardizes against the due date, missed appointments, additional order charges (construction charges), order status, validate street address detail, and electronic notification of the local line options that were provisioned, at the time of order completion, by the ILEC for all MCI local customers. This applies to all types of service orders and all elements.	Capability does not exist now. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516 - 528 51.313(c), 51.319
6.1.13	The ILEC to notify MCI if a customer requests changes to their service at the time of installation. Specific scenarios and a process to handle changes will be required	Sprint will ask customer to contact MCI directly.	51.313, 51.319
6.1.14	Expedite and escalation processes for ordering and provisioning.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

000406

Issue #	MCI Position	Sprint Position	FCC Ruling
6.1.15	MCI requires a process to expedite an order on a customers behalf	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
6.2	**Provisioning and Installation**		
6.2.1	The ILEC to provide all test and turn-up procedures and to provide all testing in support of the unbundled elements/combinations/services ordered by MCI. Testing and turn-up should be product specific and tailored to what is being ordered and how it will be used.	Sprint will test what it provides. MCI may need to participate. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.2.2	The ILEC to notify MCI prior to disconnect of any MCI unbundled element/combination/service.	Subject to development of industry processes for switching local carriers.	51.307, 51.309, 51.311, 51.313, 51.315
6.2.3	All notices, invoices, and documentation provided to the customer at the customer's premises by the ILEC's field personnel be branded MCI	Agreement in principle as long as MCI provides materials at its cost. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315

000407

Issue #	MCI Position	Sprint Position	FCC Ruling
6.2.4	The ability to test or have the ILEC test all elements/combinations.	Sprint will test what it provides. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3	**Trouble Resolution, Maintenance and Customer Care:**		
6.3.1	A real-time automated industry standard electronic interface (EBI) to perform the following functions: Trouble Entry Obtain Trouble Report Status Obtain Estimated Time To Repair (ETTR) and ILEC Ticket Number Trouble Escalation Network Surveillance- Performance Monitoring (i.e., proactive notification of "auto detects" on network outages from the local supplier)	Not now but Sprint will consider in the future pursuant to industry standards. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.2	A process for the management of misdirected service calls must be developed	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315

804000

Issue #	MCI Position	Sprint Position	FCC Ruling
6.3.3	A jointly developed process with the ILEC to conduct Busy Line Verification (BLV) and Emergency Interrupt.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.4	ILEC establish and staff a Maintenance Center to act as MCI's single point of contact (SPOC) for all maintenance functions and should operate on a 24 hour day, 7 days a week basis.	Sprint will provide consistent with current practices. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.5	All trouble shooting will be performed by the ILEC and the ILEC will be responsible for the reported trouble until turned back to MCI.	Only for elements provided and subject to a maintenance charge. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.6	An escalation process for resolving maintenance troubles	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315

000409

Issue #	MCI Position	Sprint Position	FCC Ruling
6.3.7	The ILEC must perform a Mechanized Loop Test (Quick Test) at the request of MCI while MCI is on line.	Only when Sprint is providing ULS. MCI may not be on-line but process for getting info to MCI must be developed. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.8	The ILEC to provide progress status reports so that MCI will be able to provide end user customers with detailed information and an estimated time to repair (ETTR). The ILEC will close all trouble reports with MCI. MCI will close all trouble reports with the end user. MCI's outside technicians will clear troubles to the network interface and provide callback from the fault location to MCI.	Sprint will provide in accordance with its current practices. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.9	Maintenance charges (time and materials, by customer, per event) must be provided verbally at ticket close out. The ILEC will use an MCI branded form that will be signed by the customer, capturing all maintenance and service charges incurred by the customer and forwarded or faxed to the MCI work center by the end of the day when the repair is completed.	Sprint does not plan to offer inside wire maintenance so this does not apply.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.10	Pre-screening of any ILEC activities that will incur charges to MCI. This includes authorization by MCI if a dispatch is required to the customer premises as well as verification of actual work completed	No.	51.307, 51.309, 51.311, 51.313, 51.315

000410

Issue #	MCI Position	Sprint Position	FCC Ruling
6.3.11	All ALIT/SLIT (Auto / Subscriber Line Tests) tests performed on MCI customers' lines that result in a failure must be reported to MCI	Sprint states it will offer as possible but that details must be worked out. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.12	MCI branded, or at a minimum a non branded, customer-not-at-home card be left at the customers premises when an MCI customer is not at home for an appointment.	If branded, MCI to pay at its cost. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.13	MCI will coordinate dispatches to the customer premises. This includes re-dispatches for customer not-at-home.	MCI coordinates with end user but orders worked in parity with Sprint orders. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.14	The ILEC will ensure that all applicable alarm systems that support MCI customers are operational and the supporting databases are accurate so that equipment that Is in alarm will be properly identified. The ILEC will respond to MCI customer alarms consistent with how and when they respond to alarms for their own customers	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315

114000

Issue #	MCI Position	Sprint Position	FCC Ruling
6.3.15	Individual Emergency Restoration and Disaster Recovery Plans be developed. The Plans should outline methods for the restoration of each central office in the local network provider territory as well as contain site specific restoration alternatives which could be implemented based on the magnitude of the disaster. Each plan should incorporate at a minimum the following elements:	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.16	ILEC Single Point of Contact (SPOC) Responsible for notification of MCI work center. Responsible for the initiation of the ILEC's restoration plan Responsible for status and problem resolution during the entire restoration process.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.17	Restoration Equipment Dispatch Plan Documented Procedure on how the equipment will be dispatched to restoration site. Estimated maximum time for the restoration equipment to arrive on site.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.3.18	Prior notification, with the option to influence the decision (time frame - TBD), of any scheduled maintenance activity performed by the local supplier that may be service affecting to MCI local customers (i.e., cable throws, power tests, etc.)	Sprint makes ultimate decision but will allow MCI to provide input to the decision process. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.315
6.4	**Billing:**		

214000

Issue #	MCI Position	Sprint Position	FCC Ruling
6.4.1	Invoices must be presented in a Carrier Access Billing Systems (CABS) format in order to facilitate standard industry auditing practices.	Except for line level usage. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
6.4.2	MCI and the ILEC agreement on the flow and format of CARE records for correct provisioning and billing to IXCS.	Sprint will agree to adhere to existing and future industry standards for this process. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

(See Appendix 4 for diagrams of Unbundled Elements)

000413

III. NON-DISCRIMINATORY ACCESS TO POLES, DUCTS, CONDUITS, RIGHT- OF-WAY

DEFINITION: Poles, ducts, conduits, and right of way refer to all the physical facilities and legal rights needed for access to pathways across public and private property to reach customers. These include poles, pole attachments, ducts, conduits, entrance facilities, equipment rooms, remote terminals, cable vault, telephone closets, rights of way, or any other inputs needed to create pathways to complete telephone local exchange and toll traffic. These pathways may run over, under, or across or through streets, traverse private property, or enter multi-unit buildings.

REQUIREMENTS
1. Access
2. Compensation
3. Information
4. Quality of Service
5. Business Processes

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**Access**		
1.1	ILEC must provide any telecommunications carrier requesting access with equal and non-discriminatory competitively neutral access to, without limitation, any pole, pole attachment, duct, conduit, entrance facilities, equipment rooms, remote terminals, cable vaults, telephone closets, ROW, and any other pathways on terms and conditions equal to that obtained by the ILEC. Other users of these facilities cannot interfere with the availability or use of these facilities by MCI.	Without limitation too broad. Needs better definition.	¶ 1157 § 1.1403
1.2	ILEC must provide access to building entrance conduits (including all Building Entrance Links equipment spaces, conduits and risers) to reach customers	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	§ 1.1403 ¶ 1143-1170
1.3	ILEC must provide MCI access to the unbundled network interface device	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 392 § 1.1403 51.319

000414

III. NON- DISCRIMINATORY ACCESS TO POLES, DUCTS, CONDUITS, RIGHT-OF-WAY

Access #	MCI Position	Sprint Position	FCC Ruling
1.4	Any ILEC having equipment on, over, under, across or through public or private property must permit the use of such equipment by any other telecommunications carrier on an equal and non-discriminatory basis.	Subject to underlying easement rights and equipment should be facilities.	¶ 1157 § 1.1403
1.5	Any authorization to attach to poles, overlashing requirements, or modifications to the conduit system or other pathways to allow access to and egress from the system shall not be hindered, restricted or unreasonably withheld or delayed. Such access and use shall be on terms and conditions identical to those the ILEC provides to itself and its affiliates for the provision of exchange, exchange access and interexchange services.	Agreement in principle subject to language spelling out industry standard practice. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	§ 1.1403 ¶ 1143-1170
1.6	ILEC should agree to take no action to interfere with or attempt to delay, the granting of permits to MCI for (1) use of public ROWs and (2) access to private premises from property owners.	Sprint agrees in principle for regular activities but may need to reserve the right to have this capability when Sprint's business needs could be adversely and anticompetitively impacted. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	§ 1.1403 ¶ 1143-1170
1.7	The ILEC must provide a requesting carrier access to pole, duct and conduit capacity currently available or that can be made available	Agreement in principle as long as this is not unreasonable to provide. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	§ 1.1403 ¶ 1143-1170

000415

Access #	MCI Position	Sprint Position	FCC Ruling
2.	**Compensation**		
2.1	This paragraph deleted or moved.	Deleted	
2.2	Any costs for improvements to/expansions of poles, etc. should be prorated on a non-discriminatory and neutral basis among and all users of the facility.	Sprint agrees conceptually but a process for implementing a competitively neutral program has not yet been developed. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 1211-1216 § 1.1416 51.505, 51.507
2.3	No application fees should apply.	Sprint wants cost based fees. Sprint is looking at whether this charge would be applied to ROW payment once an order is placed.	¶ 1211-1216 § 1.1416
2.4	Fees must be fixed for term of contract	Sprint has said maybe to this request but this appears in conflict with 2.2.	§ 1.1416 ¶ 1211-1216
2.5	Charges shall be consistent with the provisions in the act.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	§ 1.1416 ¶ 1211-1216
3.	**Information**		

000416

III. NON- DISCRIMINATORY ACCESS TO POLES, DUCTS, CONDUITS, RIGHT-OF-WAY

Access #	MCI Position	Sprint Position	FCC Ruling
3.1	ILEC must provide routine notification of changes to poles, conduits, ROW.	Sprint agrees to provide notice of changes but only if they affect MCI. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	§ 1.1403
3.2	ILEC must provide timely and open access to current pole-line prints, conduit prints, and make available maps of conduit and manhole locations, and allow manhole/conduit break-outs, and audits to confirm usability.	Case by case where MCI requests to use a facility. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	§ 1.1403
3.3	ILEC must provide regular report on the capacity status and planned increase in capacity of each of these access channels to facilitate construction planning.	Sprint has offered to hold joint planning meetings to discuss specific MCI requirements rather than provide all locations and availability, if even fully available.	§ 1.1403
3.4	The ILEC must provide information on the location of, and the availability to access conduit, poles, etc., to any telecommunications carrier requesting such information, within 10 working days after the request.	Sprint has offered to hold joint planning meetings to discuss specific MCI requirements rather than provide all locations and availability, if even fully available.	§ 1.1403

000417

Access #	MCI Position	Sprint Position	FCC Ruling
3.5	The ILEC must not provide information to itself or its affiliates sooner than it provides to other telecommunication carriers.	Sprint has offered to hold joint planning meetings to discuss specific MCI requirements rather than provide all locations and availability, if even fully available.	§ 1.1403
4.	**Quality of Service.**		
4.1	The companies must agree on a mechanism for dealing with breaches of agreed quality-of-service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
5.	**Business Processes**		
5.1	Processes should be non-discriminatory and competitively neutral. For example, Firm Order Commitments (FOCs) should be completed in the order in which they are received. FOCs should be required from the ILEC itself as they are from the CLEC.	Sprint questions why it should have to provide a FOC to itself. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
5.2	Following provision by the ILEC of the information referred to in 3.4 above, ILEC must provide capacity within 30 days of receipt of a committed order from MCI.	Sprint is not sure whether 30 days is an appropriate time period. Sprint instead suggests that the parties should mutually work on a case by case basis to complete work in a best efforts manner.	51.319

000418

IV. UNBUNDLED LOCAL LOOPS

DEFINITION: *The transmission path, or any segment of such transmission path, which provides the connection between an end user's premises and the main distributing or other designated frame within the central office serving the end user. It does not include the end user's inside wiring, nor does it include switching facilities. Unbundled loops must be available to support Voice Grade subscriber services, as well as services (such as ISDN) that require that facilities be free of intrusive devices such as loop coils or bridge taps. Loop facilities at DS0, DS1, E1 and DS3 levels must also be made available*

REQUIREMENTS
1. Unbundled Local Loop Elements
2. General Requirements
3. Compensation
4. Business Processes
   - 4.1 Order Processing
   - 4.2 Provisioning and Installation
   - 4.3 Trouble Resolution, Maintenance and Customer Care
   - 4.4 Billing
5. Quality of Service
6. Information

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**Unbundled Local Loop Elements**		
	The following elements, can be purchased separately.		51.319(a)
1.1	**Network Interface Device/Unit:**		
	The point of demarcation between the end user's inside wiring and the Unbundled Loop	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(b) ¶ 392-394
1.2	**Loop Distribution**		

614000

Access #	MCI Position	Sprint Position	FCC Ruling
	The portion of the outside plant cable from the network interface (NI) or building entrance terminal (BET) at the customer's premise to the terminal block appearance on the distribution side of a feeder distribution interface (FDI). In case there is a distribution closure near the customer's premise, loop distribution consists of the drop between the distribution closure and the customer's NI and the twisted pair from the closure to the terminal block in the FDI. For a hybrid fiber-coax (HFC) application with a multi-line network interface unit (NIU) near the customer's premise, loop distribution consists of the outside plant cable connection for telephony that runs from the NIU to the NI/BET at the customer's premise (single line NIUs are typically mounted on the outside wall, similar to the NI). Wireless technology may also be used to support all, or segments of, the local loop. Transceiver equipment may be located at the customer premises, distribution enclosure or FDI to provide wireless links. Typically, loop distribution is copper twisted pair, but can also be coax or fiber, or a combination of these.	Sprint suggests that if MCI wants unbundling at this level, that it should submit to Sprint a BFR rather than having Sprint agree to unbundle in advance. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.317, 51.319 ¶ 391 ¶ 233
1.3	**Digital Loop Carrier/Analog Cross Connect**		
	The equipment used to assign and connect multiple incoming Loop Distribution elements to an equal or smaller number of Loop Feeder channels. When the number of Loop Feeder channels is smaller than the number of loop distribution channels, the process is referred to as concentration.	Sprint suggests that if MCI wants unbundling at this level that it should submit to Sprint a BFR rather than having Sprint agree to unbundle in advance. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307 51.317, 51.319 ¶ 391 ¶ 386 ¶ 233
1.4	**Loop Feeder**:		

000420

Access #	MCI Position	Sprint Position	FCC Ruling
	The Loop Feeder is the physical facility (copper, coax, fiber, wireless or any combination) between the digital loop carrier or FDI, in the case of twisted pair, and the main distributing or other designated frame within the central office or similar environment (e.g., closets in the case of remote sites, or head end in the case of HFC).	Sprint suggest that if MCI wants unbundling at this level that it should submit to Sprint a BFR rather than having Sprint agree to unbundle in advance. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.317, 51.319 ¶ 233 ¶ 391
2.	**General Requirements**		
2.1	Unbundled loops available throughout the ILEC territory.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311 ¶ 377

000421

Access #	MCI Position	Sprint Position	FCC Ruling
2.2	Unbundling of feeder from distribution with distribution loops made available at any MCI specified network interface point located within a 500 foot radius of the ILEC loop/feeder aggregation point.	Sprint suggest it is willing to provide if MCI submits a BFR rather than agreeing to this in advance. Sprint raises a question of technical feasibility and the need to develop cost studies and costs. Sprint suggests that MCI and Sprint create a joint engineering group to start determining the technical feasibility of this request. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue..	51.307, 51.309, 51.311 ¶ 391 ¶ 233
2.3	Interoffice transport to connect unbundled loops to the CLECs switch must be available throughout the ILEC's territory.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 439 51.307, 51.309, 51.311
2.4	ILEC may not measure traffic that traverses the unbundled loop.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311

000422

Access #	MCI Position	Sprint Position	FCC Ruling
2.5	There must be efficient means of connecting unbundled loops to MCI network. Specifically, this means: **Equipment placement**. The ability for MCI to place DLC or other equipment of its choice without restriction in the ILEC wire center, without need for Collocation. The ILEC must supply (at TSLRIC) any cabling or related facilities required to connect the placement equipment to the loop distribution element **Loop transport**. MCI should have the option of purchasing ILEC unbundled transport (at any transmission level) between placed equipment and MCI network	Sprint cannot agree to this request without restrictions -- especially switching equipment. Pricing should be based on TELRIC plus common costs.	51.307, 51.309, 51.311 51.321(b)(2) ¶439
2.6	ILEC network design and implementation must be consistent with accepted industry standards and practices.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311 51.313
3.	**Compensation**		
3.1	Unbundled loops and components must be priced at TSLRIC.	TELRIC plus a reasonable allocation of forward looking common costs. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.509, 51.511, 51.513 ¶672-703

000423

Access #	MCI Position	Sprint Position	FCC Ruling
3.2	Cost based term and volume discounts must be offered, including discounts that are aggregated across unbundled local loops and resold retail services. In the event a carrier does not meet their volume commitment, their discount should be calculated retroactively using the tier in which their performance falls. Take or Pay penalties are unacceptable.	Sprint has not yet decided if it will offer term and volume discounts.	51.503, 51.505, 51.507, 51.509, 51.511, 51.513 ¶ 672-703 ¶ 743
3.3	Volume/Revenue commitments, if any, for resale services shall either directly, or indirectly, be relieved through the purchase of Unbundled Loops. Furthermore, such commitments shall always include the entire service area of the ILEC.	Sprint has not yet decided if it will offer term and volume discounts.	¶ 743 51.503, 51.505, 51.507, 51.509, 51.511, 51.513
4.	**Business Process**		
4.1	**Order Processing**		
4.1.1	Fully mechanized, in a form substantially similar to that currently used for the ordering of special access services. Automated interfaces shall be provided into a centralized operations support systems data base for determining service availability on loops (e.g. ISDN), confirmation of order acceptance and ongoing order status. Letters of agency shall not be required to initiate an order. Also, Unbundled Loops converted from another CLEC shall not require a disconnect order from the other CLEC prior to provisioning the conversion.	Sprint will provide manual support and once OBF standards are set, Sprint will require a reasonable time to implement. Sprint has no systems available to identify service availability for Sprint itself. Coordinated disconnect/reconnect procedures need to be established. There is a diversity issue to be resolved as well.	¶ 516-528 51.313, 51.319
4.2	**Provisioning and Installation**		

000424

Access #	MCI Position	Sprint Position	FCC Ruling
4.2.1	Automated interfaces must be provided by the ILEC into a centralized operations support systems data base for installation scheduling and confirmation of circuit assignments. ILEC must make end to end capacity available per MCI forecasts within established intervals. ILEC must not provide service inferior to that which it provides its customers, as demonstrated through reporting on ILEC facility performance (average transmission loss, use of bridge taps, outage frequency and MTTR detail, copper/fiber mix, etc.)	Sprint is not prepared to provide today but states it will get there "eventually." No timeframes specified. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319
4.2.2	Automated interfaces must be provided by the ILEC into a centralized operations support systems data base for completion confirmation. Installation intervals must be established to ensure that service can be established via unbundled loops in the same timeframe as the ILEC provides services to its own customers, as measured from date of customer order to date of customer delivery.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319
4.3	**Trouble Resolution, Maintenance and Customer Care:**		
4.3.1	Automated interfaces must be provided into a centralized operations support systems data base for real time network monitoring to proactively identify potential service degradation. Such systems must monitor and report on the integrity of the ILEC network, isolate troubles and initiate repair operations, test individual unbundled loops and generate maintenance and repair notices that impact any end user's ability to complete calls. Ongoing maintenance practices on unbundled loops must equal or exceed the practices employed by the ILEC for facilities used to provide retail services.	Sprint states it will not provide asserting it cannot monitor without having the loop on their switch. Sprint states it will consider some form of maintenance notice.	¶ 516-528 51.313, 51.319
4.3.2	The ILEC must develop a process to identify the carrier for each unbundled loop and establish automated intercompany referral and/or call transfer processes. In addition, the ILEC must not in any way hinder MCI from deploying modern DLC equipment (TR303) throughout the unbundled loop/transport network.	Sprint believes that providing the existing telephone number for a new order goes a long way towards solving this. Sprint is assessing the DLC issue as to whether the TR-303 is a switch.	¶ 516-528 51.313, 51.319

524000

Access #	MCI Position	Sprint Position	FCC Ruling
4.3.3	Automated interfaces must be provided into a centralized operations support systems data base for field dispatch scheduling (in order to schedule appointments with end users), status of repairs and confirmation of repair completion. The mean time to repair Unbundled Loops must be less or equal to on average than the mean time to repair reported by the ILEC for its retail customers.	Sprint's current processes are not automated, although there is movement in that direction. Sprint is willing to be at parity but this will depend on the accuracy of information provided by MCI and effectiveness of coordination with MCI.	¶ 516-528 51.313, 51.319
4.3.4	Dedicated service centers must be established to handle service issues, escalations, resolution of billing issues and other administrative problems. Automated interfaces must be provided into a centralized customer support systems data bases for access to services and features purchased from ILEC and credit history of converting end users.	Sprints centers are regionally dispersed not centralized and Sprint at this time is not prepared to provide a dedicated center. Customer data will not be provided initially in an automated fashion or there is agreement conceptually on automation but no timeliness. Sprint will not always be able to provide credit history but will consider industry proposals to credit rate new customers. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319
4.3.5	Maintenance service options must be unbundled to permit the use of qualified third party contractors for maintenance/repair of unbundled local loops	No.	¶ 1182
4.4	**Billing:**		

000426

Access #	MCI Position	Sprint Position	FCC Ruling
	Invoices must be presented in a Carrier Access Billing Systems (CABS) format in order to facilitate standard industry auditing practices	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319
5.	**Quality of Service**		
5.1	See Section II - part 4 - Quality of Service		51.311
6.	**Information**		
6.1	See Section II - part 5 - Information		

000427

V. UNBUNDLED LOCAL TRANSPORT

DEFINITION: Unbundled transport includes any and all physical facilities used to connect any two points on telecommunications networks. Common Transport is shared between MCI and the ILEC or other CLECs; Dedicated Transport is dedicated to MCI. Components to support all levels of transmission must be available, including Voice Grade, DS0, DS1, DS3, E1, VT and STS based, OC-3, OC-12, OC-48, OC-192 and other levels. Dark fiber must also be available. Multiplexing and Digital Cross Connect Systems required to multiplex or otherwise groom transport elements must also be available.

REQUIREMENTS
1. Unbundled Local Transport Elements
2. General Requirements
3. Compensation
4. Quality of Service
5. Business Processes
6. SONET Systems
7. Information

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**Unbundled Local Transport Elements**		
1.1	Dedicated Interoffice Trunks with and without electronics	Will not provide dark or dim fiber.	¶ 233 ¶ 450
1.2	Common Interoffice Trunks	No dim or dark fiber. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 440 51.319(d)
1.3	Multiplexing/Digital Cross Connect	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 444 51.319(d)
1.4	Dark Fiber	No dim or dark fiber.	¶ 233 ¶ 450
2.	**General Requirements**		

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Access #	MCI Position	Sprint Position	FCC Ruling
2.1	Ability for MCI to utilize ILEC Unbundled Local Transport facilities to route traffic from the ILEC switch to another carrier	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 440-443 51.319(d) 51.307, 51.309, 51.311 ¶ 292
2.2	Compliance with Bellcore/industry standards (format, interfaces, performance monitoring, alarms, etc.).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 224-225 51.307, 51.309, 51.311
3.	**Compensation**		
3.1	All components must be priced at TSLRIC.	TELRIC plus a reasonable allocation of forward looking common costs.	¶ 672-703 51.503, 51.505
4.	**Quality of Service**		
4.1	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶ 312-315
4.2	Equipment/interface/facility protection must be provided at parity with the ILEC	Sprint states it will provide to the extent possible. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶ 312-315

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Access #	MCI Position	Sprint Position	FCC Ruling
4.3	Redundant power supply and/or battery back-up must be provided at parity with ILEC	Sprint states it will provide to the extent possible. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶312-315
4.4	Spare facilities and equipment necessary to support provisioning/repair in time frames consistent with ILEC practice.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶312-315
4.5	Intervals and level of service no less than tariff or, if it is higher, no less than currently being performed by the ILEC for its own customers or for other carriers, whichever is higher.	Sprint states it will provide parity for service similarly provided. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶312-315
5.	**Business Processes**		

000430

Access #	MCI Position	Sprint Position	FCC Ruling
5.1	Fully mechanized ordering, provisioning, installation, trouble handling, maintenance and customer care processes, with necessary systems interfaces.	Sprint states it plans initially to use access processes moving to electronic bonding once standards are established. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319
5.2	Maintenance service options must be unbundled to permit the use of qualified third party contractors for maintenance/repair of unbundled local transport	No.	¶ 233
6.	**SONET Systems**		
6.1	For SONET systems, the following additional requirements apply:	Sprint is still researching and owes MCI a response.	
6.2	Compliance with SONET and Bellcore standards	Sprint is still researching and owes MCI a response.	¶ 224-225 51.307, 51.309, 51.311, 51.313, 51.319
6.3	Real-time access to all SONET performance monitoring and alarm information.	Sprint is still researching and owes MCI a response.	51.307, 51.309, 51.311, 51.313, 51.319
6.4	Equipment/interface/facility protection.	Sprint is still researching and owes MCI a response.	51.307, 51.309, 51.311, 51.313, 51.319
6.5	Redundant power supply/battery back-up.	Sprint is still researching and owes MCI a response.	51.307, 51.309, 51.311, 51.313, 51.319
6.6	Synchronization from both a primary and secondary Stratum 1 level timing source.	Sprint is still researching and owes MCI a response.	51.307, 51.309, 51.311, 51.313, 51.319
6.7	Interworking with SONET standard equipment from other vendors.	Sprint is still researching and owes MCI a response.	51.307, 51.309, 51.311, 51.313, 51.319
6.8	Data Communications Channel (DCC) connectivity.	Sprint is still researching and owes MCI a response.	¶ 440 51.307, 51.309, 51.311, 51.313, 51.319

00043

Access #	MCI Position	Sprint Position	FCC Ruling
6.9	For ring systems: • Diverse fiber routing and building entrance • Dual ring interworking support • No single point of failure • Protection lock-out and support of extra traffic (LSR only)	Sprint is still researching and owes MCI a response.	51.307, 51.309, 51.311, 51.313, 51.319
6.10	Support the Physical Interfaces specified in the IIILC issue 026.	Sprint is still researching and owes MCI a response.	51.307, 51.309, 51.311, 51.313, 51.319
7.	**Information**		
	See Section II, Part 5.		

000432

VI. UNBUNDLED LOCAL SWITCHING

DEFINITION: *The unbundled local switching (ULS) element consists of all the functionality residing in a central office switch and/or remote switching systems needed to provide the full array of local exchange services, including switched access service. The ULS element creates the desired communications path between a customer's local loop and another point needed to complete a call, based on signals originated by the end user and/or a telecommunications carrier. The tandem switch may also be used to provide certain features and functionality when these capabilities are not yet available in the central office.*

REQUIREMENTS
1. Unbundled Local Switching Elements
2. General Requirements
3. Compensation
4. Quality of Service
5. Business Processes
6. Tandem Switching
7. Information

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**Unbundled Local Switching Elements**		
1.1	**Line Port:**		
	The physical connection between the customer's local loop and the end office switch or remote switching system and the functionality residing therein	Sprint says it will provide if technically feasible but has not agreed as to feasibility. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 410-424 51.311, 51.319(c)
1.2	**Trunk Port**:		

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Access #	MCI Position	Sprint Position	FCC Ruling
	The physical connection between the end office switch or remote switching system and dedicated or common transport and the functionality residing therein.	Sprint says it will provide if technically feasible but has not agreed as to feasibility. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.319(e)(i)(B) ¶ 410-424
1.3	**Status: Switching Capacity:**		
	The capacity of the switching functions (switch matrix and processor) used to connect line ports to line ports, line ports to trunk ports, trunk ports to line ports, and trunk ports to trunk ports.	Sprint says it will provide if technically feasible but has not agreed as to feasibility. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.319(c)(i)(C) ¶ 410-424
1.4	**Signaling and Databases:**		
	Necessary to create and bill the desired communications path between a customer's local loop and another point needed to complete a call. (This component is described in greater detail Section X).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.319(e), 51.509(I) ¶ 410-424
2.	**General Requirements**		
2.1	MCI can purchase a ULS element at each ILEC end office switch. The purchase is made in minimum blocks of line ports, minimum levels of trunk port capacity, and a minimum level of busy hour capacity measured for a time period of one year or longer.	Sprint is considering structure of offer and owes a response.	51.311, 51.315, 51.319(c), 51.509(b) ¶ 410-424

VI. UNBUNDLED LOCAL SWITCHING

Access #	MCI Position	Sprint Position	FCC Ruling
2.2	Switching functionalities in the ULS element include dialtone, screening, recognition of service request, recognition of call-specific information, digit analysis, routing, testing, recordings, signal generation, call completion or handoff, SSP functionality and tables, PIC tables, trunk tables, class of service tables, billing record generation, and AIN tables.	Sprint agrees in principle except Sprint has no AIN. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.315, 51.319(c)
2.3	The various functional components of the ULS element must be made available on an unbundled basis wherever technically feasible.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.315, 51.319(c)(i)(C)(2) ¶ 410-424
2.4	The ULS element must be available to MCI in combination with other unbundled network elements.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.315 ¶ 292-293
2.5	MCI's purchase of the ULS element for a specific switch avails to it all the features and functionality of that switch.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.315, 51.319(c) ¶ 410-424

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VI. UNBUNDLED LOCAL SWITCHING

Access #	MCI Position	Sprint Position	FCC Ruling
2.6	MCI can interconnect loops from any source to the line port(s) that it purchases, either as part of the ULS element or as an unbundled switch component, on the same terms/conditions/ intervals as loops provided by the ILEC.	Loops and ports can be interconnected. Sprint may perform this function. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 292 51.311, 51.315, 51.319(c)
2.7	MCI can use the ULS element to provide any local exchange service, including switched access services.	Sprint agrees in principle as long as MCI is the local service provider for the end user. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 292 51.311, 51.315, 51.319(c)
2.8	MCI must have access to the ILEC AIN functionality (as described in Section X)	Sprint does not have AIN deployed today in its network.	¶ 488-492 51.311, 51.315, 51.319(e)(2)(3)
3.	**Compensation**		
3.1	The ULS element and all of its unbundled functional components must be priced at TSLRIC. Cost-based term and volume discounts can be negotiated.	TELRIC plus a reasonable allocation of forward looking common costs.	51.503, 51.505, 51.507, 51.509, 51.511
3.2	Line- related costs should now (and in the future) be recovered through a per-line charge assessed on contracted capacity (i.e., lines) with an additional per-line charge assessed if the purchaser exceeds its contracted level.	Sprint is developing the structure of an offering.	51.503, 51.505, 51.507, 51.509, 51.511
3.3	Trunk-related costs should now (and in the future) be recovered through a minute of use charge.	Sprint is developing the structure of an offering.	FCC did not address in Interconnection Order ¶ 233

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Access #	MCI Position	Sprint Position	FCC Ruling
3.4	Busy hour-related costs should (initially) be recovered through a combination of line charges and usage charges reflecting the relative use of the switch for line-to-line connections (line charges) and line-to-trunk connections (usage charges).	Sprint is developing the structure of an offering.	51.503, 51.505, 51.507, 51.509, 51.511 ¶741-752 ¶810-818
3.5	In the future, systems may be in place that make it feasible to introduce a third rate element that directly measures busy hour processor/switch matrix usage.	Sprint is developing the structure of an offering.	51.503, 51.505, 51.507, 51.509, 51.511 ¶810-818
3.6	Optional functionality to support CLASS/Customer Calling features would be included with the contracted capacity. No additional charges would apply.	TELRIC based charges apply.	51.503, 51.505, 51.507, 51.509, 51.511 ¶810-818
3.7	Functionality to craft Centrex offerings (call transfer, special dialing, etc.) must be available at cost-based prices.	TELRIC based charges apply.	51.503, 51.505, 51.507, 51.509, 51.511 ¶810-818
3.8	If the ILEC can demonstrate incremental cost associated with Centrex features, then a charge can be applied at TSLRIC. If not, then Centrex functionality would be included as non-chargeable options.	TELRIC based charges apply.	¶810-818 51.503, 51.505, 51.507, 51.509, 51.511
4.	**Quality of Service**		
4.1	The ILEC must guarantee the same grade of service as it provides itself or its affiliates.	Sprint agrees in principle to the extent possible. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313
4.2	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313
4.3	Mechanisms must be in place that allow MCI to monitor ILEC compliance with grade of service and capacity obligations.	Sprint is currently developing structure of offering.	51.311, 51.313
4.4	Refer to Section II, Part 4 - Quality of Service		51.311, 51.313

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Access #	MCI Position	Sprint Position	FCC Ruling
5.	**Business Processes**		
5.1	MCI must have access to a real-time electronic communication interface to the ILEC for ordering and provisioning, installation, repair, maintenance and customer care.	Sprint agrees in principle and will provide once standards are established and systems built. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319
5.2	Refer to Section II, Part 6 - Business Processes		
6.	**Tandem Switching**		
6.1	The requirements include, but are not limited to: • signaling • screening and routing • recording • access to AIN functionality • access to Operator Services and Directory Assistance as appropriate • access to Toll Free number portability database as appropriate • must support all trunk interconnections discussed under "network Interconnection/Trunking" (e.g., SS7, MF, DTMF, Dial Pulse, ISDN, DID, DN-RI, CAMA-ANI (if appropriate for 9ll), etc.) • access to PSAPs where 911 solutions are deployed and the tandem is used for 911 • transit traffic to/from other carriers	Sprint proposes using a BFR process if it is concluded this is technically feasible. No agreement in advance. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 425 51.319
7.	**Information**		
	See Section II, Part 5 - Information		

000438

VII. NON-DISCRIMINATORY ACCESS TO 911, DA, OPERATOR SERVICES

DEFINITION: In order to complete 911 /E911, directory assistance and operator calls, MCI must have non discriminatory access to the switches, databases, and other network elements used by the ILEC in the completion of such calls.

REQUIREMENTS: 911

1. General Requirements
2. Compensation
3. Quality of Service
4. Information
5. Business Processes

Directory Assistance

1. General Requirements
2. Compensation
3. Quality of Service
4. Information
5. Business Processes

Operator Services

Access #	MCI Position	Sprint Position	FCC Ruling
911	*Definition: Non-Discriminatory access to 911 switches, databases and other network elements to ensure the proper routing and completion of 911/E911 calls from end users on the MCI network.*		
1.	**General Requirements**		
1.1	Interconnection to 911 selective routing switch to route calls from MCI network to correct Public Safety Answering Point (PSAP).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 412 51.317, 51.319

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VII. NON-DISCRIMINATORY ACCESS TO 911, DA, OPERATOR SERVICES

Access #	MCI Position	Sprint Position	FCC Ruling
1.2	Identification of default arrangements	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 412 51.317, 51.319
1.3	Automated interface to Automatic Location Identification (ALI) database	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 412 51.317, 51.319
1.4	ILEC must identify any special routing arrangements to complete overflow.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 412 51.317, 51.319
1.5	ILEC must identify any requirements for emergency backup number in case of massive trunk failures.	Sprint states this requirement is not applicable to Sprint.	¶ 412 51.317, 51.319
1.6	ILEC must provide sufficient planning information regarding anticipated move to the use of SS7 signaling within the next 12 months.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 412 51.317, 51.319
1.7	ILEC must identify any special default ESN requirements.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 412 51.317, 51.319

00440

Access #	MCI Position	Sprint Position	FCC Ruling
1.8	ILECs must adopt NENA standards for street addressing and abbreviations.	Sprints SIG system does not currently comply with NENA but if MCI provides NENA based records to SIG, SIG will convert them to work properly. SIG is in the process of being converted to NENA compliance. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶412 51.317, 51.319
1.9	ILECs must adopt use of a Carrier code (NENA standard 5- character field) on all ALI records received from CLCs; Carrier code will be useful when remote call forwarding is used as an interim "solution" to local number portability, and will be even more important when a true local number portability solution has been implemented.	There is agreement in principle but carrier codes are not available until later in 1996. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	
2.	**Compensation**		
2.1	The mechanism to compensate carriers for the costs of network facilities must be equitable and non discriminatory across all local exchange carriers.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.505
2.2	Interconnection and database access must be priced at TSLRIC or at any rate charged to other interconnected carriers, whichever is lower.	TELRIC plus a reasonable allocation of forward looking common costs.	51.505, 51.511 ¶672-703

Access #	MCI Position	Sprint Position	FCC Ruling
3.	**Quality of Service**		
3.1	Established, competitively neutral intervals for installation of facilities, including any collocation facilities, diversity requirements, etc.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313
3.2	ILEC must provide the service reliability expectations for Bell-provided 911 facilities.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313
3.3	In a resale situation where it may be appropriate for the ILEC to update the ALI database, it must be updated with MCI data in interval that is no less than is experienced by the ILEC's customers, or than for other carriers, whichever is faster, at no additional cost.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313
3.4	Availability of 800 number, direct tandem numbers available 24 hours, 7 days a week, together with Service Managers' names and escalation lists with work, after hours and pager numbers.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313
4.	**Information**		
4.1	Availability of mechanized Master Street Address Guide (MSAG) and routine updates.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319

00442

Access #	MCI Position	Sprint Position	FCC Ruling
4.2	Mapping of NXXs to Selective Routers and PSAPs. Where NXXs are split across geographic boundaries for 911 routing purposes, mapping should be provided identifying the splits.	MSAG already provides this but Sprint will work with MCI if necessary. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
4.3	ILEC must provide reporting to identify the locations of E911 tandems with CLLI codes.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
4.4	ILEC must provide reporting to identify rate center to wire center to Central Office relationships; which 911 tandems serve which NXXs, primarily or exclusively.	MSAG already provides this but Sprint will work with MCI if necessary. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
4.5	ILEC must provide NXX overlay maps and detailed NXX boundaries, as well as network maps to identify diversity routing.	MSAG already provides this but Sprint will work with MCI if necessary. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319

00443

Access #	MCI Position	Sprint Position	FCC Ruling
4.6	ILEC must provide report to identify which ALI databases cover which states or areas of the state.	Sprint has agreed in principle to provide to the extent it is the provider. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
4.7	Points-of-contact for each ALI database administrator.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
4.8	ILEC must identify any special operator-assisted calling requirements to support 911.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
5.	**Business Processes**		
5.1	ILEC must establish an automated Access Service Request (ASR) process for trunk provisioning.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319

Access #	MCI Position	Sprint Position	FCC Ruling
5.2	ILEC must provide priority restoral of trunk or network outages on the same terms/conditions it provides itself (and without the imposition of TSP).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319
5.3	ILEC must provide notification of any pending tandem moves, NPA splits, or scheduled maintenance outages in advance with enough time to react.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.4	Need for mutual aid agreement to assist with disaster recovery planning	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.5	ILEC must provide automated interface and access to the ALI database to enable MCI to maintain and update their records in a timely basis.	As long as direct access to the ALI database is not intended. Access to be provided through DMS. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 51.313, 51.319

00045

VII. NON-DISCRIMINATORY ACCESS TO 911, DA, OPERATOR SERVICES

Access #	MCI Position	Sprint Position	FCC Ruling
5.6	ILEC must implement a process to identify and correct errors to the ALI database to ensure that the accuracy of data stored by new entrants is no less that their own data.	Sprint is not going to be solely responsible for this. Should be a joint process between the two companies. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.7	ILEC must identify process for handling of "reverse ALI"	Sprint will not offer. No jurisdiction has requested that Sprint offer this capability.	51.313, 51.319
5.8	ILEC must establish process for the management of NPA splits as well as NXX splits.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.9	ILEC must indemnify MCI for ILEC-caused errors in the maintenance, updating and processing of customer information to the ALI database.	Sprint has requested that MCI lawyers provide indemnification language for Sprint's review. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

00446

Access #	MCI Position	Sprint Position	FCC Ruling
	Definition: In order to provide customers of ILEC/MCI access to ubiquitous directory assistance services, whereby they can gain information on all assigned numbers regardless of the exchange service provider, methods and procedures need to be developed to 1) incorporate ILEC and MCI customer data into each other's directory assistance databases; 2) provide access to each other database(s) for their customers; 3) to buy and sell components of each others directory assistance and use.		
	Directory Assistance		
1.	**General Requirements**		
1.1	Ability to make MCI's data available to anyone calling the ILEC's DA, and the ILEC's data available to anyone calling MCI's DA.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 534-540 51.319
1.2	ILEC should store proprietary customer information provided by MCI in their Directory Assistance database; such information should be able to be identified by source provider in order to provide the necessary protection of proprietary information.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 534-540 51.319
1.3	License options should be made available to limit the ILEC's use of MCI's data to directory assistance or to grant greater flexibility in their use of the data with proper compensation to the owner of the data.	Sprint agrees in principle as long as the limitation is reciprocal. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 534-540 51.319

000447

Access #	MCI Position	Sprint Position	FCC Ruling
1.4	MCI to be able to complete 411 calls utilizing components of ILEC's DA network.	Sprint agrees in principle where technically feasible but has not identified locations. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 534-540 51.319
1.5	Resale of bundled service, using ILEC DA operators and platform.	Sprint agrees to provide but only as a part of resale. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 534-540 51.319, 51.603
1.6	Ability to acquire ILEC data and processed directory assistance feeds in accordance with the specification in Appendix 2.	Sprint needs to further review specifications provided by MCI but agrees conceptually.	¶ 516-528 51.319
1.7	MCI should be able to buy the components or any combination of components, that comprise the ILEC directory assistance service and package them as required. Unbundled Directory Platform. Unbundled Directory Database and Sub Databases Unbundled Directory Data.	Sprint needs to talk further about this internally. Some technical feasibility questions raised.	¶ 516-528 ¶ 534-540 51.319

000448

Access #	MCI Position	Sprint Position	FCC Ruling
1.8	Availability of service enhancements on a non-discriminatory basis at cost.	Sprint has requested that MCI drop the at cost request. In addition Sprint states that this is only applicable where MCI purchases DA from Sprint's platform. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
1.9	Carrier-specific branding should be available. Inquiries from MCI customers should be answered with an MCI specific branded salutation.	Sprint states it will provide on an outsourced basis but given the limited scope of Sprint's provision of these services to itself that this may not be a very attractive option. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319, 51.613 FCC Dialing Parity Order ¶ 14 ¶ 534
2.	**Compensation**		
2.1	There should be no charge for ILEC storage of MCI customer information in the Directory Assistance Database.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 748

VII. NON-DISCRIMINATORY ACCESS TO 911, DA, OPERATOR SERVICES

Access #	MCI Position	Sprint Position	FCC Ruling
2.2	Unbundled directory assistance elements should be made available on a reciprocal basis between MCI/ILEC for the exchange of data.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 536
2.3	As an alternative, compensation for DA can be resolved along with arrangements for White/Yellow page directories. The arrangements must be mutually reciprocal and must accommodate the other non-directory assistance services.	Not applicable for Sprint as they are not tied.	¶ 743-752
3.	**Quality of Service**		
3.1	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319
3.2	End-to-End interval for updating database must be the same as provided to the ILEC's end users.	Sprint processes vary by region. Timeliness will depend in part of MCI. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319

000450

Access #	MCI Position	Sprint Position	FCC Ruling
3.3	Automated interface into ILEC database for updating and inquiries.	Sprint agrees in principle where technically available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516-528 ¶ 539 51.307, 51.309, 51.311, 51.313, 51.319
3.4	Quality Standards equivalent to that provided their own customers.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319
3.5	Agreement on speed-to-answer standards.	Sprint will provide service at the same level it provides to its own customers. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319
3.6	Dialing parity including no unreasonable dialing delays.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319
4.	**Information**		

00451

Access #	MCI Position	Sprint Position	FCC Ruling
4.1	Complete definition of rules for directory assistance listing (ordering data elements).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.311, 51.313, 51.319
4.2	Agreement to data exchange standards for acquisition of directory assistance data (See Appendix 2).	Sprint needs to further review the MCI specifications but has stated this appears okay conceptually.	¶ 539
5.	**Business Processes**		
5.1	DA database needs to be updated and maintained with MCI data for customers who: Disconnect Change carrier Install "Change" orders Are Non-Published and/or Non Listed Are Listed Specify Non-Solicitation	Sprint states that change carrier is not available today and that non-solicitation is not envisioned. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319
5.2	Each carrier bills its own end-users	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319
5.3	Requirements for intercompany billing will be dependent upon the resolution of compensation issues.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319

00452

Access #	MCI Position	Sprint Position	FCC Ruling
5.4	MCI shall be billed in CABS format.	Sprint states that bills will be in a CRIS format for the foreseeable future although it would plan eventually to get to CABS. No timeline provided. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶ 312 . ¶ 516-528
5.5	Intercompany procedures need to be developed to correct errors when they are identified in the database.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319
	Definition: Those systems which provide for processing and recording of special call types which include toll calls, public telephone call types as well as other call types requiring operator intervention/assistance. Operator assistance call types would include BLV/EI (busy line verification/emergency interrupt), or provide an intercept functionality to those call types where the caller dials a number that has been changed or disconnected.		
	Operator Services		
1.	**General**		

000453

Access #	MCI Position	Sprint Position	FCC Ruling
1.1	A jointly developed process with the ILEC to conduct BLV/EI.	Sprint agrees in principle to provide where Sprint does OS. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶ 534-540
1.2	Resale Operator Services from the ILEC, branded MCI utilizing MCI's rates for both Card and Operator Services functions and provided at least at parity for services delivered.	Sprint states it will provide if technically feasible and pursuant to a BFR. Sprint will not agree to provide without the BFR. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶ 534-540
1.3	Resale of ILEC's Operator Services MCI Branded and utilizing MCI's rates for both Card and Operator Services.	Sprint states it will provide if technically feasible and pursuant to a BFR. Sprint will not agree to provide without the BFR. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319 ¶ 534-540

00454

Access #	MCI Position	Sprint Position	FCC Ruling
1.4	Service deliverables to include the following: 1. Local call completion - 0+ and 0-, billed to Calling Cards, Collect and Third Party 2. Billable - Time and Charges Etc.	Sprint states it will provide if technically feasible and pursuant to a BFR. Sprint will not agree to provide without the BFR. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319

000455

VIII. WHITE/YELLOW PAGE DIRECTORY LISTINGS

DEFINITION: The ability of MCI's customers to be able to obtain printed directories that includes all customers on the public switched network (within a defined geographic area) regardless of their local service provider.

REQUIREMENTS

1. General Requirements
2. Types of Directory Listings
3. Business Processes
   - 3.1 Order Processing
   - 3.2 Provisioning/Distribution
   - 3.3 Trouble Resolution, Maintenance, Customer Care
   - 3.4 Billing
4. Compensation
5. Quality of Service
6. Information

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**General Requirements**		
1.1	The ILEC to include MCI specific information in the information pages of their directories.	Sprint needs clarification of this request. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
1.2	Publication of MCI subscriber listings in ILEC directories (main listing in White and Yellow pages).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319

000456

Access #	MCI Position	Sprint Position	FCC Ruling
1.3	Distribution of directory to MCI subscribers on a non-discriminatory basis.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
1.4	Customized cover for directories	Sprint will not brand the Sprint cover with MCI but Sprint Publishing is willing to negotiate publishing a private label book. Sprint has concerns about losing its publishing brand on the book.	51.317, 51.319
1.5	Use of ILEC recycling services.		51.317, 51.319
2.	**Types of Directory Listings**		
2.0	It is required that MCI subscribers can be included in the following types of directory listings:		51.317, 51.319
2.1	Primary White Page Listings	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
2.2	Primary Yellow Page Listings	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319

000457

VIII. WHITE/YELLOW PAGES DIRECTORY LISTINGS

Access #	MCI Position	Sprint Position	FCC Ruling
2.3	Additional White Page Listings	Sprint will provide if a price can be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
2.4	Additional Yellow Page Listings	Sprint will provide if a price can be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
2.5	Non-Pub/Non-List	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
2.6	Foreign Listings	Sprint will provide if a price can be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319

00458

VIII. WHITE/YELLOW PAGES DIRECTORY LISTINGS

Access #	MCI Position	Sprint Position	FCC Ruling
2.7	Alternate Call Listings	Sprint will provide if a price can be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
2.8	Information Listings	Sprint will provide if a price can be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
2.9	Advertising	Sprint will provide if a price can be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
2.10	List Rentals	Sprint will not sell MCI data in the listings unless mutually agreed in advance. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319

000459

Access #	MCI Position	Sprint Position	FCC Ruling
3.	**Business Processes**		
3.1	**Order Processing:**		
3.1.1	Order processing procedures need to be established to update directory database on a defined, regular basis with MCI customer information.	Details must be discussed especially where Sprint publishes a book but does not do its own DA. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
3.1.2	Electronic format needs to be defined for exchange of customer data, to include the following types of data elements: Transaction (new listing, change name, change address, disconnect, etc.) Service Provider Order Number Telephone Number Completion Date Bus/Res Indicator Exchange List Name "Old" List Name (for changes) List Rental Omission List Address Zip Code Location/Service Address (for delivery) Billing Name, Address, Zip Code Billing Telephone Number List Type SIC Codes Yellow Page Headings	Sprint SME's need to more fully assess the MCI requirements. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319

094000

	Record Type (Main/Additional Listings) Type of Accounting (Gov't affiliation) Previous Telephone Number (changes) Referral Telephone Number (changes) Delivery Quantity New Connect Delivery Format Instructions (indent, etc.)		

