ORIGINAL

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 000649-TP

PREFILED DIRECT TESTIMONY

OF LEE OLSON

ON BEHALF OF WORLDCOM, INC.

August 17, 2000

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lee M. Olson. My work address is 6 Concourse Parkway, Suite 400, Atlanta, Ga. 30328.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by WorldCom, Inc., formerly known as MCI WorldCom, Inc., as a Planning Engineer in WorldCom's Local Network Planning organization

Q. FOR HOW LONG HAS WORLDCOM EMPLOYED YOU?

A. I have been employed by WorldCom (including its predecessor, MCI Communications Corporation) since August 1998.

Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. Prior to joining WorldCom, I was employed by AT&T Corporation for thirty-two years. I held various positions and assignments in AT&T's Operations, Network Management and Engineering departments. Management supervisory responsibilities included Central Office circuit order, switching, facilities, and network management. Engineering responsibilities included fundamental long range switch planning, and asset management. I also worked with power engineering, central office engineering, outside plant engineering, real estate operations, Bell and Independent Companies in the distribution of capital assets under the 1984 Consent Decree between AT&T and the U.S. Justice Department. At the conclusion of my employment with AT&T my title was Senior Switch Planner.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to assist the Florida Public Service Commission ("Commission") in resolving disputed issues between MCImetro Access Transmission Services, LLC ("MCIm") and MCI WORLDCOM Communications, Inc. ("MWC"), both subsidiaries of WorldCom (and which I shall refer to collectively as "WorldCom"), and BellSouth Telecommunications, Inc. ("BellSouth"), with regard to a number of the issues that have arisen during the negotiation of a new Interconnection Agreement. My testimony concerns Attachment 4 to the agreement and addresses Issues 32-37 and 53A.

Q. PLEASE DESCRIBE THE NATURE AND DEVELOPMENT OF WORLDCOM'S NETWORK.

A. To understand WorldCom's need for interconnection, it is necessary to understand WorldCom's local network and how it uses that network to provide local service. To enhance the understanding, below is a brief history of WorldCom as it relates to building the local network, how it has evolved, and how it will continue to evolve. WorldCom began its corporate life as a special access provider, also known as an alternative access vendor (AAV). AAVs provide high capacity network transport facilities to mid-sized and large business customers for the purpose of originating and terminating interexchange traffic directly to or from the interexchange carrier. As such, WorldCom's original network consisted of a limited set of fiber optic rings in several urban areas used to connect to customer points of presence ("POPs"), ILEC central offices ("C.O.s") and IXC POPs.

In January 1994, the MFS local affiliate of WorldCom made the decision to expand from traditional AAV services and began to ready itself to offer switched local services. Beginning with the fiber rings, the company embarked on a capital construction program with two major goals. First, the company had to expand its existing fiber ring facilities to reach more customer buildings, with local switched service customers in mind, and construct new rings in other urban areas. These rings included many ILEC C.O.s such that ILEC-controlled customer loops (one of today's unbundled network elements) could be accessed by WorldCom. Second, WorldCom had to install local switches to provide switched services. Over the last two and one half years, WorldCom has invested hundreds of millions of dollars in its local network. As a result, as of the date of my testimony, WorldCom's local networks, nationwide, consist of approximately 8,196 local route miles of fiber rings and 113 active local switches. Currently, in Florida WorldCom has approximately 172 route miles of local fiber and 7 active local switches.

While WorldCom's local network is growing, it is still small compared to the ubiquitous reach of the BellSouth network. While WorldCom has been building local networks for about six years, the ILECs have been building local networks for more than one hundred years. While WorldCom's local network connects to perhaps several thousand buildings in mostly urban areas, the ILECs' networks reach into practically every building and home in the country. While WorldCom has installed 113 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.

WorldCom's goal is to reach a broad array of customers, focusing initially on businesses, to provide a full complement of local services that are differentiated from today's monopoly offerings. The only means of achieving this is through deployment of WorldCom's own local facilities and access to ILEC unbundled network elements, especially ILEC transport at the DS0, DS1, DS3 and optical levels. However, as mentioned earlier, WorldCom'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. Loop and transport unbundling will allow WorldCom and other ALECs to provide a full range 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 ALEC.