Access #	MCI Position	Sprint Position	FCC Ruling
3.1.3	The ILEC must provide the ability for MCI to electronically query the LEC listing system to view customer listings.	No. Sprint publishing does not maintain an ongoing database. It receives data, consolidates and publishes only. Sprint must determine the ability for MCI to preview books prior to mass distribution.	51.319
3.1.4	The ILEC must provide the ability for MCI to electronically transmit multi-line listing orders.	No. This is a telco function not a publishing issue. This is done once a year in a batch process.	51.317, 51.319
3.1.5	A process for managing multi-owner captions is required.	Two names per number is an additional listing at the additional listing charge. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319

194000

Access #	MCI Position	Sprint Position	FCC Ruling
3.1.6	The ILEC must provide a complete report showing all listing appearances at least one month prior to book close.	Sprint need to research further. A month may not be practical. Sprint agrees there is a need to establish procedures to try to meet the intent of the request but believes 30 days may be too long.	51.317, 51.319
3.2	***Provisioning/Distribution:***		
3.2.1	Initial and secondary distribution arrangements must be available.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
3.3	**Trouble Resolution, Maintenance & Customer Care:**		
3.3.1	Intercompany procedures need to be established to prevent errors, and to correct them when they do occur.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.317, 51.319
3.4	**Billing:**		
3.4.1	This paragraph deleted or moved		
3.4.2	Invoice MCI subscribers directly for Yellow Pages advertising bills.	Sprint has requested that MCI clarify its request.	51.317, 51.319
3.4.3	Invoice MCI subscriber directly for advertising/white page bolding. Charges for additional and foreign White Pages listings should be billed to MCI and itemized at the ANI sub account level.	Sprint has requested that MCI clarify its request.	51.317, 51.319

0004462

Access #	MCI Position	Sprint Position	FCC Ruling
3.4.4	Intercompany billing dependent on resolution of compensation.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
3.4.5	Need to determine proper form of administrative billing between billing carriers.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.317, 51.319
4.	**Compensation**		
4.1	There should be no additional charge for distribution.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 748
4.2	There should be no charge for inclusion of MCI subscriber listings in ILEC directories.(White and Yellow Pages).	Sprint is considering this request. However, information pages are chargeable per page – carriers may get first x number of pages for free -- and for any work provided to create the page - e.g. design. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 748

000463

Access #	MCI Position	Sprint Position	FCC Ruling
4.3	Any additional charges that are made to customers should be on a non-discriminatory basis.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 743-752
5.	**Quality of Service**		
5.1	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319 ¶ 311
5.2	Listing update intervals must be the same as, those used by the ILEC for its own customers.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319 ¶ 311
6.	**Information**		
6.1	Publishing cycles and deadlines need to be provided to MCI to ensure timely delivery of MCI information.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319 ¶ 312-314
6.2	Service location information needs to be exchanged if directory publisher is to deliver books.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319

VIII. WHITE/YELLOW PAGES DIRECTORY LISTINGS

Access #	MCI Position	Sprint Position	FCC Ruling
6.3	Description of calling areas covered by each directory.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 312-314 51.307, 51.309, 51.311, 51.313, 51.319
6.4	The ILEC must provide regular updates of the following information: – Yellow page heading codes – Directory names and codes – Directory product changes – Listing format rules – Listing alphabetizing rules – Standard abbreviations – Titles and Designations	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 312-314 51.307, 51.309, 51.311, 51.313, 51.319

000465

IX. NON-DISCRIMINATORY ACCESS TO TELEPHONE NUMBERS

DEFINITION: The ability to obtain code assignments and other numbering resources on the same terms and conditions available to ILECs.

REQUIREMENTS

1. General Requirements
2. Compensation
3. Quality of Service
4. Information
5. Business Processes

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**General Requirements**		
1.1	Administration and assignment of numbers should be moved to a neutral third party. In the interim while ILECs are still administering numbering, the following should apply.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541
1.2	The ILEC must assign NXXs to new entrants on a non-discriminatory basis and on the same basis as to itself.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541
1.3	No restriction on ability to assign NXXs.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541

000466

Access #	MCI Position	Sprint Position	FCC Ruling
1.4	Testing and loading of MCI's NXXs should be the same as ILEC's NXXs.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541
1.5	This paragraph deleted or moved. **Not applicable**		
1.6	This paragraph deleted or moved. **Not applicable**		
1.7	Access arrangements for 555 line numbers.	Sprint asserts it is not the number administrator and cannot control.	¶ 541
1.8	Access to abbreviated dialing codes i.e. #XXX., XXX#.	No. Sprint has no present plans to open this up.	¶ 541
1.9	When purchasing switching capabilities, until such time as numbering is administered by a third party, MCI requires the ability to obtain telephone numbers on-line from the ILEC, and to assign these numbers with MCI customer on-line. This includes vanity numbers. Reservation and aging of numbers remain the responsibility of the ILEC.	Sprint will consider. Existing systems cannot support this and may not be available prior to 3rd party administrator. Sprint will pursue further internally.	¶ 541
2.	**Compensation**		
2.1	The ILEC must assign NXXs to new entrants without the imposition of charges that are not imposed upon itself.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541
3.	**Quality of Service**		

000467

Access #	MCI Position	Sprint Position	FCC Ruling
3.1	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 311 51.307, 51.309, 51.311, 51.319
3.2	ILECs must load NXXs according to industry guidelines, including the terminating LATA in which the NXXs/rate center is located.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541 51.307, 51.309, 51.311, 51.319
4.	**Information**		
4.1	Until such time that number administration is moved to an independent third party, the ILECs must provide routine reporting on NXX availability, fill rates, and new assignments.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541 51.307, 51.309, 51.311, 51.319
4.2	The ILEC's must provide detailed planning and implementation requirements for NPA-NXX splits.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 541 51.307, 51.309, 51.311, 51.319
5.	**Business Processes**		
5.1	Any forecasts required to be submitted prior to re-establishment of an independent national third party should be provided through an independent agent working on behalf of the local number administrator.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319 ¶ 541

00468

694000

X. NON-DISCRIMINATORY ACCESS TO DATABASES AND ASSOCIATED SIGNALING NECESSARY FOR CALL ROUTING AND CALL COMPLETION

DEFINITION: ***There are two types of databases to which MCI requires access: 1) those that support non-call processing applications, and 2) those that support call processing applications. Examples of information stored in non-call processing databases include customer payment records and billing name and address. Examples of call processing databases include the LIDB and advanced intelligent network(AIN) databases. Signaling refers to the capability to access call processing databases using transport links and messaging protocols which are separate from the transport and switching used to complete the actual call.***

REQUIREMENTS

1. General Requirements
2. Databases Required
3. Compensation
4. Quality of Service
5. Business Processes
6. AIN/IN Platform
7. Signaling

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**General Requirements**		
1.1	For unbundling, MCI requires that all databases (non-call processing and call processing) and signaling capabilities be available for discrete purchases by MCI and priced at TSLRIC.	Sprint needs further clarification for some scenarios.	51.319 ¶ 516 - 528
1.2	MCI should be able to designate the signaling point of interconnection for access to databases and signaling at any technically feasible point.	Sprint states that access is at the STP only.	51.319 ¶ 516 - 528
2.	**Databases Required**		
2.1	Examples of databases that MCI requires non-discriminatory access via electronic bonding include but are not limited to the following: LNP Database (TSLRIC)	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 499 51.305
	Billing Name and Address Database (TSLRIC)		¶ 516 - 528 51.319

000470

X. NON-DISCRIMINATORY ACCESS TO DATABASES AND ASSOCIATED SIGNALLING NECESSARY FOR CALL ROUTING AND CALL COMPLETION

Access #	MCI Position	Sprint Position	FCC Ruling
	LIDB (TSLRIC)		¶ 484 - 500 51.319
	Directory Assistance (TSLRIC)		¶ 534 - 540 51.319
	Access to toll free databases (TSLRIC)		¶ 484 - 500 51.319
	Centrex business Group Database		¶ 412 51.319
	Listing Services Database (TSLRIC)		¶ 534 - 540 51.319
	Intercept Database		¶ 534 - 540 51.319
	Operator Reference Database (TSLRIC)		¶ 534 - 540 51.319
	CRIS		¶ 516 - 528 51.319
	Service Location Database		¶ 516 - 528 51.319
	ALI Database for 911		¶ 516 - 528 51.319
	MSAG		51.319
	OSS Databases		¶ 534 - 540 51.319
	TMN type database		¶ 516 - 528 51.319

00471

X. NON-DISCRIMINATORY ACCESS TO DATABASES AND ASSOCIATED SIGNALLING NECESSARY FOR CALL ROUTING AND CALL COMPLETION

Access #	MCI Position	Sprint Position	FCC Ruling
	Repair/Dispatch Database		¶ 516 - 528 51.319
	Installation/Order Processing Databases		¶ 516 - 528 51.319
	Switch Network ID Database, with complete list of feature/functions by switch, NPA/NXXs, bus/res line counts, rate centers, etc.		¶ 501 - 503 51.319
	Local Calling area database		¶ 501 - 503 51.319
	CMDS system (TSLRIC)		51.319
	Inventory Database		51.319
	Number Assignment Database		¶ 534 - 540 51.319
	Usage Data		51.319
	Customer payment records		51.307, 51.309, 51.311, 51.319
	Calling party name within the SS7 call set-up signaling protocol.		¶ 478 - 483 51.319
	CLASS features		¶ 412 51.319
	Emergency services database		¶ 412 51.319
	Customer payment history.		51.307, 51.309, 51.311, 51.319
	Databases containing service handling/routing information		¶ 484 - 492 ¶ 501 - 503 51.319
	Universe list (TSLRIC)		51.319
3.	**Compensation**		

00472

X. NON-DISCRIMINATORY ACCESS TO DATABASES AND ASSOCIATED SIGNALLING NECESSARY FOR CALL ROUTING AND CALL COMPLETION

Access #	MCI Position	Sprint Position	FCC Ruling
3.1	Database dips resulting in a call terminating with the ILEC should not be charged to MCI.	TELRIC plus a reasonable allocation of forward looking costs.	¶ 743 51.503, 51.505, 51.507
3.2	Signaling Capabilities must be priced at TSLRIC.	TELRIC plus a reasonable allocation of forward looking costs.	¶ 743 - 752 51.503, 51.505, 51.507
3.3	Access to all databases marked above as TSLRIC must be priced at TSLRIC. **See X.2.1.**	TELRIC plus a reasonable allocation of forward looking costs.	¶ 743 - 752 51.503, 51.505, 51.507
3.4	Access to all other databases must be provided at no charge. **See X.2.1.**	TELRIC plus a reasonable allocation of forward looking costs.	¶ 748 51.503, 51.505, 51.507
4.	**Quality of Service**		
4.1	MCI database queries must receive equal priority as those of the ILEC/other companies.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 516 - 528 51.307, 51.309, 51.311, 51.319
4.2	Detailed tracking of usage and call termination point for MCI queries against SCP database.	Sprint will consider but needs MCI to clarify its requirements.	¶ 484 - 492 51.307, 51.309, 51.311, 51.319
4.3	MCI database queries must receive equal reliability, availability and performance as that provided to the ILEC/other companies and must be at least at industry standard levels.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.319
4.4	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.319

000473

Access #	MCI Position	Sprint Position	FCC Ruling
5.	**Business Process**		
5.1	The ILEC must continue to administer and maintain the database (including provisioning of MCI customer data as appropriate).	Sprint will consider but needs MCI to clarify its requirements.	¶ 484 - 503 51.319
5.2	Procedures are required for validating that information supplied by MCI is accurately provisioned in the ILEC databases.	Sprint agrees in principle to apply where applicable. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
5.3	A signaling link shall consist of a 56 kps transmission path between MCI designated POIs.	Sprint agrees in principle to this request or to such other speeds as may be mutually agreed. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
6.	**AIN/IN Platform**		
6.1	ILECs must implement AIN/IN interconnection points to fully unbundle the ILEC AIN/IN network.	Sprint does not have AIN at this time deployed in its network.. Interconnection as STP for IN.	¶ 484 - 503 51.319
6.2	ILEC must provide, without mediation, the following requirements using the existing SS7 signaling and AIN switch capabilities:	Sprint does not have AIN deployed in its network at this time.	¶ 484 - 503 51.319
6.2.1	Exchange of AIN TCAP messages between ILEC Service Switching Point (SSP) and MCI Service Control Point (SCP).	Sprint does not have AIN deployed in its network at this time.	¶ 484 - 503 51.319

00474

X. NON-DISCRIMINATORY ACCESS TO DATABASES AND ASSOCIATED SIGNALLING NECESSARY FOR CALL ROUTING AND CALL COMPLETION

Access #	MCI Position	Sprint Position	FCC Ruling
6.2.2	Provisioning of ILEC triggers in the ILEC network and access of all triggers currently available to the ILEC for offering AIN-based services that are at least equivalent to the ILEC's own capabilities using SS7 TCAP messages.	Sprint does not have AIN deployed in its network at this time.	51.319
6.2.3	Service Creation and Service Management - The ILEC must provide MCI with access to ILEC service creation and services management platforms for MCI to create and provision services for its customers.	Sprint does not have AIN deployed in its network at this time.	51.319
6.3	IILC (Information Industry Liaison Committee) Issue #026 defines additional interconnection points needed to fully unbundle the ILEC's AIN/IN network. Some of the interconnection points specified in Issue #026 are not available at this time and warrant further study. The ILEC will work cooperatively to ensure agreement to and implementation of these interconnection points by May 1998.	Sprint will consider this request. Sprint still reviewing IILC issue #026.	51.319
6.4	ILEC is required to work technical feasibility of these remaining interconnection points in an established industry technical forum that operates under due process and is focused on implementation.	Sprint will consider this request. Sprint still reviewing IILC issue #026.	51.319
6.5	Except in situations where it can be unequivocally substantiated, mediation will not be required.	Level of Sprint participation determined by Sprint. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
6.6	Where the need for mediation is unequivocally substantiated it must be competitively neutral and should be included in the study effort referred to above.	No.	51.319
7.	**Signaling**		
	See Signaling in section I - Interconnection	Covered Elsewhere.	

XI. LNP, ILNP, VIA RCF, DID OR OTHER ARRANGEMENTS

DEFINITION: The three categories of number portability are: service portability; geographic portability; and, most important to MCI at this time, provider portability. For purposes of meeting the checklist requirements in the statute MCI requires provider portability be implemented.

Provider Portability is the ability of users of telecommunications services to retain , at the same location, existing telecommunication numbers without impairment of quality, reliability or convenience when switching from one telecommunications carrier to another.

REQUIREMENTS

1. General Requirements
2. Compensation
3. Quality of Service
4. Information
5. Business Processes

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**General Requirements**		
1.1	Immediate implementation of interim solutions to permit customers to change to MCI without changing their telephone numbers. Such interim solutions would include Remote Call Forwarding (RCF), Flexible DID, or Route Indexing. These solutions must be offered in a manner that results in no impairment of functioning, quality, reliability or convenience. DID must be provided with SS7.	There is agreement in principle although there are known impairments to the interim number portability solutions. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	52.7
1.2	Commit to deployment of Local Routing Number (LRN) database solution for LNP by 9/1/97. After 9/1/97, ILEC should assume ALL costs of providing RCF, Flex DID and Route Indexing. ILEC should provide detailed progress reports on its implementation plans for LRN. They should provide detailed conversion schedules by end office for implementation of LNP/LRN.	No. Sprint will comply with FCC Order.	52.3, 52.5

00047S

Access #	MCI Position	Sprint Position	FCC Ruling
2.	**Compensation**		
2.1	Establishment of competitively neutral cost recovery for RCF/DID/RI to ensure that the costs of LNP and ILNP are shared by all carriers, not just the new market entrants. Such competitive neutral solutions would NOT include the imposition of retail rates on RCF/DID/RI solutions, the imposition of NRCs on the installation, or the levying of incremental path charges.	No.	52.7
2.2	MCI is entitled to the terminating access charges associated with calls terminating to ported numbers assigned to its subscribers (whether via ILNP or LNP).	Sprint states that some access elements with interim local number portability OK but not all.	FCC did not address in Interconnection Order
2.3	Recovery of database solution costs on a competitively neutral basis. Each carrier will be responsible for recovery of its own internal network implementation costs. NPAC/SMS costs will be recovered through a combination of: 1) charges for download broadcasts, priced at incremental costs, to all entities connecting to the NPAC/SMS; and 2) all other costs recovered by participating carriers in the portability area, apportioned in a competitively neutral manner, e.g., based on each carriers share of total access lines in the portability area.	Sprint agrees in principle to the fact that cost recovery should be competitively neutral but believes this issue should be resolved as an industry.	LNP Order, ¶ 126 - 140
3.	**Quality of Service**		
3.1	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.319
3.2	For both LNP and ILNP the quality of service, features and functionality of the calls to the ported numbers should be identical to the quality of service of the calls to the non-ported numbers. Capabilities must include, but should not be limited to, the ability to receive collect calls and bill to third party numbers, provision of intercept announcements upon disconnect.	Sprint states it will provide tot he extent possible but has not defined what this entails. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	52.7 LNP Order ¶ 110 - 116

000476

Access #	MCI Position	Sprint Position	FCC Ruling
4.	**Information**		
4.1	The format of the data required for interim Local Number Portability must be provided to MCI.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.307, 51.309, 51.311, 51.313, 51.319
5.	**Business Processes**		
5.1	Update OSS, Network, Customer Care, Repair, Billing, CMDS, ALI, LIDB, 411 databases and CARE and other administrative systems to accommodate LNP and ILNP and properly identify the carrier serving the customer with a ported number.	Sprint agrees in principle to provide where Sprint is responsible. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.2	The LSR must be used to communicate all ILNP requests.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.3	Individual RCF implementation should be completed within 2 days.	Sprint agrees in principle to provide "under normal circumstances." Sprint has not defined what may cause this not to occur. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.311, 51.313, 51.319

000477

XII. NON-DISCRIMINATORY ACCESS TO SUCH SERVICES OR INFORMATION NECESSARY TO ALLOW REQUESTING CARRIER TO IMPLEMENT DIALING PARITY

DEFINITION: *The duty to provide dialing parity to competing provider of telephone exchange services and telephone toll service and the duty to permit all such providers to have non-discriminatory access to telephone numbers, operator services, directory assistance, and directory listing with no unreasonable dialing delays.*

REQUIREMENTS 1. Intralata External Issues
2. General Issues Requirements
3. Compensation

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**Intralata External Issues**		
1.1	ILECs should provide dialing parity for intraLATA toll, operator assisted and directory assistance calls.	Sprint agrees in principle to provide if technically feasible and the customer is on a LEC switch (resale). We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC Dialing Parity Order ¶ 4,7 51.207, 51.209

000478

XII. NON-DISCRIMINATORY ACCESS TO SUCH SERVICES OR INFORMATION NECESSARY TO ALLOW REQUESTING CARRIER TO IMPLEMENT DIALING PARITY

Access #	MCI Position	Sprint Position	FCC Ruling
1.2	Full 2-PIC technology must be deployed on an end-office basis to allow for intraLATA dialing parity and presubscription (toll equal access)	Sprint is not interested in going through a full fledged balloting process but will make available the capability. There must be compliance with any state mandated processes. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC Dialing Parity Order ¶ 5,7 51.207, 51.209, 51.211, 51.213
2.	**General Requirements**		
2.1	Any end user should be able to access MCI's network for services using the same dialing protocol that the end user would use to access the same service on the ILEC network	Sprint agrees conceptually but states that this can be technically difficult in certain scenarios. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.207, 51.209
2.2	ILEC must provide routine reporting on local dialing plans by switch type and end office and identify any scheduled changes	Agreement in principle language so long as this is information that is already being provided in filings. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.207, 51.211

000479

XII. NON-DISCRIMINATORY ACCESS TO SUCH SERVICES OR INFORMATION NECESSARY TO ALLOW REQUESTING CARRIER TO IMPLEMENT DIALING PARITY

Access #	MCI Position	Sprint Position	FCC Ruling
2.3	See Section IX for Directory Assistance requirements.	See Section IX.	
2.4	See Section X for Directory Listings requirements.	See Section X.	
2.5	Equivalent number allocation	Sprint agrees in principle but states since it is not a number administrator that it cannot make this happen. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.217
2.6	Equivalent call set up/call processing times	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.205, 51.207, 51.209
2.7	Dialing delays no longer than that experienced by ILEC's own customer for processing calls on the ILEC network.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.205, 51.207, 51.209
2.8	The ILEC must agree to continue their Casual Billing Service once existing agreements expire.	Discussion required.	FCC did not address in Interconnection Order
3.	**Compensation**		
3.1	Implementation costs of 2-PIC technology must be shared by all intraLATA toll providers including the ILECs.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.215

XII. NON-DISCRIMINATORY ACCESS TO SUCH SERVICES OR INFORMATION NECESSARY TO ALLOW REQUESTING CARRIER TO IMPLEMENT DIALING PARITY

Access #	MCI Position	Sprint Position	FCC Ruling
3.2	Cost recovery should mirror the FCC cost recovery guidelines for interLATA equal access as described in the Code of Federal Regulations.	Sprint proposes MOU charge to toll providers and suggest that this will need to be decided by individual states.	51.215
3.3	The costs should be recovered over a 8 year period.	Sprint suggests 3 to 5 years and suggests that this issue must be decided by each state.	51.215
3.4	The costs should be tracked and evaluated prior to the end of the cost recovery period.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.215

000481

XIII. RECIPROCAL COMPENSATION ARRANGEMENTS

DEFINITION: Compensation arrangements established between interconnecting co-carriers for the exchange of telecommunication services on a mutual, reciprocal and procompetitive basis.

REQUIREMENTS 1. Local Service/Mutual Traffic Exchange
2. Cost Basis

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**Local Service/Mutual Traffic Exchange**		
1.1	All ILEC's have the duty to provide reciprocal compensation arrangements for the transport and termination of telecommunications between interconnecting co-carriers. In order to implement this requirement in the most efficient manner, the specifically recognized option of "Mutual Traffic Exchange" (AKA "bill and keep") should be implemented immediately. This option will ensure that compensation will be mutual, reciprocal and symmetrical.	Sprint states it will comply with the FCC order. Sprint believes that though they can charge for transport from the tandem to the end office that MCI cannot charge reciprocal transport - only tandem and termination charges.	¶ 111 51.703, 51.705, 51.713 ¶ 233
1.2	Each carrier will be responsible for originating/terminating traffic to/from the meet point (POI) with the other carrier. No monetary charges made by either carrier for the termination of traffic for other carriers. Rather, each carrier will be compensated "in kind" by having its traffic terminated on the other carriers' networks.	Sprint states it will comply with the FCC Order.	¶ 233
2.	**Cost Basis**		
2.1	If a situation develops where traffic flows are persistently out of balance there may be a requirement to replace mutual traffic exchanges with an explicit compensation rate. In this situation the rate must.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	

004082

Access #	MCI Position	Sprint Position	FCC Ruling
2.2	Be priced at TSLRIC incurred by the ILEC.	TELRIC plus a reasonable allocation of forward looking common costs.	51.503
2.3	In no case be greater that the cost the ILEC imputes to its services for the transport and termination of its own telecommunications services.	Sprint will comply with the FCC Order. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.709(b)
2.4	Be unitary, mutual, reciprocal and uniform between carriers.	Sprint will comply with the FCC Order. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.711
2.5	Be independent of the switch type involved in terminating the call.	Sprint will comply with the FCC Order. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	

000483

Access #	MCI Position	Sprint Position	FCC Ruling
2.6	Have no transport mileage element.	Sprint will comply with the FCC Order. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.707(b)

000484

XIV. RESALE

***DEFINITION:** The provision to another carrier at wholesale rates of any telecommunications service that the ILEC provides at retail to subscribers who are not telecommunications carriers and that the carrier may resell to subscribers.*

REQUIREMENTS

1. General Requirements
2. Compensation
3. Quality of Service
4. Information
5. Business Processes
   - 5.1 Order Processing
   - 5.2 Provisioning & Installation
   - 5.3 Trouble Resolution, Maintenance & Customer Care
   - 5.4 Billing
6. Carrier Selection
   - 6.1 Inter and IntraLATA PIC
   - 6.2 Local Carrier Selection

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**General Requirements:**		
1.1	All services offered to end-users of the ILEC must be available for resale by MCI.	Sprint will not include alleged non-telecommunications services e.g. phonemail.	51.603, 51.605, 51.607, 51.613 ¶ 871 - 877 ¶ 939 ¶ 948 - 953 ¶ 956 - 957 ¶ 962 - 964 ¶ 968
1.2	Every retail service rate, including promotions, discounts and option plans, must have a corresponding wholesale rate.	Sprint will not include alleged non-telecommunications services and only promotions over 90 days.	51.603, 51.605, 51.607(b) 51.613(a)(2)

000485

Access #	MCI Position	Sprint Position	FCC Ruling
1.3	No conditions may be placed on the resale of any retail service except for the single provision within the Act which allows a state commission to restrict resale between certain categories of subscribers. Sec. 251(c)(4)(B).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.605, 51.613(a)(i)
1.4	MCI requires that the existing databases and signaling supporting the retail service continue to be provided as part of the wholesale service.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319 ¶ 970 51.603(b)
1.5	All retail services offered to end users, including but not limited to, contract and tariffed services must be offered for resale and should include but not be limited to: Voice, data, video and imaging Local exchange services as defined already in rules, including 1-MB, 1MR, 1FB and 1FR custom calling features, including all CLASS services. Promotions, optional calling plans, special pricing plans, etc. Calling card Directory (including white and yellow page) services Operator services ISDN BRI and PRI Trunk services (flat-rated and measured) including all types of PBX trunks IntraLATA toll	Sprint will not include alleged non-telecommunications services and only promotions over 90 days.	51.603, 51.605, 51.607, 51.613 ¶ 871 - 877 ¶ 939 ¶ 948 - 953 ¶ 962 - 964 ¶ 968 ¶ 956 - 957

984000

	Public access line service and semi-public coin telephone service. Foreign exchange services Call blocking services (part of Basic Local Exchange) Centrex and all feature Packages. Voice messaging, video dialtone. Any combination of packages.		

Access #	MCI Position	Sprint Position	FCC Ruling
1.6	If the ILEC still sells a service to any end users under grandfathered arrangements, they must make it available for resale at wholesale rates to those end users.. If a service withdrawn from certain customers remains available to some customers, it must be made available for resale.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.607, 51.613, 51.615 ¶ 968
1.7	The ILEC must agree to a minimum notice period for changes/introduction/ discontinuation of services so that resellers have an opportunity to make the necessary modifications to their ordering, billing and customer service systems, and so that they can provide sufficient customer notification regarding any changes.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.607, 51.613, 51.615
1.8	"Trial" products must be available to resellers, and resellers (and their customers)should be able to participate in trials.	Sprint will not resell true technical or short term market trials. There is a need agree on how trials will be defined. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.607, 51.613, 51.615 ¶ 950 ¶ 939

000487

Access #	MCI Position	Sprint Position	FCC Ruling
1.9	There should be no prohibition on how MCI can combine resold wholesale services with other network elements to create new services.	Sprint agrees conceptually as long as there is no good reason to restrict such as technical unfeasibility, adverse impact on the network/switch impact on Sprint of CLEC. The reason provided should not be artificial. No contract language agreed to at this time. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.309 ¶ 341 51.603, 51.607, 51.613, 51.615 ¶ 939
1.10	MCI preserves the right to determine whether it purchases unbundled network element vs. resold service.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.607, 51.613, 51.615 ¶ 331 ¶ 341
1.11	Carrier specific branding should be available on all points of customer-contact (e.g., directory assistance, intercept tapes, customer service centers, repair, etc.).	Sprint agrees in principle as long as branding is technically feasible. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.607, 51.613, 51.615 ¶ 971
1.12	ILEC must allow MCI, when purchasing wholesale service, to utilize unbundled signaling links for connection to the interconnecting carrier's IN and AIN platforms.	AIN IN issues should be resolved at the FCC first.	51.603, 51.607, 51.613, 51.615 ¶ 331
1.13	ILEC must agree not to make modifications to individual MCI resold lines/accounts unless authorized by MCI (excluding change of carrier).	Sprint to research.	51.603, 51.607, 51.613, 51.615

0004688

Access #	MCI Position	Sprint Position	FCC Ruling
1.14	MCI's local customers be able to retain their existing ILEC provided telephone number without loss of feature capability and ancillary services such as, but not exclusively: DA, 911/E911 capability. Both MCI and the ILEC will work cooperatively on exceptions.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.607, 51.613, 51.615
1.15	ANI over T1 functionality must be made available.	No.	51.603, 51.607, 51.613, 51.615
2.	**Compensation:**		
2.1	The Wholesale price for each retail service must be determined based on the costs the ILEC will avoid when the service is resold.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.609, 51.613 ¶ 878 - 934
2.2	Local carrier change charge no greater than TSLRIC and in no event should it be at such a level as to create a barrier to customer choice.	Sprint needs to research further.	51.609, 51.613 ¶ 878- 934
2.3	The differential between wholesale and retail rates must apply to retailers promotions.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.609, 51.613 ¶ 949
2.4	The avoided cost differential between the retail and wholesale rates must be the same, in percentage terms, across all rate elements, features and functions.	Discounts will be different for lines, features, etc.	51.609, 51.613 ¶ 871 - 916
2.5	In cases where a wholesale service is not equal in all respects to the retail service, an additional discount shall apply to compensate for the lack of equality.	No.	51.609, 51.613 ¶ 914
2.6	The differential between wholesale and retail rates must be reviewed/adjusted on an annual basis.	Sprint will not agree to a specific review period.	51.609, 51.613

0004689

XIV. RESALE

Access #	MCI Position	Sprint Position	FCC Ruling
2.7	ILECs must produce cost studies within specified timeframe as part of good faith negotiations.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.609, 51.611, 51.613 ¶ 155
2.8	Non discriminatory cost based term discounts should be available.	Sprint does not currently contemplate term and volume discounts.	51.609, 51.613 ¶ 951 ¶ 948
2.9	Non discriminatory cost based volume discounts should be available.	Sprint does not currently contemplate term and volume discounts.	51.609, 51.613 ¶ 953 ¶ 948
2.10	Commitment for term and volume discounts should be based on revenue rather than line count.	Sprint does not currently contemplate term and volume discounts.	51.609, 51.613
2.11	Commitment for term and volume discounts should be region-wide (rather than state-wide).	Sprint does not currently contemplate term and volume discounts.	51.609, 51.613
2.12	Commitment should be able to be met either through revenues driven by resold facilities OR unbundled facilities.	Sprint does not currently contemplate term and volume discounts.	51.609, 51.613
2.13	Discount should apply to SLC (without impacting the CCL).	Sprint contends that the SLC is federally mandated.	51.609, 51.613, 51.617
2.14	Take-or-Pay penalties are unacceptable. In the event a carrier doesn't meet their volume commitment, their discount should be re-calculated retroactively using the tier in which their performance falls.	Sprint does not currently contemplate term and volume discounts.	51.609, 51.613
2.15	Wholesale rates must be tariffed.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.609, 51.613

064000

Access #	MCI Position	Sprint Position	FCC Ruling
2.16	Installation charges should be based on avoided costs.	Sprint believes its installation charges are cost based if not below cost. It does not appear that any costs will be avoided from resale. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.609, 51.613
2.17	There must be no charge for incomplete call attempts.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.609, 51.613
3.	**Quality of Service:**		
3.1	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	
3.2	Installation intervals must be established that ensure that service can be installed to customers of the reseller in the same timeframe as the ILEC provides services to its own customers, as measured from date of customer order to date of customer delivery.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 970 - 971

000491

Access #	MCI Position	Sprint Position	FCC Ruling
3.3	ILEC may not provide service inferior to that which it provides its customers, as demonstrated through new comparative reports (ILEC direct sale vs. MCI resale vs. "all other CLEC" resale) on ILEC service performance (install interval, outage frequency and duration, etc.).	Sprint agrees in principle but reports need to be developed. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603(b)
3.4	Ongoing maintenance practices on resold services shall equal the practices employed by the ILEC in support of their retail services.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603(b)
3.5	There should be no impact to the access network as a result of the establishment of resale arrangements.	Sprint states this depends on whether OBF requires affirmative PIC notification at ordering.	FCC did not address in Interconnection Order
4.	**Information**		
4.1	The ILEC must be required to provide the agreements they have made with other CLECs and with its own affiliates.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 1309-1323 51.809

000492

Access #	MCI Position	Sprint Position	FCC Ruling
4.2	The ILEC must identify service, feature and product availability for all products at end office level or at a finer level of granularity if availability varies at such a level. Specific examples include, but are not limited to Centrex availability. A definition/ explanation of ordering and provisioning requirements is also required.	Sprint is working towards getting a comprehensive listing of availability but this is not completed. Sub switch information may take a long time to produce. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.603, 51.605, 51.613
4.3	Information in 4.2 must be real time and provided on-line.		51.603(b)
5.	**Business Processes**		
5.1	**Ordering**		
5.1.1	Dedicated CLEC service center, available 7 days X 24 hours which must be required to meet rigorous service/quality/performance standards.	Normal or extended business hours only.	51.313, 51.319 ¶ 516-528
5.1.2	Ability for MCI to order local carrier selection and interLATA and intraLATA PICS on a unified order.	Sprint will consider. Order processing being defined at OBF.	51.313, 51.319 ¶ 516-528
5.1.3	No requirement for a signed LOA in order to process an order.	Sprint will agree to this if the OBF resolves this issue this way. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319 ¶ 516-528
5.1.4	Confirmation of the installation/change processed to MCI. In addition, customers must have a mechanism for confirming their carrier similar to the 700 number utilized by interexchange carriers.	The technical solution for this requirement must be established in an industry forum.	51.313, 51.319

000493

Access #	MCI Position	Sprint Position	FCC Ruling
5.1.5	That the ILEC provide at the time of order completion notification of the local geatures/products/services/ elements/ combinations that were provisioned for all MCI local customers. This applies to all types of service orders and all elements. MCI requires the ILEC provide any customer status which qualifies the customer for a special service (e.g. DA exempt, lifeline, etc.).	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51,313, 51.319
5.1.6	On-line access to CRIS and routine reconciliation between CRIS records and MCI customer records should be established.	No.	51.313, 51.319
5.1.7	Access should be provided to telephone line number and loop assignment system(s).	Sprint agrees in principle to provide when systems are available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.1.8	MCI must have the ability to reserve ANIs real time, via access to the telephone line number (TLN) and card assignment system(s) and line information data base (LIDB).	Sprint will not provide access to LIDB.	51. 313, 51.319
5.1.9	Access to system(s) that provide the list of interexchange carrier (IXC) primary interexchange carrier (PIC) choices.	Sprint will provide in conformance with industry standards. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

004949

Access #	MCI Position	Sprint Position	FCC Ruling
5.1.10	Access to system(s) that provide the existing customer service and equipment record when a change has been authorized.	Manual at first, automated eventually. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.1.11	Automated interfaces for service order confirmation, including: ANI confirmation All services should be transferred to the resellers - transparent to the customer, especially card Directory update Features update Essential Service Line (ESL) MCI ability to block, suspend, and restore end-user access Confirm receipt Verify install date/features/directory listing Exception reporting to highlight missed service installs InterLATA and intraLATA toll PIC changes or selections Account Maintenance (moves/changes)	Sprint will consider based on OBF resolutions of issues.	51.313, 51.319
5.2	**Provisioning & Installation**		
5.2.1	Automated interfaces shall be provided into a centralized operations support systems data base for completion confirmation.	Sprint agrees in principle when the systems are available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

0004995

Access #	MCI Position	Sprint Position	FCC Ruling
5.2.2	Establishment of service resale shall not result in any disruption to the customer's service.	Sprint says that it will provide to the extent possible. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.2.3	The ILEC is responsible for rerouting long distance and intraLATA toll traffic to the PIC carriers concurrent with fulfillment of the resale service order.	Sprint states that it will provide to the extent possible and consistent with industry standards. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.3	**Trouble Resolution, Maintenance & Customer Care**		
5.3.1	Automated read and write access to ILEC maintenance and trouble report systems. Access must be via an electronic interface real-time and on a first come first serve basis. Such systems must monitor and report on the integrity of the ILEC network, isolate troubles and initiate repair operations, and generate maintenance and repair notices that impact any end user's ability to complete calls.	Sprint states it will provide once standards are established. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

000496

Access #	MCI Position	Sprint Position	FCC Ruling
5.3.2	The ILEC must develop a process to identify the carrier for each resold service and establish appropriate intercompany referral processes.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.3.3	The ILEC must initiate exception reporting which communicates both planned and unplanned outages and restorals to MCI.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.3.4	Dedicated service centers must be established to handle service issues, escalations, resolution of billing issues and other administrative problems. Automated interfaces shall be provided into a centralized customer support systems data bases for access to services and features purchased from ILEC and credit history of converting end users.	Sprint states that this will be automated in the future and that credit information is subject to legal constraints. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.3.5	Automated interfaces shall be provided into a centralized operations support systems data base for field dispatch scheduling (in order to schedule appointments with end users), status of repairs and confirmation of repair completion. The mean time to repair resold services shall be no greater than the mean time to repair reported by the ILEC for its retail customers.	Sprint states that this is some time off in the future. Parity is agreeable. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

000497

Access #	MCI Position	Sprint Position	FCC Ruling
5.3.6	All customers must be able to continue the established local dialing protocol to access the repair center of their local service provider. Upon dialing "611" (where available) the customer should be presented with a non-branded menu that requests the customer input their telephone number. Once the telephone number is provided, the customer would be transferred to the repair center of their local service provider. In the near term while the ILEC receives a repair call from an MCI customer, it should be received unbranded and transferred to the appropriate MCI repair center.	Sprint has moved away from 611 to 800. Referral will be done by live operators in near term. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319 ¶ 971 51.613(c)
5.3.7	The ILEC must make available an inside wiring maintenance option.	Discussion required.	51.313, 51.319
5.4	**Billing**		
5.4.1	**Wholesale ILEC Billing**		
5.4.1.1	The underlying network provider is the appropriate recipient of all access charges, and should be responsible for directly billing the IXCs for the access related to interexchange calls generated by resold customers.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.4.1.2	Monthly invoices must be presented in a Carrier Access Billing Systems like(CABS) format in order to facilitate standard industry auditing practices. Other requirements include:	All billing will be in CABs format except for line level use. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.4.1.3	The ILEC will not bill MCI's end users for any recurring or non-recurring charges. MCI will be billed for all charges associated with MCI wholesale accounts.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

000498

Access #	MCI Position	Sprint Position	FCC Ruling
5.4.2	**MCI End User Local Billing**		
5.4.2.1	Daily receipt of local usage at the call detail level in standard EMR/EMI industry format.	Sprint states it agrees in principle but that a medium of transmission must be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.4.2.2	Access to Bellcore CMDS in and out-collect process for inter-region alternately billed messages via a CMDS sponsor.	Sprint is not a CMDS host.	51.313, 51.319
5.4.2.3	Access to in and out-collect process for intra-region alternately billed messages via the appropriate Bellcore Client Company.	The RBOCs not Sprint controls this process.	51.313, 51.319
5.4.2.4	Long term neutral third party in and out-collect process for inter and intra-region alternately billed messages.	This issue needs to be resolved on an industry wide basis.	51.313, 51.319
5.4.2.5	Information on customer's selection of billing method, special language billing, etc. is required.	Sprint says it will provide when a change has been authorized by an end user. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319

000499

Access #	MCI Position	Sprint Position	FCC Ruling
5.4.2.6	Billing data must be provided to MCI by the ILEC on a daily basis. The usage must be no older than that used in the ILECs own billing system.	Sprint states that it agrees in principle but that a medium of transmission must be agreed upon. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
5.4.3	**MCI End User Long Distance Billing**		
5.4.3.1	The ILEC must return EMI records to IXCs with the OBF standard message reject code which indicates that the ILEC no longer serves the end user and which includes the OCN/Local Service Provider ID of the new LEC/reseller serving the end user.	Sprint will return EMI records to the ICC with Return Code 50 and the OCN of the new LEC. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319 ¶ 516 - 528
5.4.3.2	The ILEC must exchange telephone number line level detail with IXCs for all resold numbers regardless of IXC PIC.	CLECs should be responsible for providing this information and not Sprint.	51.313, 51.319
5.4.3.3	ILEC's must provide BNA via industry standard record exchanges (e.g., EMI, CARE).	BNA is a tariffed service offering and is offered by each ILEC pursuant to its processes. CLEC will have to provide its BNA to IXCs.	51.313, 51.319

000500

Access #	MCI Position	Sprint Position	FCC Ruling
5.4.3.4	Billing data must be provided to MCI by the ILEC on a daily basis. The usage information must be no older that that used in the ILEC's own billing system.	If Sprint is a toll carrier, or records for a toll carrier then usage will be supplied. Agree to daily exchange but must discuss medium for transmission. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313, 51.319
6.	**Carrier Selection**		
6.1	**Inter and IntraLATA PIC**		
6.1.1	The LEC should implement electronic bonding with the IXCs for IXC PIC processing, providing real-time processing of presubscription orders directly by the IXC, via a gateway, into the LECs switch within 15-30 minutes.	Sprint agrees to provide based on industry standard processes. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.1.2	When a CLEC resells local services (becomes the end-user's local service provider), the LEC shall continue to provide PIC processing as described in 6.1.1 above.	Sprint will provide electronic bonding when available. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order

000501

Access #	MCI Position	Sprint Position	FCC Ruling
6.1.3	End-user of a LEC changes IXC (all key process steps have been included for clarification): **IXC requests change**: the LEC must provide confirmation of activation of the PIC change to the new IXC, together with BNA. **LEC initiates change**: the LEC must provide confirmation of activation of the PIC change to the new IXC, together with BNA.	Sprint will continue to process PIC changes pursuant to standard processes. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.1.4	End user of a CLEC changes IXC (all key process steps have been included for clarification): **IXC requests change**: the LEC must provide confirmation of activation of the PIC change to the new IXC together with OCN of the CLEC (The IXC will obtain the BNA from the CLEC). **CLEC requests change**: The CLEC requests that the LEC makes the IXC change, the LEC returns confirmation of activation to the CLEC, the CLEC must provide confirmation of the change to the new IXC together with BNA.	Sprint will agree presuming this is the industry standard process adopted. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.1.5	A third party should be designated to provide auditing of actual PIC processing performance by the LEC.	No.	FCC did not address in Interconnection Order
6.1.6	Only the IXC or the customer's local service provider can change the customer's IXC PIC.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.1.7	All LECs/CLECs must provide account maintenance (CARE) processing to IXCs.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order

000502

Access #	MCI Position	Sprint Position	FCC Ruling
6.1.8	The IXC data must be considered proprietary and protected.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.1.9	The current FCC customer verification process for IXC PIC must be continued.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.1.10	The new local service provider must appropriately notify the old and new IXC of the IXC PIC. This should be accomplished through new CARE records.	Sprint states that industry standards are required. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.1.11	The LEC must agree to benchmark performance standards for PIC processing and provide routine reporting to measure install intervals, rejects, and other criteria.	Sprint states that industry standards are required. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order
6.2	**Local Carrier Selection**		
6.2.1	The ILEC should implement voice response unit mechanisms to advise customers of the availability of services from other entrants, and their business office reps should be provided scripts on how to handle inquiries regarding local competitors in a manner that is non-disparaging and non-discriminatory.	No.	51.603(b) ¶ 970

000503

Access #	MCI Position	Sprint Position	FCC Ruling
6.2.2	In the event the VRU is by-passed, the ILEC should not take orders in their business office for MCI, but instead should transfer all calls to MCI's business office.	Sprint may or may not transfer. May refer customer, may not transfer. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305
6.2.3	Any "warm-line" arrangements that the ILEC have installed for new customers should terminate at a neutral recording that advises the customer of the available choices for local service.	Sprint does not have a warm-line process.	51.305
6.2.4	Only the new provider can issue a connect order to ILEC.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305
6.2.5	Although the former local service provider may need to be involved in the provisioning process, a disconnect order from the former provider should not be required prior to working the new provider's service order for new service.	OBF resolution of this process is required.	51.305
6.2.6	The network provider must notify the former carrier of the loss of the service.	OBF resolution of this process is required.	51.305
6.2.7	A customer verification process mirroring the FCC Long Distance process should be established and used by both ILECs and CLECs.	Sprint will agree to do this if it is an industry standard process. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305

000504

XV. COLLOCATION

DEFINITION: Collocation is the physical placement of MCI equipment necessary for interconnection or access to unbundled network elements at the premise of the ILEC. Virtual collocation may be provided if the ILEC demonstrates that physical collocation is not practical for technical reasons or due to space limitations.

REQUIREMENTS 1. General Requirement
2. Compensation
3. Quality of Service
4. Information
5. Business Processes

Access #	MCI Position	Sprint Position	FCC Ruling
1.	**General Requirement**		
1.1	Collocation should be suitable for use in MCI - ILEC local interconnection and MCI access to unbundled ILEC network components.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.321(e) 51.323 ¶ 558 ¶ 565 - 569 ¶ 573 - 575 ¶ 549
1.2	Option to convert existing virtual collocations to physical collocations.	Sprint states this is not applicable as MCI currently has no collos in place with Sprint.	¶ 28 ¶ 543 ¶ 611-612

000505

XV. COLLOCATION

Access #	MCI Position	Sprint Position	FCC Ruling
1.3	Collocators must be allowed to lease intraoffice and/or interoffice facilities (e.g., DSO, DSI, etc.) from the ILEC to meet the collocators need for placement of equipment, interconnection or provision of service.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319(d)(2)(iii) ¶ 590
1.4	There must be no restrictions on collocation equipment. (See Section II 2.2 for details).	Sprint will not allow switching equipment in collo space.	¶ 577 - 581 51.323(b)(c)
1.5	Collocated CLECs should be allowed to interconnect with each other at the collocation, using leased facilities if desired.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 594 - 595 51.323(h)
1.6	There shall be no requirement that the collocator build-out and provide facilities, such as, fiber or radio, to the collocation. A collocation may also be served exclusively via leased transport or though a combination of ILEC leased and interconnect carrier provided transport.	Sprint says this is OK as long as transport is defined in the ULT section and not as dark fiber. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	¶ 585 - 587 51.323(d)(g) ¶ 590
2.	***Compensation***		
2.1	Collocation and all associated services must be priced at TSLRIC.	TELRIC plus a reasonable allocation of forward looking common costs.	51.503 ¶ 629

000506

Access #	MCI Position	Sprint Position	FCC Ruling
2.2	Cost of conversion from existing virtual collocations to physical collocations must be borne by ILEC	Sprint states this is not applicable but Sprint will think about this as a policy position.	51.509(g) 51.513 Footnote: 1340
3.	**Quality of Service**		
3.1	The companies must agree on a mechanism for dealing with breaches of agreed Quality-of-Service standards.	We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.319
3.2	The ILEC must meet a maximum 90 day interval for establishing a new collocation.	Sprint agrees in principle so long as there is recognition and contract covers fact that there may be legitimate circumstances that extend the timeframe beyond 90 days. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(3)

000507

Access #	MCI Position	Sprint Position	FCC Ruling
3.3	Conversion of existing virtual collocations to physical collocations should have no impact on new collocations.	Sprint states this is not applicable, that it appears conceptually okay unless both are happening in the same end office. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(3)
3.4	Conversion of existing virtual collocations to physical collocations must be completed in reasonable timeframes.	Sprint states that this is not applicable but agrees in concept. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.305(3)
3.5`	Transition from current access facilities to expanded interconnect facilities must be within an agreed upon time frame.	MCI currently has no collos with Sprint though if in the future there were an access only collo then this is okay conceptually. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	
4.	**Information**		

805008

XV. COLLOCATION

Access #	MCI Position	Sprint Position	FCC Ruling
4.1	The ILEC must provide routine reports on the availability of space in locations throughout its network.	Sprint states that this will be handled on a case to case basis just like ROW.	51.321(f)
5.	**Business Processes**		
5.1	Transition from current access facilities to expanded interconnect facilities must be completed without a new installation order.	MCI currently has no collos with Sprint though if in the future there were an access only collo then this is okay conceptually. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	51.313(b), 51.319
5.2	Transition from current access facilities to expanded interconnect facilities should require only the portion of the circuit within the Central Office to be rearranged.	Sprint agrees to try to minimize the work effort required and suggests that MCI and Sprint should mutually agree on the information that needs to be exchanged to ensure a smooth transition. We believe we may have reached agreement in principle with Sprint, however, we have not yet agreed on contractual language for this issue. Thus, we seek arbitration on this issue.	FCC did not address in Interconnection Order

605000

Term Sheet Items Summary

The purpose of this exhibit is to separate term sheet items into arbitration categories. As is evidenced by the Isues Matrix there is agreement in principle but no final contract language, on many of the items.

As used in this exhibit the following terms have the meanings as set forth herein.

Arbitration: Procedures ordered by this commission for handling arbitration petitions submitted under section 252 of the Federal Telecommunications Act .

Mediation Plus Arbitration Procedures: Arbitration procedures defined in paragraphs 22 and 23 of the MCI arbitration petition.

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
I. INTERCONNECTION			
1. Point of Interconnection			
1.1 One POI; no cost		X	
1.2 Any feasible point		X	
1.3 Size network		X	
1.4 No traffic restrictions		X	
1.5 Modify POI w/o contract		X	
1.6 POI not unilaterally defined		X	
1.7 Network inefficiencies		X	
1.8 Same facilities & quality		X	
2. Trunking			
2.1 Any point; 2way traffic		X	
2.2 Combine traffic types			X
2.3 B8ZS voice & data			X
2.4 POI @ voice, data, other			X
3. Traffic Types			
3.1 Equip. for all types traffic		X	
3.2 Local Exchange		X	
3.3 Exchange Access		X	
3.4 IXC Transit		X	
3.5 Other transit		X	
3.6 IN Logical & Physical		X	
3.7 E911, DA, OS		X	
3.8 Network Surveillance		X	
4. Signaling			
4.1 Signaling I/C @ cntrl pts			X
4.2 SS7 w/all parameters			X
4.3 Access to all links			X
4.4 SPOI @ 56k w/diversity			X
4.5 Meet Bellcore SS7 specs		X	
4.6 SS7 or MF			X
4.7 CIP at no charge			X
4.8 Intercompany 64kbps clear			X
4.9 TCAP for CLASS			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
4.10 I/C fair & standards based			X
4.11 Compatible standards			X
5. Compensation			
5.1. Exchange Access			
5.1.1 Access @ TSLRIC		X	
5.2. Reciprocal Compensation			
5.2.1 reference Sec. XIII			
5.2.2 No charge for POI prov.		X	
5.2.3 LEC absorb NRC		X	
5.3 SS7 @ TSLRIC		X	
5.4 Transit @ TSLRIC		X	
6. Business Processes			
6.1. Order Processing			
6.1.1 Dedicated MCI order cntr			X
6.1.2 Electronic Bonding		X	
6.1.3 ILEC order term to MCI			X
6.1.4 automated 2-way trunking			X
6.2. Provisioning and Installation			
6.2.1 Equal order process time		X	
6.3. Trouble Resolution, Maintenance and Customer Care			
6.3.1 7x24 service centers			X
6.3.2 VRU call transfer			X
6.3.3 Real time Read/write			X
6.3.4 Real time service notice			X
6.3.5 w/3rd party contractor			X
6.3.6 Multi-ILEC proc's: NOF			X
6.3.7 Escalation via NOF			X
6.3.8 Coordinated repair			X
6.3.9 7x24 phone #, test line #			X
6.3.10 Law enforcement			X
6.4. Billing			
6.4.1 Cycles & Info per MECAB			X
6.4.2 Multiple Bill/Single Tariff			X
6.4.3 No MPB dev. charges			X
6.4.4 IXC inward term call rec.			X
6.4.5 EMR for Term/Orig			X
6.4.6 Call rec. in MCI format			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
6.4.7 Call rec. in MCI media			X
6.4.8 IXC bill for ILEC transit			X
6.4.9 Exchange test Files			X
6.4.10 No RIC for MCI EO		X	
6.4.11 Fraud indemnity			X
7. Quality of service			
7.1 No less than ILEC existing		X	
7.2 P.01 design objectives			X
7.3 I/C priority over non-emer.			X
7.4 POI install not > 60 days			X
7.5 Emer. augment process			X
7.6 Breach of svc agreements		X	
7.7 Leases; qual. per Bellcore		X	
8. Information			
8.1 Confirm translations compl.			X
8.2 ILEC-CLEC QOS comps		X	
8.3 Exchange of forecasts			X
8.4 Network ID dbase access		X	
II. NON-DISCRIMINATORY ACCESS TO NETWORK ELEMENTS			
1. Unbundled Element List			
1.1 Local Loop (def.)		X	
1.2 Local Switching (def.)		X	
1.3 Tandem/Transit (def.)		X	
1.4 Ancillary Service (def.)		X	
1.5 Transport (def.)		X	
1.6 Data Switching (def.)		X	
1.7 IN/AIN (reference)		X	
2. General Requirements			
2.1 Elements, products, svcs		X	
2.2 No restrictions on comb.		X	
2.3 Parity in provisioning		X	
2.4 Phys./Logical POI for AIN			X
3. Compensation			
3.1 Priced @ TSLRIC		X	
3.2 Pricing reflect all factors		X	
3.3 Purchase equip. @ cost		X	
4. Quality of service			

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
4.1 Breach of svc agreements		X	
4.2 7x24			X
4.3 New I/F not impact exist.		X	
4.4 Same svc as for ILEC		X	
4.5 Neg. performance metrics			X
4.6 Customer's svc & features			X
4.7 Service & Leased parity		X	
4.8 ILEC formal tracking proc's		X	
5. Information			
5.1 Describe all elements		X	
5.2 Describe svc, feat., layout		X	
5.3 Fac. & power handling			X
5.4 SAG via hard & electronic		X	
5.5 Unbundled elements engin.		X	
5.6 Eng. change notices		X	
6. Business Processes			
6.1. Order Processing			X
6.1.1 Elect. comm. interface			X
6.1.2 Order via prov. codes			X
6.1.3 ULS w/ comb. elements			X
6.1.4 Comb. elements packaged			X
6.1.5 Packaged codes estab.			X
6.1.6 Retain I/C elements			X
6.1.7 Attain #'s on-line; vanity			X
6.1.8 Order switch features			X
6.1.9 Order AIN triggers			X
6.1.10 Neg. svc & disco ordering			X
6.1.11 Real-time install sched.			X
6.1.12 Other real-time reqts.			X
6.1.13 Sched. change notif.			X
6.1.14 Expedite & escalations			X
6.1.15 Customer expedites			X
6.2. Provisioning and Installation			
6.2.1 Test & turnup proc's			X
6.2.2 Disconnect notice			X
6.2.3 Brand customer notices			X
6.2.4 Test combined elements			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
6.3. Trouble Resolution, Maintenance & Customer Care			
6.3.1 Electronic interface items			X
6.3.2 Misdirected service calls			X
6.3.3 BLV & emerg. interrupt			X
6.3.4 7x24 SPOC maint. center			X
6.3.5 Trouble shooting by ILEC			X
6.3.6 Escalation process			X
6.3.7 ILEC mech. loop test			X
6.3.8 Status reports; ETR			X
6.3.9 Branded maint. ticket			X
6.3.10 Prescreen & MCI auth.			X
6.3.11 ALIT/SLIT failure notif.			X
6.3.12 Branded 'not-at-home'			X
6.3.13 MCI coordinate dispatch			X
6.3.14 Alarm response parity			X
6.3.15 ILEC disaster recov. plan			X
6.3.16 ILEC is single POC			X
6.3.17 Restor. equip dispatch			X
6.3.18 Prior notice & influence			X
6.4. Billing			
6.4.1 CABS format			X
6.4.2 CARE record format			X
III. NON-DISCRIMINATORY ACCESS TO POLES, DUCTS, CONDUITS, ROW			
1. Access			
1.1 Unlimited access		X	
1.2 Building entrance conduits		X	
1.3 Network interface device		X	
1.4 Public/private property		X	
1.5 Unrestricted auth. to attach		X	
1.6 No intervening on permits		X	
1.7 Capacity can be made open		X	
2. Compensation			
2.1 Priced @ TSLRIC		X	
2.2 Pro-rated costs for improv.		X	
2.3 No application fees		X	

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
2.4 Fees be fixed		X	
2.5 Consistent with the Act		X	
3. Information			
3.1 Notice of changes		X	
3.2 Open access to prints		X	
3.3 Capacity reports		X	
3.4 10 day info. response		X	
3.5 Timeliness equal to ILEC		X	
4. Quality of service			
4.1 Breach of svc agreement		X	
5. Business Processes			
5.1 Neutral processes		X	
5.2 Capacity within 30 days			X
IV. UNBUNDLED LOCAL LOOPS			
1.Unbundled Loop Elements			
1.1 Network Interface device		X	
1.2 Loop distribution (def.)		X	
1.3 DLC/cross connect (def.)		X	
1.4 Loop feeder (def.)		X	
2. General Requirements			
2.1 Ubiquitous availability		X	
2.2 Any point within 500 ft			X
2.3 Ubiquitous transport		X	
2.4 No measuring traffic			X
2.5 Equip. placing & loop trans.		X	
2.6 Standard network design			X
3. Compensation			
3.1 Priced @ TSLRIC		X	
3.2 Term&Volume discount		X	
3.3 Relief of volume commit.		X	
4. Business Processes			
4.1. Order Processing			
4.1.1 Mechanized requirement			X
4.2. Provisioning and Installation			
4.2.1 Automated I/F; forecasts			X
4.2.2 Completion confirmation			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
4.3. Trouble Resolution, Maintenance and Customer Care			
4.3.1 Service degrad. notice			X
4.3.2 ILEC carrier-loop ID			X
4.3.3 Dispatch scheduling			X
4.3.4 Dedicated centers			X
4.3.5 3rd party contractor			X
4.4. Billing CABS			X
5. Quality of Service			
5.1 Reference II.4			
6. Information			
6.1 Reference II.5			
V. UNBUNDLED LOCAL TRANSPORT			
1.Unbundled Local Transport Elements			
1.1 Dedicated trunks (def.)		X	
1.2 Interoffice trunks (def.)		X	
1.3 MUX/DCC (def.)		X	
1.4 Dark Fiber (def.)		X	
2. General Requirements			
2.1 MCI-NonILEC I/C avail.		X	
2.2 Bellcore/Industry standards		X	
3. Compensation			
3.1 Priced @ TSLRIC		X	
4. Quality of Service			
4.1 Breach of Svc agreement		X	
4.2 Equip. protection @ parity		X	
4.3 Redundant Power @ parity		X	
4.4 Spare facilties @ parity		X	
4.5 Facility Perf. @ parity		X	
5. Business Processes			
5.1. Mech. Order Processing		X	
5.2 3rd party contractor			X
6. SONET Systems			
6.1 Additional reqts intro			X
6.2 SONET/Bellcore standards		X	
6.3 Access to Perf. data			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
6.4 Equipment Protection			X
6.5 Redundant Power			X
6.6 Synchronization			X
6.7 Multi-vendor equipment			X
6.8 DCC connectivity			X
6.9 Ring requirments			X
6.10 Support Physical Interface IIILC			X
7. Information Ref II.5			
VI. UNBUNDLED LOCAL SWITCHING			
1.Unbundled Local Switching Elements			
1.1 Line Port (def.)		X	
1.2 Trunk Port (def,)		X	
1.3 Switching capacity (def.)		X	
1.4 Signaling & dbase (def.)		X	
2. General Requirements			
2.1 Purchase @ each EO		X	
2.2 Switching functionalities		X	
2.3 ULS components		X	
2.4 ULS combined w/elements		X	
2.5 ULS purchase nets all fxn's		X	
2.6 I/C from any source		X	
2.7 Loc. Exch. & Sw. Access		X	
2.8 ILEC AIN functionality			X
3. Compensation			
3.1 TSLRIC		X	
3.2 Line costs - per line		X	
3.3 Trunk costs - per mou		X	
3.4 BH costs - line & usage		X	
3.5 3rd rate; switch matrix use		X	
3.6 CLASS; no charges		X	
3.7 Centrex @ cost based		X	
3.8 TSLRIC for extra centrex		X	
4. Quality of Service			
4.1 Same GOS		X	
4.2 Breach of Svc agreements		X	

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
4.3 Monitor LEC GOS		X	
4.4 Reference II.4			X
5. Business Processes			
5.1 Electronic processes			X
5.2 Reference II.6			X
6. Tandem Switching			
6.1 Requirements lists		X	
7. Information - Reference II.5			
VII. NON-DISCRIMINATORY ACCESS TO 911, DA, OPERATOR SVC			
911			
1. General Requirements			
1.1 Routing to PSAP			X
1.2 Default arrangements			X
1.3 Automated access to dbase			X
1.4 ID special routing			X
1.5 Emergency backup #			X
1.6 Planning into & SS7			X
1.7 Default ESN plan			X
1.8 Adopt NENA standards			X
1.9 Adopt carrier codes			X
2. Compensation			
2.1 Equal cost		X	
2.2 Priced @ TSLRIC		X	
3. Quality of Service			
3.1 Neutral Installation		X	
3.2 Reliability		X	
3.3 ALI dbase updates		X	
3.4 7x24 escalations			X
4. Information			
4.1 MSAG mechanized; updates		X	
4.2 NXX-PSAP mapping		X	
4.3 E911 tandems w/CLLI rpts.		X	
4.4 CO/SWC/rate center report		X	
4.5 NXX overlay boundaries		X	
4.6 dbase by state/area		X	
4.7 ALI POC		X	

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
4.8 Operator assisted reqts.		X	
5. Business Processes			
5.1 ASR for trunk prov.			X
5.2 Trunk restoral @ parity		X	
5.3 Network change notices			X
5.4 Mutual Dis. Recov. Plan			X
5.5 Interface to AI dbase			X
5.6 ALI dbase error check			X
5.7 'Reverse ALI'			X
5.8 NPA/NXX split plans			X
5.9 MCI Indemnity			X
DIRECTORY ASSISTANCE			
1. General Requirements			
1.1 DA reach MCI customers		X	
1.2 ILEC store MCI cust. data		X	
1.3 Limit ILEC use of MCI data		X	
1.4 411 over ILEC DA		X	
1.5 Resale Operators & system		X	
1.6 DA feeds & ILEC data			X
1.7 Combined components		X	
1.8 Service enhancements		X	
1.9 Branding		X	
2. Compensation			
2.1 ILEC storage; no charge		X	
2.2 Reciprocal DA		X	
2.3 DA compensation		X	
3. Quality of Service			
3.1 Breach of svc agreements		X	
3.2 Dbase updates timely		X	
3.3 Automated updates			X
3.4 Quality standards		X	
3.5 Speed-to-Answer			X
3.6 Dialing Parity		X	
4. Information			
4.1 DA listing rules			X
4.2 Split NXX data exchange			X
5. Business Processes			

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
5.1 DA dbase updates			X
5.2 Each carrier bills end-users			X
5.3 Intercompany billing			X
5.4 CABS format			X
5.5 Error resolution			X
OPERATOR SERVICES			
1. General Services			
1.1 BLV-EI			X
1.2 Resale; services @ parity		X	
1.3 MCI Branding @ MCI rates		X	
1.4 Services 0+,0-, LCC		X	
VIII. DIRECTORY LISTINGS			
1. General Requirements			
1.1 MCI Info page			
1.2 MCI cust. in ILEC book			
1.3 MCI directory distribution			
1.4 Customized cover		X	
1.5 ILEC recycling			
2. Types of Directory Listings			
2.1 White Page			
2.2 Yellow Page			
2.3 Additional White Pages			
2.4 Additional Yellow Pages			
2.5 Non-pub/non-list			
2.6 Foreign listings			
2.7 Alternate Call Listings			
2.8 Information Listings			
2.9 Advertising			
2.10 List Rentals		X	
3. Business Processes			
3.1 Order Processing			
3.1.1 DA dbase updates			X
3.1.2 Data elements			X
3.1.3 Query ILEC listing			X
3.1.4 Multi-line listing			X
3.1.5 Multi-owner captions			X
3.1.6 Listing appearances			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
3.2 Provisioning/Distribution			
3.2.1 Distrib. Arrangements			
3.3 Trouble Resolution, Maintenance, Customer Care			
3.3.1 Error Management			X
3.4 Billing			
3.4.1 Delete			
3.4.2 Yellow Page separate			X
3.4.3 Advertising/Bolding			X
3.4.4 Intercompany billing			X
3.4.5 Administrative billing			X
4. Compensation			
4.1 Distribution; no charge			
4.2 MCI customer inclusion			
4.3 Additional Charges			
5. Quality of Service			
5.1 Breach of svc agreements		X	
5.2 Listing updates @ parity		X	
6. Information			
6.1 Publishing deadlines			X
6.2 Service Location			X
6.3 Calling area descriptions			X
6.4 Directory update details			X
IX. NON-DISCRIMINATORY ACCESS TO TELEPHONE NUMBERS			
1. General Requirements			
1.1 3rd Party Admin			X
1.2 ILEC assign NXX			X
1.3 No NXX assign restrict.			X
1.4 Testing & loading NXX			X
1.5 Deleted			X
1.6 Deleted			X
1.7 555 line numbers			X
1.8 Abbr. dialing codes			X
1.9 Obtain numbers; 3rd party			X
2. Compensation			
2.1 Parity of NXX charges			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
3. Quality of Service			
3.1 Breach of svc agreements		X	
3.2 NXX loaded by LATA			X
4. Information			
4.1 3rd party; routine reporting			X
4.2 NPA-NXX splits			X
5. Business Processes			
5.1 Forecasts by indep. agent			X
X. NON-DISCRIMINATORY ACCESS TO DATABASES AND ASSOCIATED SIGNALING NECESSARY FOR CALL ROUTING AND CALL COMPLETION			
1. General Requirements			
1.1 Discrete purchase			X
1.2 POI @ any feasible point			X
2. Databases Required			
2.1 Examples of dbases			X
3. Compensation			
3.1 No charge for dbase dips			X
3.2 Signaling @ TSLRIC			X
3.3 Dbases access @ TSLRIC			X
3.4 Dbase Free of Charge			X
4. Quality of Service			
4.2 Parity of service			X
4.3 Tracking of usage			X
4.4 Reliability @ industry std.			X
4.5 Breach of svc agreements			X
5. Business Processes			
5.1 ILEC administer dbase			X
5.2 Validation procedures			X
5.3 Signaling link @ 56kbps			X
6. AIN/IN Platform			
6.1 Fully unbundled AIN/IN net.			X
6.2 Unmediated SS7 & AIN			X
6.2.1 TCAP exchnge; SSP/SCP			X
6.2.2 AIN/IN trigger parity			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
6.2.3 Svc Mgmt platform			X
6.3 POI per IILC			X
6.4 Forum agreement			X
6.5 Unmediated			X
6.6 Joint agreement			X
7. Signaling Ref. Sec. I			X
XI. ILNP VIA RCF, DID OR OTHER ARRANGEMENTS			
1. General Requirements			
1.1 RCF, DID		X	
1.2 LRN by 9/1/97		X	
2. Compensation			
2.1 LNP/ILNP costs shared		X	
2.2 MCI get access charges		X	
2.3 Dbase cost recovery		X	
3. Quality of Service			
3.1 Breach of svc agreements		X	
3.2 Parity of service		X	
4. Information			
4.1 Data format		X	
5. Business Processes			
5.1 Dbase updates		X	
5.2 LSR format		X	
5.3 RCF within 2 days		X	
XII. NON-DISCRIMINATORY ACCESS TO SUCH SERVICES OR INFO NECESSARY TO ALLOW REQUESTING CARRIER TO IMPLEMENT DIALING PARITY			
1. Intralata External Issues			
1.1 Dialing parity		X	
1.2 Deploy 2PIC technology		X	
2. General Issues			
2.1 Dialing protocol		X	
2.2 Local Dialing Plan reports		X	
2.3 DA ref Sec IX		X	
2.4 Dir. Listings ref Sec X		X	
2.5 Number allocation @ parity		X	

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
2.6 Call setup @ parity		X	
2.7 PDD @ parity		X	
2.8 Casual Billing		X	
3. Compensation			
3.1 Cost-share 2PIC		X	
3.2 Cost recovery per FCC		X	
3.3 8 year cost recovery		X	
3.4 Tracking costs		X	
XIII. RECIPROCAL COMPENSATION ARRANGEMENTS			
1. Local Service/Mutual Traffic Exchange			
1.1 MTE immediately		X	
1.2 Handoff at POI		X	
2. Cost Basis			
2.1 Traffic imbalance		X	
2.2 Priced @ TSLRIC		X	
2.3 Transport cost parity		X	
2.4 Mutual, recip., uniform		X	
2.5 Indep. of switch type		X	
2.6 No mileage element		X	
XIV. RESALE			
1. General Requirements			
1.1 All services available		X	
1.2 All rates available		X	
1.3 No conditions on resale		X	
1.4 Existing dbases provided		X	
1.5 List of services		X	
1.6 Grandfathered services		X	
1.7 Notice of changes		X	
1.8 Trials available		X	
1.9 Combined with elements		X	
1.10 Unbundled vs. resale		X	
1.11 Branding		X	
1.12 Unbundled signalling links		X	
1.13 Modification of MCI lines			X
1.14 Retain phone number			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
1.15 ANI over T1			X
2. Compensation			
2.1 Wholesale minus avoided		X	
2.2 Change charge		X	
2.3 Promotions		X	
2.4 Single differential		X	
2.5 Additional discount		X	
2.6 Annual review		X	
2.7 Cost studies		X	
2.8 Cost based term discounts		X	
2.9 Volume discounts		X	
2.10 Revenue commitment		X	
2.11 Region-wide commitment		X	
2.12 Commit.; resale + unbund.		X	
2.13 Discount to SLC; no CCL		X	
2.14 No 'Take-or-Pay' penalties		X	
2.15 Rates must be tariffed			X
2.16 Installation charges		X	
2.17 Uncompleted calls		X	
3. Quality of Service			
3.1 Breach of svc agreements		X	
3.2 Installation intervals		X	
3.3 Parity of service		X	
3.4 Parity of maintenance		X	
3.5 No impact on access		X	
4. Information			
4.1 Other agreements		X	
4.2 Centrex availability		X	
4.3 Realtime, on-line		X	
5. Business Processes			
5.1 Order Processing			
5.1.1 CLEC service center			X
5.1.2 Inter/IntraLATA orders			X
5.1.3 No signed LOA required			X
5.1.4 Install compl. confirm.			X
5.1.5 Cust. features & services			X
5.1.6 Access to CRIS			X

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
5.1.7 Access to other systems			X
5.1.8 ANI reservations			X
5.1.9 IXC choice systems			X
5.1.10 Customer equipment			X
5.1.11 Automated interface list			X
5.2 Provisioning and Installation			
5.2.1 Completion confirmation			X
5.2.2 No service disruption			X
5.2.3 LD and toll traffic			X
5.3 Trouble Resolution, Maintenance & Customer Care			
5.3.1 Access to systems			X
5.3.2 Carrier ID process			X
5.3.3 Outage reporting			X
5.3.4 Dedicated service center			X
5.3.5 Operations systems I/F			X
5.3.6 611; service number			X
5.3.7 Inside wiring option			X
5.4 Billing			
5.4.1 Wholesale ILEC Billing			
5.4.1.1 Access charges			X
5.4.1.2 CABS-like format			X
5.4.1.3 No end-user billing			X
5.4.2 End-user local billing			
5.4.2.1 Daily usage receipt			X
5.4.2.2 Bellcore CMDS access			X
5.4.2.3 In&Out collect process			X
5.4.2.4 3rd party In&Out proc.			X
5.4.2.5 Customer billing info.			X
5.4.2.6 Current usage info.			X
5.4.3 End-user LD billing			
5.4.3.1 OBF standards			X
5.4.3.2 Phone # line detail			X
5.4.3.3 BNA standards			X
5.4.3.4 Current Usage Info.			X
5.4.4 Deleted			
5.4.5 Deleted			

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
5.4.6 Deleted			
5.4.7 Deleted			
5.4.8 Deleted			
5.4.9 Deleted			
6. PIC Administration			
6.1 Inter/IntraLATA PIC			
6.1.1 Electronic Bonding			X
6.1.2 LEC provide PIC process.			X
6.1.3 LEC user changes IXC			X
6.1.4 CLEC user changes IXC			X
6.1.5 3rd party auditing			X
6.1.6 Change of IXC PIC			X
6.1.7 Account maint. process.			X
6.1.8 IXC data proprietary			X
6.1.9 FCC Custom. verif. proc.			X
6.1.10 Notif. of IXC PIC			X
6.1.11 Performance Standards			X
6.2 Local Carrier Selection			
6.2.1 VRU ID all carriers			X
6.2.2 VRU bypass process			X
6.2.3 Warm-line process			X
6.2.4 Connect orders			X
6.2.5 Disconnect orders			X
6.2.6 Former carrier notif.			X
6.2.7 FCC Custom. verif. proc.			X
XV. COLLOCATION			
1. General Requirements			
1.1 Suitable for I/C & unbundl.			X
1.2 Virtual-to-Physical option		X	
1.3 Intra/Interoffice leases		X	
1.4 No equipment restrictions		X	
1.5 CLEC interconnect together		X	
1.6 Not required to build out			X
2. Compensation			
2.1 Priced @ TSLRIC		X	
2.2 Virt-to-Phys borne by LEC		X	
3. Quality of Service			

Arbitration Issue List		Arbitration	Mediation plus arbitration procedures
3.1 Breach of svc agreements		X	
3.2 No collocation < 90days			X
3.3 Impact of Virt-to-Phys			X
3.4 Timeframe of conversion			X
3.5 Expanded I/C timeframe			X
4. Information			
4.1 Space availability		X	
5. Business Processes			
5.1 No install orders			X
5.2 CO only rearrangements			X

DIRECT TESTIMONY OF DON PRICE

ON BEHALF OF MCI

MCI - UNITED/CENTEL ARBITRATION

October 11, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Don Price, and my business address is 701 Brazos, Suite 600, Austin, Texas, 78701.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by MCI Telecommunications Corporation in the Southern Region as Senior Regional Manager -- Competition Policy.

Q. HAVE YOU PREVIOUSLY TESTIFIED?

A. Yes, I have testified in proceedings before regulatory Commissions in a number of states. *Provided as Exhibit ___ (DGP-1) to this testimony* is a document listing the cases in which I have testified. Also included as part of the document is a summary of my academic and professional qualifications.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of this testimony is to: 1) *briefly describe the history of the negotiations* between MCI and Sprint; and 2) describe the ancillary arrangements that will be required to eliminate barriers to competition and identify the relevant rules ordered by the FCC in its rulemaking

implementing the local competition provisions of the Telecommunications Act of 1996.

NEGOTIATIONS

Q. PLEASE SUMMARIZE THE HISTORY OF MCI'S NEGOTIATIONS WITH SPRINT.

A. By letter dated May 26, 1996, a copy of which was attached as Attachment 1 to MCI's Petition for Arbitration in this docket, MCI filed its formal request for negotiations with Sprint.

The first negotiating meeting pursuant to Section 252 of the Telecommunications Act of 1996 ("Act," or "FTA") was held on May 13, 1996. Prior to that meeting, MCI submitted to Sprint a copy of Version 3.2 of a document entitled "MCI Requirements for Intercarrier Agreements" which set forth in detail MCI's requirements for interconnection and access, unbundling, resale, ancillary services and associated arrangements pursuant to the Act (the "Term Sheet"). Thereafter Sprint was provided with a reused Term Sheet, Version 4.0, as well as a draft contract which provided further detail on MCI's requirements. The Issues Matrix, Exhibit 3 to the Petition, sets forth the term sheet requirements. MCI and Sprint held additional meetings and conference calls from June through September. As a result of those meetings, the number of unresolved issues that the Commission must decide has been reduced significantly.

ANCILLARY ARRANGEMENTS AND SERVICES REQUIREMENTS

Overview

Q. PLEASE EXPLAIN THE IMPLICATIONS OF THE 1996 ACT AND THE RECENT FCC ORDERS AND RULES.

A. The Telecommunications Act of 1996 ("Act," or "FTA") promotes competition by directly removing, or mandating that the Federal Communications Commission (FCC) and state regulatory Commissions (Commissions) remove, significant impediments to efficient entry by imposing requirements such as access to unbundled network elements, interconnection, and resale of retail services. The Act also removes either directly or through the FCC and Commissions certain operational barriers to competition, for example, by mandating local number portability, dialing parity, and nondiscriminatory access to rights of way. Eliminating these barriers by devising ancillary arrangements and service requirements is essential if competition is to develop in the local exchange market. These operational arrangements will give new entrants the opportunity to provide to their customers high quality, robust local exchange services. Absent these ancillary arrangements, MCI will always be placed in the position of providing inferior local exchange services and those services, regardless of their prices, will likely never be competitive with those of the incumbent local exchange carriers (ILECs) such as Sprint.

The purpose of this portion of my testimony is to describe the ancillary arrangements and service requirements that will be required

to eliminate barriers to competition, to identify the relevant rules ordered by the FCC in its rulemakings implementing the local competition provisions of the FTA, and to identify the actions that the PSC must take to fully eliminate these barriers. The detailed interfaces and performance standards needed for these ancillary arrangements are presented in the draft contract.

Q. WHAT ARE THE KEY ANCILLARY ARRANGEMENTS ON WHICH YOUR TESTIMONY FOCUSES?

A. My testimony focuses on seven specific ancillary arrangements and services:

1. local number portability;
2. dialing parity;
3. directory assistance and operator services;
4. directory listing arrangements (both white and yellow pages);
5. access to 911 and E911 facilities and platforms;
6. access to poles, ducts, conduit, and rights-of-way; and
7. a bona fide request process for new unbundled network elements.

Local Number Portability

Q. WHAT IS THE SIGNIFICANCE OF LOCAL NUMBER PORTABILITY?

A. Both Congress and the FCC have recognized that local number portability -- the ability of end users to retain their telephone numbers when changing service providers -- is necessary to give customers real

choice in selecting their local telephone company. In the long distance market, the ability of customers to switch almost effortlessly between long distance carriers lies at the heart of effective competition. In the local market, without local number portability in some form, customers would not be able to switch easily or effortlessly between local carriers. Without number portability, customers would have to change their telephone number each time they changed their local carrier. Under those circumstances, many -- if not most -- customers would be inclined to just stay where they were. At the very least, without local number portability, there would not be the vibrant level of competition among carriers as we see in the long distance market.

Given the necessity of customers retaining their numbers as they switch between local carriers, Congress mandated that all local exchange carriers (LECs), incumbent and new entrant, provide local number portability in accordance with FCC regulations. (FTA, Section 251(b)(2).) The FCC recently specified when and how LECs are to provide number portability. (*In the Matter of Telephone Number Portability,* CC Docket No. 95-116, First Report and Order and Further Notice of Proposed Rulemaking, July 2, 1996, ("LNP Order").) Generally, all LECs are required to implement permanent number portability using a database solution consistent with the FCC's performance requirements. The FCC also specifies a timetable for such implementation.

In the period before the permanent local number portability is

implemented, the FCC has ordered LECs to implement interim local number portability measures. Specifically, the FCC has ordered all LECs to implement interim number portability arrangements using currently available methods -- namely RCF and DID -- until such time as permanent number portability is available. (LNP Order, Paragraph 110.) As the FCC's LNP Order indicates, these interim measures (RCF and DID) are currently available, technically feasible and can and should be implemented immediately in order to provide interim number portability.

Q. WHAT ARE THE IMPLICATIONS OF LONG TERM (OR TRUE) NUMBER PORTABILITY TO THESE ARBITRATION PROCEEDINGS?

A. Based on recent industry action as a result of this Commission's interest in number portability, the industry is moving in a direction that should provide number portability to customers in this state in accordance with the FCC's implementation schedule.

Q. WHAT ARE THE IMPLICATIONS OF PERMANENT NUMBER PORTABILITY TO THESE ARBITRATION PROCEEDINGS?

A. The issues involving implementation of permanent number portability go beyond any particular agreement between two parties and thus beyond the issues of this arbitration. Implementation of permanent number portability is an industry-wide effort, not merely an effort between MCI and any one ILEC. As a result, MCI does not specify, in this arbitration, issues relating to permanent number portability, but

rather, MCI assumes those issues will be dealt with elsewhere.

Q. WHAT RELIEF IS MCI SEEKING FROM THIS COMMISSION REGARDING INTERIM PORTABILITY?

A. MCI requests that this Commission take the following steps with regard to cost recovery and implementation of interim LNP measures:

(1) Require that costs of interim number portability measures be borne on a "competitively neutral" basis as required by the Act and the FCC. (LNP Order, Paragraph 126); and

(2) Require that access charges be billed appropriately for interexchange calls to numbers ported using interim number portability measures in accordance with the FCC's requirements.

Q. WHAT DO YOU MEAN BY USE OF THE PHRASE "COMPETITIVELY NEUTRAL" IN TERMS OF RECOVERY OF THE COST OF INTERIM NUMBER PORTABILITY MEASURES?

A. The FCC defined "competitively neutral" to mean that "the cost of number portability borne by each carrier does not affect significantly any carrier's ability to compete with other carriers for customers in the marketplace." (LNP Order, Paragraph 131.) The FCC determined that "the incremental payment made by a new entrant for winning a customer that ports his [sic] number cannot put the new entrant at an appreciable cost disadvantage relative to any other carrier that could serve that customer." (LNP Order, Paragraph 132.) Thus, concluded

the FCC, any incremental payment by a new entrant would need to be "close to zero" in order to satisfy the "competitively neutral" standard. (LNP Order, Paragraph 133.)

Given all that, the FCC did specify four different cost recovery methods that would satisfy the "competitively neutral" standard. Under Method 1, the total incremental costs of interim number portability would be recovered from all LECs using an annual surcharge based on each carrier's number of active telephone numbers. Method 2 is similar, except that the surcharge would be based on each carrier's gross telecommunications revenues, net of payments to other carriers. Method 3 is similar to Method 2, using a uniform percentage surcharge. Finally, under Method 4, "each carrier would pay for its own costs" of implementing interim number portability. (LNP Order, Paragraph 136.)

It is important to note here that the FCC's LNP Order expressly rejects cost recovery mechanisms that force new entrants to pay the entire (or almost all) the incremental costs of interim number portability. The FCC found that forcing new entrants to bear all the incremental costs would contradict the principle that all carriers share such costs (since customers of carriers will benefit from even interim number portability through more vigorous competition), violate notions of competitive neutrality, and deter customers from switching to new entrants. (LNP Order, Paragraph 138) Thus, any ILEC attempts to impose upon MCI explicit rates for interim number portability that are not "close to zero" are not consistent with the FCC's LNP Order.

Of the four methods of cost recovery that the FCC did discuss as being "competitively neutral," MCI endorses Method 4. Under Method 4, there would be no explicit charge for interim number portability by any carrier. Rather, each carrier would simply absorb its costs of providing interim number portability. Method 4 has a number of distinct advantages over the other three methods discussed above. First, under Method 4, there is no need for any determination of the incremental cost of providing interim number portability. Under the other methods, the Commission will need to determine incremental costs. Determining incremental costs for RCF and DID is not a simple matter; it will involve cost studies and litigation. Given that these interim measures will be in place for only a relatively short period, it hardly seems worth the effort. Second, Method 4 eliminates the administrative burden of allocating costs among many providers. This allocation process involves, at a minimum, determining the allocation procedure and the percent allocators, billing all the affected carriers, collecting, and reconciling such billing. When each carrier is responsible for its own costs, there is no need for any such accounting process. In general, given the relatively small costs involved, the costs of administering any allocation process, and the relatively short period in which interim measures will be in effect, MCI does not see the benefit of cost collection and allocation under Methods 1, 2, or 3. Having each carrier bear its own costs is simple, fair, and efficient under these circumstances.

Q. WHAT IS THE ISSUE REGARDING THE TREATMENT OF ACCESS CHARGES IN THE CONTEXT OF INTERIM NUMBER PORTABILITY?

A. When a toll call is terminated to a ported number under interim number portability methods, two local exchange carriers are involved: the forwarding LEC and the terminating LEC. The forwarding LEC is the LEC that first gets the call from the (interLATA or intraLATA) toll provider. Since the number is ported, that LEC must then forward that call (using either RCF or DID methods) to the LEC that now provides service to that ported number. That second LEC will then terminate the call. The toll provider is responsible for paying access rates, but the issue is which LEC gets to bill that toll provider for what.

ILECs, who are more often than not going to be the forwarding LEC, often claim that they should bill (and retain) all switched access revenue. This is contrary to the FCC's LNP Order. The FCC directed that forwarding LECs and terminating LECs should "assess on IXCs [toll providers] charges for terminating access through meet point billing arrangements." (LNP Order, Paragraph 140.) As the FCC stated, "neither the forwarding carrier, nor the terminating carrier, provides all the facilities when a call is ported to the other carrier." Thus, according to the FCC, the LECs should share in the access revenues. (LNP Order, Paragraph 140.)

Under typical meet point billing arrangements, each LEC will issue a separate bill to the toll provider for that LEC's portion of access charges. MCI proposes the following mechanism for charging

toll providers when a call is terminated. The forwarding LEC would charge the toll provider for transport from the toll provider's point of presence (if an IXC, or the equivalent if an intraLATA toll provider) to the end office where the call terminates. The terminating LEC would charge the toll provider its switched access rates, minus any charge that the forwarding LEC has already charged. In this case, the toll provider does not pay more than the terminating carrier's switched access rate, and each LEC is able to bill for its share of service provided the IXC.

Since the terminating carrier will be "blind" to where toll providers' calls have come from in many instances, the terminating LEC will need certain information from the forwarding LEC in order to properly bill the toll provider. The FCC's order requires the forwarding carrier to "provide the terminating carrier with the necessary information [including any percent interstate usage data] to permit the terminating carrier to issue a bill." (LNP Order, Paragraph 140) MCI supports this provision. Other billing information may be necessary, but those issues can be resolved as part of any meet point billing arrangement.

Dialing Parity

Q. WHAT IS THE SIGNIFICANCE OF "DIALING PARITY" IN ESTABLISHING APPROPRIATE COMPETITIVE CONDITIONS?

A. The Act, in Section 251(b)(3), imposes on all LECs:

> The duty to provide dialing parity to competing providers

of telephone exchange service and telephone toll service, and the duty to permit all such providers to have nondiscriminatory access to telephone numbers, operator services, directory assistance, and directory listing, with no unreasonable dialing delays.

Dialing parity achieved through presubscription allows customers to preselect any provider of telephone exchange service or telephone toll service without having to dial extra digits to route a call to that carrier's network. In the *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Second Report and Order and Memorandum Opinion and Order, August 8, 1996 ("Second Order"), the FCC concluded at paragraph 4:

> ...that section 251(b)(3) requires LECs to provide dialing parity to providers of telephone exchange or toll service with respect to all telecommunications services that require dialing to route a call...

Thus, customers must be able to access directory and operator services and complete local and toll calls using the same dialing string, regardless of the selected local or toll provider.

Q. PLEASE EXPLAIN THE IMPLICATIONS OF THESE OBLIGATIONS ON THE IMPLEMENTATION AND TIMING OF DIALING PARITY.

A. The FCC ordered that the "full 2-PIC" method of presubscription is the minimum standard for implementing intraLATA equal access. (Second Order, Paragraph 49.) The full 2-PIC method allows customers to presubscribe interLATA calls to an interLATA carrier and presubscribe intraLATA toll calls to another carrier (including, but not limited to the customer's local exchange or interLATA carrier). Full 2-PIC software should be deployed on an end-office basis (rather than on a tandem basis) to minimize the post-dial delay and the dependence on a single end office that results from tandem deployment.

The Act and the FCC provide specific time lines for intraLATA equal access implementation. LECs that are not BOCs that provide interLATA services must implement dialing parity by August 8, 1997. BOCs in multi-LATA states that have not already ordered intraLATA dialing parity do not have to implement dialing parity until they are authorized to provide interLATA service. (Second Order, Paragraph 62.) BOCs in single-LATA states or in states that ordered implementation of dialing parity prior to December 15, 1995 should implement dialing parity immediately (or at the very least, in accordance with any schedules that are already in place).

For local dialing parity, the FCC requires:

> a LEC to permit telephone exchange service customers, within a defined local calling area, to dial the same number of digits to make a local telephone call, notwithstanding the identity of the customer's or the called party's local telephone service provider. (Second

Order, Paragraph 9.)

That is, customers of CLECs must not be required to dial additional digits to complete local calls. The FCC declined to prescribe national guidelines for LECs to accomplish local dialing parity.

The Commission should require that Sprint provide to MCI routine reporting on local and toll dialing patterns by switch type and end office and identify any scheduled changes.

Q. WHAT ARE THE IMPLICATIONS OF THE ACT AND THE FCC'S SECOND ORDER ON CARRIER SELECTION AND CUSTOMER EDUCATION?

A. Regarding *consumer education and carrier selection, the* FCC *stated:*

> The states may adopt balloting, consumer education and notification requirements for services originating within their states, that are not anticompetitive in effect. States may also adopt measures to prevent abuse of the customer notification and carrier selection process. (Second Order, Paragraph 80.)

Customer balloting and education are important issues. Where intraLATA dialing parity is implemented, reballoting of customers is unnecessary and may be confusing and costly. Indeed, in states where intraLATA dialing parity has been implemented, balloting has been restricted to those exchanges where interLATA equal access has not been implemented, a position MCI supports. Consumer education

and notification should present intraLATA toll in a competitively neutral manner, not linked to any particular provider. For example, the Kentucky Commission ordered that BellSouth should not be permitted to use phrases such as "BellSouth's calling zone" or "BellSouth's calling area" in marketing intraLATA services. (Case No. 95-396, In the Matter of AT&T Communications of the South Central States, Inc., MCI Telecommunications Corporation, Sprint Communications Company and WorldCom, Inc. d/b/a LDDS WorldCom v. BellSouth Telecommunications Inc., d/b/a South Central Bell Telephone Company. Order dated August 13, 1996 at 10.)

New customers who do not affirmatively choose a toll provider, after being given a reasonable opportunity to select a provider, may not be assigned automatically to the customer's dial-tone provider or the customer's preselected interLATA toll or interstate toll carrier. (Second Order, paragraph 81.)

Another critical element in the development of competition in the intraLATA toll market is the carrier selection and primary interexchange carrier ("PIC") administration process. (The term "PIC" was initially used to refer only to interLATA carriers, but is now also used to refer to intraLATA carriers.) The Commission should require Sprint to follow nondiscriminatory practices to ensure that it does not use its position as the dominant local carrier to achieve a superior competitive status in the intraLATA toll market as it is opened to competition. To the greatest extent possible, the ILECs' approach to intraLATA PIC administration should be competitively neutral, just it is

with respect to the interLATA PIC process today. For example, intraLATA PIC changes should be processed within the same time frame and in the same manner as the ILEC processes interLATA PIC changes today. In addition, the PIC change charge for intraLATA should be no greater than the charge for interLATA PIC changes. When a customer changes both interLATA and intraLATA PICs on the same service order, only one PIC change charge should be assessed.

To ensure competitive neutrality and prevent abuses of the carrier selection process, the Commission should require Sprint to observe the following procedures (largely developed in response to ILECs' anticompetitive practices in states that have ordered intraLATA presubscription). For example, Sprint should be required to inform customers when an intraLATA PIC selection is available, and Sprint's customer service representatives (CSRs) should be competitively neutral with respect to intraLATA toll providers in discussions with customers. Ideally, Sprint's CSRs should be divided into separate "general service" and "sales" groups to separate the local service provider functions from any intraLATA toll marketing function. If separate groups are not maintained, CSRs should not be allowed to market Sprint's intraLATA toll service when customers call to: change their intraLATA (or interLATA) PIC; initiate or transfer service; or change some aspect of their existing service. To help ensure nondiscriminatory PIC administration, Sprint CSRs should not be compensated based on intraLATA toll marketing. Sprint CSRs should not be allowed to answer questions about competitors' intraLATA toll

services, but should be able to do the following: 1) transfer the call to a different service representative who will respond to questions regarding intraLATA toll (provided that Sprint is willing to provide the same transfer service to other carriers); or 2) provide a separate telephone number that the customer can call for information about Sprint's intraLATA toll services (provided that Sprint is willing to provide telephone numbers for other carriers). In no case should Sprint service representatives use customer information to which competitors do not have access.

Q. HOW ARE THE IMPLEMENTATION COSTS ASSOCIATED WITH DIALING PARITY TO BE RECOVERED?

A. The FCC addressed recovery of dialing implementation parity costs in its Second Order at Paragraph 92:

> We conclude that, in order to ensure that dialing parity is implemented in a pro-competitive manner, national rules are needed for the recovery of dialing parity costs. We further conclude that these costs should be recovered in the same manner as the costs of interim number portability...

The FCC noted that the rules adopted in the LNP Order apply only to currently-available (as opposed to long-term) number portability mechanisms. The FCC stated:

> In the case of dialing parity, there is a similar distinction

between currently-available solutions (i.e., full 2-PIC presubscription), and long-term solutions (i.e., multi-PIC or smart-PIC methodologies). Like number portability, we may need to revisit the issue of an appropriate cost recovery standard once other presubscription technologies become available on a nationwide basis. (Second Order, Paragraph 93.)

The FCC further commented that:

> In the Number Portability Order, we concluded that costs for number portability should be recovered on a competitively neutral basis. We also concluded that any cost recovery mechanism should: (1) not give one service provider an appreciable, incremental cost advantage over another service provider, when competing for a specific subscriber; and (2) not have a disparate effect on the ability of competing service providers to earn a normal rate of return. (Second Order, Paragraph 94, footnotes omitted.)

The FCC rejected as not competitively neutral the argument that only new entrants should pay dialing parity costs. Also, the FCC agreed that LECs may not recover from other carriers under a dialing parity cost recovery mechanism any network upgrade costs not related to the provision of dialing parity.

As discussed above with respect to interim number portability, each carrier should absorb its costs of providing the interim functionality ordered -- in this case, full 2-PIC. This approach provides each carrier with the incentive to minimize implementation costs. In addition, this approach is fair and minimizes administration costs. The approach is fair because MCI's subsidiary, MCImetro, is bearing the cost of implementing full 2-PIC. It is administratively simple because any approach other than providers bearing their own costs would result either in entrants "paying twice" (once for its own implementation costs, and once as a share of Sprint's costs), or would require that MCImetro establish a cost recovery element, which would likely mirror Sprint's and other entrants' cost recovery elements.

The FCC's requirement for nondiscriminatory access requires Sprint to allow competing providers access that is at least equal in quality to that it provides itself. Thus, call set-up and call processing times for MCI should be equivalent to that for Sprint and any dialing delays must be no longer than those experienced by Sprint's customers for processing calls on the Sprint network for identical calls or call types.

Q. WHAT ARE THE ISSUES PERTAINING TO DIALING PARITY TO BE RESOLVED IN THIS PROCEEDING?

A. MCI requests that the Commission ensure that only costs incremental and directly related to dialing parity are recovered by allowing dialing

parity implementation costs to be subject to investigation and review.

Directory Assistance and Operator Services

Q. YOU MENTIONED DIRECTORY ASSISTANCE AND OPERATOR SERVICES AT THE OUTSET OF YOUR TESTIMONY AS ANCILLARY SERVICES THAT ARE CRITICAL. WHAT IS THE COMPETITIVE SIGNIFICANCE OF THESE SERVICES?

A. Access to directory assistance (DA) and access to operator services (OS) are essential components of basic telephone service. New entrants such as MCI must be able to provide DA and OS functionalities that are comparable in quality to those provided by Sprint. MCI customers must be able to reach these DA and OS functionalities using the same dialing string as Sprint's customers and with no unreasonable dialing delays, as described in the dialing parity section above. These services are extremely important to consumers and also represent important business opportunities -- for example, five billion DA calls are made in the United States each year. Consumers will benefit if they have competitive options for DA and OS services.

Q. WHAT IS REQUIRED BY THE TELECOMMUNICATIONS ACT AND THE FCC'S RULES?

A. Both Congress and the FCC explicitly recognized the importance of nondiscriminatory access to DA and OS functionalities. Section 271(c)(2)(B)(vii) of the Act requires BOCs, as a condition for entering

the in-region long distance market, to provide:

> Nondiscriminatory access to...
>
> > (II) directory assistance services to allow the other carrier's customers to obtain numbers; and
> >
> > (III) operator call completion services.

The FCC recently concluded that:

> the term "nondiscriminatory access" means that a LEC that provides telephone numbers, operator services, directory assistance, and/or directory listings ("providing LEC") must permit competing providers to have access to those services that is at least equal in quality to the access that the LEC provides to itself. (Second Order, Paragraph 101.)

It also stated:

> We conclude that section 251(b)(3) requires LECs to share subscriber listing information with their competitors, in "readily accessible" tape or electronic formats, and that such data be provided in a timely fashion upon request. (Second Order, Paragraph 141.)

To meet the requirements of the Act and the FCC Second Order, Sprint must give MCI the options of reselling its DA and OS services

and of purchasing relevant unbundled elements.

Q. WHAT SPECIFICALLY IS MCI SEEKING WITH REGARDS TO DIRECTORY ASSISTANCE?

A. At least some ILECs already make their directory assistance network elements available to other ILECs at several levels of unbundling, all of which should be available to MCI as well since clearly it has already been demonstrated to be technically feasible to do so. The three levels of access are: (1) access to the entire DA platform, including systems and operators, with MCI not having to perform any specific functions; (2) read-only access to the DA database and sub-databases, with MCI performing all the DA functions except for the maintenance of the database; and (3) access to the data resident within the database, via the exchange of tapes, with MCI (or a third party) performing all the DA functions including the maintenance of the database.

Q. DO YOU HAVE EXAMPLES OF MCI'S CONCERN IN THIS REGARD?

A. Yes. Several ILECs, including Bell Atlantic, have refused to provide MCI with the last level of access (i.e., access to the data resident within the database, via exchange of tapes), even though such access is provided by other ILECs. For example, Bell South currently provides this level of access throughout its serving area in its tariffed Directory Assistance Database Service (DADS). Access to the data would be provided in Pacific Bell's draft tariff "Directory Assistance Listing

Service," and in Ameritech's draft license agreement. Moreover, many ILECs exchange data with neighboring ILECs and provide their DA data to neighboring ILECs for access in the neighboring ILEC's own DA system. In California, Pacific Bell and GTE share a database that is administered by a third party, with each carrier having the same access. Pacific Bell and GTE also exchange DA data and store the combined data in their own respective systems. Thus, the Bell Atlantic refusal is without merit and is not in compliance with either the FCC's Second Order or the Telecommunications Act. Likewise, this Commission should reject any such position that Sprint may take.

Some ILECs at least imply that the refusal to provide access to the unbundled DA data is consistent with protecting the integrity of the database. But this is not a legitimate argument. Once MCI has the data, if it were to pollute that data it would harm its own database, not the ILEC's database. Surely, if the integrity of the database were at risk, Bell South and the other ILECs who currently make the data available would not do so. Moreover, the FCC has provided guidance on maintaining database integrity, stating that:

> Competitors who access such LEC databases will be held to the same standards as the database owner, in terms of the types of information they can legally release to directory assistance callers. The LEC that owns the database can take the necessary safeguards to protect the integrity of its database and any proprietary information, or

carriers can agree that such databases will be administered by a third party. (Second Order, Paragraph 144.)

The DA database should be sent to MCI by the ILEC electronically, since ILECs already exchange DA data in that fashion. Updates should be provided on a daily basis. Of course, MCI agrees that it, and all other competitive local exchange carriers, must provide the same DA information, and provide the same timely updates, to other carriers as the ILEC provides. Since all customers benefit from DA services based on a complete and accurate database, and each carrier has the same responsibility for maintaining up-to-date information on subscribers, carriers should not be allowed to charge for providing updates.

There is one related area of concern that the Commission must address. The DA databases for the large ILECs currently include data for the subscribers of many small independent telephone companies located adjacent to the large ILECs to create a complete DA database to serve the entire overlapping service area. Some ILECs have refused to make the data on the independent telephone companies' subscribers available to MCI. As a result, MCI is not able to construct a complete DA database. In order to ensure nondiscriminatory access on the same basis as the ILEC, the Commission must require that such data be made available, subject to all necessary protections. The State of Hawaii recognized this requirement, stating:

All telecommunications carriers, including the incumbent carrier, shall provide customer list information gathered in their capacity as providers of telecommunications service on a timely and unbundled basis, under nondiscriminatory and reasonable rates, terms, and conditions, to any telecommunications carrier or person upon request for the purpose of providing directory assistance or publishing telephone directories in any format.

Section 252(d)(1) of the Act states that prices of unbundled network elements must be based on cost. The FCC recently adopted a pricing method based on forward-looking costs. (*Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, issued August 8, 1996 ("251 Order"), Paragraph 620.) The prices for each level of access should reflect only the direct economic costs associated with such access to each unbundled element.

Q. WHAT SPECIFICALLY IS MCI SEEKING WITH REGARDS TO OPERATOR SERVICES?

A. Rules are needed to implement the Act's requirements for nondiscriminatory access to operator services functionalities as well as its requirements for dialing parity. Today, intraLATA operator calls -- both "O minus" calls where the caller only dials the "O", and "O

plus" calls where the caller dials "O" plus a telephone number -- are automatically routed to the ILEC. When an MCI customer -- whether served by MCI-provided loops, by unbundled Sprint loops, or by MCI resale of ILEC service -- dials "O", Sprint should be required to send that call to the MCI platform and MCI operator for MCI to handle.

Q. WHAT OTHER ISSUES PERTAINING TO DIRECTORY ASSISTANCE AND OPERATOR SERVICES SHOULD THE COMMISSION TAKE INTO CONSIDERATION?

A. MCI customers that obtain MCI's DA and OS services via an ILEC's DA or OS platform should be provided services in conjunction with MCI's brand name. Paragraph 971 of the FCC's 251 Order specifically directs ILECs to provide branding as part of their wholesale DA/OS offerings to other carriers:

> Brand identification is critical to reseller attempts to compete with incumbent LECs and will minimize customer confusion....We therefore conclude that where operator, call completion, or directory assistance service is part of the service or service package an incumbent LEC offers for resale, failure by an incumbent LEC to comply with reseller branding requests presumptively constitutes an unreasonable restriction on resale.

Where an ILEC claims that it is not able to provide MCI branded DA or

OS services, then to meet the nondiscriminatory requirements of the Act and the FCC's 251 Order, the ILEC should be required to "unbrand" its DA or OS services. In paragraph 971, the FCC explicitly leaves the issue of unbranding to the state Commissions.

Q. WHAT ARE THE ISSUES PERTAINING TO DIRECTORY ASSISTANCE AND OPERATOR SERVICES TO BE RESOLVED IN THIS PROCEEDING?

A. There are six issues that must be resolved. They are:

(1) The Commission should require Sprint to maintain complete DA databases that include information on the customers of all local exchange carriers. Each local exchange carrier has the responsibility to provide at no charge updated information for that database and Sprint must not charge another LEC for including the information on that LEC's subscribers in the DA database;

(2) The Commission should require Sprint to provide MCI access to DA functionalities in all of the following forms (as a resale service or as unbundled elements at a minimum of three levels of access or any other technically feasible form): (1) access to the entire DA platform, including systems and operators, with MCI not having to perform any specific functions; (2) read-only access to the DA database and sub-databases, with MCI performing all the DA functions except for the maintenance of the database; and (3) access to the data resident within the

database, via the exchange of tapes, with MCI (or a third party) performing all the DA functions;

(3) Use of the DA database should be held to the same standard as currently employed by Sprint, in terms of the type of information revealed to DA callers, with the necessary safeguards and protections of the database;

(4) Prices for unbundled DA elements must be based on direct economic costs, measured using the TELRIC methodology described the FCC in its 251 Order;

(5) When an MCI customer -- whether served by MCI-provided loops, by unbundled Sprint loops, or by MCI resale of ILEC service -- dials "O", 411, 555-1212, or NPA-555-1212, the ILEC should be required to send that call to the MCI platform and MCI operator for MCI to handle; and

(6) The Commission should require Sprint to provide MCI branded DA and OS services. If Sprint is not able to provide such branded services, then Sprint must remove its brand from the DA and OS services it provides itself.

The draft contract includes specific arrangements related to operational implementation for DA/OS.

Directory Listings

Q. TURNING TO THE FOURTH OF THE ANCILLARY SERVICES THAT YOU LISTED ABOVE, WHAT PRINCIPLES REGARDING THE PROVISION OF DIRECTORY LISTINGS ARE CONTAINED IN THE TELECOMMUNICATIONS ACT AND THE FCC'S ORDERS AND RULES?

A. Section 271(c)(2)(B)(viii) of the Act obligates Bell Operating Companies choosing to pursue the provision of in-region long distance services to provide:

> White pages directory listings for customers of the other [interconnecting] carrier's telephone exchange service.

Section 251(b)(3) of the Act imposes on all telecommunications carriers:

> The duty...to permit all such [telephone exchange service and telephone toll service] providers to have nondiscriminatory access to...operator services, directory assistance, and directory listing, with no unreasonable dialing delays.

At paragraphs 141 and 142 of the FCC's Second Order, the FCC stated:

> We conclude that section 251(b)(3) requires LECs to share subscriber listing information with their

competitors, in "readily accessible" tape or electronic formats, and that such data be provided in a timely fashion upon request.

Under the general definition of "nondiscriminatory access," competing providers must be able to obtain at least the same quality of access to these services that a LEC itself enjoys. Merely offering directory assistance and directory listing services for resale or purchase would not, in and of itself, satisfy this requirement, if the LEC, for example, only permits a "degraded" level of access to directory assistance and directory listings. (Footnote omitted.)

Q. WHAT ARE THE COMPETITIVE IMPLICATIONS OF THESE PASSAGES?

A. Customers want to have a single, complete white pages directory that lists all subscribers in their geographic area. Since customers will not know the local carrier of the party for whom they are seeking information, it would be very inefficient to have to cull through multiple carrier-specific directories. Thus access to a single complete white pages listing is of equal value to the customers of all carriers. At the same time, it would not be efficient for each local exchange carrier to publish its own white pages directory. In most situations, it also would not be efficient for each local service provider to publish

its own yellow pages directory. Since economies of scale will likely lead to Sprint being the sole publisher of the white pages directory and the yellow pages directory, to meet the requirements of the Act and the FCC's Second Order, methods and procedures need to be developed to treat Sprint and the CLECs -- and their customers -- the same way with respect to the information provided, rates, and sharing of costs.

All relevant CLEC customer information must be incorporated in (or, in the case of "non-published" numbers, excluded from) the white pages directory listings at no charge to the CLEC. Data should be passed from the CLEC to Sprint using the directory assistance process.

To the extent that Sprint provides pertinent business information in the information pages of its white pages directory (e.g., rates, calling areas, repair and maintenance information, etc.), the same information also must be provided for the CLECs at no charge.

It is traditional for Sprint to give each business customer a line listing in its yellow pages directory even if the business does not purchase a display (or even a bold-faced) listing. If CLEC business customers were treated differently from Sprint's customers, then Sprint could use its position as the sole provider of a yellow pages directory to place the CLECs at a competitive disadvantage in the business market. CLEC business customers therefore must be treated the same way as Sprint business customers with respect to free line listings in its yellow pages directory.

The customer information -- and particularly business customer information -- that the CLEC provides to Sprint to construct directory assistance and white and yellow pages is valuable to Sprint. The information allows Sprint to create complete white and yellow pages directories and provides leads for it to sell yellow pages advertising. As a fair exchange for this valuable information, Sprint should be required to provide a published white pages directory for each CLEC subscriber. Sprint should be required to deliver the white pages directories to CLEC subscribers as well as to its own subscribers, with the CLEC charged only its pro rata portion of the TELRIC costs of producing and distributing the directories. Since a "sweep" of all dwellings is less costly than leaving directories only with subscribers, if Sprint were to refuse to perform the distribution, it would be artificially imposing costs on the CLECs. A CLEC should be allowed, however, to negotiate with Sprint for an alternative arrangement -- for example, delivery of all directories to the CLEC, if the CLEC wishes to place its own cover on the directories or for payment to Sprint to put a CLEC cover on the directories intended for the CLEC's customers and performing the distribution (which then could not be a "sweep").

Yellow pages advertising should be billed separately by the publisher, and not combined on the local telephone bill as if it were a telecommunications service.

Q. WHAT ARE THE ISSUES PERTAINING TO DIRECTORY LISTINGS TO BE RESOLVED IN THIS PROCEEDING?

A. There are four such issues. They are:

(1) The Commission should require that all relevant MCI local subscriber information be incorporated in (or, in the case of "non-published" numbers, excluded from) the white pages directory listings at no charge to MCI;

(2) The Commission should require that if Sprint provides pertinent business information in the Customer Guide (information) pages of its white pages directory (e.g., rates, calling areas, sales, service, repair and billing information, etc.), the same information also must be provided for MCI at no charge;

(3) Sprint should provide a published white pages directory for each MCI local subscriber. Sprint should deliver the white pages directories to MCI subscribers as well as to its own subscribers, with the TELRIC of production and distribution assigned to all local exchange carriers on a pro rata basis (although MCI should be allowed to negotiate with Sprint for an alternative arrangement -- for example, delivery of the directories to MCI rather than to subscribers, if MCI wishes to place its own cover on the directories); and

(4) MCI business customers must be treated the same way as Sprint business customers with respect to free Service Required Listings in Sprint's yellow pages directory.

911 and E911 Platforms

Q. YOU MENTIONED THE NEED FOR MCI TO HAVE ACCESS TO 911 AND E911 ABOVE. WHAT ARE THE PUBLIC POLICY REASONS UNDERLYING THAT CLAIM?

A. There is no question that the public safety requires that 911 (and E911) service be provided at the highest possible level of quality. To achieve such quality, MCI and Sprint must ensure the seamless interconnection of their networks for the delivery of 911 services. Such interconnection impacts both carriers' networks and their operations support systems.

Q. WHAT ARE THE NETWORK REQUIREMENTS OF INTERCONNECTION FOR 911/E911?

A. Seamless interfaces are required to support 911 service between the incumbent's and MCI's networks. One crucial network requirement is dedicated trunk facilities for routing 911 calls from MCI's switch to the incumbent's selective router. An additional interface requirement is that the incumbent provide selective routing of E-911 calls received from MCI's switch. The incumbent is obligated to provide such trunking and routing, upon request by MCI, pursuant to the Act.

Sprint must establish terms and conditions that permit 911 calls placed by MCI's customers to reach the Public Safety Answering Point (PSAP) in a manner equal to 911 calls originated on the ILEC's network. To ensure that such interconnection is of high quality, MCI also requires that Sprint provide industry-standard signaling on the

trunks used to interconnect with the 911 selective router. Signaling is how information on call processing is passed between various network elements to permit calls to be established and disconnected. Sprint must adhere to industry signaling standards in support of 911 calls. This is consistent with Sprint's duty under Section 251(c)(2)(C) to provide interconnection that is at least equal in quality to that which it provides to itself. Sprint also must provide MCI with reference and routing data to assist in the configuration of the interconnected dedicated 911 trunks and to ensure that 911 calls are correctly routed.

Sprint must afford to MCI's 911 trunks the same level of priority service restoration that it affords its own 911 trunks. Sprint also should notify MCI at least 48 hours prior to any scheduled outages that would affect 911 service, and communicate immediately with MCI in the case of an unscheduled outage. If Sprint does not provide equal restoration priority to MCI, and if outage notices are not provided, MCI will not have interconnection that is "at least comparable" to the access Sprint provides to itself. It also is essential that information be exchanged on network testing and outages to permit all network providers to respond to such events appropriately.

Q. WHAT ARE THE NECESSARY DATABASE ARRANGEMENTS TO SUPPORT THE INTERCONNECTION OF NETWORKS FOR 911 AND E911?

A. A new entrant must have access to the databases necessary to input

and maintain customer address and phone numbers in the proper format. For example, the Automatic Location Identification (ALI) is a proprietary database managed by the incumbent, but should be treated as the property of any participating new entrant. ILECs possess or control a number of systems that are used to screen and edit data for inclusion in the 911 ALI database. In order to achieve consistency in street addresses, customers' data are edited against a database referred to as the master street address guide ("MSAG"). New entrants should be permitted access to the MSAG, any mechanized systems used in the editing process, and any other systems and processes used in populating the 911 ALI database.

Access to the 911 ALI databases must be available on conditions that are comparable to the Sprint's access. Because Sprint has electronic interfaces to such systems, providing anything less to MCI would violate the statutory requirement that interconnection be provided at quality levels at least equal to that the incumbent provides to itself. In its recent 251 Order, at Paragraph 517, the FCC determined that ILECs must provide competitive local exchange providers such as MCI access to such operations support systems on a nondiscriminatory basis.

Access to update these databases to facilitate end-user service number portability also must be provided by the ILEC. This would apply to both the interim and long-term portability environment. The ILEC must also provide a means for validating MCI customer information in the 911 databases.

Q. WHAT ARE THE ISSUES PERTAINING TO 911 SERVICE TO BE RESOLVED IN THIS PROCEEDING?

A. There are three such issues, and they are:

(1) Sprint should provide the appropriate trunking, signaling and routing of 911 and E911 calls from MCI switches;

(2) Sprint should be required to provide MCI's 911 trunks the same level of priority service restoration that it affords its own 911 trunks. Sprint should be required to provide at least 48 hours notice of any scheduled outages that would affect 911 service, and immediate notice of any unscheduled outage; and

(3) MCI should be allowed access to the MSAG, any mechanized systems used in the editing process, and any other systems and processes used in populating the 911 ALI database. This must include the ability to update the databases for end-user service portability.

Rights-of-Way

Q. WHAT OBLIGATIONS ARE IMPOSED BY THE 1996 ACT REGARDING ACCESS TO RIGHTS-OF-WAY BY Sprint?

A. The Act imposes on carriers (at section 251(b)(4)):

> The duty to afford access to the poles, ducts, conduits, and rights-of-way of such carrier to competing providers of telecommunications services on rates, terms and

conditions that are consistent with section 224.

In its 251 Order, the FCC set a general nondiscrimination program that granted the state Commissions significant discretion:

> [I]n furtherance of our original mandate to institute an expeditious procedure for determining just and reasonable pole attachment rates with a minimum of administrative costs and consistent with fair and efficient regulation, we adopt herein a program for nondiscriminatory access to poles, ducts, conduits and rights-of-way. (Footnote omitted.) (Paragraph 1122.)

Key portions of the nondiscrimination program include:

> A utility is able to take the steps necessary to expand capacity if its own needs require such expansion. The principle of nondiscrimination established by section 224(f)(1) requires that it do likewise for telecommunications carriers and cable operators. In addition, we note that section 224(f)(1) mandates access not only to physical utility facilities (i.e., poles, ducts, and conduit), but also to the rights-of-way held by the utility. The lack of capacity on a particular facility does not necessarily mean there is no capacity in the underlying right-of-way that the utility controls. For these reasons, we agree with the commenters who argue

> that a lack of capacity on a particular facility does not automatically entitle a utility to deny a request for access. Since the modification costs will be borne only by the parties directly benefitting from the modification, neither the utility nor its ratepayers will be harmed, despite the assertions of utilities to the contrary. (*Footnotes omitted.*) (Paragraph 1162.)
>
> We interpret sections 224(f)(1) and (f)(2) to require utilities to take all reasonable steps to accommodate requests for access in these situations. Before denying access based on a lack of capacity, a utility must explore potential accommodations in good faith with the party seeking access. (Paragraph 1163.)
>
> We will not require telecommunications providers or cable operators seeking access to exhaust any possibility of leasing capacity from other providers, such as through a resale agreement, before requesting a modification to expand capacity. (Paragraph 1164.)

Thus, although the FCC chose not to prescribe the circumstances under which a utility must replace or expand an existing facility and when it is reasonable for a utility to deny a request for access, it did require utilities to take all reasonable steps to accommodate requests

for access.

Where there are costs associated with freeing capacity (e.g., by reconfiguring placement of cables on poles to allow for more cables), the FCC requires modification costs be paid only by entities for whose benefit the modifications are made, with multiple parties paying proportionate shares based on the ratio of new space occupied by each party to the total amount of new space occupied by all parties joining in the modification. (251 Order, Paragraph 1213.)

To ensure that CLECs are able to obtain nondiscriminatory access to poles, conduits and rights-of-way in a timely manner requires that ILECs provide certain information to new entrants. In addition, ILECs should not interfere with or attempt to delay the granting of permits for MCI's use of public rights-of-way or access to private premises from property owners.

Q. WHAT TERMS AND CONDITIONS SHOULD THIS COMMISSION REQUIRE AS A RESULT OF THIS ARBITRATION PROCEEDING?

A. To ensure that CLECs are able to obtain nondiscriminatory access to poles, conduits and rights-of-way in a timely manner requires that Sprint provide certain information to new entrants. In addition, Sprint should not interfere with or attempt to delay the granting of permits for MCI's use of public rights-of-way or access to private premises from property owners.

The Commission should require Sprint to provide information on the location and availability of access to poles, conduits and rights-of-

way within 20 business days of MCI's request. Sprint must not be permitted to provide information to itself or its affiliates sooner than it provides the information to other telecommunications carriers. For 90 days after a request, Sprint should be required to reserve poles, conduits and rights-of-way for MCI's use. MCI should be permitted six months to begin attachment or installation of its facilities to poles, conduits and rights-of-way or request Sprint to begin make ready or other construction activities.

Finally, compensation for shared use of Sprint-owned or -controlled poles, ducts, and conduit should be based on the pro-rata portion of the TELRIC of the facility.

Additional arrangements related to access to rights of way are included in the draft contract.

Bona Fide Request Process for Further Unbundling

Q. WHAT IS THE NEED FOR A PROCESS BY WHICH MCI CAN REQUEST FURTHER UNBUNDLING OF THE SprintT NETWORK?

A. Networks are dynamic structures. ILECs are -- hopefully -- constantly improving them, adding new features and functions. In addition, as local competition expands and as MCI gains more experience, MCI may find uses for other network functions that currently exist, but for which MCI has not specifically asked to be unbundled now (for example, loop feeder plant). Consequently, after this particular arbitration is completed, MCI will need to be able to request and gain access to network elements other than what will be specifically

unbundled as a result of this process.

The FCC addresses the substantive issues relating to requests for unbundled network elements (251 Order at Paragraphs 283, 284, 285), but does not address the process by which further unbundling can be accomplished. Process on this issue is important. Significant delays in making unbundled elements available may delay the advent of effective competition or may put new entrants at a significant competitive disadvantage in relation to the ILEC. For example, once an ILEC has installed a new function in its network that has not been previously unbundled, competitive pressures will make it imperative for the new entrants to have unbundled access to that network element, else the new entrants will be left behind. Moreover, as demonstrated by past practice in many cases, ILECs will take every opportunity to delay the availability of unbundled elements, given that they have no incentive to make available the unbundled elements that new entrants need. This incentive will only be magnified for RBOCs once they are permitted to re-enter the interexchange market.

Consequently, a process must be established for further unbundling and that process must be expedited. By expedited, MCI means that the process must have specific time frames and a definite end point. The process should be initiated with a bona fide request from the new entrant. The bona fide request should contain information sufficient to permit Sprint to identify the unbundled element that MCI seeks and identify the means of accessing that element. Sprint then should have ten days to respond to this

request. This relatively short period is sufficient given that the bona fide request process requires MCI to provide identifying information and that the major issue with regard to unbundled elements is whether it is technically feasible to unbundle the element.

If Sprint's response is anything but an unequivocal "yes," with a proposed price that is in conformance with the FCC's pricing principles for unbundled elements (or otherwise acceptable to MCI by voluntary agreement), MCI must have recourse to the Commission for resolution of this issue. Resolution of this issue should include price -- if only a proxy price until cost studies are approved in conformance with TELRIC principles, and means of accessing the requested unbundled network element.

Again, timing is critical. The pace of competition will require speedy resolution of this issue. Because the issue will be very narrow and well focused, the Commission should be able to resolve the dispute in relatively short order. In light of this, MCI recommends that the Commission resolve the issue within 30 days of any request for Commission intervention.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, at this time.

ACADEMIC AND PROFESSIONAL QUALIFICATIONS OF DON PRICE

Academic Background:

My academic background is in the social sciences. I received my Bachelor of Arts degree in Sociology from the University of Texas at Arlington in May of 1977, and was awarded a Master of Arts degree in Sociology by the University of Texas at Arlington in December, 1978.

Professional Qualifications:

From January, 1979 until October, 1983, I was employed by the Southwest telephone operating company of GTE where I held several positions of increasing responsibility in Economic Planning. In those positions I became acquainted with such local exchange telephone company functions as the workings and design of the local exchange network, the network planning process, the operation of a business office, and the design and operation of large billing systems.

From November 1983 until November 1986, I was employed by the Public Utility Commission of Texas. I provided analysis and expert testimony on a variety of rate design issues including setting of rates for switched and special access services, MTS, WATS, EAS, and local exchange services. In 1986 I was promoted to Manager of Rates and Tariffs, and was directly responsible for staff analyses of

rate design and tariff issues in all telecommunications proceedings before the Texas Commission.

I have been with MCI for nearly ten years, all of which has been in the regulatory arena. In my present position, I have broad responsibilities in state regulatory and legislative proceedings throughout the Southwestern Bell and BellSouth service areas, focusing on the policy issues surrounding local competition in telecommunications markets.

I have presented testimony before a number of state commissions, including the Public Service Commission of Arkansas, the Florida Public Service Commission, the Georgia Public Service Commission, the Kansas Corporation Commission, the Public Service Commission of Kentucky, the Louisiana Public Service Commission, the Missouri Public Service Commission, the North Carolina Utilities Commission, the Corporation Commission of the State of Oklahoma, the Public Service Commission of South Carolina, the Public Service Commission of Tennessee , and the Public Utility Commission of Texas. A list of those proceedings in which I have furnished testimony is provided on the following pages.

TESTIMONY PRESENTED BEFORE REGULATORY UTILITY COMMISSIONS

Arkansas

Docket No. 91-051-U: IN RE IMPLEMENTATION OF TITLE IV OF THE AMERICANS WITH DISABILITIES ACT OF 1990

Docket No. 92-079-R: IN THE MATTER OF A PROCEEDING FOR THE DEVELOPMENT OF RULES AND POLICIES CONCERNING OPERATOR SERVICE PROVIDERS

Florida

Docket No. 941272-TL: IN RE: SOUTHERN BELL TELEPHONE AND TELEGRAPH COMPANY'S PETITION FOR APPROVAL OF NUMBERING PLAN AREA RELIEF FOR 305 AREA CODE

Docket No. 950696-TP: IN RE: DETERMINATION OF FUNDING FOR UNIVERSAL SERVICE AND CARRIER OF LAST RESORT RESPONSIBILITIES.

Docket No. 950737-TP: IN RE: INVESTIGATION INTO TEMPORARY LOCAL TELEPONE NUMBER PORTABILITY SOLUTION TO IMPLEMENT COMPETITION IN LOCAL EXCHANGE TELEPHONE MARKETS.

Docket No. 950984-TP: IN RE: RESOLUTION OF PETITION(S) TO ESTABLISH NON-DISCRIMINATORY RATES, TERMS, AND CONDITIONS FOR RESALE INVOLVING LOCAL EXCHANGE COMPANIES AND ALTERNATIVE LOCAL EXCHANGE COMPANIES PURSUANT TO SECTION 364.162, FLORIDA STATUTES.

Docket No. 950985-TP: IN RE: RESOLUTION OF PETITION(S) TO ESTABLISH NON-DISCRIMINATORY RATES, TERMS, AND CONDITIONS FOR INTERCON-NECTION INVOLVING LOCAL EXCHANGE COMPANIES AND ALTERNATIVE LOCAL EXCHANGE COMPANIES PURSUANT TO SECTION 364.162, FLORIDA STATUTES.

Georgia

Docket No. 5548-U: IN RE: INVESTIGATION INTO THE FINDING OF UNIVERSAL SERVICE

Docket Nos. 6537-U: IN THE MATTER OF: MCIMETRO PETITION TO ESTABLISH NONDISCRIMINATORY RATES, TERMS AND CONDITIONS FOR UNBUNDLING AND RESALE OF LOCAL LOOPS

Kansas

Docket No. 190,492-U: IN THE MATTER OF A GENERAL INVESTIGATION INTO COMPETITION WITHIN THE TELECOMMUNICATIONS INDUSTRY IN THE STATE OF KANSAS

Kentucky

Administrative Case No. 355: AN INQUIRY INTO LOCAL COMPETITION, UNIVERSAL SERVICE, AND THE NON-TRAFFIC SENSITIVE ACCESS RATE

Louisiana

Docket No. U-17957: IN RE: INVESTIGATION OF OPERATING PRACTICES OF ALTERNATIVE OPERATOR SERVICES PROVIDERS TO INCLUDE RATES AND CHARGES

Docket No. U-19806: IN RE: PETITION OF AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, INC., FOR REDUCED REGULATION OF INTRASTATE OPERATIONS

Docket No. U-20237: IN RE: OBJECTIONS TO THE FILING OF REDUCED WATS SAVER SERVICE RATES, INTRALATA, STATE OF LOUISIANA

Docket No. U-20710: IN RE: GENERIC HEARING TO CLARIFY THE PRICING/ IMPUTATION STANDARD SET FORTH IN COMMISSION ORDER NO. U-17949-N ON A PROSPECTIVE BASIS ONLY, AS THE STANDARD RELATES TO LEC COMPETITIVE TOLL OFFERINGS

Docket No. U-20883: IN RE: THE DEVELOPMENT OF RULES AND REGULATIONS APPLICABLE TO THE ENTRY AND OPERATIONS OF, AND THE PROVIDING OF SERVICES BY, COMPETITIVE AND ALTERNATE ACCESS PROVIDERS IN THE LOCAL, INTRASTATE AND/OR INTEREXCHANGE TELECOM-MUNICATIONS MARKET IN LOUISIANA. SUBDOCKET A: UNIVERSAL SERVICE

Missouri

Case No. TO-87-42: IN THE MATTER OF SOUTHWESTERN BELL TELEPHONE COMPANY FILING ACCESS SERVICES TARIFF REVISIONS AND WIDE AREA TELECOMMUNICATIONS SERVICE (WATS) TARIFF, INDEX, 6th REVISED SHEET, ORIGINAL SHEET 16.01

Case No. TO-95-289, et al: IN THE MATTER OF AN INVESTIGATION INTO THE EXHAUSTION OF TELEPHONE NUMBERS IN THE 314 NUMBERING PLAN AREA

North Carolina

Docket No. P-100, SUB 119: IN THE MATTER OF: ASSIGNMENT OF N11 DIALING CODES

Oklahoma

Consolidated Dockets PUD NO. 000237: IN THE MATTER OF THE APPLICATION OF SOUTHWESTERN BELL TELEPHONE COMPANY FOR AN ORDER APPROVING PROPOSED CHANGES AND ADDITIONS IN APPLICANTS' WIDE AREA TELECOMMUNICATIONS SERVICE PLAN TARIFF; and
PUD NO. 000254: IN THE MATTER OF THE APPLICATION OF SOUTHWESTERN BELL TELEPHONE COMPANY FOR AN ORDER APPROVING PROPOSED ADDITIONS AND CHANGES IN APPLICANTS' ACCESS SERVICE TARIFF AND WIDE AREA TELECOMMUNICATIONS SERVICE PLAN TARIFF

Consolidated Dockets PUD NO. 920001335: IN THE MATTER OF THE APPLICATION OF THE OKLAHOMA RURAL TELEPHONE COALITION, GTE SOUTHWEST, INC., ALLTEL OKLAHOMA, INC., AND OKLAHOMA ALLTEL, INC. FOR AN ORDER ADOPTING THE OKLAHOMA ALTERNATIVE SETTLEMENT PLAN; and
PUD NO. 920001213: IN THE MATTER OF THE APPLICATION OF SOUTHWESTERN BELL TELEPHONE COMPANY FOR AN ORDER IMPLEMENTING TERMINATING ACCESS CHARGES IN LIEU OF INTRALATA TOLL AND SURCHARGE POOLS; and
PUD NO. 940000051: IN RE: INQUIRY OF THE OKLAHOMA CORPORATION COMMISSION REGARDING WHETHER THE INTRALATA TOLL POOL AND SURCHARGE POOL SHOULD CONTINUE TO EXIST IN THE STATE OF OKLAHOMA

South Carolina

Docket No. 92-606-C: IN RE: GENERIC PROCEEDING TO REVIEW THE USE OF N11 SERVICE CODES

Tennessee

Docket No. 93-07799: IN RE: SHOW CAUSE PROCEEDING AGAINST CERTIFIED IXCS AND LECS TO PROVIDE TOLL FREE, COUNTY-WIDE CALLING

Docket No. 93-08793: IN RE: APPLICATION OF MCI METRO ACCESS TRANSMISSION SERVICES, INC. FOR AUTHORITY TO OFFER LOCAL EXCHANGE SERVICES WITHIN TENNESSEE

Docket No. 94-00184: INQUIRY FOR TELECOMMUNICATIONS RULE-MAKING REGARDING COMPETITION IN THE LOCAL EXCHANGE

Docket No. 95-02499: UNIVERSAL SERVICE PROCEEDING, PART 1 -- COST OF UNIVERSAL SERVICE AND CURRENT SOURCES OF UNIVERSAL SERVICE SUPPORT, AND PART 2 -- ALTERNATIVE UNIVERSAL SERVICE SUPPORT MECHANISMS

Texas

Docket 4992: APPLICATION OF GENERAL TELEPHONE COMPANY OF THE SOUTH-WEST FOR A RATE/TARIFF REVISION

Docket 5113: PETITION OF PUBLIC UTILITY COMMISSION FOR AN INQUIRY CONCERNING THE EFFECTS OF THE MODIFIED FINAL JUDGMENT AND THE ACCESS CHARGE ORDER UPON SW BELL AND THE INDEPENDENT TELEPHONE COMPANIES OF TEXAS (Phase II)

Docket 5610: APPLICATION OF GENERAL TELEPHONE COMPANY OF THE SOUTH-WEST FOR A RATE INCREASE

Docket 5800: APPLICATION OF AT&T COMMUNICATIONS FOR AUTHORITY TO IMPLEMENT "REACH OUT TEXAS"

Docket 5898: APPLICATION OF SAN ANGELO FOR REMOVAL OF THE EXTENDED AREA SERVICE CHARGE FROM GENERAL TELEPHONE COMPANY OF THE SOUTHWEST'S RATES IN SAN ANGELO, TEXAS

Docket 5926: APPLICATION OF SOUTHWESTERN BELL TELEPHONE COMPANY TO ESTABLISH FEATURE GROUP "E" (FGE) ACCESS SERVICE FOR RADIO AND CELLULAR COMMON CARRIERS

Docket 5954: INQUIRY OF THE PUBLIC UTILITY COMMISSION OF TEXAS INTO OFFERING EXTENDED AREA SERVICE IN THE CITY OF ROCKWALL

Docket 6095: APPLICATION OF AT&T COMMUNICATION FOR A RATE INCREASE

Docket 6200: PETITION OF SOUTHWESTERN BELL TELEPHONE COMPANY FOR AUTHORITY TO CHANGE RATES

Docket 6264: PETITION OF THE GENERAL COUNSEL FOR INITIATION OF AN EVIDENTIARY PROCEEDING TO ESTABLISH TELECOMMUNICATIONS SUBMARKETS

Docket 6501: APPLICATION OF VALLEY VIEW TELEPHONE COMPANY FOR AN AMENDMENT TO CERTIFICATE OF CONVENIENCE AND NECESSITY

Docket 6635: APPLICATION OF MUSTANG TELEPHONE COMPANY FOR AUTHORITY TO CHANGE RATES

Docket 6740: APPLICATION OF SOUTHWEST TEXAS TELEPHONE COMPANY FOR RATE INCREASE

Docket 6935: APPLICATION OF SOUTHWESTERN BELL TELEPHONE COMPANY TO INTRODUCE MICROLINK II - PACKET SWITCHING DIGITAL SERVICE

Docket 8730: INQUIRY OF THE GENERAL COUNSEL INTO THE MEET-POINT BILLING PRACTICES OF GTE SOUTHWEST, INC.

Docket 8218: INQUIRY OF THE GENERAL COUNSEL INTO THE WATS PRORATE CREDIT

Docket 8585: INQUIRY OF THE GENERAL COUNSEL INTO THE REASONABLENESS OF THE RATES AND SERVICES OF SOUTHWESTERN BELL TELEPHONE COMPANY

Docket 10127: APPLICATION OF SOUTHWESTERN BELL TELEPHONE COMPANY TO REVISE SECTION 2 OF ITS INTRASTATE ACCESS SERVICE TARIFF

Docket 11441: PETITIONS OF INFODIAL, INC., AND OTHERS FOR ASSIGNMENT OF ABBREVIATED N11 DIALING CODES

Docket 11840: JOINT PETITION OF SOUTHWESTERN BELL TELEPHONE COMPANY AND GTE SOUTHWEST, INC. TO PROVIDE EXTENDED AREA SERVICE TO CERTAIN COMMUNITIES IN THE LOWER RIO GRANDE VALLEY

Docket 14447: PETITION OF MCI TELECOMMUNICATIONS CORPORATION FOR AN INVESTIGATION OF THE PRACTICES OF SOUTHWESTERN BELL TELEPHONE COMPANY REGARDING THE EXHAUSTION OF TELEPHONE NUMBERS IN THE 214 NUMBERING PLAN AREA AND REQUEST FOR A CEASE AND DESIST ORDER AGAINST SOUTHWESTERN BELL TELEPHONE COMPANY

DIRECT TESTIMONY OF RONALD MARTINEZ

ON BEHALF OF MCI

MCI - UNITED/CENTEL ARBITRATION

OCTOBER 11, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ronald Martinez and my business address is 780 Johnson Ferry Road, Atlanta, GA 30342.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by MCI Telecommunications Corporation in the Carrier Relations group as an Executive Staff Member. My responsibilities include management of business relationships between MCI and approximately 500 independent local exchange companies in twenty-one states.

Q. PLEASE GIVE A BRIEF DESCRIPTION OF YOUR BACKGROUND AND EXPERIENCE.

A. I have experience in network engineering, administration and planning; facilities engineering, management and planning; network sales; and technical sales support. Prior to joining MCI, I was the Director of Labs for Contel Executone for several years. Before that, I worked for 16 years in the Bell system in numerous engineering, sales and sales support functions. I have a Master of Science degree in Operations Research, and a Bachelor of Science degree in Electrical Engineering from the University of New Haven.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to identify the operations support systems that MCI and other new entrants will require be implemented to eliminate, to the greatest extent possible, barriers to competition. As explained further herein, access to key databases and operations support systems is essential for MCI to be able to offer local exchange telecommunications and exchange access service competitively. Nondiscriminatory access to databases and systems of the incumbent local exchange company (ILEC) is necessary to ensure that the ILECs do not gain an unfair market advantage through their control of their networks and these essential databases and systems. In this testimony, I will explain the systems, databases, and processes to which MCI requires access to provide services equal in quality to the ILECs. I am also sponsoring MCI's proposed contract in order to provide for the Commission contract language that can serve as the basis for the final agreement between MCI and Sprint upon completion of this proceeding.

Q. PLEASE EXPLAIN THE IMPLICATIONS OF THE RECENT FCC ORDER AND RULES ON THIS ISSUE.

A. The FCC has come to the same conclusion as MCI. In its discussion of Operations Support Systems in the August 8, 1996 Order implementing the local competition provisions of the Telecommunications Act of 1996, the FCC found:

> that it is absolutely necessary for competitive carriers to have access to operations support systems functions in order to successfully enter the local service market. (Paragraph 521)

Moreover, the FCC concluded that:

> operations support systems and the information they contain

fall squarely within the definition of "network element" and must be unbundled upon request under section 252(c)(3). (Paragraph 516)

Q. WHY IS NONDISCRIMINATORY ACCESS TO THE ILEC'S UNBUNDLED OPERATIONS SUPPORT SYSTEMS NECESSARY?

A. In competitive markets, providers compete on such factors as customer service and quality of service in addition to service features and price. Customer service and quality of service include such factors as the time to install service, the time to repair service when trouble is reported, and the accuracy of the bill rendered, in addition to overall responsiveness to customer inquiries. To the extent that competitive local exchange companies (CLEC) such as MCI must rely on the underlying network of the ILEC to provide local and exchange access service -- either through resale of services (including ancillary services) or through leasing of unbundled network elements (including those needed to provide ancillary services) -- a CLEC's ability to control customer service or quality of service they offer is limited. To that same extent, an ILEC has incentives to provide a lower quality of service to competitors because consumers will blame the CLEC, rather than the ILEC for any problems. Consequently, access to the ILEC's operations support systems is critical to competitors' ability to provide quality service and meet customers' service delivery expectations.

Q. HOW IS THIS ISSUE ADDRESSED BY THE FCC IN ITS RECENT ORDER?

A. The FCC explicitly recognized this at paragraph 525 in its Order:

in order to comply fully with section 251(c)(3), an incumbent

> LEC must provide, upon request, nondiscriminatory access to operations supports systems functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing of unbundled network elements under section 251(c)(3) and resold services under section 251(c)(4). Incumbent LECs that currently do not comply with this requirement of section 251(c)(3) must do so as expeditiously as possible, but in any event no later than January 1, 1997.

The FCC Order also identifies, at paragraph 518, the sort of operations support systems databases to which access is necessary:

> Without access to review, *inter alia*, available telephone numbers, service interval information, and maintenance histories, competing carriers would operate at a significant disadvantage with respect to the incumbent. Other information, such as the facilities and services assigned to a particular customer, is necessary to a competing carrier's ability to provision and offer competing services to incumbent LEC customers. Finally, ... access to the information such [operations support] systems contain, is vital to creating opportunities for meaningful competition.

Q. WHAT SHOULD BE THE FLORIDA PUBLIC SERVICE COMMISSION'S MAIN CONSIDERATION IN ITS RESOLVING OPERATIONS SUPPORT SYSTEM FUNCTION AND DATABASE ISSUES?

A. In considering the appropriate nature and extent of access to these systems and

databases, the overarching principle that the Florida Public Service Commission (PSC) or any inter-carrier contract should strive to achieve is "service parity." In several places in its Order, the FCC explicitly recognized the need for parity. For example, in its discussion of resale services, at paragraph 970, the Commission stated:

> We conclude that service made available for resale be at least equal in quality to that provided by the incumbent LEC to itself or to any subsidiary, affiliate, or any other party to which the carrier directly provides the service, such as end users. Practices to the contrary violate the 1996 Act's prohibition of discriminatory restrictions, limitations or prohibitions on resale. This requirement includes differences imperceptible to end users because such differences may still provide incumbent LECs with advantages in the marketplace. Additionally, we conclude that the incumbent LEC services are to be provisioned for resale with the same timeliness as they are provisioned to the ILEC's subsidiaries, affiliates, or any other party to which the carrier directly provides the service, such as end users.

Similar language appears in other sections of the Order -- based on language in the Act. For example, in the discussion of interconnection at paragraph 224, the Commission stated:

> We conclude that the equal in quality standard of section 251(c)(2)(C) requires an incumbent LEC to provide interconnection between its network and that of a requesting

carrier at a level of quality that is at least indistinguishable from that which the incumbent provides itself, a subsidiary, an affiliate, or any other party. We agree with MFS that this duty requires incumbent LECs to design interconnection facilities to meet the same technical criteria and service standards, such as probability of blocking in peak hours and transmission standards, that are used within their own networks...[W]e further conclude that the equal in quality obligation imposed by section 251(c)(2) is not limited to the quality perceived by end users. The statutory language contains no such limitation, and creating such a limitation may allow incumbent LECs to discriminate against competitors in a manner imperceptible to end users, but which still provides incumbent LECs with advantages in the marketplace...

Q. WHAT SHOULD THE PSC DO TO FOSTER SERVICE PARITY?

A. Toward this goal, the PSC must specifically reject any ILEC assertions that the only standards of quality to which they should be held are those standards currently in place via present quality of service rules or state statutes. It must be understood that those standards, some of which may be outdated, were developed to enforce minimum requirements for retail services. The services in question here are either network elements or services provided on a wholesale basis to competitors for their provision of competing retail services. It is for this purpose that the FCC's standard of "parity" is critical. Allowing an ILEC to provide to MCI services at lower levels

of quality than the levels it provides to itself (including operational coordination), even if meeting current PSC standards for retail services, will either reduce the quality of MCI's service or force MCI to incur unnecessary costs in order to provide a competitive product, thus hindering competition.

Parity -- in the FCC context of being at least of equal quality -- can only be measured in terms of detailed technical standards, interfaces, and performance measures (such as installation intervals and maintenance and repair times) that are better addressed in mediated negotiations or industry fora than in contested hearings. At the same time, full implementation of these standards, interfaces, and measures must be achieved in order to ensure that the ILEC has met its unbundling and resale requirements under Section 251(c)(3) and 251(c)(4) of the Act and -- where the ILEC is an RBOC-- before the Section 271 checklist can be met to allow the RBOC to provide long distance service in-region. This need not create a problem of timing, however, since as the FCC concluded in its Order, access to ILEC operations support systems and databases is technically feasible today (Paragraph 520), and in fact the FCC has ordered the ILECs to comply with its access requirements by January 1, 1997. While issues involving these detailed standards, interfaces, and measures were asked by MCI to be addressed in a process that runs concurrent with, but separate from, a contested arbitration hearing, these, standards, interfaces, and measures, to the extent they are unresolved, must be resolved as a part of this arbitration process.

Q. SHOULD THE PSC ENCOURAGE STANDARDIZED INTERFACES TO ILEC DATABASES AND SUPPORT SYSTEMS?

A. ILECs that provide unique interfaces to their databases and operations support systems do not meet the requirement to provide access of equal quality to operations support systems. If each ILEC is allowed to develop its own unique gateway to these systems, as NYNEX is attempting to do today, the burden for new entrants like MCI will be unnecessarily increased by the requirement to develop separate interfaces and systems for each ILEC. The FCC stated, at paragraph 527:

> Ideally, each incumbent LEC would provide access to support systems through a nationally standardized gateway. Such national standards would eliminate the need for new entrants to develop multiple interface systems, one for each incumbent.

The FCC is confident that this will happen, citing (at paragraph 514) an *ex parte* letter filed in the proceeding in which Bell Atlantic and AT&T state that they expect that, given appropriate guidance from the Commission, the industry can achieve consensus on sufficient data elements and formatting conventions to facilitate that 95% of all inter-telecommunications company transactions may be processed via electronic gateways within twelve months. We are less confident that this will happen unless the states and the FCC implement rules that require the industry to do so rather than allowing individual ILECs to develop their own proprietary gateways.

Q. DESCRIBE THE VARIOUS FUNCTIONS FOR WHICH ACCESS TO OPERATIONS SYSTEMS ARE NECESSARY.

A. The FCC Order identified a number of functions that are performed by ILEC operations support systems. These include: 1) pre-ordering and ordering processes,

2) provisioning and installation, 3) maintenance and trouble resolution, and 4) billing. Competitors must have access to ILEC systems that provide these functions on an equal basis. I discuss what that means below.

Q. PLEASE DESCRIBE THE PRE-ORDERING AND ORDERING PROCESSES.

A. Pre-ordering and ordering processes involve the exchange of information between ILECs and CLECs about current or proposed customer products and services including Customer Service Records (CSR's), or unbundled network elements, or some combination. Intercompany procedures must be developed to support the ordering of unbundled network elements (such as loops and subloop elements, transport, and switching), interconnection facilities (trunks, etc.), resold wholesale services, and ancillary services such as interim number portability mechanisms (e.g., remote call forwarding and direct inward dialing), and customer listing databases that support the white pages directory and directory assistance databases. For example, when MCI uses resale or unbundled elements to provide service to our end users, it is necessary for us to submit orders for such services to the ILEC. If MCI is forced to utilize ordering procedures and interfaces that are inferior to that which the ILEC provides to itself, then MCI will not be able to provide to our customers an offering equivalent to that provided by the ILEC.

The ordering interface used by the ILEC is direct electronic access to systems that permit the simultaneous establishment of the customer account and of the service installation. For example, when a customer calls an ILEC customer representative, that customer's account can be established immediately, a telephone number given, and an installation date determined. If the ILEC does not provide direct electronic

access to such systems, MCI will not be able to provide potential customers with their new telephone numbers (in the case of resale) in "real time" (during the phone call) the way the ILEC can, or to inform customers of the service installation date (in the case of either resale or unbundled elements) in real time fashion, the way the ILEC can.

The importance of access to ILEC operations support systems using electronic interfaces is demonstrated by the case of Rochester Telephone, in which AT&T was not given electronic interfaces with Rochester's ordering systems. Rather, AT&T had to rely on paper faxes to submit orders. Not only did this paper process result in the types of delays and lack of service parity noted above, it was also enormously inefficient and could not handle orders in any significant quantity. In the absence of electronic interfaces for order processing, the ILEC will not be providing "service parity" to MCI.

Thus, the directive to provide equal quality service requires that ILEC provide to MCI electronic, real-time interfaces with the ILEC ordering systems for the ordering of trunks, unbundled elements, resale and other ILEC services to ensure MCI's orders are processed with the same efficiency that the ILEC provides to itself or its affiliates. These electronic interfaces should conform, to the extent practical, to current or expected industry standards. To the extent the ILEC develops a proprietary and different electronic interface system, MCI will be forced to expend additional resources to use the interfaces.

In addition, a mechanism is needed to enable MCI to transfer customers from ILECs

quickly and easily. This "transfer-as-is" mechanism would allow MCI to present a wholesale order form to an ILEC instructing the ILEC to transfer a customer to MCI and include all existing services and functionalities to which the customer subscribes. Without a mechanism that allows for quick and accurate transfers for existing customers, efficient shifting between local carriers will be deterred. The FCC recognized the need for such transfers in paragraph 421:

> We agree with CompTel and LDDS that new entrants will be disadvantaged if customer switchover is not rapid and transparent. We also note that the Michigan Commission has recognized the significance of customer switchover intervals and has directed Ameritech and GTE to file proposals on how they will "ensure the equal availability of expeditious processing of local, interLATA, and intraLATA carrier changes." [footnote omitted] Therefore, we require incumbent LECs to switch over customers for local service in the same interval as LECs currently switch end users between interexchange carriers.

Q. WHY IS IT IMPORTANT FOR MCI TO HAVE ACCESS TO CSRs IN THE SALES PROCESS?

A. MCI is requesting that after MCI has obtained the customer's consent, in the process of a sales call, MCI be able to have on-line, real-time access to the customer's CSR. Residential and small business customers are often not aware of all the services to which they subscribe. These customers cannot easily look at a bill to determine their services. It is important for MCI to be able to know customer service

information during sales calls so that it can make "apples to apples" price quotations. In addition, if a customer has called to add or delete services and Sprint has failed to complete the transaction, when MCI installs service MCI will be viewed as having failed to establish the service the customer desired. Without CSRs at the time of sale MCI cannot insure that the customer is receiving the services desired.

Moreover, if MCI quotes a price based on the recollection of the customer as to its existing services, and after the sale MCI discovers the customer has different services than discussed, MCI will be in the very awkward position of having to go back to the customer with new pricing or absorbing any price differences. In addition, for the small business customer, an error in establishing service could cost the business its livelihood.

For medium and large business customers there are even more issues. With more services and locations, combined with changing personnel, business customers are not going to want to spend time providing new entrants details about their services for new entrants to make price quotes. Time is money to these business customers. Unless new entrants can offer proposals without requiring work effort on the part of the business customers, competition will be stifled.

In the case of business customers with complex services, the likelihood of orders being rejected will be substantially increased if MCI does not have complete and fully updated customer service information at the time of ordering. With more services it is likely that the customer will not get it all right and not having it right

means a reject, delayed service installation and customer dissatisfaction for a new MCI customer.

Q. DO YOU HAVE AN EXAMPLE OF HOW THESE CONCERNS HAVE BEEN VALIDATED IN THE MARKETPLACE?

A. Yes. Southern New England Telephone ("SNET") recently rejected an MCI order to convert service of a business customer. The customer advised MCI that six lines were to be converted, so this is what MCI requested on the order. SNET records reflected the customer had seven lines, so it rejected the order, as well as for the additional reason that SNET questioned the hunting sequence.

Unless MCI has CSRs, we are not in a position to insure when orders are submitted that they will be processed timely without rejects. In the case of the SNET example, MCI contacted the customer who stated that they had contacted SNET to have the seventh line removed two to three months prior, a pitfall described above.

Q. HOW DOES THE LACK OF ON-LINE, REAL-TIME ACCESS TO CSRs ADVERSELY AFFECT THE ABILITY OF NEW ENTRANTS TO PROVIDE COMPETITIVE SERVICE TO THEIR CUSTOMERS?

A. Without real-time access to the CSR, MCI has no timely way to obtain accurate information such as address, service, feature, and inter/intraLATA PIC availability, which is critical to verify an order and to avoid other rejections by the incumbent LEC. Further, without CSR access, MCI has been unable to use even "as is" migrations as an effective ordering method for small business and residential customers.

Lack of access to CSRs in an online, real-time manner severely constrains MCI's ability to accurately process residential and small business sales orders. As the residential and small business sales process requires all sales orders and preordering activities to take place on a single sales call (mostly over the telephone), and very quickly I might add, on-line, real-time access is the only viable method of obtaining CSRs.

Without on-line, real-time access to CSRs, MCI finds itself in the unacceptable situation of not really knowing for sure what a customer has prior to a migration. This jeopardizes the customer's quality of service by increasing the likelihood of loss of feature functionality upon migration. This in turn reflects poorly upon MCI's local service, and is detrimental to MCI's ability to compete on an even playing field.

Q. PLEASE EXPLAIN WHAT HAS OCCURRED AS A PRACTICAL MATTER WITH LECs WHO DO NOT PROVIDE REAL-TIME, ONLINE ACCESS TO CSRs.

A. An example is what has occurred with PacBell, which does not provide real-time, online access to CSRs: MCI is forced to submit all orders as "migration with changes" orders. This means that the order is placed with PacBell, which then turns around and gives MCI the customer's records for review in order to ensure that we send accurate orders to the incumbent LEC for migration and that we are providing the customer with the correct services.

Q. PLEASE DESCRIBE THE PROVISIONING AND INSTALLATION FUNCTIONS.

A. Provisioning involves the exchange of information between ILECs and CLECs in which one executes a request for a set of products and services or unbundled network elements (or a combination) from another with attendant acknowledgments and status reports. Service parity requires that when MCI initiates an order for an unbundled network element, interconnection trunk, resold wholesale service, or other ILEC equipment, facility, or service, our order is processed through the same provisioning and installation systems as orders initiated by the ILEC. Just as ILEC service representatives have real time access to the ILEC provisioning system to track the status of installation, an important customer service, MCI requires real time access to those provisioning systems in order to track installation status. The ILECs have (or should have) target installation intervals for most, if not all, services. To ensure these same intervals are available to all providers of local service, the Commission should require the ILEC to report regularly the installation intervals for CLECs and itself on each type of installation. Absent such monitoring and reporting, the ILEC could take advantage of the opportunity to provide shorter service installation intervals for its own customers than for CLECs or their customers. Such potential discriminatory treatment can be minimized, if not prevented, by establishing monitoring and reporting requirements.

Q. PLEASE DISCUSS THE MAINTENANCE AND TROUBLE RESOLUTION FUNCTIONS.

A. Maintenance and repair involves the exchange of information between ILECs and CLECs in which one initiates a request for repair of existing products and services or unbundled network elements (or combination) from the other with attendant acknowledgements and status reports. As with ordering and provisioning, customers

will judge the quality of MCI's service by its response time when trouble is reported. Because many of these troubles will not be problems within MCI's control, but rather within the control of the ILEC, it is critical that MCI have access to the ILEC's trouble reporting, tracking and resolution systems and that the ILEC meets the same standards for MCI as for its customers.

MCI is requesting a single point of contact with the ILEC with 24 hour a day, 7 day a week (7/24) coverage. In addition, MCI requires a trouble management and escalation process with repair intervals equivalent to that which the ILEC provides for itself. Failure to have these procedures will inhibit MCI's ability to resolve trouble reports, restore service in a timely manner and maintain the image of a quality provider in customers' eyes. As with other operations support systems functions, MCI requires real time access to the ILEC's Trouble Reporting system so that MCI's customer service personnel can provide real time trouble tracking for our customers. In addition, the PSC should establish a reporting requirement to ensure that the ILEC is resolving MCI's and other CLEC's maintenance and repair problems within the same time intervals as it resolves its own trouble reports. Failure to have such a reporting requirement provides the opportunity for unequal and discriminatory treatment.

Q. PLEASE DESCRIBE THE ISSUES REGARDING THE BILLING FUNCTIONS.

A. Billing issues can be divided into two categories: billing between ILECs and CLECs, and billing of end user customers. For ILEC/CLEC billing, a CABS or CABS-like billing system should be used for charges related to interconnection, unbundled elements, and resale. While CABS may require modifications to be able to bill

these elements, it is a system that is familiar to both ILECs and CLECs and has been the foundation for intercompany billing since access charges began. A CABS-like system would be cost effective because a standardized format would be used for all carriers, rather than a format unique to each LEC. It is important that any system used provide timely and accurate billing detail and be subject to audit reviews.

At the industry Ordering and Billing Forum ("OBF") held in August 1996, final closure was reached on the specifications for CABS formatted billing for resold services. MCI is requesting that it receive bills for resold services in the format specified at the OBF.

Timely and accurate billing detail is also needed for billing of end user customers. Customers expect to receive accurate bills on a timely basis reflecting their actual level of service with appropriate rates and charges. For this to happen, it is necessary that the ILECs and CLECs exchange billing information in an efficient, timely manner.

The quality of items purchased from the ILEC, including interconnection trunks, unbundled elements, resold wholesale services, and other ILEC items, should be of the same quality as the ILEC provides to itself, not merely the standards in the PSC's rules or state statutes, as discussed above. Anything less would constitute discriminatory treatment and would be a violation of the Act. To assure this quality standard, we propose that the PSC require the ILEC to report regularly on quality standards such as average outage durations and the percent of call blocking for new

entrants and itself.

Q. IDENTIFY THE VARIOUS DATABASES TO WHICH MCI AND OTHER CLECS SHOULD HAVE NONDISCRIMINATORY ACCESS.

A. In order to be able to access and commercially use the ILECs' unbundled elements and resold services, CLECs need access to ILEC operations support systems and databases that house the following kinds of information:

- o Centrex Business Group Information, which contains the centrex dialing plan and a feature information database. With access to this information, MCI could migrate a centrex application from the ILEC to itself without disrupting the customer's service.
- o Intercept Information, which contains records relevant to customer disconnect referrals. Access to this information would allow MCI to monitor the accuracy of ILEC disconnect referrals.
- o Operator Reference Information, which contains general information regarding valid area codes, exchanges, and dialing instructions. Access to this information is critical if MCI is to provide a full range of operator services.
- o Customer Record Information System (CRIS), which contains the ILEC's database of customer orders. Access to this database is required for MCI to monitor the status and verify service installations and disconnects, and is particularly important for service parity when MCI resells the incumbent's local services.
- o Emergency Services Information, which associates customer name and address to 911 routing plans.

- o Repair/Dispatch Information, which would allow MCI to monitor the status of repairs and dispatches of repair personnel related to use of MCI-purchased unbundled ILEC network functions or resold ILEC services.
- o Installation/Order Processing data, which allows MCI to monitor the status of service activation related to our use of unbundled ILEC network functions or resold ILEC services.
- o Switch Network ID data, which describes each ILEC switch, including services supported through each switch, NPA-NXXs served, business and residential line counts, and rate centers served, *etc.* Access to this database is critical to planning efficient local interconnection.
- o Local Calling Area data, which describes local calling areas and extended area service calling areas. MCI needs access to this database to construct accurate switch routing tables for our networks when mirroring existing ILEC local calling areas.
- o CMDS contains the industry standard mechanism for the exchange of billed messages such as third-party billed, collect, and calling card messages. Access to this database is necessary for MCI participation in the intercompany arrangements for the clearing of these calls.
- o Plant inventory data, containing information on conduit, fiber, switch port, loop feeder, and loop distribution. Access to this database is necessary to reduce the likelihood that MCI will request infeasible points of interconnection or unbundled network functions. Additionally, access will allow MCI and regulators to ensure that ILEC facilities are made available on a non-discriminatory basis.
- o Number Assignment data, access to which would allow MCI, using resold

ILEC service or unbundled local switching, to assign numbers to our customers directly, rather than rely on the ILEC to assign phone numbers to MCI customers. As a result, MCI would avoid discriminatory delays to fulfillment of the service order.

Q. DO YOU HAVE ANY FINAL REMARKS?

A. The FCC has concluded that it is imperative for competitive carriers to have access to operations support systems functions to allow them to offer local exchange telecommunications and exchange access services on a competitive basis. Consistent with the FCC's conclusion, the PSC should require nondiscriminatory access to ILEC databases and systems to ensure that ILECs do not gain an unfair market advantage and thwart competitive entry into 4-the local exchange market.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.

DIRECT TESTIMONY OF RICHARD CABE

ON BEHALF OF MCI

MCI - UNITED/CENTEL ARBITRATION

OCTOBER 11, 1996

I. PERSONAL BACKGROUND

Q. PLEASE STATE YOUR NAME AND ADDRESS.

My name is Richard Cabe and my business address is Box 3CQ, New Mexico State University, Las Cruces, New Mexico 88003-0001.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL QUALIFICATIONS.

A. I am presently employed as Associate Professor of Economics and International Business at New Mexico State University. I teach graduate and undergraduate economics courses and I arrange the telecommunications curriculum for conferences sponsored by the Center for Public Utilities. Over the last few years I have offered graduate courses in Industrial Organization, Microeconomic theory, Antitrust and Monopoly Power, Game Theory, Public Utilities Regulation, and Managerial Economics for MBA students. Any opinions that I express are my own and do not represent the views of New Mexico State University or the Center for Public Utilities.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND AND EXPERIENCE.

A. My exposure to the telecommunications industry began with course work at the University of Wyoming in 1980 concerning economic regulation of public utilities.

After completing all but the dissertation requirement for the Ph.D. Degree in economics at the University of Wyoming, I accepted a position at the Washington Utilities and Transportation Commission (WUTC) as a Utilities Rate Research Specialist. At the WUTC I analyzed a variety of telecommunications issues, presented testimony to the Commission and the State Legislature, served on state staff for a federal/state joint board, and participated in the team charged with implementation of the State of Washington's recent telecommunications legislation. When I left the WUTC to resume work toward the Ph.D. I was the acting Telecommunications Regulatory Flexibility Manager and my job was to lead the staff effort in implementing the State's regulatory flexibility statute.

After leaving the WUTC, completing my Ph.D. and entering academia I have followed events in the telecommunications industry as an academic, making a variety of presentations related to the industry and organizing programs of the Center for Public Utilities at New Mexico State University. I have also consulted from time to time with public and private clients on public policy issues in the industry. In addition to this direct experience with the telecommunications industry I often find that my understanding of issues in the industry is enhanced by the experience and training I received during 4 years in the US Coast Guard as an electronics technician. During this period I was involved in installing, repairing and performing routine maintenance on a variety of electronic equipment, mostly related to communications of one sort or another. Dates and other details of this experience, as well as academic publications and other activities are described in the attached resume.

Q. HAVE YOU PUBLISHED ANY PAPERS ON TELECOMMUNICATIONS?

A. Yes.

"Network Differentiation and the Prospects for Competition in Local Telecommunications", in *Sixth Annual Current Issues Challenging the Regulatory Process*, The Center for Public Utilities, New Mexico State University, 1990

"Prospects for Competition in the Local Exchange Telecommunications Industry", in *Telecommunications Regulation in Washington State*, Washington Utilities and Transportation Commission, January 29, 1989

Annual Report to the Legislature on the Status of the Washington Telecommunications Industry, principal author for the Washington Utilities and Transportation Commission, January, 1987

Recent Presentations: Various presentations at the Basics of Regulation and the Rate-Making Process, Albuquerque, NM, and Baltimore, MD, every Fall and Spring respectively, including:

"Orientation to the Telecommunications Industry;

"Telecommunications: The Role of Economic Efficiency in Pricing;

""Mr. Rogers Visits the Economics of Pricing in Regulated Industries" with Doug Gegax; "Policy Issues of Local Competition", with Joseph Gillan;

Q. HAVE YOU TESTIFIED BEFORE?

A. Yes.

Q. WHAT IS THE BASIS OF YOUR TESTIMONY?

A. MCI assembled a group of seven economists to evaluate the economic issues that need to be addressed by state regulators during the arbitrations under the Telecommunications Act of 1996 ("the 1996 Act"). The seven economists are Gus Ankum, Steven R. Brenner, Nina Cornell, myself, Sarah Goodfriend, A. Daniel Kelley, and Terry L. Murray. These economists produced a jointly authored white paper. The testimony that follows is the same as that white paper, except that it has been converted into question-and-answer format.

II. ECONOMIC PRINCIPLES

Q. HOW HAS THE 1996 ACT CHANGED THE WAY TELECOMMUNICATIONS IS TO BE REGULATED IN THE UNITED STATES?

A. The 1996 Act calls for competition to replace regulated monopoly whenever market conditions permit. This is stated most clearly in Section 257(b), which reads:

> NATIONAL POLICY—In carrying out subsection (a), the Commission shall seek to promote the policies and purposes of this Act favoring diversity of media voices, vigorous economic competition, technological advancement, and promotion of the public interest, convenience, and necessity.

Subsection (a) calls for the Federal Communications Commission ("FCC") to complete a proceeding within 15 months of enactment of the 1996 Act to identify and eliminate market barriers to entry.

Q. WHAT ARE THE CURRENT TELECOMMUNICATIONS MARKETS IN WHICH THE INCUMBENT LOCAL EXCHANGE CARRIERS STILL HAVE MARKET POWER OR EVEN A MONOPOLY?

A. Incumbent local exchange carriers (LECs) possess market power, and often monopoly positions, in many local exchange service markets. The First Report and Order issued by the Federal Communications Commission ("FCC") in CC Docket No. 96-98, In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 ("Order") is intended to begin eliminating market barriers to entry, and to establish rules to govern opening entry into local exchange markets.

Q. HAS THE FCC DECIDED ALL OF THE ISSUES THAT NEED TO BE DECIDED BEFORE ENTRY CAN BECOME EFFECTIVE COMPETITION IN LOCAL EXCHANGE MARKETS?

A. No. In that Order, the FCC has decided a number of major issues, but has left others to the states to decide. The issues left to the states are sufficient that the intent of Congress could be thwarted if consistent principles are not used to decide them.

Q. WHAT ARE THE PRINCIPLES THAT THE FCC RELIED ON IN MAKING THE DECISIONS IT MADE?

A. In terms of its economic underpinnings, the FCC's Order rests on six basic premises.

Q. WHAT IS THE FIRST OF THE FCC'S SIX BASIC ECONOMIC PREMISES?

A. The first basic economic premise of the FCC establishes as the fundamental requirement for achieving the goals of the 1996 Act that the incumbent local exchange companies

must share with entrants their economies of density, connectivity, and scale. As the FCC said:

> The incumbent LECs have economies of density, connectivity, and scale; traditionally, these have been viewed as creating a natural monopoly. As we pointed out in our NPRM, the local competition provisions of the Act require that these economies be shared with entrants. We believe they should be shared in a way that permits the incumbent LECs to maintain operating efficiency to further fair competition, and to enable the entrants to share the economic benefits of that efficiency in the form of cost-based prices. (Paragraph 11, footnote omitted)

Q. WHAT IS THE SECOND OF THE FCC'S BASIC ECONOMIC PREMISES?

A. The second basic economic premise of the FCC is that nondiscrimination means that the incumbent LECs must not discriminate between an entrant and itself, or between different entrants based on any criterion other than cost differences. As the FCC noted:

> We believe that the term "nondiscriminatory," as used throughout section 251, applies to the terms and conditions an incumbent LEC imposes on third parties as well as on itself. (Paragraph 218)
>
> Also, incumbent LECs may not discriminate against parties based upon the identity of the carrier (*i.e.*, whether the carrier is a CMRS provider, a CAP, or a competitive LEC). (Paragraph 218)
>
> Thus, we conclude it would be insufficient to define the

obligation of incumbent LECs to provide "nondiscriminatory access" to mean that the quality of the access and unbundled elements LECs provide to all requesting carriers is the same. As discussed above with respect to interconnection, an incumbent LEC could potentially act in a nondiscriminatory manner in providing access or elements to all requesting carriers, while providing preferential access or elements to itself. (Paragraph 312, footnote omitted)

On the other hand, price differences based not on cost differences but on such considerations as competitive relationships, the technology used by the requesting carrier, the nature of the service the requesting carrier provides, or other factors not reflecting costs, the requirements of the Act, or applicable rules, would be discriminatory and not permissible under the new standard. (Paragraph 861)

Q. WHAT IS THE THIRD BASIC ECONOMIC PREMISE OF THE FCC?

A. The third basic economic premise of the FCC is that telecommunications is an industry with a great deal of technological change, and that its rules should not interfere with the pace or pattern of that change. As the FCC stated:

> The rapid pace and ever changing nature of technological advancement in the telecommunications industry makes it essential that we retain the ability to revise our rules as circumstances change. Otherwise, our rules might impede technological change and frustrate the 1996 Act's overriding

goal of bringing the benefits of competition to consumers of local phone services. (Paragraph 246, footnote omitted)

Q. WHAT IS THE FOURTH BASIC ECONOMIC PREMISE OF THE FCC?

A. The fourth basic economic premise of the FCC is that forward-looking economic costs, not embedded costs, should be the basis for pricing interconnection and unbundled elements. As the FCC stated:

> In the following sections, we first set forth generally, based on the current record, a cost-based pricing methodology based on forward-looking economic costs, which we conclude is the approach for setting prices that best furthers the goals of the 1996 Act. In dynamic competitive markets, firms take action based not on embedded costs, but on the relationship between market-determined prices and forward-looking economic costs. (Paragraph 620)
>
> The substantial weight of economic commentary in the record suggests that an "embedded cost"-based pricing methodology would be pro-competitor -- in this case the incumbent LEC -- rather than pro-competition. (Paragraph 705, footnote omitted)

Q. WHAT IS THE FIFTH BASIC ECONOMIC PREMISE OF THE FCC?

A. The fifth basic economic premise of the FCC is that rates must recover costs in a manner that reflects the way they are incurred. This takes on special significance because rate structures that do not consistently reflect the way forward-looking economic costs are incurred, for example, by imposing nonrecurring charges for

recurring costs, may become vehicles for over-recovery of costs, and thus, act as a barrier to entry. The FCC applies this principle, for example, to shared facilities to equitably match, insofar as practical, costs and payments for benefits in time. As the FCC stated:

> ...we find that imposing nonrecurring charges for recurring costs could pose a barrier to entry because these charges may be excessive, reflecting costs that may (1) not actually occur; (2) be incurred later than predicted; (3) not be incurred for as long as predicted; (4) be incurred at a level that is lower than predicted; (5) be incurred less frequently than predicted; and (6) be discounted to the present using a cost of capital that is too low. (Paragraph 747)
>
> We require, however, that state commissions take steps to ensure that incumbent LECs do not recover nonrecurring costs twice and that nonrecurring charges are imposed equitably among entrants. (Paragraph 750)
>
> A state commission may, for example, decide to permit incumbent LECs to charge the initial entrants the full amount of costs incurred for shared facilities for physical collocation service, even if future entrants may benefit. A state commission may, however, require subsequent entrants, who take physical collocation service in the same central office and receive benefits as a result of costs for shared facilities, to pay - the incumbent LEC for their proportionate share of those costs, less depreciation (if an asset is involved). Under this approach,

> the state commission could require the incumbent LEC to provide the initial entrants *pro rata* refunds, reflecting the full amount of the charges collected from the subsequent entrants. Alternatively, a state commission may decide to permit incumbent LECs to charge initial entrants a proportionate fraction of the costs incurred, based on a reasonable estimate of the total demand by entrants for the particular interconnection service or unbundled rate elements. (Paragraph 750)

Q. WHAT IS THE SIXTH BASIC ECONOMIC PREMISE OF THE FCC?

A. The sixth basic economic premise of the FCC is that the incumbent LECs have virtually no incentives to voluntarily provide the various unbundled network elements and interconnection needed by entrants at prices or under the terms and conditions that would make effective competition a reality. Instead, incumbent LECs have both the incentive and the ability—absent regulatory intervention—to force entrants to accept prices, terms, and conditions that would be insufficient to bring consumers the benefits the 1996 Act sought to convey. As the FCC stated:

> Because an incumbent LEC currently serves virtually all subscribers in its local serving area, an incumbent LEC has little economic incentive to assist new entrants in their efforts to secure a greater share of that market. An incumbent LEC also has the ability to act on its incentive to discourage entry and robust competition by not interconnecting its network with the new entrant's network or by insisting on supracompetitive prices or other unreasonable conditions for terminating calls

from the entrant's customers to the incumbent LEC's subscribers. (Paragraph 10, footnote omitted)

Congress recognized that, because of the incumbent LEC's incentives and superior bargaining power, its negotiations with new entrants over the terms of such agreements would be quite different from typical commercial negotiations. As distinct from bilateral commercial negotiation, the new entrant comes to the table with little or nothing the incumbent LEC needs or wants. The statute addresses this problem by creating an arbitration proceeding in which the new entrant may assert certain rights, including that the incumbent's prices for unbundled network elements must be "just, reasonable and nondiscriminatory." (Paragraph 15, footnote omitted)

We find that incumbent LECs have no economic incentive, independent of the incentives set forth in sections 271 and 274 of the 1996 Act, to provide potential competitors with opportunities to interconnect with and make use of the incumbent LEC's network and services. Negotiations between incumbent LECs and new entrants are not analogous to traditional commercial negotiations in which each party owns or controls something the other party desires. Under section 251, monopoly providers are required to make available their facilities and services to requesting carriers that intend to compete directly with the incumbent LEC for its customers and its control of the local market. Therefore, although the 1996

> Act requires incumbent LECs, for example, to provide interconnection and access to unbundled elements on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, incumbent LECs have strong incentives to resist such obligations. The inequality of bargaining power between incumbents and new entrants militates in favor of rules that have the effect equalizing bargaining power in part because many new entrants seek to enter national or regional markets. (Paragraph 56)
>
> In particular, a new entrant that has already constructed facilities may have a relatively weak bargaining position because it may be forced to choose either to accept transport and termination rates not in accord with these rules or to delay its commencement of service until the conclusion of the arbitration and state approval process. (Paragraph 1065)

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide an economic analysis of how state regulators should take these same six basic premises into account in addressing the issues that are reserved to state regulators to decide under the FCC's Order. This paper applies these six premises to eight issues: (1) the need for additional unbundled network elements, (2) the need to prevent discriminatory non-price terms and conditions for acquiring unbundled network elements, (3) the need to identify the costs and cost structures of unbundled elements and efficient unbundling, (4) the recurring rates to be charged for unbundled elements, (5) the non-recurring rates to be charged for unbundled network

elements, including, in particular, the costs of unbundling that the incumbent LECs should be allowed to charge entrants, (6) the costs and cost structure of transport and termination of local exchange traffic, (7) the compensation rates for transport and termination, and (8) the desirability of initiating state access reform now.

III. UNBUNDLED NETWORK ELEMENTS

Q. WHAT ARE THE ISSUES THAT STATE REGULATORS MUST DECIDE WITH RESPECT TO UNBUNDLED NETWORK ELEMENTS?

A. There are five issues that state regulators must decide with regard to unbundled elements. The first is whether to order the incumbent LECs to unbundle any elements in addition to the minimum list ordered unbundled by the FCC. The second is to prevent discriminatory nonprice terms and conditions for acquiring unbundled network elements. The third is to identify the costs and cost structures of the unbundled elements themselves and the costs associated with efficient unbundling of a wholesale LEC network. The fourth is to set recurring rates for the unbundled elements, both those on the FCC's list of elements to be unbundled and any additional elements. The fifth is to set the non-recurring rates for ordering unbundled network elements. Both recurring and non- recurring rates must be set to comply with the forward-looking economic costing methodology known as TELRIC (Total Element Long Run Incremental Cost). Both recurring and non-recurring rates must be structured to reflect how costs are incurred.

Q. DO INCUMBENT LOCAL EXCHANGE CARRIERS WANT TO PROVIDE UNBUNDLED NETWORK ELEMENTS IN A MANNER THAT FACILITATES LOCAL EXCHANGE COMPETITION?

A. No. As the FCC stated:

> As discussed above at sections II.A, II.B and V.B, we believe that incumbent LECs have little incentive to facilitate the ability of new entrants, including small entities, to compete against them and, thus have little incentive to provision unbundled elements in a manner that would provide efficient competitors with a meaningful opportunity to compete. (Paragraph 307)

Therefore, refusing to provide additional unbundled elements and setting rates above efficient economic costs both can prevent efficient competitors from having "a meaningful opportunity to compete."

A. Additional Unbundled Network Elements: Loop Distribution Plant

Q. THE FCC HAS ORDERED THAT A MINIMUM LIST OF UNBUNDLED NETWORK ELEMENTS BE PROVIDED. CAN STATE REGULATORS ADD TO THIS LIST?

A. Yes. The FCC has determined that state regulators can order the incumbent LECs to unbundle more network elements than those on the FCC's minimal list.

Q. SHOULD STATE REGULATORS ADD TO THE FCC'S MINIMUM LIST OF UNBUNDLED NETWORK ELEMENTS?

A. Yes. One additional network element should be added to the list: unbundled distribution, which is a loop subelement. The network implementation white paper accompanying this white paper explains why this additional network element is needed, how it would be used, why it is technically feasible to unbundle, and why, for some period of time, it cannot be provided at an equal or lower cost or in as timely a fashion

by (at least) MCImetro as by the incumbent LEC.

Q. WHY SHOULD ANOTHER UNBUNDLED NETWORK ELEMENT BE ADDED TO THE FCC'S MINIMUM LIST?

A. Forcing an entrant to purchase the whole loop even though it has facilities that could be used for a portion of the loop exemplifies an incumbent LEC practice, that, if it were to be sanctioned by a regulator, surely undermines the entrant's "meaningful opportunity to compete" using an architecture which rivals the incumbent's. The FCC provided clear instruction. The FCC identified a "technically feasible" standard and an "impairment" standard to which incumbent LECs should be held when states evaluate unbundling requests beyond the minimal FCC list.

Q. WHAT ARE THE "TECHNICALLY FEASIBLE" AND "IMPAIRMENT" STANDARDS OF THE FCC?

A. The 1996 Act gives entrants the right to have the incumbent LECs unbundle any network element that it is technically feasible to unbundle. According to the FCC:

> We conclude that the term "technically feasible" refers solely to technical or operational concerns, rather than economic, space, or site considerations. We further conclude that the obligations imposed by sections 251(c)(2) and 251(c)(3) include modifications to incumbent LEC facilities to the extent necessary to accommodate interconnection or access to network elements. Specific, significant, and demonstrable network reliability concerns associated with providing interconnection or access at a particular point, however, will be regarded as

> relevant evidence that interconnection or access at that point is technically infeasible. . . . Finally, we conclude that incumbent LECs must prove to the appropriate state commission that a particular interconnection or access point is not technically feasibile [sic]. (Paragraph 198)

The incumbent LECs should be ordered to provide this additional unbundled network element because it is needed to minimize the cost to entrants of competing on a broad scale with the incumbent LECs for local exchange service. In the section of its Order discussing access to unbundled (proprietary) network elements, the FCC provided an economic and competitive interpretation to define the "impairment standard" to which incumbent LECs should be held when states evaluate requests for unbundling beyond the FCC's minimal list. According to the FCC:

> We believe, generally, that an entrant's ability to offer a telecommunications service is "diminished in value" if the quality of the service the entrant can offer, absent access to the requested element, declines and/or the cost of providing the service rises. . . . Accordingly, we interpret the "impairment" standard as requiring the Commission and the states, when evaluating unbundling requirements beyond those identified in our minimum list, to consider whether the failure of an incumbent to provide access to a network element would decrease the quality, or increase the financial or administrative cost or the service a requesting carrier seeks to offer, compared with providing that service over other unbundled elements in the incumbent LEC's network. (Paragraph 285, footnotes

omitted)

As the accompanying Network Implementation white paper explains, it is both technically feasible and economically necessary under the standards adopted by the FCC to require incumbent LECs to unbundle Loop Distribution plant.

Q. DID THE FCC ELABORATE ON ITS IMPAIRMENT STANDARD?

A. Yes. The FCC elaborated on its meaning of the impairment standard when it explained further that:

> The interpretation advanced by most of the BOCs and GTE, described above, means that, if a requesting carrier could obtain an element from a source other than the incumbent, then the incumbent need not provide the element. We agree with the reasoning advanced by some of the commenters that this interpretation would nullify section 251(c)(3) [of the 1996 Act] because, in theory, any new entrant could provide all of the elements in the incumbent' networks. Congress made it possible for competitors to enter local markets through the purchase of unbundled elements because it recognized that duplication of an incumbent's network could delay entry, and could be inefficient and unnecessary. (Paragraph 287, footnote omitted)

For me, the significance of the rejection of the incumbents' proposed standard is very clear: Under the Act, no regulator may permit a refusal to unbundle, where technically feasible, to result in the imposition of inefficiencies and unnecessary costs on entrants. Such acquiescence is permission to undermine competition.

B. Discriminatory Practices: Terms and Conditions of Interconnection

Q. IS THE IMPAIRMENT STANDARD THE ONLY STANDARD OR SAFEGUARD CREATED TO PRESERVE EMERGING COMPETITION?

A. No. The impairment standard is one of a number of standards or safeguards created to preserve emerging competition to its fullest potential. In paragraphs 217 and 218 of its Order, the FCC found that Congress intended a more stringent legal standard of nondiscrimination to apply under the 1996 Act section 251(c)(2) than under section 202(a) of the original Act. On this legal basis and considering the procompetitive purpose of the 1996 Act, the FCC recognized, again, that "... the [incumbent] LEC has the incentive to discriminate against its competitors by providing them less favorable terms and conditions of interconnection than it provides itself..." finding that "by providing interconnection to a competitor in a manner *less efficient* (emphasis added) than an incumbent LEC provides itself, the incumbent LEC violates the duty to be 'just' and 'reasonable' under Section 251(c)(2)(D)...."

Q. WHAT ARE OTHER WAYS THAT INCUMBENT LECS CAN UNDERMINE THE PROCOMPETITIVE ASPECTS OF NETWORK UNBUNDLING?

A. Refusals to unbundle and improper pricing of unbundled elements, the main topics of this section, are but two ways incumbent LECs may undermine the procompetitive aspects of network unbundling. The Network Implementation white paper discusses cross-connect points. Cross-connection facilities include the house cabling and jumper cables that make it possible for an entrant's unbundled loop to be connected to its collocation equipment. This "glue" that holds the network together and connects unbundled elements must be priced properly. The pricing of house cabling and jumper

cables can be every bit as important in limiting the incumbent's ability to discriminate in the provision of unbundled elements as is the pricing of the unbundled elements themselves. The FCC pointedly addressed the example of cross-connect facilities to unbundled loops, including the house cabling and jumper cables necessary to allow a competitor to connect an unbundled loop to its collocated equipment, noting that several entrants had alleged that incumbent LECs had required unreasonable rates, terms and conditions for such cross-connection facilities in the past. (See Paragraph 386)

The Operations Support Systems Implementation white paper discusses the various databases to which entrants must have access, and describes the various functions -- pre-ordering, ordering, provisioning, maintenance and repair, and billing -- for which access to operations support systems are necessary. Refusal to provide access to databases efficiently is an expression of discrimination. Terms and conditions of access can become instruments for the creation of barriers to competition.

Similarly, the Ancillary Arrangements And Services Requirements white paper describes seven specific ancillary arrangements or services, and, for each, recommends specific state action needed to reduce barriers to competition.

B. Recurring Rates for Unbundled Network Elements

Q. WHAT IS THE BASIS ON WHICH RECURRING RATES FOR UNBUNDLED NETWORK ELEMENTS ARE TO BE SET?

A. The FCC has adopted a costing and pricing methodology based on forward-looking, economic costs, finding that such a methodology best replicates the conditions of a competitive market and reduces the ability of an incumbent LEC to engage in anticompetitive behavior. (See, for example, paragraph 679). The FCC has said that

prices for unbundled network elements (and for interconnection) should "be based on the TSLRIC (Total Service Long Run Incremental Cost) of the network element[s], which we will call Total Element Long Run Incremental Costs (TELRIC)." (Paragraph 672) The prescribed TELRIC costing methodology is provided in Part 1 of Title 47 of the C.F.R. as Subpart F - Pricing of Elements, and applies to the costing and pricing of network elements, interconnection, and methods of obtaining access to unbundled elements, including physical collocation and virtual collocation. In the following discussion, I use the term "element" to refer to items covered by Subpart F. 1. Requirements for Conformity With the TELRIC Methodology

Q. WHAT IS REQUIRED FOR A STUDY TO CONFORM TO THE TELRIC METHODOLOGY ORDERED BY THE FCC?

A. The cost study methodology ordered by the FCC essentially requires the study to be conducted as though the local exchange carrier was split into two virtually separate subsidiaries: a wholesale subsidiary and a retail subsidiary. The sole purpose of the wholesale subsidiary is to run the network and provide unbundled elements not only to entrants, but also to the retail subsidiary of the incumbent LEC. The methodology also requires that the costs be studied as though only the retail subsidiary puts network elements together to form services sold at retail to end users. According to the FCC:

> Common costs also include costs incurred by a firm's operations as a whole, that are common to all services and elements (e.g., salaries of executives involved overseeing all activities of the business), although for the purpose of pricing interconnection and access to unbundled elements, which are intermediate products offered to competing carriers, the relevant

common costs do not include billing, marketing and other costs attributable to the provision of retail service...(Paragraph 694) We further conclude that, for the aggregate of all unbundled network elements, incumbent LECs must be given a reasonable opportunity to recover their forward-looking common costs attributable to operating the wholesale network.... (Paragraph 698)

2. States Must Examine Cost Studies to Set Element Prices

Q. WILL STATE REGULATORS HAVE TO EXAMINE COST STUDIES TO SET RECURRING RATES FOR UNBUNDLED NETWORK ELEMENTS?

A. Yes. I urge state regulators to begin to examine TELRIC cost studies now, recognizing that the sooner states act to set prices in accordance with required cost studies, the greater certainty all market participants will have. While the default proxies established by the FCC provide some bounds for entry decisions, even use of these proxies will require states to identify the appropriate translation of local loop proxy ceilings into geographically-deaveraged rates. State regulators will have to examine cost studies proposed for this purpose.

If the state regulator adopts a proxy for arbitration purposes, the proxy must be superseded once the state regulator completes its review of cost studies and finds compliance with the FCC rules. Thus, regardless of the way in which the state commission resolves its immediate need to identify prices for interconnection, collocation and unbundled elements, ultimately the commission will be required to

closely examine cost studies for compliance with the definitions and procedures set forth in sections 51.505 and 51.511 of the FCC rules.

3. Incumbent LEC Cost Studies

Q. CAN STATE REGULATORS USE EXISTING INCUMBENT LEC COST STUDIES FOR THIS PURPOSE?

A. No. The historical "just trust us" approach of incumbent LECs to cost studies is no longer allowed. The FCC has called for all parties to be able to review cost information and for state regulators to give "full and fair effect to the costing methodology" it adopts. (Paragraph 619) Moreover, the states must take into account that the incumbent LECs have an "asymmetric access to cost data." (Paragraph 680) This gives the incumbent LEC unequal power. Historically the inequality has been between those who would critically evaluate LEC cost studies -- such as the commission staffs and others -- and the incumbent LECs. In paragraph 680, the FCC explains that, because of this asymmetry of power over information, the FCC will require the incumbent LEC to "... prove to the state commission that the rates for each element it offers do not exceed the forward-looking economic cost per unit of providing the element." (Section 51.505(e))

For an economist, this standard of "proof" can be met only if critical analysis of the results of the cost study or model is possible in order to evaluate its reasonableness. In turn, this requires examination so that judgments may be formed about the reasonableness of inputs, outputs and the relationships used to translate inputs into outputs, namely, the foundations and relationships of the "model" itself. In the

following section, I provide an example of a dramatic difference in cost claimed for remote call forwarding. The magnitude of difference makes abundantly clear the necessity of evaluating a model for reasonableness to obtain confidence in the results.

Moreover, from the analyst's perspective, the results and summary of methodology of a cost study are, in a sense, only the tip of the iceberg: behind each cost study are a multitude of workpapers, and behind the workpapers are data sources and assumptions. All of these need to be reasonably explained and subject to examination to be able to determine whether a given cost study accurately reflects the appropriate methodology and accurately estimates costs. Sufficient information must be available so that informed analysis and evaluation is possible.

Historically, LEC cost studies have been "black box" models.By "black box" I mean that the relationships used to translate from inputs to outputs are unavailable to those who would bring engineering and economic judgments to bear and engage in an open dialogue about the proper way to characterize and express cost-causation relationships and the meaning and application of best practice operations and processes in a model.

The lack of openness of incumbent LEC cost studies goes beyond the absence of visible formulas and publicly-available documentation. It extends to issues of what data are used as model or study "inputs." Historically, it has been difficult to assess the reasonableness of LEC input data because it has not been easy or even possible to compare the inputs from one LEC's studies to those used in the studies of another LEC. Thus, apart from certain requirements for reporting uniformity, such as ARMIS filings in compliance with the Uniform System of Accounts, it is not easy to bring together

data from different LECs in a form that facilitates comparisons. Extensive use of non-disclosure requirements tends to protect rather than expose atypical or idiosyncratic data and individual states do not typically require LECs to show how their data inputs compare to data inputs used by other incumbent LECs.

The FCC has ruled that incumbent LEC cost studies must comply with the requirements for forward-looking economic cost studies. It is now time for state commissions to pry the lid, once and for all, from the LEC "black box" and expose the inner workings of all proffered cost models to the light of open debate.

4. The Hatfield Model Complies With the Requirements for Cost Studies

Q. YOU HAVE SAID THAT THE COMMISSION CANNOT USE THE COST STUDIES OF THE INCUMBENT LEC TO SET THE RECURRING RATES FOR UNBUNDLED NETWORK ELEMENTS. IS THERE A COST STUDY THEY CAN USE FOR THIS PURPOSE?

A. Yes. In contrast to the prevailing LEC practice of secrecy is the Hatfield Model, a telecommunications costing model developed by Hatfield Associates, Inc. of Boulder, Colorado at the request of AT&T and MCI. The Hatfield Model (Version 2.2, Release 2) is a model of the costs that an efficient local exchange carrier would incur to provide basic exchange service and unbundled network functions.

The Hatfield Model is a publicly available model that allows users to examine all the model's inputs, algorithms and results to evaluate whether the model produces reasonable estimates of element cost. Some of the inputs the user can directly specify;

others are incorporated into the model itself, but both are readily visible to the user. The inner workings of the model are captured by a set of Excel spreadsheets, which can be studied to see exactly how inputs are transformed into outputs, stage-by-stage. Documentation of the model includes descriptions of the model algorithms, inputs and assumptions. The model is open for inspection and analysis. A user may run the model to his or her heart's content to test the sensitivities of the model to changes in inputs. These characteristics of the model make it appropriate to use as a basis for evidentiary findings about the nature and magnitude of forward-looking economic cost. The Hatfield Model (Version 2, Release 2.2) is the current evolution in a series of models which, finally, have broken the incumbent LEC stranglehold on information necessary to actually engage in the debate required for reasoned decisionmaking in this area.

Q. YOU NOTE THAT THE HATFIELD MODEL IS OPEN FOR INSPECTION AND ANALYSIS. DOES IT MEET THE CRITERIA THE FCC HAS RULED MUST BE MET FOR A TELRIC COST STUDY?

A. Based on a careful reading of the FCC's order and my understanding of the Hatfield Model and its methodology, I believe that the model captures the costs that the FCC requires to be included in the prices of unbundled network elements and interconnection services. I also believe the Hatfield Model conforms more closely to the FCC costing principles than the cost studies of the incumbent LECs with which I am familiar. One way in which most incumbent LEC cost studies do not conform is that they have not followed a TELRIC methodology. The Hatfield Model attempts to identify all of the forward-looking costs that an efficient wholesale-only LEC would incur to produce the entire range of network elements that the FCC's Order requires to be unbundled.

The Hatfield Model estimates cost of individual network elements by first determining the capital requirements for each network element and then adding both the capital-related and non-capital-related expenses for each element. Where plant is used by only a single element, the Hatfield model assigns those costs to that individual element, consistent with the requirements of the FCC's TELRIC methodology that the capital costs and expenses be attributed directly to individual network elements "to the greatest extent possible." (Paragraph 694) Where two or more network elements use the same plant, the Hatfield Model attributes costs to each of the network elements that use that plant so that the sum of the capital costs for each of the network elements equals the total capital costs for providing all the network elements together. This approach conforms with the FCC's requirement that the prices for network elements reflect the economies of scale, scope and density that the incumbent LECs enjoy. (Paragraph 11) Moreover, the model attributes costs common to a particular group of elements to only those network elements using reasonable, nondiscriminatory factors (such as apportioning the costs of shared plant according to the ratio of the costs of the plant that is not shared between network elements). Therefore, it is consistent with the FCC's requirement that the incumbent LECs not be allowed to recover costs of shared plant disproportionately from network elements that would be especially hard for new entrants to build themselves or acquire from another source at this time. (Paragraph 696)

To these estimates of capital and network operations costs that are either part of the TELRIC of an individual element or that element's share of costs common to more than one network element, the Model adds a 10% markup, as an estimate of forward-looking overhead costs. This 10% markup reflects the level of "general and administrative"

costs that a firm operating in a competitive environment would incur to provide a total level of output equivalent to the total quantity of each network element. It includes a share of the expenses for corporate managers' salaries, support operations such as the legal and human resources department, and the like.

The FCC's rules require that such overhead costs be included to the extent that they vary with the output of particular network elements (despite their accounting classification), and thus are part of the TELRIC of those elements. The FCC also requires, to the extent that there are any such overhead costs that are common to several wholesale elements, or to wholesale and other functions, that the prices of network elements include "a reasonable share of common costs." The procedure of estimating the overhead costs of a wholesale-only carrier, which is what Hatfield does by adding the 10% markup, satisfies the FCC requirements. While statistical evidence and a growing literature on activity-based accounting systems suggest that many of the costs that have traditionally been considered "overhead" costs should actually be considered service-specific or element-specific costs, the Hatfield Model method for treating overhead costs renders any precise distinction between element-specific and "common" overhead costs unnecessary. Insofar as the 10% markup captures all of the relevant overhead costs, it includes any element-specific costs and a reasonable share of any "common" overhead costs. This approach ensures that each network element recovers at least its "reasonable" share of such common costs, to the extent that they exist. Moreover, if regulators set prices for network elements equal to the costs that the Hatfield Model reports for each element, these prices would allow a firm that is engaged solely in providing network elements on a wholesale basis (with no retail functions) to recover all of its economic costs of doing business, including a reasonable profit, but no more. From this vantage point also, the Hatfield approach lies well

within the bounds of reasonableness. I therefore urge regulators to adopt the Hatfield Model costs as the prices for unbundled network elements and interconnection services.

C. Non-Recurring Rates And Costs of Unbundling Elements

Q. DO STATE REGULATORS HAVE TO USE THE SAME PRINCIPLES IN SETTING NON-RECURRING RATES FOR UNBUNDLED NETWORK ELEMENTS?

A. Yes. Incumbent LECs do not only charge recurring rates for the use of their networks, they also charge non-recurring rates to recover the costs of ordering and any initial non-recurring costs of making the service or element available. These rates must also be set by state regulators. Granting incumbent LECs the discretion to set non-recurring rates without regard to economic costs would allow them to act on their incentive to impede or prevent entry just as much as granting them discretion to set recurring rates without regard to economic costs. In particular, excessive non-recurring upfront costs can function as a financial barrier to entry. (See, Paragraph 749 of the Order) Thus, all of the same considerations that the FCC has laid out for determining proper recurring costs should be applied to non-recurring costs.

One of the most important requirements a state commission can insist upon is that charges for non-recurring costs reflect the forward-looking economic costing principle required by the FCC. To do otherwise is to allow the incumbent LECs to impose unduly high non-recurring costs on entrants not because they represent the efficient costs of providing those unbundled elements but in order to impede or prevent entrants from entering by using unbundled network elements. This requirement needs to apply to two forms of non-recurring costs: the costs of ordering service, and the determination

of the costs of unbundling.

This is not merely a hypothetical concern. The experience that has occurred in several states with the ordering charges for Remote Call Forwarding (RCF) as an interim local number portability solution offers a clear example of how non-recurring charges can be used to prevent use of an element or function of an incumbent LEC's network. Although the functions are performed in networks that use very similar facilities, the prices to be charged to order RCF differed between Texas and Illinois by an enormous amount.

In paragraph 6 of a stipulation and agreement in the Texas Public Utility Commission Docket No. 14940, signed by SWBT and a number of other parties, such as Texas PUC and Time Warner Communications, SWBT commits to the following:

The Settling parties agree that SWBT will charge a Secondary Service Order charge of $16.95 per telephone number ported. As an alternative to the $16.95 charge per telephone number ported, to recognize the efficiencies associated with large volumes of service orders, SWBT agrees to allow the LSPs to utilize a mechanized system to make bulk transfers of service orders by using a similar system to that currently allowed in Section 10 of SWBT's General Exchange tariff relating to Call Management Services. Specifically, after payment of a one time charge of $4,100.00 for the initial programming, SWBT will accept number changes via magnetic tape, or other agreed medium, at a rate of $10.00 per program run and $1.00 per telephone number ported. Any LSP or bill aggregator, (i.e., a clearing house type entity) who submits orders on tape pursuant to these provisions may submit orders on behalf of other LSPs without

payment of additional programming fees or additional programming runs.

These provisions mean that if competitors collectively order 50,000 ported numbers over the course of 50 orders of 1000 numbers per tape (possibly one tape per month) then the effective service ordering charge is $1.092 per number ported.

By contrast, in Ill. C.C. Docket 95-0296, Ameritech Illinois proposed Standard Business Service ordering Charges of $34.50. (ILL.C.C. No. 5, Part 2 - Section 28, 2nd Revised Page 5, Effective October 3, 1995.) Ameritech revised both the costs studies and the service ordering charge a number of times; the proposed charges, however, are never below $30.00 per number ported. Also, I understand that the cost studies supporting these charges, though proprietary, show costs greatly in excess of the $34.50, which caused Ameritech to claim that their rates were really very reasonable. These costs were based, however, on ordering costs in a retail environment, not a wholesale one.

In general, state regulators should require that the ordering systems whose costs form the basis of part of any non-recurring charges should reflect electronic ordering, ordering in bulk, and all other applicable efficiencies that can exist in a wholesale, rather than a retail, market.

Q. YOUR LAST EXAMPLE DISCUSSED NON-RECURRING RATES TO RECOVER THE COSTS OF ORDERING. DO NON-RECURRING RATES ALSO RECOVER THE COST OF UNBUNDLING?

A. Yes. Just as with non-recurring costs for ordering a service, state regulators should

also insist that the costs recovered by the incumbent LECs for unbundling network elements be calculated based on efficient unbundling. This is another area in which the incumbent LECs can act forcibly on their incentives to impede or block competition. It is also an area in which few of the other safeguards such as an insistence on strict nondiscrimination can blunt the ability to act on those incentives. Therefore, state regulators need to be particularly vigilant in examining with a critical eye claims about the costs of unbundling.

In most cases, the costs of unbundling will be non-recurring costs. In this regard, state regulators must take strongly into account the principle that costs be recovered only once, and be recovered equitably. The FCC's example of how to treat shared facilities for physical collocation service that will benefit future entrants matches costs and payments for benefits in time when facilities are shared between or among entrants. (See, Paragraph 750) This principle should be generalized, insofar as practical, to all elements shared in time. Said differently, if the first entrant pays the efficient costs that an incumbent LEC would incur to be able to provide a particular unbundled network element, later users of the same unbundled network element should share equitably in the recovery of that cost. The logic should apply to any non-recurring cost that later entrants benefit from that an original requester pays.

Another way in which the FCC's example should be generalized is to include the incumbent LEC as one of the possible beneficiaries through time. In effect, some requests for unbundled network elements may be filled by the incumbent LEC by upgrading the facility in a manner that will be valuable to the LEC in the future, while charging the entrants for all of the costs of the upgrade. To the extent the incumbent

LEC will benefit from the upgrade because it regains use of the facility in the future, through customer churn or some other event, the effect of such a charge would be to force the entrant to bear the cost of the incumbent LEC's network upgrades that are intended to make it easier for the incumbent to compete in the future. In this case, the requirement that the charge be imposed equitably needs to be expanded to take into account the future benefits to the incumbent LEC from activities taken to unbundle a network element for an entrant that may only be used for a fixed period of time before it reverts to the incumbent LEC to reuse.

An example of such a situation would arise if an entrant requests unbundled loops, and to provide them the incumbent LEC has to condition them. If the entrant later relinquishes the loop—perhaps because the customer has decided to return to the incumbent LEC or because the customer moved and the new occupant chose the incumbent LEC—the incumbent LEC benefits from the conditioning performed on the loop.

Extending the principle of an equitable matching of costs and payments for benefits in time to include the incumbent LEC's future use of facilities is particularly important. The incumbent LEC has the incentive and the ability to force the entrants to pay for unnecessary work (from the entrant's perspective) on unbundled network elements in order to impede competitive entry. It is a double blow to competition to have the entrant not only pay for unnecessary work, but to have that work position the incumbent LEC to be in a better position to compete.

IV. COMPENSATION FOR THE TRANSPORT AND TERMINATION OF LOCAL TRAFFIC

Q. WHY IS THERE A NEED FOR COMPENSATION FOR THE TRANSPORT AND TERMINATION OF LOCAL TRAFFIC?

A. Local networks must be interconnected if the public is to have any chance to gain the benefits of local exchange competition. Consumers demand the ability to reach all customers in the local calling area, and to do so without having to pay elevated prices to reach customers that subscribe to a different local carrier. If local networks are not interconnected, an entrant cannot provide this ubiquity of reach, and the incumbent can use its absence to convince customers not to shift to the services of the entrant. Thus, interconnection of local networks is absolutely essential if consumers are to have any chance of getting the benefits of local exchange competition. Interconnection opens up the question of what the compensation will be for terminating local exchange traffic.

Q. HOW HAS THE FCC RULED THAT COMPENSATION SHALL BE PROVIDED FOR THE TRANSPORT AND TERMINATION OF LOCAL EXCHANGE TRAFFIC?

A. The FCC has established a framework to govern interconnection and compensation for terminating local exchange traffic. Interconnection is the physical linking together of two networks, and the FCC has set rules that govern interconnection. The FCC has separated compensation into transport and termination. The FCC has ruled that termination of a local call by the incumbent LEC as used in the 1996 Act means the act of switching the call to the intended recipient at the end office switch that serves that subscriber. The FCC has also ruled that the 1996 Act separately discusses transport of

that call to the end office when an entrant does not interconnect at that end office directly. As the FCC noted:

> We define "transport," for purposes of section 251(b)(5), as the transmission of terminating traffic that is subject to section 251(b)(5) from the interconnection point between the two carriers to the terminating carrier's end office switch that directly serves the called party (or equivalent facility provided by a non-incumbent carrier.) (Paragraph 1039)
>
> We define "termination," for purposes of section 251(b)(5), as the switching of traffic that is subject to section 251(b)(5) at the terminating carrier's end office switch (or equivalent facility) and delivery of that traffic from that switch to the called party's premises.

Both of these functions are included in the FCC's rules governing compensation due the incumbent LEC for completing local calls that originate on another carrier's network. Within the framework of its rules, however, there are a number of vital issues that state regulators must still decide. In particular, state regulators must determine the actual compensation to be paid the incumbent LEC and the compensation the incumbent LEC shall pay the entrant.

A. Compensation to the Incumbent

Q. WHAT HAS THE FCC RULED SHALL BE THE APPROACH TO COMPENSATION TO THE INCUMBENT?

A. The FCC rules governing compensation to the incumbent LEC for completing local calls have several components. The FCC has ruled that the compensation for transport and termination of local calls will be based on economic cost. To achieve this, the FCC ruled:

> States have three options for establishing transport and termination rate levels. A state commission may conduct a thorough review of economic cost studies prepared using the TELRIC-based methodology outlined above in the section of the pricing of interconnection and unbundled elements. Alternatively, the state may adopt a default price pursuant to the default proxies outlined below. If the state adopts a default price, it must either commence review of a TELRIC-based economic cost study, request that this Commission review such a study, or subsequently modify the default price in accordance with any revised proxies we may adopt. As previously noted, we intend to commence a future rulemaking on developing proxies using a generic cost model, and to complete such proceeding in the first quarter of 1997. As a third, alternative, in some circumstances states may order a "bill and keep" arrangement, as discussed below. (Paragraph 1055, footnote omitted)

If a state selects the first option, after performing the thorough review of the economic cost studies both for conformance with the TELRIC principles the FCC has given and for accuracy of results, it must set the rates to recover only what the FCC has defined

as economic costs. As the FCC stated:

> Consistent with our conclusions about the pricing of interconnection and unbundled network elements, we conclude that states that elect to set rates through a cost study must use the forward-looking economic cost-based methodology, which is described in greater detail above, in establishing rates for reciprocal transport and termination when arbitrating interconnection arrangements. (Paragraph 1056, footnote omitted)

The FCC has ruled that the structure of compensation paid to incumbent LECs for transport and termination should follow the switched access model of separate rate elements for different functions (although the level of those rate elements is not to be based on switched access charges). Thus, it has ruled that incumbent LECs shall be paid for tandem switching, for transport between the tandem and the end office, and for end office switching if any of these elements are used by an entrant. It has required, however, that these payments must be based on the TELRIC costs of supplying them, plus a reasonable share of forward-looking common costs, but no more. It has also ruled on when and how bill-and-keep can be used.

Q. WHAT SHOULD STATE REGULATORS USE TO SET TELRIC-BASED RATES FOR COMPENSATION?

A. I urge that the state regulators use the Hatfield Model to establish prices in conformance with TELRIC principles, under the presumption of symmetry in rates (unless the entrant proves it is entitled to be paid a higher rate). As was discussed in the section above on unbundled network elements, the Hatfield model produces reasonable estimates of TELRIC costs, and estimates more consistent with the FCC's required TELRIC

methodology than cost estimates derived from incumbent LEC cost studies with which I am familiar.

Q. HOW SHOULD LOCAL EXCHANGE TERMINATING TRAFFIC BE MEASURED?

A. I urge that only the most efficient measurement and billing procedures be used to implement compensation, and that the incumbent LECs be allowed to recover in any rates charged to compensate for transport and termination only the forward-looking costs of the most efficient measurement and billing procedures. Specifically, I urge that auditable Percent Local Usage reports be used to determine the portion of traffic for which local interconnection compensation is due, rather than new measurement systems married to the billing system for switched access that would have to be developed and implemented at substantial cost. To do otherwise would prevent consumers from gaining the benefits sought from the 1996 Act.

Q. WHY DO YOU RECOMMEND THE USE OF A PERCENT LOCAL USAGE FACTOR, RATHER THAN THE DEVELOPMENT OF A NEW SYSTEM FOR MEASUREMENT AND BILLING OF TERMINATING LOCAL EXCHANGE TRAFFIC?

A. Just as the incumbents have the incentive and the ability to try to prevent genuine competition using unbundled network elements by imposing excessively high non-recurring costs, the incumbents have the same incentives and ability to try to thwart the development of effective competition by imposing excessive and disproportionate costs for measurement and billing on entrants.

Many incumbent local exchange carriers do not now have a means to determine whether

terminating traffic is local or intraLATA without imposing inefficiencies on the carrier delivering that traffic by requiring them to send it on separate trunk groups, which forces them to lose some of the economies of scale available in trunking. Developing and implementing a new system to do this will be costly. While it is the case that incumbent local exchange carriers can and do measure and bill for at least some of their local exchange traffic, the systems they use for that purpose exist mainly in the originating switch and cannot be used to determine whether a terminating call is a local or intraLATA toll call. Moreover, the measurement system that does exist for measuring some terminating traffic, switched access, cannot handle calls that are not preceded by a "1." Thus, any arrangement for terminating local exchange traffic that would have a charge per minute could force incumbents and entrants to develop new systems to sort out different kinds of traffic. Costs associated with the creation of systems for measuring and billing terminating local exchange calls will fall disproportionately on new entrants.

Q. IS THIS JUST A THEORETICAL CONCERN?

A. No. The development of measurement and billing systems for switched access shows that this concern is not an idle one. AT&T prior to divestiture wanted a new measurement and billing system for interconnection for what were then called Other Common Carriers—the first ones being MCI and Sprint—in order to be able to charge them for all of the so-called non-conversation time: the time spent setting up calls that occurs in addition to the time when conversations actually occur. Until the advent of the Other Common Carriers, all that the switches were designed to measure was conversation time, as that was all that was billed to end users. AT&T knew the average non-conversation time of a call, and could have factored the costs of that into

rates based on conversation time, but it chose not to take that approach. Because switched access was to be measured and billed differently from how end user calls were measured and billed, the incumbent LECs needed new measurement and billing systems. The new systems turned out to be much more costly than the systems used for end user measurement and billing. According to data supplied in Massachusetts in 1995, it costs NYNEX only $0.000007 per message to bill a local exchange call, but $0.000215 per minute to bill a carrier access call. (Attachment 3 to the testimony of Ms. Paula Brown, in D.P.U. 94-185) According to Page 2 of 9 of Ms. Brown's Attachment 3, the average duration of a call is 3.16 minutes. Multiplying that times her carrier access billing cost shows a cost almost 100 times greater to bill a single call using the billing system for carrier access than the cost to bill an end user. The incumbent local exchange carriers are indeed working on developing a new system to measure terminating local exchange traffic coming from other carriers that uses Signaling System 7 (SS7) data. If implemented, this would have several bad effects on entrants. First, it is going to add significant costs to the cost of terminating local exchange traffic. I understand that, based on data provided under proprietary agreements in at least two U S West states, Washington and Oregon, developing such a measurement and billing system could more than double the forward-looking economic cost of the end office switching function for terminating traffic from the cost without measurement and billing. This is a significant cost burden to add to local exchange service. Second, it will penalize entrants because they will not be able to use it for all of the traffic that incumbent LECs terminate to them, as not all LEC switches are yet equipped to use SS7. Thus, although all of the traffic going from an entrant to an incumbent could be sorted and measured in this manner, the converse would not be true.

Moreover, I understand that the same cost data showed that the measurement function would be even more costly than the measurement function now performed for switched access. U S West proposed to use the same billing system it uses for interexchange carriers, with billing costs that are higher than the costs to bill measured local exchange traffic. In summary, the proposal is a way to increase the already inefficiently high costs of measuring and billing regular switched access, and impose those costs on entrants.

In order to be able to participate in a measured approach to compensation, the entrants would also have to incur the costs to install measurement equipment in their networks. The entrants cannot opt out of this requirement because to do so would put them at an even bigger disadvantage than if they installed the equipment. If compensation were to be on a measured use basis and the entrants did not install measurement equipment, they would not only pay the incumbent to terminate their traffic, but would also pay to terminate the incumbent's traffic. Thus, they would be forced to install measurement equipment themselves. As noted above, however, not all traffic from incumbent LECs uses SS7 signaling.

Additionally, based on the experiences to date with the billing for carrier access charges, the use of a bad measurement and billing system will pose additional costs in the form of auditing and verification costs. Carrier access bills have been sufficiently in error that it has been cost effective for interexchange carriers to hire people full time to audit and try to get corrections made in these bills. These auditing costs have not been one-time costs, but continue to be incurred today. The costs to the interexchange carriers are less than the savings from what they otherwise would have been required

to pay, but these additional expenditures on auditing due to the use of a bad measurement and billing system bring with them no social benefits whatsoever. In other words, these additional costs are a total dead weight loss to society.

Increases in these costs would fall disproportionately on entrants. The incumbent LEC would experience at least some of the same costs for each minute or message delivered to an entrant for termination, but those minutes -- while most likely equal to the number received from the entrants -- would constitute a much smaller percentage of the incumbent LEC's total traffic, at least for some time to come. The result is that the impact is much less on the incumbent than on the entrants of being faced with unnecessary and, from the point of view of society, wasteful costs than it is on the entrants.

Q. IS THERE ANY EVIDENCE THAT THE INCUMBENT LECS WANT TO IMPOSE DISPROPORTIONATE COSTS FOR MEASUREMENT AND BILLING ON ENTRANTS?

A. Yes. That incumbent LECs see an opportunity to impose disproportionate costs on entrants is supported by the nature of the agreement that Sprint negotiated with entrants. The Sprint agreement requires both the incumbent and the entrant to measure traffic. There are a number of fixed costs incurred for measurement and billing even if measurement and billing is based on exchanging Percent Local Usage information. The entrant must spread the fixed costs of installation and use over a much smaller total base of operations. The result is that average cost per unit of traffic is raised more for the entrant than for the incumbent.

That the average cost per unit of traffic is raised more for the entrant than for the incumbent is a feature of the interplay between the cost structure of the billing system and the vastly different proportions of total traffic that is interconnected for the incumbent and the entrant. It has been argued that measurement costs nonetheless may be worth incurring so that, among other reasons, the payments a carrier receives for terminating interconnected traffic can vary with the volume of that traffic. The usual claim is that this is particularly important because of the possibility that the flow of traffic between two carriers might be substantially unbalanced.

The billing and measuring system required by the Sprint agreement, however, would not serve this function. It would not allow a carrier to receive larger net payments if it terminated substantially more interconnected traffic than it originated because the agreement requires that bill-and-keep take over if traffic is *out* of balance by more than 105 percent. Thus bill-and-keep is used when traffic is out of balance and explicit payment is used when traffic is roughly in balance -- the exact opposite of the FCC requirement for use of bill-and-keep. It is difficult to make much sense of this arrangement, but it is easy to see that it does ensure that entrants' costs of serving a customer will be disproportionately increased by the requirement that they install measurement equipment that may not even be used.

Q. WHAT SHOULD STATE REGULATORS ORDER FOR DETERMINING THE AMOUNT OF LOCAL EXCHANGE TRAFFIC PASSING FROM ONE NETWORK TO ANOTHER?

A. To avoid the imposition of disparate and inefficient administrative costs, state regulators should require all carriers—incumbents and entrants alike—to report a percentage local

traffic amount subject to an auditing requirement as the basis for compensation payments for transport and termination. This would mirror the current practice for jurisdictional reporting of terminating switched access.

Carriers can count minutes of use coming into their switches over a trunk group. Taking that count, plus the percentage of local traffic would enable the receiving carrier to bill for transport and termination without having to invent a whole new measurement and billing system. This would be far more efficient than allowing the incumbent LECs to act on their incentives to impose unnecessary and disparate cost burdens on entrants in an attempt to impede the development of local exchange competition.

B. Compensation to the Entrant

Q. WHAT ARE THE REQUIREMENTS GOVERNING COMPENSATION TO THE ENTRANT FOR TERMINATING LOCAL EXCHANGE TRAFFIC?

A. The 1996 Act addresses compensation to be paid to entrants when they complete local calls that originate on the network of the incumbent. The 1996 Act calls for such compensation to be reciprocal.

Q. WHAT HAS THE FCC RULED CONSTITUTES RECIPROCAL COMPENSATION?

A. The FCC has ruled that reciprocal compensation should be symmetrical compensation, unless an entrant can prove through the use of economic cost studies that the entrant should be paid a higher rate. As the FCC stated:

> Symmetrical compensation arrangements are those in which the rate paid by an incumbent LEC to another telecommunications

> carrier for transport and termination of traffic originated by the incumbent LEC is the same as the rate the incumbent LEC charges to transport and terminate traffic originated by the other telecommunications carrier. (Paragraph 1069)
>
> Given the advantages of symmetrical rates, we direct states to establish presumptive symmetrical rates based on the incumbent LEC's costs for transport and terminating of traffic when arbitrating disputes under section 252(d)(2) and in reviewing BOC statements of generally available terms and conditions. If a competing local service provider believes that its cost will be greater than that of the incumbent LEC for transport and termination, then it must submit a forward-looking economic cost study to rebut this presumptive symmetrical rate. (Paragraph 1089)

In considering how entrants should be compensated, the FCC specifically addressed tandem switching functionality. The C.F.R. in section 51.709(a)(3) states:

> Where the switch of a carrier other than an incumbent LEC serves a geographic area comparable to the area served by the incumbent LEC's tandem switch, the appropriate rate for the carrier other than an incumbent LEC is the incumbent LEC's tandem interconnection rate.

In the text of its Order, the FCC made clear that by the use of the "tandem interconnection rate," the FCC meant the sum of the tandem charge, the transport

charge, and the end office termination charge. As the FCC stated:

> We, therefore, conclude that states may establish transport and termination rates in the arbitration process that vary according to whether the traffic is routed through a tandem switch or directly to the end-office switch. In such event, states shall also consider whether new technologies (*e.g.*, fiber ring or wireless networks) perform functions similar to those performed by an incumbent LEC's tandem switch and thus, whether some or all calls terminating on the new entrant's network should be priced the same as the sum of transport and termination via the incumbent LEC's tandem switch. (Paragraph 1090)

The network implementation white paper describes the ways in which the physical networks can be interconnected for traffic delivery between the entrant and incumbent LEC networks. It describes the charges that apply based on the rules the FCC has prescribed.

C. Why the FCC Rules Reduce the Benefits From Bill-and-Keep

Q. YOU SAID THE FCC RULES PREVENT BILL-AND-KEEP FROM BRINGING ITS GREATEST BENEFITS TO CONSUMERS. WHY?

A. The FCC provides for three approaches to compensation. One of these is bill-and-keep, which could in principle be implemented without an examination of cost studies. A careful reading of the Order, however, suggests that the FCC intends to limit bill-and-keep to apply only to termination, not transport. Although section 51.701(e)

includes both transport and termination in its definition of reciprocal compensation arrangements, succeeding sections narrow the applicability of bill-and-keep. Section 51.713, in particular, limits the definition of bill-and-keep arrangements for reciprocal compensation to "those in which neither of the two interconnecting carriers charges the other for the termination of local telecommunications traffic that originates on the other carrier's network."

As a result, the FCC approach would not end the need to measure terminating traffic, one of the important benefits of bill-and-keep. Measurement would still be needed for transport. The failure of the FCC to include transport in a bill-and-keep approach makes it less beneficial for competition than it would otherwise be.

V. INTRASTATE ACCESS CHARGE REFORM

Q. WHY ARE YOU ADDRESSING SWITCHED ACCESS CHARGES IN THIS ARBITRATION?

A. With every decision prying open local exchange markets to competition, the need to eliminate above cost prices for access becomes more immediate. New entrants are making decisions affecting local competition which are distorted whenever prices for access exceed cost. (Even the temporary "surcharge" placed by the FCC on unbundled local switching can be expected to distort decisionmaking.) For this period of arbitrations, while business decisions about whether, how, and which local markets to enter are being made at a rapid pace, it is vitally important that any state that has not already done so initiate intrastate access reform. Otherwise, emerging competition will be damaged, new competitors will gravitate toward more favorable procompetitive

environments, and competition will be plagued by inefficient choices that raise interexchange carriers costs and so limit price reductions in intrastate toll charges.

This arbitration proceeding provides the state commission with the opportunity to price intrastate access charges at economic cost. The Hatfield Model provides the means to identify the appropriate cost and prices. I urge the state commission to initiate intrastate access reform now.

Q. ARE THERE SPECIFIC EVENTS DRIVING THE NEED TO INITIATE ACCESS CHARGE REFORM NOW?

A. Yes. Two events drive the need to initiate access charge reform now: (1) the announcement in the Order that the FCC will be addressing access charge reform concurrent with its adoption of a competitively-neutral universal service mechanism, and (2) the section 271 public interest test that requires elimination of the artificial advantage conferred on BOCs by above-cost access charges. In the first case, alignment of intrastate access rates to cost must occur in tandem with the federal reforms to ensure that ratepayers are not paying twice for universal service support. In the second case, above-cost access confers an ability to discriminate that distorts and disrupts the competitiveness of both the local and long distance markets. In at least MCI's view, until access charges, both interstate and intrastate, are reduced to forward looking, economic cost, regulators may not legally allow BOC entry into in-region long distance under the 1996 Act.

I urge each state to initiate a proceeding now, if it has not already done so, in which the requisite record can be developed to eliminate completely prices for access that

exceed forward-looking economic cost. Taking charge of intrastate access reform now not only gives the state control over the date when the temporary "surcharge" on the unbundled local switching element introduced by the FCC is eliminated but also allows the state to coordinate its access charge reform with its creation of a competitively-neutral universal service support mechanism.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

DIRECT TESTIMONY OF JERRY W. MURPHY

ON BEHALF OF MCI

MCI - UNITED/CENTEL ARBITRATION

OCTOBER 11, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jerry W. Murphy, and my business address is 2250 Lakeside Boulevard, Richardson, Texas 75082.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by MCI Telecommunications Corporation as Director of Technical Planning and Development for MCImetro.

Q. PLEASE GIVE A BRIEF DESCRIPTION OF YOUR BACKGROUND AND WORK EXPERIENCE.

A. I am a graduate of the University of Notre Dame. I have attended several continuing education programs in engineering, telecommunications and business. I joined MCI in 1980 as an engineer and contributed toward the rapid expansion of the MCI long distance network resulting from the opening of that market to competition. Thereafter, for a period of four years, I was instrumental in the successful design, implementation and launch of MCI into the competitive local access business. Prior to my current assignment, I was Director of Engineering and Construction for MCImetro and, its predecessor, Access Transmission Services, Inc. I have held my current position for two years. My responsibilities include the planning and design for all transmission systems in new and existing cities nationwide in support of

MCI's entry into the local services market. In addition I manage departments responsible for the acquisition of rights-of-way, municiple, franchise and real estate agreements necessary for the deployment of the MCImetro network.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to address the following topics: (1) ***the MCI Local Network:*** an overview of the local network that MCI is installing; (2) ***the Interconnection of Networks:*** the steps necessary to interconnect MCI's local network with the ILEC network so that all forms of traffic can be exchanged between the networks; (3) ***Access to Unbundled Network Elements:*** a description of unbundled network elements that MCI is requesting and how MCI proposes to gain access to these unbundled elements; and (4) ***Collocation:*** a description of collocation arrangements required under the Act and under the FCC's recent order. I will also discuss related issues such as ordering and provisioning that play a critical role in the success or failure of interconnection and use of unbundled elements.

Network unbundling will allow MCI and other competitive local exchange companies ('CLECs") to provide a wide variety of new products to a broad array of customers using portions of the ubiquitous ILEC network combined with differentiating network elements provided by the CLEC. Interconnection, effective network unbundling, and procedures to make collocation viable are essential in order for competition to become a reality in the local exchange market.

MCI'S LOCAL NETWORK

Q. PLEASE DESCRIBE THE LOCAL NETWORK MCI IS INSTALLING.

A. To understand MCI's need for interconnection, access to unbundled elements and

collocation, it is necessary to understand MCI's local network and how MCI plans to use that network to provide local service. MCImetro is MCI's subsidiary in charge of constructing local networks and, from a technical perspective, interconnecting MCI's local network with the ILEC's network. To understand MCImetro's network, how it has evolved, and how it will continue to evolve, it is necessary to understand the history of MCImetro. MCImetro began its corporate life as a special access provider, also known as a competitive access provider (CAP). Special access providers provide high capacity network facilities to mid and large business customers for the purpose of originating and terminating interexchange traffic directly to or from the interexchange carrier. As such, MCImetro's original network consisted of a limited set of fiber optic rings in several urban areas.

In January 1994, MCI made the decision to expand MCImetro to offer switched local services. Beginning with the fiber rings, MCI embarked on a capital construction program with two major goals. First, MCImetro had to expand its existing fiber ring facilities to reach more customer buildings and construct new rings in other urban areas. Second, MCImetro had to install local switches to provide switched services. (MCI's interexchange switches were not suitable for handling local traffic without significant modifications.) Over the last two and one half years, MCI has invested over $700 million in its local network. As a result, as of the date of my testimony, MCI's local networks, nationwide, consist of approximately 2,600 route miles of fiber rings and 13 switches.

While MCI's local network is growing, it is still small compared to the ubiquitous reach of the ILECs' networks. While MCImetro has been building local networks for just over 2 years, the ILECs have been building local networks for over one hundred years. While MCI's local network passes by several thousand

buildings in mostly urban areas, the ILECs' networks reach into practically every building and home in the country. While MCImetro has installed 13 local switches, the ILECs collectively own over 23,000 local switches. It is not an overstatement to say that the ILECs' networks are practically everywhere.

Q. WHAT IS MCI'S GOAL IN PROVIDING LOCAL SERVICE?

A. MCI's goal is to reach a broad array of customers, business and residential, to provide local services that are consistent across geographic areas and are differentiated from today's monopoly offerings. Thus, while total service resale is part of MCI's local efforts and will in some circumstances be MCI's vehicle for initial entry into the local market, resale alone will not allow MCI to differentiate its service or develop consistent services across geographic areas. In order to reach that goal, and enable true competition in the local services market, MCI and other competitive local exchange carriers (CLECs) must be able to create and offer their own services. The primary means of achieving this is through deployment of MCI's own local facilities. This has been the path that MCI has chosen to date. However, as mentioned earlier, MCI's significant investment in switching and network construction over the past two plus years has only allowed it to reach a maximum of several thousand buildings, mostly in urban areas. Network unbundling, discussed in more detail below, will allow MCI and other CLECs to provide a broad array of new products to a much larger group of customers using portions of the ubiquitous ILEC network combined with differentiating network elements provided by the CLEC. Without effective ILEC network unbundling, real competition will not become a reality.

One further item is worth noting. MCI's local network has a substantially

different architecture than that of the ILEC. ILEC networks, developed over many decades, employ an architecture characterized by a large number of switches within a hierarchical system, with relatively short subscriber loops. By contrast, MCI's local network employs state-of-the-art equipment and design principals based on the technology available today, particularly optical fiber rings, that does not require the deployment of as many switches. In general, there is a trade-off between the number of switches and the length of the local loop. The fewer the switches deployed in any given territory, the longer the loop length necessary to serve customers, and vice versa. In any given service territory, MCI will have deployed fewer switches than the ILEC. In general, at least for now, MCI's switches all serve areas at least equal in size if not greater than the serving area of the ILEC tandem. For example, in Baltimore, Bell Atlantic uses two access tandems to serve the Baltimore local calling area. MCI uses just one. Thus, MCI's one switch in Baltimore serves an area actually greater than the service area of either of BA's tandems. Similarly, in New York, NYNEX has six tandems access that serve the New York Metropolitan LATA; initially, MCI has deployed one switch to serve the same geography. This last point becomes critical later in my testimony as I discuss reciprocal compensation arrangements for transport and termination of traffic.

In sum, MCI's recent but very real experience in deploying local services gives it a unique perspective on what it takes to make competition a reality. Our "hands on" experience allows us to be very clear on what will be required in the areas of implementing network interconnection and gaining access to unbundled ILEC network elements.

INTERCONNECTION OF NETWORKS

Q. WHAT IS INTERCONNECTION AND WHY IS IT IMPORTANT?

A. Building a local network means nothing unless that network can be seamlessly interconnected with the ILEC's network and with the networks of other telecommunications carriers. In the context of my testimony, interconnection means the linking of networks. The point at which MCI's local network physically connects to the ILEC's network is called the interconnection point (IP), or sometimes the point of interconnection (POI). This definition of "interconnection" is consistent with how the FCC defined that term at Paragraph 176 of the First Report and Order in CC Docket No. 96-98, In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 (the "Order"). Connection of unbundled elements ("access to unbundled elements") to the MCI network is discussed later in my testimony.

The IP plays a critical role in overall interconnection. From a financial perspective, the IP represents the "financial demarcation" -- the point where MCI's network ends and the ILEC's "transport and termination" charges begin. From an engineering perspective, there are variety of things that must happen at the IP to make interconnection seamless and complete. In my testimony, I focus on the engineering aspects, but obviously the financial ramifications have a significant impact on how we interconnect and exchange traffic with the ILEC. Therefore, there also is a later discussion about the financial implications of interconnection.

Q. WHAT IS REQUIRED TO PHYSICALLY LINK MCI's LOCAL NETWORK WITH THE NETWORKS OF INCUMBENT LOCAL EXCHANGE CARRIERS?

A. From MCI's viewpoint, physical linking of networks is not a daunting engineering

task. Carriers have interconnected networks -- local network to local network and interexchange network to local network -- for years. Thus, physical linking is neither new nor overly complicated.

Physical linking of networks involves the following steps:

- The physical connection of MCI's facilities to the ILEC facilities at the interconnection point (IP).
- The establishment of trunking arrangements for the exchange of local traffic, for the exchange of intraLATA and interLATA toll traffic, for "operator-to-operator" calls, for directory assistance calls, for 911/E911 calls, and for "transit" traffic.
- The physical connection of MCI's signaling network and the ILEC's signaling network so that signaling information can be exchanged.

I discuss these steps in more detail below.

1. Interconnection Point (IP) for exchange of traffic

Q. WHAT ISSUES ARE INVOLVED IN THE ESTABLISHMENT OF AN INTERCONNECTION POINT (IP)?

A. From an engineering perspective, establishment of the IP includes determination of where the IP is located, the method of interconnection, and the types of facilities that will be used to carry traffic back and forth over the IP.

a. Location of the IP

Q. PLEASE DISCUSS THE LOCATION OF THE IP.

A. As the Act and the FCC Order states, the ILEC must provide interconnection "at any technically feasible point within the ILEC's network." (Final Rules, Section 51.305(a)(2)) Thus, MCI, as the new entrant, is permitted to select the IP from any point in the ILEC's network where it is technically feasible to physically interconnect networks and exchange traffic. (Order, at Paragraph 220, footnote 464) Specifically, MCI must have the ability to select the location or locations of any IP so long as it is within the LATA that contains the end offices for which traffic will be exchanged. Moreover, as the FCC Order notes, "technically feasible" under this definition "refers solely to technical or operational concerns, rather than economic, space, or site considerations." Thus, so long as the ILEC can -- from a technical perspective -- take the traffic from the IP and terminate it to any particular end office, then that IP is technically feasible.

I raise this because of a special problem MCI has faced in New York with NYTEL. NYTEL has attempted to make MCI establish IPs at each of their access tandems in the LATA that covers the Metropolitan New York City area. There are six such access tandems in that LATA. Clearly, for a new entrant such as MCI, physically building out facilities to establish an IP at each of those access tandems would be a time consuming and expensive proposition, delaying the ability of MCI to offer service in that LATA and making it more expensive than necessary to offer that service.

The "technical feasibility" portion of the FCC Order precludes NYTEL from insisting on this build out, and here's why. MCI already has established an IP with NYTEL in Manhattan. Because of NYTEL's extensive transport network in the LATA, it is technically feasible for NYTEL to take traffic from that IP and transport it to any end office in the LATA, regardless of which access tandem that end office

subtends. Therefore, that IP can -- and at MCI's discretion should -- serve as the IP for the entire LATA. I also note that Ameritech and MFS have agreed to a single IP per LATA.

Naturally, however, any decision on where an IP is located or whether to use more than one IP will have an impact on the transport portion of any transport and termination compensation paid to the ILEC. If MCI chooses to have only one IP in the LATA, for example, the transport charges that MCI must pay as part of "transport and termination" for local calls will reflect the increased distance that calls must travel from the IP to the particular end office where they terminate. This will be discussed in more detail later in my testimony where I address the financial implications of network interconnection.

At section 51.305(a)(2) of its Rules, the FCC identifies the minimum set of places where the ILECs must provide interconnection, but explicitly states in that section that interconnection must be provided at "at any technically feasible point within the incumbent LEC's network." Thus, the FCC explicitly did not limit potential IPs to these locations (Order at paragraphs 209, 549, 550, 551, 552, 553, and 54). It is technically feasible to establish an IP at most points on the ILEC network where ILEC facilities meet each other or meet other facilities (either the ILEC's or some other entity's facilities).

In engineering terms, facilities are always connected with each other at what are called "cross-connect points." Cross-connect points, as the name implies, are places in any network where one facility can be connected to another, either manually or electronically. With a manual cross connect, two facilities are physically connected by means of a third piece called a "jumper." Simply put: Wire A comes in to a point on the cross to connect apparatus, and Wire B comes in

on another point. Then a jumper is used connect Wire A to Wire B. A main distribution frame (MDF) or any similar "patch panel" is an example of a manual cross-connect device. With an electronic cross-connect, there is no jumper wire, rather, the "jumper connection" is performed electronically. A DCS (digital cross connect system) is an example of an electronic cross connect.

IP's do not have to be limited to residing at an ILEC tandem or end office switch. The FCC's Order specifies some potential interconnection points; each one of those is a "cross-connect point," as I have defined that term, in either a tandem switch or an end office switch. There are other cross-connect points in the ILEC network, however. For example, MCI's switches are generally located in commercial office buildings. For any particular MCI switch, the ILEC will also have network facilities into that building that end at what is called a "telco closet." A telco closet in this sense includes -- or can technically support -- a cross-connect device. Thus, an ILEC telco closet in a commercial building can also serve as an IP. In fact, MCI interconnects with Ameritech at such telco closets now in Detroit. Thus, this type of IP is certainly technically feasible.

b. Methods of Interconnection

Q. PLEASE DISCUSS THE VARIOUS METHODS OF INTERCONNECTION.

A. The FCC permits any method of interconnection that is technically feasible. (Order at paragraph 549) In its Order, the FCC discusses three specific methods of interconnection: physical collocation, virtual collocation, or meet point. (Order at paragraph 553) Collocation, either virtual or physical, is well known from a technical perspective and is discussed later in my testimony.

Meet point arrangements are also well known. Under a typical "meet

point" arrangement, MCI and the ILEC would each "build out" to a meet point. Under this type of arrangement the official "IP" -- as I have been using that term -- is the point where the ILEC build out connects to the rest of the ILEC network. The "limited build out" to the meet point is the financial responsibility of each party and is part of what the FCC calls the "reasonable accommodation of interconnection." (Order at paragraph 553)

A variation of this is what I refer to as "mid-span meet." Under this arrangement, MCI and the ILEC would jointly provision the fiber optic facilities that connect the two networks and share the financial and other responsibilities (as detailed below) for that facility. In this situation, the facilities do not actually join at a "cross-connect point" but are spliced together. This is essentially the method of interconnection that MFS and Ameritech agreed to. Thus, it is certainly technically feasible.

c. Types of facilities at the IP

Q. WHAT TYPES OF FACILITIES CAN BE USED AT THE IP?

A. Having determined the location of the IP, it is necessary, from an engineering perspective to determine the types of facilities that will be used to interconnect. The types of facilities that are used to link the networks, regardless of the types of traffic carried, are well known both to MCI and to the ILECs. Network interconnection may occur at light (fiber) level, or at DS3, DS1, or voice-grade levels.

2. Trunking and Interconnection of Signaling Networks

Q. WHAT ARRANGEMENTS SHOULD BE PROVIDED FOR THE TRUNKING OF

TRAFFIC?

A. Once networks are physically connected via the facilities and arrangements as described above, then it is necessary from an engineering perspective to partition those facilities into various types of trunk groups required to carry the different types of traffic that are necessary for complete interconnection. Based on our experience, MCI believes that traffic should be segregated as follows:

- a separate trunk group that carries local traffic, non-equal access intraLATA interexchange traffic, and local transit traffic to other LECs.
- a separate trunk group for equal access interLATA or intraLATA interexchange traffic that transits the ILEC network.
- separate trunks connecting MCI's switch to each 911/E911 tandem.
- a separate trunk group connecting MCI's switch to the ILEC's operator service center. This permits MCI's operators to talk to the ILEC's operators. Operator-to-operator connection is critical to ensure that operator assisted emergency calls are handled correctly and to ensure that one carrier's customer can receive busy line verification or busy line interrupt if the other end user is a customer of a different LEC.
- a separate trunk group connecting MCI's switch to the ILEC's directory assistance center where MCI is purchasing the ILEC's unbundled directory assistance service.

With regard to the first requested trunk group, the Commission should note that there is no technical requirement to segregate local and intraLATA interexchange traffic on separate trunk groups. Indeed, it is often more efficient to "pack" a trunk with both local traffic and interexchange traffic. Because these types of traffic are "rated" differently, however, the receiving carrier would either have to discern

between types itself or have to rely on reporting by the sending carrier, via a "percent local usage" (PLU) or similar reporting mechanism. The trunk segregation detailed above is an initial architecture that meets MCI's immediate needs for interconnection. As MCI's network evolves, and as we seek to provide new services, there may be a requirement for a further or different combination of traffic types. For example, it may be efficient for MCI to aggregate local and interexchange traffic on a single trunk. It is incumbent upon the ILEC to prove that a request for a revised traffic combination is technically infeasible.

Q. WHAT SIGNALLING SHOULD BE PROVIDED WITH RESPECT TO THESE TRUNK GROUPS?

A. The trunk groups that connect the networks will require specific signaling characteristics. The trunks that carry local and interexchange traffic are generally similar to the industry standard Feature Group D trunks with CCS7 signaling. MCI requires CCS7 signaling on all trunks used to pass local and interexchange traffic. The specific details about the interconnection of signaling networks is discussed later in my testimony where I address access to unbundled elements. MCI also requires that the trunks used to carry local and interexchange traffic are configured with B8ZS Extended Superframe (ESF). B8ZS ESF is required to support the transmission of 64Kbps ("Clear Channel") traffic between the networks of ILECs and CLECs. Without Clear Channel transmission, subscribers of ILECs and CLECs would not be able to terminate various types of switched data traffic, including some ISDN applications.

Trunks can also be either one-way or two-way. Generally, two-way trunking is more efficient than one-way trunking for traffic that flows in both

directions (for example, local and interexchange traffic), since, with two-way trunking, fewer trunks are needed to establish the interconnection than are needed when ILECs insist only on one-way trunking. The FCC has recognized the benefits of two-way trunking by ordering ILECs to make them available upon a CLEC's request (Order, Paragraph 219).

Q. YOU PREVIOUSLY MENTIONED THAT THE FINANCIAL IMPLICATIONS OF INTERCONNECTION MUST BE CONSIDERED. WHAT ARE THE FINANCIAL IMPLICATIONS WHICH ARISE IN CONNECTION WITH THE PHYSICAL LINKING OF NETWORKS?

A. Whenever networks are interconnected and traffic is exchanged, a major issue between the parties -- bluntly stated -- is "Who pays for what?" Fortunately, the FCC Order provided some very specific definitions that help determine financial responsibility. As noted above, the IP is the point where the MCI network physically connects with the ILEC network. Generally, therefore, each carrier is responsible for bringing or getting its facilities to the IP.

When an MCI customer makes a local call to an ILEC customer, MCI will hand off that call to the ILEC at the IP. MCI then must pay the ILEC compensation for the "transport and termination" of that local call. (Final Rules, Section 51.701) The FCC has separately -- and specifically -- defined "transport" and "termination" in this context. (Order at Paragraph 1039) "Transport" is defined as "the transmission and any necessary tandem switching of local telecommunications traffic ... from the interconnection point between the two carriers to the terminating carrier's end office switch that directly serves the called party...." (Final Rules, Section 51.701(c)) "Termination" is defined as "the switching of local

telecommunications traffic at the terminating carrier's end office switch...." (Final Rules, Section 51.701(d)) Thus, the IP determines the point at which MCI (when it is terminating local traffic to the ILEC) must begin paying transport and termination compensation to the ILEC.

Conversely, when an ILEC must hand over local traffic to MCI for MCI to "transport and terminate," the ILEC must use the established IP. For the ILEC to be allowed to do anything else would eviscerate the FCC's requirement that the ILEC permit the use of two-way trunking. Thus, the IP also serves as the point at which the ILEC must begin payment of "transport and termination" to MCI when it terminates a local call on MCI's local network.

It is important to note that in Section 51.711 of the Final Rules the FCC has determined that "rates for transport and termination of local telecommunications traffic shall be symmetrical." In addition, the FCC has decided that "where the switch of a carrier other than an incumbent LEC serves a geographic area comparable to the area served by the incumbent LEC's tandem switch, the appropriate rate for the carrier other than the incumbent LEC is the incumbent LEC's tandem interconnection rate." I noted previously that MCI's switch clearly serves a geographic area comparable to the area served by the ILEC's tandem. Therefore, MCI believes it is appropriate for it to charge the ILEC the tandem interconnection rate (defined as tandem switching plus the average transport between an ILEC tandem and the subtending end offices plus the local switching rate) for calls terminating to MCI's network. In addition, the ILEC and MCI will share the cost of the facilities used to interconnect the networks as defined by the location of the IP.

The FCC also determined, in section 51.709 of the Final Rules, that "the

rate of a carrier providing transmission facilities dedicated to the transmission of traffic between two carriers networks shall recover only the costs of the proportion of that trunk capacity used by an interconnecting carrier to send traffic that will terminate on the providing carrier's network."

Q. COULD YOU GIVE AN EXAMPLE OF HOW THE SELECTION OF AN IP AFFECTS THE FINANCIAL ARRANGEMENTS?

A. Yes, given all this, it is possible to walk through two examples to describe how the selection of the IP affects the "transport and termination" charge that both MCI and the ILEC must face.

Example 1: MCI Collocates at the Wire Center Housing an Access Tandem to Which MCI Needs to Trunk.

In this example, MCI has established a collocation at the wire center housing a tandem; the collocation will be designated as the IP. Two-way trunking will be established between the MCI switch and the ILEC tandem via the collocation facilities.

- o The Transport and Termination Charges to MCI for calls terminating on the ILEC network are:
  - (1) tandem switching and transport from the tandem to the end office where the call terminates (based on average transport from ILEC tandem to subtending end offices); plus
  - (2) termination at the end office.

  The total rate paid by MCI in this case is also known as the Tandem Transport and Termination rate or Tandem Interconnection Rate.

o The Transport and Termination Charges to the ILEC for calls terminating on MCI's network are:

(1) Transport from the IP to the MCI switching center (as discussed in Final Rules, Section 51.709), plus

(2) The symmetrical Tandem Transport and Termination.

In this example, the ILEC pays for the transport from the IP at its access tandem to the MCI switching center because MCI has provided the facilities from that switching center to the IP, and the ILEC is using those facilities to transport local traffic from the IP back to the MCI switching center. Once the call reaches the MCI switching center, however, MCI is permitted to charge the ILEC a transport and termination rate equal to the ILEC's tandem interconnection rate since MCI's switch serves an area comparable (if not larger) than the area served by the ILEC's tandem switch. (Final Rules, Section 51.711(3))

As detailed above, the specific symmetrical tandem transport and termination rate should be calculated as follows:

- Tandem switching rate, plus
- Shared transport based on average mileage from the ILEC tandem to the various end offices that subtend that tandem.

Example 2: IP At an Agreed to Meetpoint

In this example, MCI will jointly provision interconnect facilities to an agreed to meetpoint at a technically feasible location on the ILEC's network. The IP is at this meetpoint. MCI and the ILEC will establish two-way trunking to both and access tandem and an end office via these interconnection facilities.

o The Transport and Termination charges to MCI for traffic terminating to the

ILEC via the tandem switch are:

(1) transport from the IP to the access tandem; plus

(2) the Tandem Interconnection/Transport and Termination Rate, as described in Example 1.

- The Transport and Termination charges to ILEC for traffic terminating to MCI via the tandem switch are:

  (1) transport from IP to the MCI switching center; plus

  (2) the symmetrical ILEC Tandem Interconnection/Transport and Termination Rate.

- The Transport and Termination charges to MCI for traffic terminating to the ILEC via direct end office trunking (bypassing the tandem switch) are:

  (1) transport from the IP to the ILEC end office switch, plus

  (2) the local termination rate.

- The Transport and Termination charges to the ILEC for traffic terminating to MCI via the direct end office trunking are:

  (1) transport from the IP to the MCI switching center, plus

  (2) the symmetrical ILEC Tandem Interconnection/Transport and Termination Rate.

There are, of course, other options and possibilities, but the concept will be the same. The IP will delineate not only the physical point where one network ends and another begins, but also will determine the transport and termination charges that each carrier must pay to one another.

ACCESS TO UNBUNDLED NETWORK ELEMENTS

Q. WHY IS IT IMPORTANT FOR MCI TO HAVE ACCESS TO THE UNBUNDLED ELEMENTS OF THE INCUMBENT LOCAL EXCHANGE COMPANIES' NETWORKS?

A. As noted previously, MCI desires to offer local service as broadly as possible to both residential and business customers. MCI's local network, however, currently consists of high capacity fiber rings in downtown areas. While some residential apartment buildings may be accessible via MCI's fiber ring, this network, by itself, simply does not have the reach to serve a broad base of residential and business customers. Additionally, although MCI continues to implement local service switching centers throughout the nation, its capacity for providing switched services is extremely limited. Each of the 13 switches that MCI has implemented to date is capable of serving only 30,000 to 50,000 customers -- a drop in the bucket compared to the national base of over 100 million customers. To reach this larger base, MCI must have access to the unbundled elements of the ILEC's ubiquitous network.

Q. WHAT IS THE EFFECT OF THE FCC ORDER ON THE ISSUE OF WHICH UNBUNDLED ELEMENTS MUST BE MADE AVAILABLE BY THE ILECs?

A. The FCC's order mandates a set of seven unbundled elements that the ILEC must make available. The FCC ordered this first set of elements with the explicit recognition that further unbundling may be appropriate today, but it did not have the necessary information on the record to make such judgments, and therefore left that to the states to determine. It also indicated that further unbundling will be appropriate in the future. The FCC rules explicitly allows the states to order more

unbundling on a case by case basis. MCI, in this arbitration, requests the Commission to order unbundling beyond the minimum set in the FCC's order since there are additional elements that meet the FCC criteria. In addition, as networks evolve, it will be necessary on occasion to request additional unbundled elements. MCI is requesting an expedited bona fide request process to accomplish that future unbundling. That process is described in the testimony of MCI witness Don Price. The FCC's minimum set of elements includes some network elements, as defined in the Act, such as operator services and directory assistance, that are discussed in Mr. Price's testimony.

Q. WHAT ARE THE UNBUNDLED NETWORK ELEMENTS REQUESTED BY MCI AND HOW DOES MCI PROPOSE TO GAIN ACCESS TO THEM?

A. The FCC rules require the ILECs to unbundle a set of elements, but do not specify a method of implementation to ensure the unbundled elements are usable to requesting carriers. This task must be performed by the state Commission. Although access to these elements is necessary, it is not sufficient for CLECs to be viable providers: the terms and conditions at which they are available also effect our viability. In the following testimony, I will review each element to give this Commission some direction on how to best ensure proper implementation by the ILECs. I will also describe the additional elements that meet the FCC criteria and that the Commission should include in the ILEC's initial unbundling requirements. For each element, I will provide a basic description of the element, why that element is necessary to be unbundled, and how MCI proposes to gain access to that element from an engineering perspective.

A. Connecting Unbundled Elements

Q. PLEASE DESCRIBE HOW UNBUNDLED NETWORK ELEMENTS ARE CONNECTED.

A. Physical unbundled network elements (elements other than call processing databases) interconnect to other network elements or to CLEC collocations in a similar fashion. The elements terminate at some type of cross-connect devices (these devices can be Main Distribution Frames, or DS-1 or DS-3 cross-connect devices, for example). To connect the unbundled network element to either another element or to an MCI collocation (which also terminates at a cross-connect device), the ILEC must supply connecting cabling, which includes jumper wires to connect positions within a cross-connect device as well as house cabling running between the two cross-connect devices. Both the jumper cabling and house cabling are, very simply, just wires. There are no electronics or other intelligence associated with this cabling. Arranging this cabling may appear to be a minor issue in the larger scheme of unbundling of the network -- in fact, identical connection cabling and is routinely provisioned by the ILECs to connect its own network elements today. However, we have found, through first-hand experience, that the untimely, inaccurate and expensive provisioning of such cabling can be a significant bottleneck to network unbundling.

Each physical network element detailed below must also include the cabling required to make it operational, unless otherwise noted.

B. Elements the FCC Ordered to be Unbundled

1. Local Loop

Q. WHAT ARE LOCAL LOOPS AND HOW SHOULD THEY BE PROVISIONED?

A. The FCC defines the local loop as "a transmission facility between a distribution frame [cross-connect], or its equivalent, in an incumbent LEC central office, and the network interface device at the customer premises. This includes, but is not necessarily limited to, two- wire analog voice-grade loops, and two-wire and four-wire loops that are conditioned to transmit the digital signals needed to provide ISDN, ADSL, HDSL, and DS1-level signals. " (Order at paragraph 380)

As the definition implies, unbundled loops end at the distribution frame of the ILEC. As discussed earlier, appropriate cabling will be required to connect the unbundled loop's frame appearance to other cross-connect points to access other network elements or MCI's or a third party's collocation. This cabling must be efficient and available in a timely fashion. Otherwise, it will not be financially feasible for MCI to utilize unbundled loops and MCI's ability to reach residential and small business customers will be extremely curtailed.

MCI anticipates provisioning unbundled loops in a variety of ways, each of which is clearly supported by the FCC rules. These methods include, but are not limited to:

- connecting the unbundled loop to an MCI collocation where MCI has placed digital loop carrier equipment (DLC) or other subscriber loop electronics of its choice. The DLC or DLC-type equipment will then be connected to interoffice transport facilities, either owned by MCI or leased from the ILEC or third party, that connect the collocated space to MCI's network
- combining the unbundled loop to other unbundled network elements, such as ILEC provided transport or switching
- connecting the unbundled loop to a third party collocation for provision of transport or other services

Several things are critical to make these arrangements work. First, there must not be unreasonable delays in establishing collocation, and the costs for collocation must be economically sound. In New York, for example, establishing collocations can sometimes take up to nine months and cost over $50,000 to just build the "collocation cage." This kind of delay and expense is intolerable. Second, MCI must have the ability to place the electronics of its choice in the collocated space. Some ILECs, such as Pacific Bell, have denied MCI's request to have this choice and thus in essence hold "veto power" over MCI's network design. Not only will this restriction prevent MCI and other CLECs from efficiently capturing the unbundled loop, it will delay the deployment state of the art network and limit our ability to differentiate our services from the ILEC. All of these issues are later in my testimony in the collocation discussion.

Q. WHAT ARRANGEMENTS SHOULD BE MADE FOR TRANSFERRING SERVICE TO MCI FROM AN ILEC?

A. Another issue is important when it comes to gaining access to unbundled loops -- coordinated (or "hot") cutovers. When MCI gains an existing ILEC customer and needs that unbundled local loop to serve that customer, then that local loop will need to be "cut over" from the ILEC to MCI. Mechanically, this is not a complex task; it only involves the movement of jumper wires on the MDF. Most importantly, however, the cutover cannot result in significant "downtime" for the customer's telephone line. Not only could that customer's safety be jeopardized, but such a degradation of service would be a significant disadvantage in switching service to MCI.

MCI proposes the following procedure for coordinated cutovers:

(1) On a per order basis, the ILEC and Metro will agree on a scheduled conversion time, which will be a designated two-hour time period within a designated date.

(2) The ILEC will coordinate activities of all ILEC work groups involved with the conversion. This coordination will include, but not be limited to, work centers charged with manual cross-connects, electronic cross-connect mapping, and switch translations (including, but not limited to, implementation of interim local number portability translations).

(3) The ILEC will notify MCI when conversion is complete.

(4) End user service interruptions will be minimized and should not exceed five minutes.

2. Network Interface Device

Q. PLEASE DESCRIBE THE UNBUNDLED ELEMENT KNOWN AS THE NETWORK INTERFACE DEVICE.

A. The Network Interface Device (NID) is "the cross-connect device used to connect LEC loop facilities to inside wiring not belonging to the LEC." The FCC Order, at paragraphs 392 and 393, describes the need for access to the NID. In summary, it is necessary on many occasions when serving large residential or office buildings in order to gain access to the inside wiring that is not owned by the ILEC.

According to the FCC Order, MCI should be able to gain access to the ILEC NID by connecting its own NID to the ILEC NID. This form of NID-to-NID connection is technically feasible and does not raise reliability concerns. It will be incumbent upon the ILEC to demonstrate that such connection is not feasible, and, if not, to detail the specific building locations at which such connection is not feasible.

We expect that generally cabling to connect the NIDs will be provided by the ILECs.

If connection to the NID involves a cutover of live customer traffic at that premise, then the cutover procedures described above must be followed.

3. Switching Capability

Q. WHAT SWITCHING CAPABILITY SHOULD BE UNBUNDLED?

A. Switching capability unbundling is defined in the FCC Rules by two distinct switch functions: local switching and tandem switching.

a. Local Switching

Q. WHAT IS LOCAL SWITCHING AND HOW SHOULD IT BE PROVISIONED?

A. In Section 51.319(c)(1)(i) of the FCC Rules, "the local switching capability network elements is defined as:

(A) line-side facilities, which include but are not limited to, the connection between a loop termination at a main distribution frame and a switch line card;

(B) trunk-side facilities, which include but are not limited to, the connection between trunk termination at a trunk-side cross-connect panel and a switch trunk card; and

(C) all features, functions, and capabilities of the switch, which include, but are not limited to:

(1) the basic switching function of connecting lines to lines, lines to trunks, trunks to lines, and trunks to trunks, as well as the same basic capabilities made available to the incumbent LEC's customers, such as a telephone number, white page listing, and dial tone; and

(2) all other features that the switch is capable of providing, including but not limited to custom calling, custom local area signaling service features, and Centrex, as well as any technically feasible customized routing functions provided by the switch."

In this context, features, functions, and capabilities includes: i) all basic switching functions, ii) telephone numbers, iii) directory listing, iv) dial tone, v) signaling, and vi) access to directory assistance, vii) access to operator services, viii) access to 911, ix) all vertical features the switch is capable of providing; and x) any customized call routing features.

Access to local switching is at the ILEC end office. There are two points of access: the main distribution frame (or equivalent) and the trunk-side cross-connect. ILEC switching may be connected to MCI-provided loops, MCI-provided transport facilities, ILEC-provided loops, ILEC-provided transport facilities, or loops or transport facilities provided by a third party. MCI will require the ILEC to connect these elements as described above in "Connecting Unbundled Elements."

Q. WHO SHOULD DETERMINE HOW CALLS PLACED BY MCI CUSTOMERS ARE ROUTED?

A. MCI will be responsible for establishing how its customers calls will route, and for specifying in advance a trunking scheme to make such routing possible. Such trunking will be either supplied by MCI, or will be comprised of other unbundled network transport elements (dedicated or shared), or a combination of the two. The ILEC must make available to MCI any switch-supported trunk interface for the provision of network trunking, including SMDI interfaces for MCI-supplied voice mail services. Customer specific routing will be implemented via line class codes

or equivalent switch-specific methods. Such routing will allow MCI to designate routing for that customer's service, for each of the following call types:

- 0+/0- calls
- 911 calls
- 411/DA calls
- InterLATA calls specific to PIC or regardless of PIC
- IntraLATA calls specific to PIC or regardless of PIC
- 800/888 calls, prior to database query
- Call forwarding of any type supported on the switch, to a line or a trunk
- Any other customized routing that may be supported by the ILEC switch

On the line side, MCI must be able to purchase any line service available on the switch, including but not limited to POTS services, Centrex services, and ISDN BRI services, with all of their vertical features and signaling options. On the trunk side, MCI must be able to purchase any customer trunk service available on the switch, including but not limited to DID, DOD, 2-way, and ISDN PRI trunk services.

b. Tandem switching

Q. WHAT IS TANDEM SWITCHING AND HOW SHOULD IT BE PROVISIONED?

A. The tandem switching capability network element is defined by the FCC as:

(1) trunk connect facilities, including but not limited to the connection between trunk termination at a cross-connect panel and a switch trunk card;

(2) the basic switching function of connecting trunks to trunks; and

(3) the functions that are centralized in tandem switches (as distinguished from separate end-office switches), including but not limited to call recording, the routing of calls to operator services, and signaling conversion features.

This unbundled element is necessary to be able to perform a variety of functions including transit functions. The transit function is critical for new entrants to efficiently interconnect with other CLECs, IXCs and small independent carriers that home off the ILEC tandem. Until traffic levels justify the direct connection of these carriers, the ILEC tandem is the only method to interconnect all carriers in a market. (See also the FCC Order at paragraph 425)

MCI should be able to gain access to this unbundled element at the tandem switch location. Access will always be at a trunk cross-connect device serving the tandem switch. This cross-connect point will be connected to other unbundled elements, third party networks or MCI's collocation as described in "Connecting Unbundled Elements."

4. Interoffice Transmission Facilities

Q. WHAT ARE INTEROFFICE TRANSMISSION FACILITIES AND HOW SHOULD THEY BE PROVISIONED?

A. The FCC defines interoffice transmission facilities "as incumbent LEC transmission facilities dedicated to a particular customer or carrier, or shared by more than one customer or carrier, that provide telecommunications between wire centers owned by incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunication carriers." Interoffice transmission facilities are customarily defined as either shared facilities or dedicated

facilities.

The shared interoffice transmission is the path between end offices and a tandem, or between end offices, that is shared by multiple carriers. This element is necessary to connect the tandem switching function to the local switching function. (See FCC Order at paragraph 441) In addition, MCI will purchase the shared transport element between ILEC end offices in conjunction with the purchase of the unbundled local switching element.

MCI will gain access to the shared interoffice transport facilities at the trunk cross-connect at the end office and/or the trunk cross connect at the tandem switch. This cross-connect point will be connected to other unbundled elements, third party networks or MCI's collocation as described in "Connecting Unbundled Elements."

Dedicated transmission facilities are transport facilities used exclusively for the requesting carrier's traffic and connect one or more of the following points: ILEC end offices, ILEC tandems, ILEC serving wire centers, other carrier wire centers or switching centers, IXC points of presence, collocated equipment at any ILEC end or tandem office. Such facilities shall be all technically feasible transmission capabilities, including but not limited to: DS0, DS1, DS3, and all optical levels.

Q. SHOULD MCI BE PROVIDED ACCESS TO DARK FIBER AS AN UNBUNDLED ELEMENT?

A. Although the FCC did not specifically require that the ILECs make available unbundled optical fiber or "dark fiber," MCI contends that dedicated transport must also include dark fiber, which from an engineering perspective is simply another level in the transmission hierarchy. Because network construction for the initial

placement of fiber facilities is timely and costly since it involves permits, road work, conduit placement, etc., telecommunications carriers typically install large quantities of fiber cables. Therefore, we believe that many of the ILECs have the dark fiber available where they have upgraded their facilities from copper plant and should be required to provide plant records to detail where excess capacity exists.

Dark fiber is necessary for MCI to expand its network reach with the flexibility of installing electronics that comport to its network architecture. This flexibility is essential for MCI to strategically deploy efficient new technologies into its network. Without this network element, MCI's only choices are to undertake the timely and expensive construction effort to place its own fiber in the ground or to purchase the use of "lit" (fiber with electronics) transport services from the ILEC. It does not make sense to require MCI to purchase the use of ILEC electronics where spare fiber capacity is available; in fact, using the ILEC's existing electronic technology forces MCI to be held captive to the ILEC's network technology and design rather than being allowed to deploy new, more efficient technologies that are consistent across geographic locations.

MCI and other carriers should be able to request availability of dark fiber on a particular route. The ILEC should respond to that request within 10 days on availability on that route or comparative alternative route and specify all available splice points and specifications of the fiber optic plant. If the fiber is available, MCI will meet the ILEC at its specified splice points (usually in a manhole) with its own fibers. MCI will then deploy its own electronics at its network sites.

Q. WHAT ARE DIGITAL CROSS-CONNECT SYSTEMS, AND HOW SHOULD THEY BE PROVIDED?

A. The FCC Order, at paragraph 444, requires that ILECs provide requesting carriers access to digital cross connect system functionality. They describe the DCS as a device that "aggregates and disaggregates" high-speed traffic. In general, the DCS provides for transmission level changes within a transport route, or where two transport routes meet. Aside from providing electronic software controlled multiplexing of facilities at different transmission levels, DCS also provides automated cross connection of transmission facilities at like levels, for the purposes of "grooming" facilities to optimize network efficiency. Types of DCSs include but are not limited to DCS 1/0s, DCS 3/1s, and DCS 3/3s, where the nomenclature 1/0 denotes interfaces typically at the DS1 rate or greater with cross-connection typically at the DS0 rate. This same nomenclature, at the appropriate rate substitution, extends to the other types of DCSs specifically cited as 3/1 and 3/3. Types of DCSs that cross-connect Synchronous Transport Signal level 1 (STS-1s) or other Synchronous Optical Network (SONET) signals (for example, STS-3) are also DCSs, although not denoted by this same type of nomenclature. DCS may provide the functionality of more than one of the aforementioned DCS types (for example, DCS 3/3/1 which combines functionality of DCS 3/3 and DCS 3/1).

Devices that provide similar aggregation and disaggregation functions via manual cross-connections are generally referred to as "multiplexors." Because of their functional similarity to the DCS, we interpret the FCC's DCS directive to include multiplexors such as M13s and channel banks.

ILECs routinely provide both DCS (including multiplexor) functions today to interexchange carriers in conjunction with dedicated transport services. MCI agrees that DCS supports transport services, but also requests that the ILEC be required to provide this function in combination with dedicated transport or separately so MCI

can combine DCS with its own transport or that supplied by other parties.

MCI will gain access to the digital cross-connection system at the appropriate (optical, DS3, DS1, voice grade level) cross-connection device serving the DCS. This cross-connect point will be connected to other unbundled elements, third party networks or MCI's collocation as described in "Connecting Unbundled Elements."

5. Signaling Networks, Call-Related Databases, and Service Management Systems

a. Signaling Systems

Q. WHAT ARE UNBUNDLED SIGNALING SYSTEMS AND HOW SHOULD SIGNALLING NETWORKS BE INTERCONNECTED?

A. As explained in the FCC Order, signaling systems "facilitate the routing of telephone calls between switches SS7 networks use signaling links to transmit routing messages between switch, and between switches and call-related databases." (at paragraphs, 455, 456) The Order goes on to state that "incumbent LECs are required to accept and provide signaling in accordance with the exchange of traffic between interconnecting networks." It concludes that "the exchange of signaling information may occur through an STP to STP interconnection." (at paragraph, 478)

The FCC also identifies a need for the ILECs to offer unbundled access to their STP and signaling link elements. (Order at Paragraph 479) MCI concurs that such access is required on non-discriminatory terms and conditions. However, it is clear from the ensuing discussion in paragraphs 479 - 483 that access to unbundled signaling links and STP ports is intended to allow new entrants to obtain signaling services from the ILEC. This eliminates the CLEC's burden of installing their own

signaling networks. This requirement is clearly distinct from the requirement to connect signaling networks for support of traffic exchange as described in the previous paragraph of this paper.

Interconnection of the signaling networks facilitates routing of telephone calls flowing from the ILEC to the CLEC and from the CLEC to the ILEC. It also is required for the provision of certain CLASS services such as caller ID, automated callback, and automated recall, as well as the transmission of 64 kbps ("clear channel") calls flowing in both directions. Thus, the connecting carriers must share the burden of signaling network interconnection in support of traffic exchange.

MCI proposes that this be accomplished as follows:

- In each LATA, there will be two signaling points of interconnection (SPOIs). The requirement for two SPOIs is driven by the critical importance attached by all parties to signaling link diversity.
- Each party will designate one of the two SPOIs in the LATA. A SPOI can be any existing cross-connect point in the LATA. Since each party will designate a SPOI, we believe that both parties will be incented to select reasonable and efficient SPOI locations.
- Each signaling link requires a port on each party's STP. We propose that each party provide the necessary ports on its STPs without explicit charge.

The SS7 interconnection shall provide connectivity to all components and capabilities of the ILEC SS7 network. These include:

- ISDN Services User Part (ISUP) signaling for calls between MCI and ILEC switches
- ISUP signaling for calls between MCI and other networks that transit

through the ILEC switched network.

- Translations Capability Applications Part (TCAP) messaging in support of querying SCP-housed databases, and TCAP messaging in support of CLASS services

b. Call Related Databases

Q. WHAT ARE CALL RELATED DATABASES AND WHY ARE THEY IMPORTANT?

A. As defined by the FCC, call related databases are databases, other than operations support systems, that are used in signaling networks for billing and collection or the transmission, routing, or other provision of a telecommunications service. An incumbent LEC shall provide access to its call-related databases, including, but not limited to, the Line Information database, Toll Free Calling database, downstream number portability databases, and Advanced Intelligent Network databases, by means of physical access at the signaling transfer point linked to the unbundled database.

Access to Call-Related databases provides for the centralized intelligence that governs the disposition of calls. Additionally, service control points (SCPs) serve as the means by which subscriber and service application data is provided, and maintained. The databases provide, in response to an SS7 inquiry, the information necessary to provide a service or deliver a capability.

For MCI to be able to gain access to call-related databases, the following requirements must be met:

- The ILEC must provide MCI billing and recording information to track database usage.

Specific to LIDB:

- The ILEC must enable MCI to store in the ILEC's LIDB any customer line number or special billing number record, whether ported or not, for which the NPA-NXX is supported by that LIDB.

- The ILEC must perform the following LIDB functions for MCI's customer records:
  - billing number screening
  - calling card validation
  - data screening function

Specific to LNP Database:

- The ILEC LNP SCP must return to the MCI switch:
  - appropriate routing for ported numbers
  - industry specified indication for non-ported numbers, and
  - industry specified indication for non-ported NPA-NXX

Specific to AIN Applications:

- The ILEC must provide MCI with descriptive and detailed technical information regarding each of the ILEC's AIN applications housed in its AIN SCPs.

- The ILEC must routinely provide MCI with information regarding database and application capacity available on each of its AIN SCPs.

- The ILEC must allow MCI to gain access to another party's applications housed in the ILEC AIN SCPs, assuming that MCI has gained written notification from that third party permitting MCI to make use of its applications.

c. Service Management Systems

Q. WHAT ARE SERVICE MANAGEMENT SYSTEMS AND HOW SHOULD THEY BE PROVISIONED?

A. The FCC defines Service Management Systems as computer databases or systems not part of the public switched network that, among other things, interconnect to the service control point and send to that service control point the information and call processing instructions needed for a network switch to process and complete a call, and provide a telecommunication carrier with the capability of entering and storing data regarding the processing and completing of a call.

The FCC ordered that the ILEC make its SMS and AIN Service Creation Environment available to CLECs for creation and downloading of AIN applications, on a non-discriminatory basis. (Paragraph 493) It is MCI's belief that, in order for this requirement to be met:

- The ILEC must make SCE hardware, software, testing, and technical support resources available to MCI in a similar fashion to how they make such resources available to themselves.
- The ILEC must partition its SCP so as to protect MCI's service logic and data from unauthorized access or execution.
- The ILEC must provide training and documentation to MCI at parity with that provided to itself.

- The ILEC must provide MCI secure LAN/WAN and dial-up remote access to its SCE/SMS.
- The ILEC must allow MCI to create applications and download data without ILEC intervention.

The Operations Support Systems Functions and Operator Services Directory Assistance are addressed in the testimony of Don Price.

C. Additional Unbundled Elements

Q. WHAT ADDITIONAL UNBUNDLED ELEMENTS SHOULD THE REGULATORY AUTHORITY ORDER BELLSOUTH TO PROVIDE?

A. MCI requests the Commission to immediately order at least one additional unbundled element beyond the FCC minimum set: Loop Distribution. This element, described below, meets the guidelines detailed in the FCC rules that give the state authority to order additional elements. MCI plans to pursue further unbundled network elements in the future that include, but are not limited to: additional AIN (advanced intelligent network) unbundling, data switching, and further unbundling of the local loop.

1. AIN

Q. WHY IS NONDISCRIMINATORY ACCESS TO AIN CAPABILITY IMPORTANT?

A. The elimination of all discriminatory access to AIN capability will become increasingly important as more and more innovative new services depend on that capability. MCI expects to be introducing such services within a year, and to be able to move forward with our plans we must have appropriate access to the capability. In particular, in order to provide new services that are consistent across

geographic locations and make the most creative use of MCI's existing intelligent network platforms, we believe that it is extremely important the state Commission order the ILECs to interconnect their signaling systems to MCI applications/databases housed in MCI AIN SCPs. The specific access and/or interconnection methods that would permit the introduction of such new services include:

- housing of MCI AIN applications in Sprint's AIN Service Control Points ("SCPs"), and permitting MCI's use of Sprint's Service Creation Environment ("SCE") and Service Management System(s) ("SMS"), as required in the FCC's recent Order.
- MCI access to its applications in Sprint's SCPs from our switches or Sprint's switches when MCI purchases unbundled switching.
- MCI access to Sprint's AIN applications when MCI purchases unbundled switching.
- MCI access to AIN switch triggers in Sprint's switches for access to MCI's AIN applications. (A "bona fide request" ("BFR") process may be necessary to accomplish such access. MCI's proposed BFR process is set forth in the testimony of Mr. Price.)

The FCC noted that the record on the technical feasibility of such interconnection was not clear, and encouraged state Commission to consider this issue. at paragraph 502) MCI believes that such interconnection is technically feasible.

2. Loop Distribution

a. Definition

Q. PLEASE DEFINE THE LOOP DISTRIBUTION THAT MCI WANTS THE

REGULATORY AUTHORITY TO REQUIRE BELLSOUTH TO UNBUNDLE AT THIS TIME.

A. Loop Distribution is the portion of the loop from the network interface device at the customer premise to the feeder distribution interface. Per Bellcore specifications, there are three basic types of feeder-distribution connection: i) multiple (splicing of multiple distribution pairs onto one feeder pair); ii) dedicated ("home run"); and iii) interfaced ("cross-connected"). While older plant uses multiple and dedicated approaches, newer plant and all plant that uses DLC or other pair-gain technology necessarily uses the interfaced approach. The feeder-distribution interface (FDI) in the interfaced design makes use of a manual cross-connection, typically housed inside an outside plant device ("green box") or in a vault or manhole.

b. The need for unbundled loop distribution plant

Q. WHY DOES MCI NEED UNBUNDLED LOOP DISTRIBUTION PLANT?

A. Loop distribution is necessary to give MCI flexibility in deploying loop facilities by permitting MCI to use its own loop feeder plant where available. (See FCC Order at paragraph 390) Lack of loop distribution will impair MCI's ability to provide local service because it will increase MCI's costs unnecessarily in those instances where it does not require the ILEC's loop feeder plant, but nonetheless requires the ILEC's distribution plant. As MCI and other CLECs expand their facilities-based, efficient SONET networks, they may be located very near an FDI and only require the loop distribution to reach multiple customer premises. However, without this sub-loop element available for purchase, CLECs will be forced to purchase the whole loop, even though they have their own facilities that could be used for a portion of the loop. MCI does not want to have to purchase functional elements in

the ILEC's networks that it can efficiently provide itself using new technologies. Thus, an appropriate level of granularity is required for the unbundled local loop so CLECs can make a rational lease vs. build decision in smaller increments. Without this sub-loop element, competitive carriers will be forced to build full loops to multiple customer premises on a speculative basis (which is timely and costly) rather than economically and efficiently replace portions of the leased network with constructed facilities. Replacing the feeder portion of the loop is the most efficient method for CLECs to evolve to a facilities based carriers.

c. Access to loop distribution

Q. HOW SHOULD ACCESS TO UNBUNDLED LOOP DISTRIBUTION BE PROVIDED?

A. Access to loop distribution is technically feasible in general for feeder distribution connections in the interface design. The ILEC can make available connecting block capacity within its Interfaced FDI for connection of MCI's copper feeder facilities. This can either be capacity within its terminal block or an additional terminal block. MCI will require an interval of 30 days to make a FDI ready for provisioning. These make-ready activities include:

- Review of available capacity and other engineering issues and confirmation of committed make-ready date (5 days after order).
- Interval of 5 days from request for make ready to delivery of a make-ready firm order commitment (FOC).
- Physical preparation of the FDI, including making available feeder block capacity through block expansion, addition of an additional block, or removal of unneeded ILEC feeder facilities, and preparation of the FDI for

entrance of MCI's feeder cable.

- Delivery of feeder block designation and assignments to MCI.
- Testing the installation of MCI's feeder cables through the feeder block via cooperatively developed loopback tests.

MCI's responsibilities will include delivery of copper feeder cable to the ILEC designated manhole or other interface point serving the FDI, with enough spare cable to extend from the interface point to the FDI. MCI may elect to include spare copper pairs in the cable for repair and growth.

Once in place, MCI will order distribution elements to all addresses served by the FDI on a customer order basis. MCI will be responsible for selecting the feeder cable assignment within the order. The ILEC will be responsible for manually cross-connecting the appropriate distribution cable to MCI's selected feeder and cooperatively testing service between the customer demarcation point and MCI's selected feeder termination point. The standard interval for this activity should be two business days.

Feeder/Distribution unbundling in situations where the ILEC has deployed Multiple or Dedicated designs, as well as unbundled purchase of Loop Electronics and Loop Feeder, will be requested via a bona fide request process.

COLLOCATION

Q. WHAT ARE THE ARRANGEMENTS WHICH MUST BE IN PLACE FOR COLLOCATION TO BE VIABLE?

A. The terms and conditions for collocation for interconnection and access to unbundled network elements are different -- broader -- than those that were needed in the past for competitive access providers. As of today, the terms and conditions surrounding

collocation serve as a barrier to enable competitive entry. The FCC has recognized this and has taken four corrective measures. We urge this Commission to ensure proper procedures are put in place to make collocation viable:

1. **Ability to collocate subscriber loop electronics, such as Digital Loop Carrier, in the Central Office.** The current collocation rules, terms and conditions that only allow the placement of basic transmission equipment in the Central Office were not designed with access to unbundled elements in mind, and give the ILEC a de facto bottleneck veto on CLEC network design plans. (Order at paragraph 580)

2. **Ability to purchase unbundled dedicated transport to the collocation facility**, rather than physically construct from the CLECs network to the ILEC Central Office. (Order at paragraph 590)

3. **Ability to interconnect with other collocators in the same Central Office.** This ability is necessary to allow the expedient and economic interconnection of CLECs networks for the exchange of local traffic or for the use of one another's facilities via negotiated business arrangements. (Order at paragraph 594)

4. **Ability to collocate via physical or virtual facilities.** (Order at paragraph 565)

As mentioned earlier in my testimony, MCI has experienced unacceptably long intervals in establishing collocations. Because collocation is such a fundamental requirement for competitive entry, we request this

Commission to mandate a maximum three month interval for physical and a two month interval for virtual collocations.

Q. DO YOU HAVE ADDITIONAL COMMENTS?

A. Yes. I would simply point out that the proposed contract that MCI has filed includes language on all of the issues I have discussed in my testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

RESUME

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EDUCATION

B.A., Mathematics, University of Maine at Presque Isle, 1978

M.A., Economics, Pennsylvania State University, 1980

Ph.D., Economics, University of Wyoming, 1988

DISSERTATION

Rate of Return Regulation of Multiproduct Firms

AREAS OF INTEREST

Ph.D. Fields: Public regulation & Industrial organization

Natural resource & Environmental economics

M.A. Fields:
Mathematical economics
History of economic thought

Other:
Telecommunications industry
Microeconomics of technological change
Game Theory

RESEARCH PUBLICATIONS

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"Intertemporal and Intergenerational Pareto Efficiency: An Extended Theorem," *Journal of Environmental Economics & Management* 9, p 355-360, December 1982.

Recent Presentations: Various presentations at the Basics of Regulation and the Rate-Making Process, Albuquerque, NM, and Baltimore, MD, every Fall and Spring respectively, including:

"Orientation to the Telecommunications Industry;

"Telecommunications: The Role of Economic Efficiency in Pricing;

""Mr. Rogers Visits the Economics of Pricing in Regulated Industries" with Doug Gegax; "Policy Issues of Local Competition", with Joseph Gillan;

Meetings with government officials in regulation of public utilities, environmental concerns and antitrust matters in Lima, Peru; Santiago, Chile; and Buenos Aires, Argentina; December 5 through 15, 1994.

"Changes in Power Industry Regulation,

"Western Economic Association, Annual Meetings, Vancouver, British Columbia, Canada, June 1994

"Perspectives on Local Telecommunications Competition," International Communications Association, Annual meetings, Dallas, May, 1994

"Metamodels for Physical Processes in Environmental Economic Analysis", Centro de Calidad Ambiental, Instituto

Technologico y de Estudios Superiores de Monterrey, NL, Mexico, 17 May, 1993

"Metamodels for Physical Processes in Environmental Economic Analysis", Ciclo de Seminarios Externos, Centro Regional para Estudios de Zonas Aridas y Semiáridas, Colegio de Postgraduados, Salinas de Hidalgo, SLP, Mexico, 19 May, 1993

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"The Effects of Environmental Policy on Trade-offs in Weed Control Management", with Aziz Bouzaher, David Archer, Alicia Carriquiry and Jason Shogren, presented to the annual meetings of the American Agricultural Economics Association, August 4-7, 1991, Manhattan, Kansas.

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"Implementation of the Colorado Telecommunications Act of 1987: An Evaluation

"Report to the Colorado Public Utilities Commission, with Vinson Snowberger, June 30, 1988 Cost of Service Information for Implementation of the Regulatory Flexibility Act, Report to the Washington Utilities and Transportation Commission, July 1985

"On Reducing Errors in Air Pollution Epidemiology," with S. Atkinson and T.D. Crocker, draft report, Institute for Policy Research, University of Wyoming to U.S. Environmental Protection Agency for Grant CR808893-01, April 1982.

"Investment Criteria for Projects with Intergenerational Effects," unpublished masters paper, Pennsylvania State University, Department of Economics, 1982.

Research Grants:Principle investigator, "A Framework for the Measurement of Offsite Damage Costs of Agricultural Soil Erosion", September 1993, USDA Cooperative Agreement number 43-3AEN-3-80151: $15,000,

Principle investigator, "Evaluating Impacts of Environmental and Agricultural Policies to the U. S.", Subcontract through Iowa State University under EPA Grant CR-816099-01-0: $42,196

Co-Principal investigator with Douglas Gegax, "Decision Support System for Environmental Policy Analysis", U.S. EPA through the Southwest Center for Environmental Research and Policy, $149,271

Expert Testimony: Before the Washington Utilities and Transportation Commission, *In the Matter of the Complaint of GTE Northwest Incorporated against Pacific Northwest Bell Telephone Company with respect to Interexchange Traffic Utilizing Extended Area Service Facilities*, Docket No. U-88-1719-F; on behalf of U.S. Metrolink Company; Cross Examination December 1989

"Affidavit of Richard Cabe", in Support of Motion of U.S. MetroLink Company for Suspension and Hearing in the matter of U. S. West Communications Tariff Filing 2056T before the Washington Utilities and Transportation Commission, September 1989

Before the Energy and Utilities Committee of the Washington State House of Representatives, to present the Annual Report of the Utilities and Transportation Commission on the Status of the Washington Telecommunications Industry, February 1987

Before the Washington Utilities and Transportation Commission, *In the Matter of Application of Pacific Northwest Bell for Banded Tariffs*, Cause no. U-86-40; Cross Examination September 1986

Before the Washington Utilities and Transportation Commission, *In the Matter of the Petition of AT&T of the Northwest for Classification as a Competitive Telecommunications Company,* Cause no. U-86-113; Cross Examination April 1986

Consulting Clients:MCI
Marcatel, Mexico
Electric Lightwave Inc.
Washington Utilities and Transportation Commission
U.S. MetroLink Company
Colorado Public Utilities Commission
Maryland People's Counsel

EMPLOYMENT

Teaching: Associate professor, Department of Economics and Intenational Business, New Mexico State University; 1994 to present, Assistant professor 1990 to 1994: *Antitrust Policy and Monopoly Power; Graduate Microeconomic Theory; Mathematical Economics; Industrial Organization; Seminar in Regulatory Economics; Economics of Risk, Uncertainty and Information; Game Theory; Advanced Seminar in Industrial Organization; Econometrics; Managerial Economics; Introduction to Economics; Microeconomic Principles*

Assistant professor, Department of Economics, West Virginia University, 1983-1984: *Graduate Environmental Economics; Principles of Economics.*

Lecturer, Department of Economics, University of Wyoming, 1982–1983: *Money & Banking; Intermediate Microeconomics.*

Teaching assistant, Department of Economics, University of Wyoming; Fall, 1980.

Teaching assistant, Department of Economics and Department of Mathematics, Pennsylvania State University, five quarters in academic years 1978-1979 and 1979-1980.

Public Policy: Economic Consultant, 1988. Performed economic analysis concerning regulation of the telecommunications industry under contract to the Colorado Public Utilities Commission and the Washington Utilities and Transportation Commission.

Associate, RCG/Hagler, Bailly, Inc. 1987-1988. Assignments included litigation support in Bell Operating Company requests for lessened regulation and a study of the effect on property values of proximity to a major defense facility containing hazardous waste sites.

Telecommunications Regulatory Flexibility Manager, Washington Utilities and Transportation Commission, 1985-1987. Duties included conduct of investigations and preparation of recommendations, primarily with regard to the telecommunications industry; preparing evidence, assisting in cross examination and presenting expert testimony; and serving as a member of the Federal - State Joint Board Staff, FCC Docket 86-297, concerned with revising jurisdictional separations of telecommunications company costs and revenues.

Research: Post-Doctoral Research Associate, Center for Agricultural and Rural Development, Department of Economics, Iowa State University, September 1988 to August 1990. Participate in policy-oriented economic research and serve as liason to the Economic Research Service, USDA.

Research Associate, Department of Economics, University of Wyoming, spring 1981 through summer 1982. Theoretical modelling, data construction, and analysis on health effects of air pollution and application of economic methods to ecosystem modelling. Under the direction of Thomas Crocker.

Research assistant, Department of Economics, University of Wyoming, summer 1980. Data construction and analysis on health effects of air pollution. Under the direction of Ralph d'Arge.

Research assistant, Department of Economics, Pennsylvania State University, summer and fall 1979. Theoretical and empirical work with Assymetric Quadratic Gorman Polar forms (flexible functional forms for production or utility functions with explicit analytical solutions for the dual cost or expenditure function). Under the direction of Jonathon Dickinson.

Other: One year, Administrative Research Assistant, Aroostook County Action Program, Presque Isle, Maine.

Four years, U.S. Coast Guard, Electronics Technician.

REFEREEING: Journal of Environmental Economics and Management

Journal of Soil and Water Conservation
Water Resources Research

AWARDS: Washington Utilities and Transportation Commission employee award for contributions to a positive work environment, Olympia, Washington, December 1986.

Award of merit, College of Commerce and Industry, University of Wyoming, 1981.

John S. Bugas fellow, University of Wyoming, academic year 1980-1981.

PERSONAL: Born July 16, 1950; Pulaski County, Arkansas
Married, one child
Second language: Spanish

DIRECT TESTIMONY OF DON J. WOOD

ON BEHALF OF MCI

MCI - UNITED/CENTEL ARBITRATION

OCTOBER 11, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Don J. Wood, and my business address is 914 Stream Valley Trail, Alpharetta, Georgia 30202. I provide consulting services to the ratepayers and regulators of telecommunications utilities.

Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.

A. I received a BBA in Finance with distinction from Emory University and an MBA with concentrations in Finance and Microeconomics from the College of William and Mary. My telecommunications experience includes employment at both a Regional Bell Operating Company ("RBOC") and an Interexchange Carrier ("IXC").

I was employed in the local exchange industry by Sprint United Services, Inc. in its Pricing and Economics, Service Cost Division. My responsibilities included performing cost analyses of new and existing services, preparing documentation for filings with state regulatory commissions and the Federal Communications Commission ("FCC"), developing methodology and computer models for use by other analysts, and performing special assembly cost studies. I was employed in the interexchange industry by MCI Telecommunications Corporation, as Manager of Regulatory Analysis for the Southern Division. In this capacity I was responsible for the development and implementation of regulatory policy for operations in the southern U. S. I then served as a Manager in the Economic Analysis and Regulatory Affairs Organization, where I

participated in the development of regulatory policy for national issues.

Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE STATE REGULATORY COMMISSIONS?

A. Yes. I have testified on telecommunications issues before the regulatory commissions of twenty-three states, the District of Columbia, state courts, and have presented comments to the FCC. A listing of my previous testimony is attached as Exhibit___(DJW-1).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been asked by MCI Telecommunications Corporation ("MCI") to describe the methodology that MCI believes should be used for accurately determining the relevant costs of unbundled network elements to be provided by Sprint United Telecommunications, Inc. ("BST") pursuant to the Federal Telecommunications Act of 1996. I will also describe the results of applying this methodology in the state of Florida, and provide an overview of the model used to develop these costs.

My testimony is divided into three sections: Section I introduces the basis for the costs developed by MCI for the unbundled network elements and describes how those costs -- and the underlying methodology used to develop them -- are consistent with sound economic costing principles generally and with the FCC's August 8, 1996 First Report and Order in CC Docket 96-98 specifically. Section II describes how the model used to develop these costs operates, and Section III identifies the inputs used and reports the results of this analysis. I will refer to the methodology used as the Hatfield Model ("HM"), and will discuss the results obtained using Version 2.2, Release 2, of that model.

Q. PLEASE DESCRIBE YOUR EXPERIENCE REVIEWING COST MODELS AND METHODOLOGIES.

A. While employed in the Sprint United Service Cost organization, I had the opportunity to work with a number of cost models and to analyze and review the manner in which these models were used in the cost development process. Since that time, I have reviewed incremental cost studies performed by each of the seven regional Bell Operating Companies ("RBOCs") and a number of Tier 1 Local Exchange Companies ("LECs"), including BST. My review has included an evaluation of the methodologies, computer models and spreadsheets, and inputs/assumptions used. I have also been asked by regulators to develop detailed rules to be used by the LECs when performing TSLRIC studies.

Two constant sources of frustration have been present throughout this process: 1) The lack of publicly available information related to the LEC studies, and 2) the lack of independent and objective cost data to be used as a benchmark for the evaluation of the LEC-provided data.

Section I: Description of the Cost Principles Implemented by the Hatfield Model

Q. PLEASE DESCRIBE THE ORIGIN AND PURPOSES OF THE HATFIELD MODEL.

A. The Hatfield Model was developed by Hatfield Associates, Inc. of Boulder, Colorado at the request of AT&T and MCI. Its purposes are to 1) estimate the costs of the unbundled network elements described in § 252 (d) (1)(A) and (B) of the Telecommunications Act of 1996, and 2) to develop an estimate of the cost of basic exchange telephone service that is the subject of universal service funding mechanisms. Complete documentation describing the operation of the model in detail is being

developed and can be made available upon request.

The HM derives some of its inputs and methods from version 1 of the BCM Plus model, a successor to the Benchmark Cost Model ("BCM"), which was originally developed by US WEST, NYNEX, MCI, and the local services operation of Sprint (on July 3, 1996, US West and Sprint Corporation presented version 2 of the BCM to the FCC. NYNEX and MCI are not sponsors of BCM2. A careful review indicates that the purported enhancements in BCM2 are already present in the Hatfield Model).

Q. HAS THE HATFIELD MODEL EVOLVED OVER TIME?

A. Yes. Originally, the Model was used to produce estimates of the TSLRIC of basic local exchange service as part of an examination of the cost of universal service. A second version, referred to as the Hatfield Model V.2.2, Release 1 was then developed to estimate costs for unbundled network elements only. Version 2.2, Release 2, used to produce the results in this testimony, considers both unbundled elements and basic local exchange service. It also incorporates a number of enhancements over earlier versions, the ultimate effect of which is to increase the degree of certainty associated with the results it calculates.

Q. WHAT ARE THE KEY PRINCIPLES AND ATTRIBUTES OF THE HATFIELD MODEL?

A. The model uses sound economic costing principles to estimate the relevant costs. Its operations can be readily scrutinized, and a large number of its inputs can be set, by users. It includes all network elements and associated costs that are necessary to provide the unbundled elements and local exchange service considered by the model.

Q. PLEASE DESCRIBE THE PUBLIC NATURE OF THE MODEL.

A. Version 2.2, Release 1 of the model has been available through the International Transcription Service of Washington, DC, for some time. Release 2 of the model will shortly be available from the same source, and will be made available in this proceeding. The new release will be accompanied by complete documentation that describes the operation of the model. In addition, a considerable effort has been expended to facilitate the setting of many inputs by the user of the model through a graphical interface, and it is anticipated that this interface will be available when the model is released, or shortly thereafter.

The inputs to the model, both those adjustable by the user and those incorporated into the model itself, are readily visible to the user. The model runs as a set of Excel spreadsheets, and those spreadsheets can be examined by the user.

Q. WHY IS IT IMPORTANT THAT COST MODELS CAN BE PUBLICLY REVIEWED IN THIS FASHION?

A. Previously lacking such open cost models, regulators and intervenors have been forced to rely on cost studies produced by the incumbent Local Exchange Carriers (ILECs) as the only available source of cost data. Attempts to review, analyze, and verify the cost data produced by such models have met with, at best, only limited success.

As described above, two constant sources of frustration have been present throughout the process of reviewing such models. First, the lack of publicly available information related to the ILEC studies has often made a meaningful review difficult or impossible. The inputs and assumptions used by the respective ILECs, when made available, have often been subject to proprietary protection. Similarly, the mechanized cost models have often remained "black boxes" because of the inability of intervenors

(and often regulators) to test either the accuracy of the algorithms or the sensitivity of the model to inputs and assumptions. The second source of frustration has been the lack of independent and objective cost data to be used as a benchmark for the evaluation of the LEC-provided data. Without such an objective data source, it has been impossible for either regulators or intervenors to ascertain the reasonableness of ILEC cost estimates.

In contrast to the difficulty often experienced when attempting to evaluate ILEC cost studies and the underlying models, a review of the Hatfield Model can be direct and straight-forward. Complete and detailed documentation of the model is available, including descriptions of both the model algorithms and the inputs and assumptions used. Because the model is publicly available and its inputs can be varied by the user, it possible to directly evaluate the model for accuracy and to ascertain the sensitivity of the model to changes in various inputs. Because this level of review is possible, it is possible for the reviewer to conclude that the model produces both reasonable and verifiable cost data.

In summary, a fundamental issue with any cost study is the integrity of the assumptions, calculations and input values used to develop the ultimate outputs. The only method to test the reliability of the final product is to make all of the data as well as the methodology accessible for independent scrutiny and evaluation. The Hatfield Model uses clearly documented and visible methodologies which are verifiable, and non-proprietary data obtained from publicly-available sources. Both the inputs and outputs to the Hatfield Model are open for inspection and analysis. Inputs can be varied as appropriate, and sensitivity testing can be conducted by varying these inputs. The results are all subject to challenge and verification.

Q. YOU STATED THAT THE HATFIELD MODEL CALCULATES COSTS USING A METHODOLOGY THAT IS CONSISTENT WITH THE "FORWARD LOOKING ECONOMIC COST"-BASED STANDARD ADOPTED BY THE FCC. PLEASE DESCRIBE THE STATED BASIS FOR THE FCC'S METHODOLOGY.

A. In its August 8, 1996 First Report and Order in CC Docket 96-98 ("Order"), the FCC concluded that because "the prices of interconnection and unbundled elements...are critical terms and conditions of any interconnection agreement," it was necessary to "set forth the methodological principles" to be used when determining relevant costs and rates (para. 618). The FCC outlines in some detail a "cost based pricing methodology based on forward looking economic costs" which it concludes is the approach for setting prices that best furthers the goals of the 1996 Act" (para. 620), and that will "give appropriate signals to producers and consumers and ensure efficient entry and utilization of the telecommunications infrastructure" (para. 630). This methodology is to be used to determine costs and rates for unbundled network elements, interconnection, and collocation (paras. 628, 629).

In order to develop a national standard for the calculation of forward looking economic costs, the FCC identified the following criteria to be used:

Use of a long run assumption. The term long run, in the FCC's methodology, "refers to a period long enough so that all of a firm's costs become variable or avoidable" (para. 677). The HM uses this assumption when identifying relevant investments and expenses.

Definition of increment to be studied total demand. The FCC states that "the increment that forms the basis for a TELRIC study shall be the entire quantity of the network element provided, and that "all costs associated with providing the element shall be included in the incremental cost" (para. 690). The HM studies an increment

equal to the entire quantity of the network element, both as the incumbent uses the network element to provide its own retail services and as it provides that network element to other carriers on an unbundled basis. All costs that an efficient incumbent LEC would incur to provide the network element are included.

Use of a forward-looking methodology. The FCC concluded that the relevant costs should be the costs that "a carrier would incur in the future" (para. 683), and that a "forward-looking economic cost methodology based on the most efficient technology deployed in the incumbent LEC's current wire center locations" (para. 685). The HM utilizes existing wire center locations, and develops investments using the most efficient, currently available technologies for the provision of loop facilities, switching, interoffice transport, and signalling.

The inclusion of a "reasonable profit." The FCC concludes that "the concept of normal profit is embodied in forward looking costs because the forward looking cost of capital...is one of the forward-looking costs of providing the network elements," (para. 700), and that because a normal profit is represented by the LEC's forward looking cost of capital, "no additional profit is justified under the statutory language" (para. 699). The HM includes a forward looking cost of capital in the costs that it calculates, and does not provide an additional "markup" over this level.

Embedded costs should not be included. The FCC concluded that a cost methodology based on embedded costs, or a "markup" to reflect the difference between forward-looking and embedded costs, "would be pro-competitor -- in this case the incumbent LEC -- rather than pro-competition," and went on to state that "we reiterate that the prices for interconnection and network elements critical to the development of a competitive local exchange should be based on the pro-competition, forward looking, economic costs of those elements, which may be higher or lower than historical

embedded costs. Such pricing policies will best ensure the efficient investment decisions and competitive entry contemplated by the 1996 Act" (para. 705). The HM is based on forward looking economic costs, and embedded investments are not used.

Universal Service Subsidies should not be included. The FCC concluded that "funding for any universal service mechanisms adopted in the universal service proceeding may not be included in the rates for interconnection, network elements, and access to network elements" (para. 712). The HM does not include these costs in its calculations.

Access to Cost Data/Burden of Proof. The FCC notes that "the incumbent LECs have greater access to the cost information necessary to calculate the incremental cost of the unbundled elements of the network. Given this asymmetric access to cost data, we find that incumbent LECs must prove to the state commission the nature and magnitude of any forward looking cost that it seeks to recover" (para.680, 696). The HM calculates costs using the best publicly available data that has been identified. The model is designed to permit calculations of cost based on LEC-provided data if the LEC has met the burden of proof that these data will accurately identify forward looking costs.

Use of generic forward looking cost models. While the FCC stated that it had not had ample time to review the Hatfield Model specifically, it stated that the HM and similar generic models "appear best to comport with the preferred economic cost approach discussed previously" in the Order (para. 834), and that the HM and similar models "appear to offer a method of estimating the cost of network elements on a forward looking basis that is practical to implement and that allows state commissions the ability to examine the assumptions and parameters that go into the cost estimates" (para. 835). Of those models referred to by the FCC in this section, only the Hatfield

Model is based on publicly available data and permits scrutiny by both commissions and interested parties.

Inclusion of specific types of cost and application of principle of cost causation. The FCC states that unbundled network elements should be priced at "the forward looking costs that can be attributed directly to the provision of services using that element, plus a reasonable share of the forward looking joint and common costs" (para. 673), and indicates that "costs must be attributed on a cost-causative basis. Costs are causally related to the network element being provided if the costs are incurred as a direct result of providing the network elements, or can be avoided, in the long run, when the company ceases to provide them" (para. 691). The FCC goes on in subsequent paragraphs of the Order to define these terms and to give illustrative examples (See paras. 678,679,682, 690, 691, 694, 698). The HM uses cost-causative principles to identify forward-looking costs with specific network elements. It includes in the cost of network elements all the costs that the FCC specifically discussed in its order as being part of the direct cost of network elements. Specifically, the HM includes all "investment costs and expenses related to primary plant used to provide that element" (para. 682), and attributes "incremental costs of shared facilities and operations...to specific elements to the greatest extent possible" (para. 682). The HM specifically attributes "the costs of conduits shared by both transport and local loops, and the costs of central office facilities shared by both local switched and tandem switching...to specific elements in reasonable proportions" (para. 682). For both dedicated and shared investments, the HM includes "the forward-looking costs of capital (debt and equity) needed to support investments required to produce a given element" (para. 691).

The FCC's rules require that overhead costs be included to the extent that they

vary with the output of particular network elements (despite their accounting classification), and thus are part of the TELRIC of those elements. The FCC also requires, to the extent that there are any such overhead costs that are common to several wholesale elements, or to wholesale and other functions, that the prices of of network elements include "a reasonable share of common costs." The procedure of estimating the overhead costs of a wholesale-only carrier, which is what Hatfield does by adding the 10% markup, satisfies the FCC requirements. While statistical evidence and a growing literature on activity-based accounting systems suggest that many of the costs that have traditionally been considered "overhead" costs should actually be considered service-specific or element-specific costs, the Hatfield Model method for treating overhead costs renders any precise distinction between element-specific and "common" overhead costs unnecessary. Insofar as the 10% markup captures all of the relevant overhead costs, it includes any element-specific costs and a reasonable share of any "common" overhead costs. This approach ensures that each network element recovers at least its "reasonable" share of such common costs, to the extent that they exist. Moreover, if regulators set prices for network elements equal to the costs that the Hatfield Model reports for each element, these prices would allow a firm that is engaged solely in providing network elements on a wholesale basis (with no retail functions) to recover all of its economic costs of doing business, including a reasonable profit, but no more. From this vantage point also, the Hatfield approach lies well within the bounds of reasonableness.

In conclusion, the Hatfield Model complies with the detailed explanation of the cost methodology adopted by the FCC and the results of the Model should be used to establish rates for unbundled network elements in Florida.

Q. HAVE REGULATORS AND ECONOMISTS ENDORSED THE HATFIELD MODEL?

A. Yes. With reference to an earlier version of the model, which lacks a number of the features and enhancements incorporated into Release 2, the Washington Utilities and Transportation Commission concluded the following (See WUTC Docket No. UT-950200, Fifteenth Supplemental Order, page 82):

> The Commission rejects USWC's cost studies for local service and the local loop. The most reasonable and accurate measure of incremental cost for these services on this record is provided by the Hatfield model ... We are satisfied that it accurately reflects costs incurred by USWC and that, if it errs, it likely errs on the high side.

Nationally prominent economists have also endorsed the HM. In an affidavit submitted in response to the FCC's April 19, 1996, Notice of Proposed Rulemaking in CC Docket No. 96-98, Professors William J. Baumol, Janusz A. Ordover and Robert D. Willig state in paragraph 38 that:

> We have reviewed the costing model constructed for AT&T and MCI by Hatfield Associates, Inc., a telecommunications consulting firm. The object of the current Hatfield model is to estimate the total costs of building and operating a network, using efficient, forward-looking technology, to supply all "basic" narrowband services (essentially all local and intraLATA toll service, including carrier access) currently supplied in the United States. We conclude that the Hatfield

Model follows reasonably closely the TSLRIC principles discussed in Section II. Where limitations on the availability of data have forced the designers of the model to use approximations that deviate from the theoretical ideal, the shortcuts adopted tend to overestimate, not underestimate, true TSLRIC. Further the model is extremely flexible: whenever values are available, they can readily be substituted for the values used currently.

Section II: Constituents and Operation of the Hatfield Model

Q. PLEASE PROVIDE A SUMMARY DESCRIPTION OF THE HATFIELD MODEL'S OPERATION.

A. The Hatfield Model employs a methodology based upon engineering standards and methods applicable to the local exchange network in order to estimate the costs that would be incurred by an efficient firm to provide the unbundled network functions and basic exchange service that are considered by the model. Specifically, these costs would be incurred by an efficient LEC to provide the specified functions and services using a network designed to provide narrowband, voice-grade telephone services. The Hatfield Model is a table-driven system that is adaptable to any LEC or geographic area, provided the appropriate state-specific and company-specific information is available and input into the model.

Q. HOW DOES THE HATFIELD MODEL RELATE TO THE BCM?

A. A key constituent of the HM is BCM-PLUS, which was derived from the first version of the BCM ("BCM1"). However, BCM-PLUS, and the remaining modules of the

HM, use BCM1 only as an initial step in the development of the investment associated with the feeder and distribution components of the local loop. The Hatfield Model adds network components not included in BCM1. It also applies BCM1 output to its own switching investment module. The switching module in the Hatfield Model contains separate, user-changeable factors for switching investment, construction, installation, floor space and frames. This disaggregation provides for a thorough determination of wire center costs. The same module determines the investment in interoffice call transport and signaling facilities.

BCM-PLUS, together with the Hatfield Model, improve on BCM1 in a number of ways. First, the HM uses a 1995 estimate of households per Census Block Group (CBG), whereas BCM1 used 1990 census data. Second, the HM accounts for multi-line residences, and business, special access, and payphone lines, which were excluded from the loop facilities calculation in the BCM1. In doing so, it uses a database showing the number of employees per CBG that was not identified at the time BCM1 or earlier versions of the HM were written. Third, the HM estimates costs according to the line density -- that is, the number of *lines* served per square mile -- rather than the number of *households* per square mile. Fourth, the HM increases the amount of distribution cable in the two highest density ranges, and decreases it in lowest density range, consistent with the amount of cable that would actually be required for such a line density. Fifth, the HM estimates structure costs independently of the cost of the cable itself, whereas the BCM1 estimated structure costs as a multiplier of cable costs. In addition, the HM includes cable installation (placement) costs, which tends to increase the per-foot cost of the cable. Sixth, the Hatfield Model includes costs associated with network elements that were not included in the BCM1, such as the drop wire, network interface device, terminal, and serving area interface portions of the local loop, and the

facilities necessary to connect LEC end offices (interoffice facilities). These are perhaps the most significant changes; there are a number of additional minor changes.

As already noted, U S WEST and Sprint recently released a new version of the Benchmark Cost Model ("BCM2"). BCM2 incorporates many, but not all, of the modifications that the Hatfield Model made to BCM1.

Q. PLEASE DESCRIBE THE INPUT DATA USED BY THE HATFIELD MODEL.

A. The Hatfield Model uses seven primary categories of input data: CBG data, business employee data, cable and installation cost data, wire center data, traffic data, expense data, and ARMIS-reported data on the number of residence and business lines. The CBG data used by the Hatfield Model are: 1) number of households in each CBG; 2) CBG land area; 3) CBG position relative to the nearest wire center; and 4) geological factors including rock depth, rock hardness, water table depth, and surface texture. The business line data provide the number of business employees by CBG; this information is used to distribute the ARMIS-reported number of business, special access, and payphone lines by CBG.

The wire center data provides the location of existing wire centers in each LATA, as well as the location of existing tandem switches and signal transfer points.

Network traffic is estimated using dial equipment minutes and call attempt statistics. These inputs are used to appropriately size investment in switching, signaling, and interoffice facilities, as well as to calculate usage-sensitive costs for several of the unbundled network elements.

The information necessary to estimate future recurring expenses associated with operating and maintaining the telephone network comes from two sources. Forward-

looking expense information is used if it exists in the public domain. Where no such data is available, selected expense data reported by the LECs in ARMIS is used because it is the best publicly available data.

Q. WHAT ARE THE FUNCTIONAL MODULES THAT COMPRISE THE HATFIELD MODEL?

A. The Hatfield Model contains six functional modules. They are:

- Line Multiplier Module;
- Data Module;
- Loop Module;
- Wire Center Investment Module;
- Convergence Module; and
- Expense Module.

An overview of each of the modules is provided below.

Q. WHAT IS THE PURPOSE OF THE LINE MULTIPLIER MODULE?

A. In order to calculate costs on a per line basis, the HM uses estimates of the total number of lines (including residential, business, public telephone and special access lines) within each CBG. CBG input data contains the number of households, not number of lines, in each CBG. The line multiplier module determines a ratio of total residential lines reported in ARMIS to total households, and applies this ratio to the number of households in each CBG to estimate the number of residential lines by CBG. It estimates the number of business, special access, and payphone lines by distributing the corresponding ARMIS numbers among CBGs proportionally to the number of employees in each of the CBGs.

Because the network is sized to provide all loops, not just residential loops, and because the total line density may be substantially different than the residential line density, the model subsequently categorizes and reports costs within CBGs according to total line density (i.e., total lines served per square mile) rather than residential line density. Line density is broken into six categories, or density ranges: 0-5, 5-200, 200-650, 650-850, 850-2,550 and greater than 2,550 lines per square mile, respectively.

Q. WHAT FUNCTION IS PERFORMED IN THE DATA MODULE?

A. The Data Module uses CBG data and line totals to determine the quantity and type of outside loop plant facilities required, based upon density and distance of the CBG from the wire center. In doing so, it basically employs the same methodology as does the BCM1, although there are a few exceptions, such as 1) as already discussed, the length of distribution cable is changed for the highest and lowest line density zones; 2) the fiber-copper breakpoint -- that is, the feeder length below which copper cable, and above which fiber cable, are used -- becomes a user input; and 3) fiber cable is assumed to have a higher equivalent line capacity than is assumed by BCM1. The HM also separately considers the amounts and costs of underground and buried cable, whereas they were combined in the BCM1. The Data Module also calculates outside plant structure (poles, conduits) costs associated with placing and installing cable under varying terrain and population density conditions.

Q. WHAT FUNCTION IS PERFORMED BY THE LOOP MODULE?

A. The Loop Module, which is also part of BCM1, determines the size and type of cable required to serve each CBG, given loop lengths, fill levels, and population density. The Module then uses the distribution and feeder lengths calculated in the Data Module as

well as cable price information to determine the total required loop investment for each CBG including supporting structure investment.

Q. WHAT IS THE PURPOSE OF THE WIRE CENTER MODULE?

A. The Wire Center Module calculates wire center and interoffice facilities investments. This module quantifies investments associated with end office switches, wire centers, trunks, tandems (including operator tandems, and operator positions), signaling links, signal transfer points (STPs), and service control points (SCPs). Some of the elements it considers, such as the cost of the SCPs and operator positions, are relevant only to unbundled network elements; the remainder are germane to both unbundled elements and the cost of basic local service. The module uses the total number of access lines, the location of wire centers, and network traffic data to determine required switching, trunking, and signaling investments.

The module sizes network facilities sufficient to serve the total demand created by all users and uses of the network. The Hatfield Model derives its switch investment estimates by using both typical per line prices paid for by Bell Operating Companies, GTE and other independents for end office switches (according to a published source), and by using Table 2.10 of the FCC's Statistics of Communications Common Carriers, which provides the average number of access lines served by a LEC switch.

Q. WHAT IS THE PURPOSE OF THE CONVERGENCE MODULE?

A. The Convergence Module modifies the loop investment calculated in the Loop Module to account for network elements omitted from BCM1. It combines the modified loop investment with the wire center, interoffice, and signaling investment calculated in the Wire Center Module. For each of the six density ranges, the convergence module

reports the number of lines by type, number of households and investment in categories such as distribution, feeder, end office switching, tandems, and trunks.

Q. PLEASE DESCRIBE THE EXPENSE MODULE.

A. The Expense Module uses the outputs from the Convergence Module to determine annual capital carrying costs, operations and maintenance expenses, and support expenses associated with the investments needed for a local telecommunications network. This module uses the best publicly available information to estimate future expenses and reports the annual cost for each unbundled network element. The module requires as inputs appropriate assumptions regarding the cost of capital (cost of debt, cost of equity, and debt/equity ratio); the economic lives of various categories of network equipment and facilities, and the relationship between investment and expenses. It produces the appropriate unit cost of various unbundled network elements and of basic exchange service. These units vary by type of element and service: for instance, the cost of unbundled local switching is reported as both cost per port and cost per minute of use; while the SCP cost unit is messages. Basic local exchange service is reported as the cost per line per month for the service, whose elements have been defined previously. The results are reported by line density zone, using the ranges I have defined previously.

Q. YOU PREVIOUSLY REFERRED TO HATFIELD MODEL VERSION 2.2, RELEASE 1. PLEASE SUMMARIZE THE KEY DIFFERENCES BETWEEN HATFIELD MODEL VERSION 2.2 RELEASE 1 AND RELEASE 2.

A. The key differences may be summarized as follows. Compared to Release 1, Release 2

- estimates the cost of basic local exchange service,
- tentatively provides a graphical user interface to facilitate the setting of user inputs and running the model,
- provides an increased set of inputs that can be set by the user,
- uses a 1995 estimate of households by CBG, rather than 1990 census data,
- estimates the number of business, special access, and payphone lines per CBG using a database containing employees per CBG,
- increases the length of distribution cable for the two highest-density ranges, and decreases it for the least dense range,
- specifies cable costs on an as-installed basis, generally leading to higher per-foot cable costs,
- separates structure costs from cable costs, rather than calculating them as a multiplier of cable costs,
- places each serving area interface (the interface point between feeder and distribution cable) inside the CBG it serves, rather than at the edge of the CBG,
- refines the treatment of interoffice transport and signaling costs,
- provides a greater disaggregation of expense factors, for instance, by considering underground and buried cable expenses separately, and
- adds the estimated cost of local number portability.

Section III: Florida-Specific Model Results

Q. PLEASE SUMMARIZE THE MODEL INPUTS THAT HAVE BEEN USED TO DEVELOP COST ESTIMATES FOR FLORIDA.

A. The inputs used to perform the run of the model used to develop costs for use in this proceeding are attached as Exhibit DJW-2. As with all data, MCI is continuing to evaluate the accuracy and validity of these inputs in order to ensure the reliability of the cost information produced by the model.

Q. WHAT ARE THE RESULTS OF THE MODEL?

A. In Exhibit DJW-3, I have included the results of running the Hatfield Model to develop costs for use in this proceeding. In summary, the results of MCI's analysis are as follows:

Hatfield Model Unbundled Network Element Summary

	Element	Unit Definition	Unit Cost
1.	Network Interface Device	per line-per month	$
2.	Loop Distribution	per line-per month	$
3.	Loop Concentrator	per line-per month	$
4.	Loop Feeder	per line-per month	$
5.	End Office Switching Port	per line-per month	$
	Usage	per minute	$
6.	Signaling Links	per link-per month	$
7.	Signal Transfer Point	per message	$
8.	Signal Control Point	per message	$
9.	Common Transport	per minute	$
10.	Dedicated Transport	per DS0 - per month	$
11.	Tandem Switching	per minute	$
12.	Operator Systems		$

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Vita of Don J. Wood
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EDUCATION

Emory University, Atlanta, Ga.
BBA in Finance, with Distinction.

College of William and Mary, Williamsburg, Va.
MBA, with concentration in Finance and Microeconomics.

CURRENT EMPLOYMENT

Don J. Wood provides economic and regulatory analysis services in telecommunications and related industries. He has been employed in a management capacity at a major Local Exchange Company and an Interexchange Carrier, and has been directly involved in both the development and implementation of regulatory policy. He has presented testimony before the Regulatory Commissions of twenty-three states and the District of Columbia, state courts, and has prepared comments for filing with the Federal Communications Commission.

PREVIOUS EXPERIENCE

BellSouth Services, Inc.

Staff Manager responsible for conducting cost of service studies to be filed for regulatory purposes at State Commissions and FCC. Developed new costing methodologies and models for use by other analysts.

MCI Telecommunications Corporation.

Manager of Regulatory Analysis, Southeast Division. Responsible for development and implementation of regulatory policy for nine state division of the company. Duties included testimony before State Commissions, preparation of related pleadings, settlement negotiations, and development of relationships with Commission Staff and key industry personnel. After company reorganization, responsibilities expanded to new 15 state Southern Division.

Manager, Corporate Economic Analysis and Regulatory Affairs. Responsible for national regulatory policy development. Acted as part of a four person internal consulting team, specifically assigned to new/complex issues. Testimony before State Commissions throughout eastern US and comments/lobbying at FCC.

TESTIMONY - STATE REGULATORY COMMISSIONS:

Alabama Public Service Commission

Docket No. 19356, Phase III: Alabama Public Service Commission vs. All Telephone Companies Operating in Alabama, and Docket 21455: AT&T Communications of the South Central States, Inc., Applicant, Application for a Certificate of Public Convenience and Necessity to Provide Limited IntraLATA Telecommunications Service in the State of Alabama.

Docket No. 20895: In Re: Petition for Approval to Introduce Business Line Termination for MCI's 800 Service.

Docket No. 21071: In Re: Petition by South Central Bell for Introduction of Bidirectional Measured Service.

Docket No. 21067: In Re: Petition by South Central Bell to Offer Dial Back-Up Service and 2400 BPS Central Office Data Set for Use with PulseLink Public Packet Switching Network Service.

Docket No. 21378: In Re: Petition by South Central Bell for Approval of Tariff Revisions to Restructure ESSX and Digital ESSX Service.

Docket No. 21865: In Re: Petition by South Central Bell for Approval of Tariff Revisions to Introduce Network Services to be Offered as a Part of Open Network Architecture.

Arkansas Public Service Commission

Docket No. 92-337-R: In the Matter of the Application for a Rule Limiting Collocation for Special Access to Virtual or Physical Collocation at the Option of the Local Exchange Carrier.

State of Connecticut, Department of Utility Control

Docket 91-12-19: DPUC Review of Intrastate Telecommunications Services Open to Competition (Comments).

Docket No. 94-07-02: Development of the Assumptions, Tests, Analysis, and Review to Govern Telecommunications Service Reclassifications in Light of the Eight Criteria Set Forth in Section 6 of Public Act 94-83 (Comments).

Delaware Public Service Commission

Docket No. 93-31T: In the Matter of the Application of The Diamond State Telephone Company for Establishment of Rules and Rates for the Provision of IntelliLinQ-PRI and IntelliLinQ-BRI.

Docket No. 41: In the Matter of the Development of Regulations for the Implementation of the Telecommunications Technology Investment Act.

Florida Public Service Commission

Docket No. 881257-TL: In Re: Proposed Tariff by Southern Bell to Introduce New Features for Digital ESSX Service, and to Provide Structural Changes for both ESSX Service and Digital ESSX Service.

Docket No. 880812-TP: In Re: Investigation into Equal Access Exchange Areas (EAEAs), Toll Monopoly Areas (TMAs), 1+ Restriction to the Local Exchange Companies (LECs), and Elimination of the Access Discount.

Docket No. 890183-TL: In Re: Generic Investigation into the Operations of Alternate Access Vendors.

Docket No. 870347-TI: In Re: Petition of AT&T Communications of the Southern States for Commission Forbearance from Earnings Regulation and Waiver of Rule 25-4.495(1) and 25-24.480 (1) (b), F.A.C., for a trial period.

Docket No. 900708-TL: In Re: Investigation of Methodology to Account for Access Charges in Local Exchange Company (LEC) Toll Pricing.

Docket No. 900633-TL: In Re: Development of Local Exchange Company Cost of Service Study Methodology.

Docket No. 910757-TP: In Re: Investigation into the Regulatory Safeguards Required to Prevent Cross-Subsidization by Telephone Companies.

Docket No. 920260-TL: In Re: Petition of Southern Bell Telephone and Telegraph Company for Rate Stabilization, Implementation Orders, and Other Relief.

Docket No. 950985-TP: In Re: Resolution of Petitions to establish 1995 rates, terms, and conditions for interconnection involving local exchange companies and alternative local exchange companies pursuant to Section 364.162, Florida Statutes.

Georgia Public Service Commission

Docket No. 3882-U: In Re: Investigation into Incentive Telephone Regulation in Georgia.

Docket No. 3883-U: In Re: Investigation into the Level and Structure of Intrastate Access Charges.

Docket No. 3921-U: In Re: Compliance and Implementation of Senate Bill 524.

Docket No. 3905-U: In Re: Southern Bell Rule Nisi.

Docket No. 3995-U: In Re: IntraLATA Toll Competition.

Docket No. 4018-U: In Re: Review of Open Network Architecture (ONA) (Comments).

Docket No. 5258-U: In Re: Petition of BellSouth Telecommunications for Consideration and Approval of its "Georgians FIRST" (Price Caps) Proposal.

Docket No. 5825-U: In Re: The Creation of a Universal Access Fund as Required by the Telecommunications Competition and Development Act of 1995.

Iowa Utilities Board

Docket No. RPU-95-10.

Docket No. RPU-95-11.

Kentucky Public Service Commission

Administrative Case No. 10321: In the Matter of the Tariff Filing of South Central Bell Telephone Company to Establish and Offer Pulselink Service.

Administrative Case No. 323: In the Matter of An Inquiry into IntraLATA Toll Competition, An Appropriate Compensation Scheme for Completion of IntraLATA Calls by Interexchange Carriers, and WATS Jurisdictionality.

- Phase IA: Determination of whether intraLATA toll competition is in the

public interest.

- Phase IB: Determination of a method of implementing intraLATA competition.

- Rehearing on issue of Imputation.

Administrative Case No. 90-256, Phase II: In the Matter of A Review of the Rates and Charges and Incentive Regulation Plan of South Central Bell Telephone Company.

Administrative Case No. 336: In the Matter of an Investigation into the Elimination of Switched Access Service Discounts and Adoption of Time of Day Switch Access Service Rates.

Administrative Case No. 91-250: In the Matter of South Central Bell Telephone Company's Proposed Area Calling Service Tariff.

Louisiana Public Service Commission

Docket No. 17970: In Re: Investigation of the Revenue Requirements, Rate Structures, Charges, Services, Rate of Return, and Construction Program of AT&T Communications of the South Central States, Inc., in its Louisiana Operations.

Docket No. U-17949: In the Matter of an Investigation of the Revenue Requirements, Rate Structures, Charges, Services, Rate of Return, and Construction Program of South Central Bell Telephone Company, Its Louisiana Intrastate Operations, The Appropriate Level of Access Charges, and All Matters Relevant to the Rates and Service Rendered by the Company.

- Subdocket A (SCB Earnings Phase)

- Subdocket B (Generic Competition Phase)

Docket No. 18913-U: In Re: South Central Bell's Request for Approval of Tariff Revisions to Restructure ESSX and Digital ESSX Service.

Docket No. U-18851: In Re: Petition for Elimination of Disparity in Access Tariff Rates.

Public Service Commission of Maryland

Case 8584, Phase II: In the Matter of the Application of MFS Intelenet of Maryland, Inc. for Authority to Provide and Resell Local Exchange and Intrastate Telecommunications Services in Areas Served by C&P Telephone Company of Maryland.

Case 8715: In the Matter of the Inquiry into Alternative Forms of Regulating Telephone Companies.

Mississippi Public Service Commission

Docket No. U-5086: In Re: MCI Telecommunications Corporation's Metered Use Service Option D (Prism I) and Option E (Prism II).

Docket No. U-5112: In Re: MCI Telecommunications Corporation's Metered Use Option H (800 Service).

Docket No. U-5318: In Re: Petition of MCI for Approval of MCI's Provision of Service to a Specific Commercial Banking Customers for Intrastate Interexchange Telecommunications Service.

Docket 89-UN-5453: In Re: Notice and Application of South Central Bell Telephone Company for Adoption and Implementation of a Rate Stabilization Plan for its Mississippi Operations.

Docket No. 90-UA-0280: In Re: Order of the Mississippi Public Service Commission Initiating Hearings Concerning (1) IntraLATA Competition in the Telecommunications Industry and (2) Payment of Compensation by Interexchange Carriers and Resellers to Local Exchange Companies in Addition to Access Charges.

Docket No. 92-UA-0227: In Re: Order Implementing IntraLATA Competition.

New York Public Service Commission

Case No. 28425: Proceeding on Motion of the Commission as to the Impact of the Modification of Final Judgement and the Federal Communications Commission's Docket 78-72 on the Provision of Toll Service in New York State.

North Carolina Public Utilities Commission

Docket No. P-100, Sub 72: In the Matter of the Petition of AT&T to Amend Commission Rules Governing Regulation of Interexchange Carriers (Comments).

Docket No. P-141, Sub 19: In the Matter of the Application of MCI Telecommunications Corporation to Provide InterLATA Facilities-Based Telecommunications Services (Comments).

Docket No. P-55, Sub 1013: In the Matter of Application of BellSouth Telecommunications, Inc. for, and Election of, Price Regulation.

Docket Nos. P-7, Sub 825 and P-10, Sub 479: In the Matter of Petition of Carolina Telephone and Telegraph and Central Telephone Company for Approval of a Price Regulation Plan Pursuant to G.S. 62-133.5.

Docket No. P-19, Sub 277: In the Matter of Application of GTE South Incorporated for and Election of, Price Regulation.

Public Utilities Commission of Ohio

Case No. 93-487-TP-ALT: In the Matter of the Application of The Ohio Bell Telephone Company for Approval of an Alternative Form of Regulation.

Oklahoma Corporation Commission

Cause No. PUD 01448: In the Matter of the Application for an Order Limiting Collocation for Special Access to Virtual or Physical Collocation at the Option of the Local Exchange Carrier.

Public Utility Commission of Oregon

Docket No. UT 119: In the Matter of an Investigation into Tariffs Filed by US West Communications, Inc., United Telephone of the Northwest, Pacific Telecom, Inc., and GTE Northwest, Inc. in Accordance with ORS 759.185(4).

Pennsylvania Public Utilities Commission

Docket No. I-00910010: In Re: Generic Investigation into the Current Provision of InterLATA Toll Service.

Docket No. P-00930715: In Re: The Bell Telephone Company of Pennsylvania's Petition and Plan for Alternative Form of Regulation under Chapter 30.

Docket No. R-00943008: In Re: Pennsylvania Public Utility Commission v. Bell Atlantic-Pennsylvania, Inc. (Investigation of Proposed Promotional Offerings Tariff).

Docket No. M-00940587: In Re: Investigation pursuant to Section 3005 of the Public Utility Code, 66 Pa. C. S. §3005, and the Commission's Opinion and Order at Docket No. P-930715, to establish standards and safeguards for competitive services, with particular emphasis in the areas of cost allocations, cost studies, unbundling, and imputation, and to consider generic issues for future rulemaking.

South Carolina Public Service Commission

Docket No. 90-626-C: In Re: Generic Proceeding to Consider Intrastate Incentive Regulation.

Docket No. 90-321-C: In Re: Petition of Southern Bell Telephone and Telegraph Company for Revisions to its Access Service Tariff Nos. E2 and E16.

Docket No. 88-472-C: In Re: Petition of AT&T of the Southern States, Inc., Requesting the Commission to Initiate an Investigation Concerning the Level and Structure of Intrastate Carrier Common Line (CCL) Access Charges.

Docket No. 92-163-C: In Re: Position of Certain Participating South Carolina Local Exchange Companies for Approval of an Expanded Area Calling (EAC) Plan.

Docket No. 92-182-C: In Re: Application of MCI Telecommunications Corporation, AT&T Communications of the Southern States, Inc., and Sprint Communications Company, L.P., to Provide IntraLATA Telecommunications Services.

Docket No. 95-720-C: In Re: Application of BellSouth Telecommunications, Inc. d/b/a Southern Bell Telephone and Telegraph Company for Approval of an Alternative Regulation Plan.

Tennessee Public Service Commission

Docket No. 90-05953: In Re: Earnings Investigation of South Central Bell Telephone Company.

Docket Nos. 89-11065, 89-11735, 89-12677: AT&T Communications of the South Central States, MCI Telecommunications Corporation, US Sprint Communications

Company -- Application for Limited IntraLATA Telecommunications Certificate of Public Convenience and Necessity.

Docket No. 91-07501: South Central Bell Telephone Company's Application to Reflect Changes in its Switched Access Service Tariff to Limit Use of the 700 Access Code.

Public Utility Commission of Texas

Docket No. 12879: Application of Southwestern Bell Telephone Company for Expanded Interconnection for Special Access Services and Switched Transport Services and Unbundling of Special Access DS1 and DS3 Services Pursuant to P. U. C. Subst. R. 23.26.

Virginia State Corporation Commission

Case No. PUC920043: Application of Virginia Metrotel, Inc. for a Certificate of Public Convenience and Necessity to Provide InterLATA Interexchange Telecommunications Services.

Case No. PUC920029: Ex Parte: In the Matter of Evaluating the Experimental Plan for Alternative Regulation of Virginia Telephone Companies.

Case No. PUC930035: Application of Contel of Virginia, Inc. d/b/a GTE Virginia to implement community calling plans in various GTE Virginia exchanges within the Richmond and Lynchburg LATAs.

Case No. PUC930036: Ex Parte: In the Matter of Investigating Telephone Regulatory Methods Pursuant to Virginia Code § 56-235.5, & Etc.

Washington Utilities and Transportation Commission

Docket Nos. UT-941464, UT-941465, UT-950146, and UT-950265 (Consolidated): Washington Utilities and Transportation Commission, Complainant, vs. US West Communications, Inc., Respondent; TCG Seattle and Digital Direct of Seattle, Inc., Complainant, vs. US West Communications, Inc., Respondent; TCG Seattle, Complainant, vs. GTE Northwest Inc., Respondent; Electric Lightwave, Inc., vs. GTE Northwest, Inc., Respondent.

Docket No. UT-950200: In the Matter of the Request of US West Communications, Inc. for an Increase in its Rates and Charges.

Public Service Commission of Wyoming

Docket No. 70000-TR-95-238: In the Matter of the General Rate/Price Case Application of US West Communications, Inc.

Docket No. PSC-96-32: In the Matter of Proposed Rule Regarding Total Service Long Run Incremental Cost (TSLRIC) Studies.

Public Service Commission of the District of Columbia

Formal Case No. 814, Phase IV: In the Matter of the Investigation into the Impact of the AT&T Divestiture and Decisions of the Federal Communications Commission on Bell Atlantic - Washington, D. C. Inc.'s Jurisdictional Rates.

COMMENTS - FEDERAL COMMUNICATIONS COMMISSION

CC Docket No. 92-91: In the Matter of Open Network Architecture Tariffs of Bell Operating Companies.

CC Docket No. 93-162: Local Exchange Carriers' Rates, Terms, and Conditions for Expanded Interconnection for Special Access.

CC Docket No. 91-141: Common Carrier Bureau Inquiry into Local Exchange Company Term and Volume Discount Plans for Special Access.

CC Docket No. 94-97: Review of Virtual Expanded Interconnection Service Tariffs.

CC Docket No. 94-128: Open Network Architecture Tariffs of US West Communications, Inc.

CC Docket No. 94-97, Phase II: Investigation of Cost Issues, Virtual Expanded Interconnection Service Tariffs.

Exhibit ___ (DJW-2) and Exhibit ___ (DJW-3) and Summary numbers for page 21 will be provided as soon as possible

DIRECT TESTIMONY OF GREG DARNELL

ON BEHALF OF MCI

MCI - UNITED/CENTEL ARBITRATION

October 11, 1996

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Greg Darnell, and my business address is 780 Johnson Ferry Rd., Suite 700, Atlanta, Georgia, 30342.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by MCI Telecommunications Corporation in the Southern Region as Regional Manager -- Competition Policy.

Q. HAVE YOU PREVIOUSLY TESTIFIED?

A. Yes, I have.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of this testimony is to describe and make recommendations on several key wholesale service pricing and provisioning policy issues that must be resolved in the context of arbitrations under Section 252 of the Communications Act of 1996.

WHOLESALE SERVICES: PRICING AND PROVISIONING

Wholesale Services: Overview

Q. HOW IS THIS PORTION OF YOUR TESTIMONY ORGANIZED?

A. First, I summarize the pertinent federal legislative and regulatory requirements.

Second, I discuss the necessary conditions of an effective resale policy. Third, I describe the avoided cost model used by MCI for Sprint United. Finally, I present my conclusions.

Q. WOULD YOU SUMMARIZE YOUR KEY CONCLUSIONS OF YOUR TESTIMONY AND ANALYSIS REGARDING PRICING AND PROVISIONING OF WHOLESALE SERVICES?

A. Yes. The key conclusions are:

- An effective local resale market is essential to development of full facilities based local competition.
- In addition to promoting facilities based competition, resale of local services provides independent benefits to consumers through retail competition.
- In order to capture all of these benefits, all local telecommunications services must be made available for resale at discounts that fully reflect avoidable costs.
- Wholesale services must not be provisioned in ways that discourage entry by resellers or unreasonably raise their costs.
- An avoided cost study must reflect the jurisdictional allocation of expenses.
- The appropriate resale discounts should be set on a state specific basis where the data allow.
- The appropriate resale discount for Sprint United for Florida should be set at 20.49% and for Sprint Centel at 21.37%. Outputs of the MCI model are attached as Exhibit ___ (GD-1).

Wholesale Services: Legislative and Regulatory Requirements

Q. WHAT ARE THE LEGISLATIVE AND REGULATORY REQUIREMENTS REGARDING RESALE AND WHOLESALE PRICING BY SPRINT UNITED?

A. The Telecommunications Act of 1996 ("1996 Act") is designed to bring competition to local telecommunications markets. The 1996 Act recognizes that simply removing legal barriers to entry is insufficient to allow competition to evolve. A number of procompetitive steps are necessary and explicitly required by the 1996 Act. For example, every incumbent local exchange carrier ("ILEC") is required to provide requesting telecommunications carriers: (1) interconnection to its network; (2) access to its unbundled network elements; (3) physical collocation for interconnection or access to unbundled elements, and (4) retail telecommunications services for resale at wholesale prices (rates). Economic barriers to entry into local telephone markets will be reduced substantially with an effective resale policy. In other words, resale of all retail telecommunications services at wholesale rates is necessary to the development of local competition.

The 1996 Act imposes a duty upon ILECs to offer certain services for resale at wholesale rates. Specifically, Section 251(c)(4) requires ILECs:

(A) to offer for resale at wholesale rates any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers; and

(B) not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of such telecommunications services, except that a state commission may, consistent with regulations prescribed by the Commission under this section, prohibit a reseller that obtains at wholesale rates a telecommunications service that is available at retail only to a category of subscribers from offering such service to a different category of

subscribers.

Further, the 1996 Act also provides guidance on the determination of wholesale prices for telecommunications services. Section 252(d)(3) states that:

> For the purposes of Section 251(c)(4), a state commission shall determine wholesale rates on the basis of retail rates charged to subscribers for the telecommunications service requested, excluding the portion thereof attributable to any marketing, billing, collection, and other costs that will be avoided by the local exchange carrier.

These statutory requirements are clear and concise. As described below, they are not only consistent with, they are essential to, the development of local competition.

Q. HOW DOES THE FCC ORDER ADDRESS RESALE?

A. The Federal Communications Commission ("FCC") recently released its First Report and order in CC Docket No. 96-98, In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, issued August 8, 1996 ("251 Order"). The 251 Order addresses the need for resale competition stating that:

> Resale will be an important entry strategy for many new entrants, especially in the short term when they are building their own facilities. Further, in some areas and for some new entrants, we expect that the resale option will remain an important entry strategy over the longer term. Resale will also be an important entry strategy for small businesses that may lack capital to compete in the local exchange market by purchasing unbundled elements or by building their own networks. In light of the strategic importance of resale to

the development of competition, we conclude that it is especially important to promulgate national rules for use by state commissions in setting wholesale rates. (251 Order, Para. 907).

The Order establishes ". . . a minimum set of criteria for avoided cost studies used to determine wholesale discount rates." (para. 909) Sections 605-617 of part 51 of the FCC Rules set forth the FCC's methodology. These Rules are attached as Appendix II. Beyond the minimum criteria, the FCC allows states ". . . broad latitude in selecting costing methodologies that comport with their own ratemaking practices for retail services." (para. 910) States are allowed to select interim "default" rates from within a range prescribed by the FCC if an avoided cost study such as the one presented here is not available. (See FCC Rules Section 51.611.)

The methodology which MCI has used to establish a wholesale discount rate for Sprint United follows the approach suggested by the FCC. However, it is appropriate to account for the jurisdictional nature of some of the expenses that are avoided when ILECs no longer perform the retail function. The necessary adjustments are described below. As discussed below, these adjustments are consistent with state rate making practices and therefore comply with the express desire of the FCC to provide latitude to states.

Wholesale Services: Necessary Conditions for Effective Resale

Q. PLEASE DESCRIBE THE NECESSARY CONDITIONS FOR EFFECTIVE RESALE.

A. There are several conditions necessary for an effective local resale market. In

general, the price of wholesale services must be reasonably related to the cost of providing the service and the wholesale services must be offered on reasonable terms and conditions. The specific conditions necessary for effective resale are: 1) wholesale rates must not include incumbent LEC retailing costs; 2) all retail services must be offered at a discount; 3) service quality and adequate wholesale-reseller interfaces must be maintained; and 4) service branding must be provided for the retailers' services.

Q. YOU STATED THAT WHOLESALE RATES CHARGED BY SPRINT UNITED MUST NOT INCLUDE RETAILING COSTS. PLEASE EXPLAIN.

A. If ILECs are allowed to charge excessive wholesale service prices, competition will be thwarted. In any market, resellers or retailers require a margin between the retail price and the wholesale price sufficient to allow recovery of their expenses, including a reasonable profit. The FCC points out that:

> There has been considerable debate on the record in this proceeding and before the state commissions on whether section 252(d)(3) embodies an "avoided" cost standard or an "avoidable" cost standard. We find that "the portion [of the retail rate] . . . attributable to costs that will be avoided" includes all of the costs that the LEC incurs in maintaining a retail, as opposed to a wholesale, business. In other words, the avoided costs are those that an incumbent LEC would no longer incur if it were to cease retail operations and instead provide all of its services through resellers. Thus, we reject the arguments of incumbent LECs and others who maintain that the LEC must actually experience a reduction in its

operating expenses for a cost to be considered "avoided" for purposes of section 252(d)(3). We do not believe that Congress intended to allow incumbent LECs to sustain artificially high wholesale prices by declining to reduce their expenditures to the degree that certain costs are readily avoidable. We therefore interpret the 1996 Act as requiring states to make an objective assessment of what costs are reasonably avoidable when a LEC sells its services wholesale. We note that Colorado, Georgia, Illinois, New York, and Ohio commissions have all interpreted the 1996 Act in this manner. (251 Order, Para. 911).

If avoided costs are estimated correctly, and then subtracted from retail prices, efficient resellers should be able to succeed in the retail market.

Q. YOU ALSO STATED THAT ALL RETAIL SERVICES MUST BE OFFERED AT A DISCOUNT. PLEASE EXPLAIN.

A. All of the telecommunications services offered to end-users must be made available to resellers at a wholesale discount. This includes Centrex and all Centrex features; custom calling and CLASS features; optional plans; grandfathered services; promotions and all contract services must be available for resale. This includes government and state agency contracts as well as any "umbrella" contract that allows other entities to participate and obtain the benefits of a master contract. Since all ILEC retail services are at least partial substitutes for one another, all services must be made available for resale. Absent this requirement, ILECs will be able to discriminate against resellers by making offers to customers that their retail competitors are unable to match.

If all services and features are not discounted, the ILECs' reseller competitors effectively will be denied the opportunity to market to a significant group of customers because the lack of a discount on these features will reduce reseller margins to inadequate levels.

The FCC's Rules also require promotions to be offered at a discount in certain circumstances. (See Section 51.613(a)(2).) Granting exceptions to the requirement that all services be made available at wholesale discounts may lead to abuse. States should be alert to this possibility and be prepared to take corrective action against ILECs that abuse the exceptions.

Q. YOU STATED THAT THE THIRD ISSUE IS THAT SERVICE QUALITY AND ADEQUATE WHOLESALE-RESELLER INTERFACES MUST BE MAINTAINED. WHAT IS THE IMPORTANCE OF THIS ISSUE?

A. The FCC has ruled that ILECs must offer all of its services for resale to competitors under the same terms and conditions as it enjoys itself. Therefore, it is crucial to a successful resale plan that operational interfaces between the ILEC's support systems and resellers' systems are adequate to allow the reseller to provide service to its customers efficiently. The Commission must also ensure that ILECs offer resellers the same quality service they provide to themselves and their own retail customers. To accomplish this, ILECs must implement systems and procedures that permit the ordering and provisioning of wholesale services under the same timetables available to the ILEC. These systems must include:

- Pre-Service Ordering Capabilities. On-line access to all information needed to verify availability of services and features, scheduling of service installation, and number assignment.

- On-Line, automated order processing. Capability of transmitting customer orders to the switch office and provide the reseller with notice of confirmation and completion of its order. Competitively-neutral long distance and local presubscribed carrier administration processes must be implemented.
- Exchange of billing data and exchange of customer account data on a timely basis. This must be done on a confidential basis.
- On-Line Monitoring. Monitor the network, isolate trouble spots, perform network tests, and schedule reports.
- Service quality reports. Documenting service quality ILECs provide themselves compared to the service they provide to others.

All of these requirements are consistent with the Commission's finding that " . . . service made available for resale be at least equal in quality to that provided by the incumbent LEC to itself or to any subsidiary, affiliate, or any other party . . . " (251 Order, Para. 970).

Q. ANOTHER IMPORTANT CONDITION OF RESALE COMPETITION THAT YOU MENTIONED WAS BRANDING. WHAT DO YOU MEAN BY BRANDING AND WHY IS IT IMPORTANT?

A. Resellers require carrier-specific branding for all customer contacts. Customers naturally expect services to be provisioned, serviced and maintained by their carrier of choice, regardless of whether the service is actually provided by another carrier through a resale arrangement. Customer confusion will be significantly diminished if the customer does not perceive that resold services are actually provided by another carrier.

Customers would experience concern, confusion and dissatisfaction when placing a bill inquiry, a directory assistance call, or an operator service call to their provider of choice if they are greeted with the name of their old telephone company. Customers may even conclude that they have been "slammed." State Commissions must ensure that resale of all ILEC retail services occurs with the least amount of customer confusion possible. Branding will minimize customer confusion with respect to resold ILEC services.

In a resale environment, differentiation of the underlying product is virtually impossible. Competitors must rely upon other factors to win customer loyalty. Superior customer service, simplified billing, and innovative pricing will provide the only opportunities to differentiate products from the underlying network provider. Without the ability to have resold LEC services branded appropriately, reseller efforts to provide superior customer services are diluted. Brand dilution makes the investment in these new service or billing innovations more difficult to justify.

A uniform branding standard will also reduce customer confusion as the industry moves into an unbundled environment. For example, as competitors develop their own operator services capabilities, the change in the provider of this service will be transparent to the customer.

In sum, when the end user selects a local reseller, it is important that the reseller be able to have its service branded appropriately. Without a clear brand image, the customer could face uncertainty when using directory or operator services. Such clarity can only be achieved by: (1) making reasonably available to local service resellers the ability to have the resold service branded appropriately at all points of customer-contact; and (2) barring the incumbent LEC from unreasonably interfering with such branding. As the FCC points out, "this brand

identification is critical to reseller attempts to compete with incumbent LECs and will minimize customer confusion." (251 Order, Para. 971)

Wholesale Services: Setting Wholesale Rates

Q. WHAT GUIDANCE IS PROVIDED BY THE RECENTLY ADOPTED FCC RULES REGARDING THE ESTABLISHMENT OF APPROPRIATE WHOLESALE PRICES?

A. The FCC's Order establishes minimum criteria for the avoided cost methodology based broadly on the MCI study. Essentially, the costs in certain FCC Part 32 Uniform System of Accounts ("USOA") accounts are identified as directly avoided while costs in other accounts are treated as indirectly avoided. The avoided indirect costs are calculated by determining the ratio of directly avoided costs to total costs and then applying that proportion to the accounts containing indirectly avoided costs.

Q. WHAT ARE THE "DIRECTLY AVOIDED COSTS?"

A. The following specific accounts from the Uniform System of Accounts ("USOA") are directly avoided (see Code of Federal Regulations, Title 47, Telecommunication, Part 32):

- Account 6611: Product management
- Account 6612: Sales
- Account 6613: Product advertising
- Account 6621: Call completion services
- Account 6622: Number services
- Account 6623: Customer services -

Q. YOU HAVE DISCUSSED "DIRECTLY AVOIDED COSTS." WHAT ARE THE "INDIRECT AVOIDED COSTS?"

A. Within the USOA there are a number of expense accounts that are either common costs or general overhead. By definition, overhead costs support all other functions, including those that are avoided, such as marketing. For example, the Human Resources department incurs expenditures in the staffing of the marketing department. As marketing expenses are avoided, so are the expenses incurred in supporting marketing. Therefore, the portion of these expense items equal to the proportion of direct avoided costs to total expense is excluded as an avoided cost. Consistent with the FCC's paragraph 918, account 5301 rather than 6790 is used to calculate the avoided uncollectible revenues.

The following USOA accounts include common costs or general overhead which support marketing and customer service operations:

- 6120 - General Support
- 6711 - Executive
- 6712 - Planning
- 6721 - Accounting and finance
- 6723 - Human resources
- 6724 - Information management
- 6725 - Legal
- 6726 - Procurement
- 6728 - Other general and administrative, and
- 5301 - Uncollectibles

Expenses in these accounts are, at least, partially avoidable.

Q. ARE THERE YET OTHER COSTS TO BE CONSIDERED?

A. Yes. While the ILECs will avoid substantial costs when they provide wholesale services, they will incur a small amount of incremental expenses to service the accounts of the resellers. However, these costs will be quite small. The ILECs already are set-up to perform the wholesaling function because they provide wholesale-like functions to interexchange carriers ("IXCs") and Enhanced Service Providers ("ESPs"). The incremental cost of providing these services to resellers of wholesale local exchange service should be minimal. The FCC addresses this issue by treating only 90 percent of the costs in certain of the directly avoided categories as avoided for purposes of setting default discounts. Specifically, the FCC determined that 90 percent of accounts 6610, and 6623 would be avoided, while 100 percent of accounts 6621 and 6622 would be avoided.

The FCC approach is very conservative. For example, Account 6623 (Customer Services) records the cost of setting up and billing end user accounts. The purchaser of wholesale services will be providing this service to its own end users. Any cost of billing the purchaser of wholesale services, who will be billed for many end user lines, will be minuscule in comparison with the cost of billing each of those individual lines separately. Billing retail customers requires setting up accounts and billing individual customers. Wholesale customers, on the other hand, will be fewer in number, and are more acquainted with billing processes, thus enabling them to be served at much lower cost. Although there may be some minor Customer Services costs incurred by ILECs to provide wholesale services, those costs are so small that they could reasonably be completely excluded as avoided costs. Nevertheless, MCI has followed the approach used by the FCC for calculating default discounts and retained a portion of the expenses in these accounts

in the wholesale rate.

Q. WHAT OTHER FACTORS MUST BE TAKEN INTO ACCOUNT IN ARRIVING AT THE APPROPRIATE WHOLESALE PRICES?

A. The FCC approach divides total avoided costs by total expenses on a "subject to separations" basis. That is, both interstate and intrastate costs were included. MCI's original model used this approach. However, this study uses the original MCI model, as modified by the FCC, using ARMIS 43-04 data on state operations, rather than the Subject to Separations data in the original study.

The services to be resold are largely intrastate. The FCC has specifically concluded that even though access charges will not be moved to economic cost until after a transition period, interstate access services will not be subject to the wholesale discount. (paras. 873-874) Therefore, it is necessary for consistency to calculate the appropriate wholesale discount by dividing total avoided ARMIS intrastate costs by the total intrastate expenses for services that will be resold. Absent this modification, both the numerator and the denominator of the discount calculation will include expenses allocated to services that will not be resold. The necessary revision can be done with the aid of ARMIS Report 43-04, which breaks down the relevant costs on a jurisdictional basis. I would note that most of the interstate costs in the "directly avoided" ARMIS accounts will be avoided by ILECs selling local services at wholesale. That some of these costs appear in interstate accounts is an artifact of the separations process. Therefore, it would be appropriate to add interstate expenses in these accounts to the numerator of the discount calculation. This study does not take this step in recognition of the fact that complex jurisdictional issues are raised thereby. MCI will modify its wholesale discount

studies if the FCC rules on this issue.

Q. TAKING ALL OF THE ABOVE INTO ACCOUNT, WHAT ARE THE RESULTS OF YOUR ANALYSIS?

A. Having identified the accounts that can be fully or partially associated with retailing functions that the ILEC will not perform, the next step is to quantify the actual savings and produce a percentage discount. The Sprint United result is 20.49% and Sprint Centel is 21.37%.

Q. HOW SHOULD THE COMMISSION REQUIRE THAT THESE DISCOUNTS BE APPLIED TO SERVICES RESOLD BY MCI?

A. Discounts should be developed and applied on a uniform basis to promote consistency and simplify the process. The wholesale discount as calculated in this study for each ILEC should be applied to each of the telecommunications services offered at wholesale rates. The published information ARMIS Report 43-04 data provide a sufficient basis for an aggregate discount across all services. These data are broadly consistent across ILECs and are reported in a format that is familiar. Service by service data are much harder to come by. Even if more detailed information were publicly available on a service-by-service basis, the consistency of the information would be questionable due to the numerous allocations and assumptions the ILEC would have to make to develop the service-specific information. While the FCC Rules do not rule out service-specific discounts, requiring the ILEC to provide such detailed information on a service-by-service basis would be an administrative burden for the ILECs and the responsible federal and state regulatory agencies. Moreover, the result would be highly debatable product

by product discount levels.

The discount should also apply to each rate element. Any other basis provides opportunities for abuse. For example, applying the discount on revenue per minute for a service may penalize resellers whose sales by rate element are weighted differently than those of the ILEC or other resellers.

Wholesale Services: Summary

Q. WOULD YOU PLEASE SUMMARIZE THIS SECTION OF YOUR TESTIMONY?

A. Yes. Wholesale discounts are essential to the development of local competition. Adequate wholesale discounts will provide immediate consumer benefits by allowing retail competition to begin in advance of full facilities based competition. The methodology described here for developing these discounts is analytically correct and easy to administer.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

EXHIBIT ___(GD-1)
MCI-UNITED/CENTEL
ARBITRATION

	Row Name	USOA Account	UTFL
4040	Uncollectible36/69	5301	4,119
	% Avoided		16.92%
	$ Avoided		697
4060	TotRevisUnc36/69	Total Revenues	571,984
5000	NetworkSupp36/69	6110	438
	% Avoided		0.00%
	$ Avoided		0
5010	GeneralSupp36/69	6120	32,332
	% Avoided		16.92%
	$ Avoided		5,469
5026	TotCOExp36/69	6210+6220+6230	28,805
	% Avoided		0.00%
	$ Avoided		0
5042	TotOthIOT36/69	6310	6,885
	% Avoided		0.00%
	$ Avoided		0
5076	TotC&WFExp36/69	6410	42,892
	% Avoided		0.00%
	$ Avoided		0
6000	OtherPP&E36/69	6510	495
	% Avoided		0.00%
	$ Avoided		0
6010	NetworkOper36/69	6530	43,644
	% Avoided		0.00%
	$ Avoided		0
6012	Access36/69	6540	3,968
	% Avoided		0.00%
	$ Avoided		0
6260	TotDep/Amort36/69	6560	133,010
	% Avoided		0.00%
	$ Avoided		0
7000	TotMkting36/69	6610	15,675
	% Avoided		90.00%
	$ Avoided		14,108
7060	TotTelOp36/69	6621	10,954
	% Avoided		100.00%
	$ Avoided		10,954
7076	TotPubDir36/69	6622	4,616
	% Avoided		100.00%
	$ Avoided		4,616
7310	TotOthCSvc36/69	6623	47,879
	% Avoided		90.00%
	$ Avoided		43,091
7334	TotCorpOper36/69	6710+6720	54,450
	% Avoided		16.92%
	$ Avoided		9,211
	Total State Revenues		571,984
	Total Expenses		430,162
	Total Avoided		88,146
	% Direct Expenses Avoided		16.92%
	Wholesale Discount		**20.49%**

Avoided Cost 1995

	Row Name	USOA Acccount	CEFL
4040	Uncollectible36/69	5301	1,604
	% Avoided		17.69%
	$ Avoided		284
4060	TotRevleUnc36/69	Total Revenues	157,013
5000	NetworkSupp36/69	6110	168
	% Avoided		0.00%
	$ Avoided		0
5010	GeneralSupp36/69	6120	8,831
	% Avoided		17.69%
	$ Avoided		1,563
5026	TotCOExp36/69	6210+6220+6230	9,106
	% Avoided		0.00%
	$ Avoided		0
5042	TotOthIOT36/69	6310	1,773
	% Avoided		0.00%
	$ Avoided		0
5076	TotC&WFExp36/69	6410	17,629
	% Avoided		0.00%
	$ Avoided		0
6000	OtherPP&E36/69	6510	3
	% Avoided		0.00%
	$ Avoided		0
6010	NetworkOper36/69	6530	17,098
	% Avoided		0.00%
	$ Avoided		0
6012	Access36/69	6540	2,077
	% Avoided		0.00%
	$ Avoided		0
6260	TotDep/Amort36/69	6560	31,181
	% Avoided		0.00%
	$ Avoided		0
7000	TotMkting36/69	6610	5,668
	% Avoided		90.00%
	$ Avoided		5,101
7060	TotTelOp36/69	6621	4,432
	% Avoided		100.00%
	$ Avoided		4,432
7076	TotPubDir36/69	6622	399
	% Avoided		100.00%
	$ Avoided		399
7310	TotOthCSvc36/69	6623	14,877
	% Avoided		90.00%
	$ Avoided		13,389
7334	TotCorpOper36/69	6710+6720	16,957
	% Avoided		17.69%
	$ Avoided		3,000
	Total State Revenues		157,013
	Total Expenses		131,803
	Total Avoided		26,168
	% Direct Expenses Avoided		17.69%
	Wholesale Discount		21.37%