Q. IS WORLDCOM'S NETWORK LIKE BELLSOUTH'S?

A. No. WorldCom's local network has a substantially different architecture than that of BellSouth, but provides, for interconnection purposes, the same capabilities and overall functionality. ILEC networks, developed over many decades, employ an architecture characterized by a large number of switches within a hierarchical system, with relatively short copper based subscriber loops. By contrast, WorldCom's local network employs state-of-the-art equipment and design principles based on the technology available today, particularly optical fiber rings utilizing SONET transmission. In general, using this transmission

based architecture, it is possible for WorldCom to access a much larger geographic area from a single switch than does the ILEC switch in the traditional copper based architecture. This is why, in any given service territory, WorldCom has deployed fewer switches than the ILEC. Any ALEC will begin serving a metropolitan area with a single switch and grow to multiple switches as its customer base grows.

In general, at least for now, WorldCom's switches serve rate centers at least equal in size to the serving area of the ILEC tandem. WorldCom is able to serve such large geographic areas via its fiber network and bears the costs of transport of that owned network. For example, in the Southeast LATA, BellSouth uses two local tandems, four access tandems and more than 200 end office switches to serve the area. WorldCom uses just four switches in this LATA; serving a major portion of the LATA. Thus, each one of WorldCom's switches in the Southeast LATA serves an area that is at the very least comparable if not greater than the service area of any single BellSouth switch. Thus, carriers interconnecting to WorldCom's switches gain access to call transport and termination over a geographic area that is comparable to that provided when interconnecting to the ILEC tandem. This last point becomes critical in discussion of reciprocal compensation arrangements for transport and termination of traffic.

In sum, WorldCom's recent experience in deploying local services gives it a unique perspective on what it takes to make competition a reality. Our "hands on" experience in deploying efficient, high quality local networks

offering innovative services allows us to be very clear on what will be required in the areas of implementing network interconnection, if competition is to continue to grow. ALECs need flexibility in the way they configure and operate their networks, and interconnect with ILECs, if the network and cost efficiencies, which are among the great promises of local competition, are to bear fruit. Interconnection requirements should not be molded to suit the historic embedded network of the ILECs, but should recognize and promote the different, efficient, reliable, innovative nature of growing ALEC networks.

Q. WHAT DOES IT MEAN TO "INTERCONNECT" ILEC AND ALEC NETWORKS?

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 WorldCom'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 in paragraph 176 of its Local Competition Order dealing with interconnection. *First Report and Order*, FCC 96-325, *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* CC Docket No. 96-98, Released August 8, 1996 (the "*Local Competition Order*").

The IP plays a critical role in overall interconnection. From a financial perspective, the IP represents the "financial demarcation" - the point where WorldCom's network ends and the ILEC's "transport and termination" charges begin and visa versa. From an engineering perspective, there are a variety of things that must happen at the IP to make interconnection seamless and complete. It should also be noted that over this physical interconnection there is a "logical interconnection" of the networks—i.e. the trunk groups that connect ALEC and ILEC switches traversing the "physical interconnection." 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.

Q. WHAT IS REQUIRED FOR INTERCONNECTION?

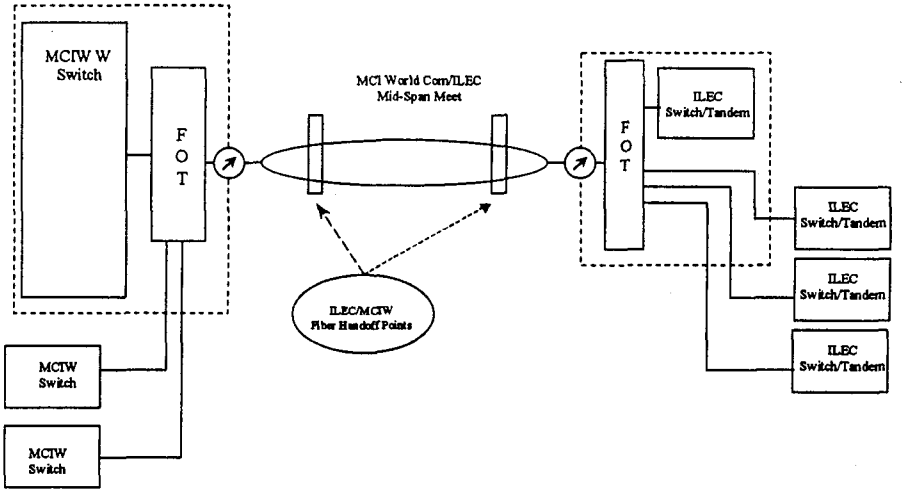
A. The physical linking of networks is not a daunting engineering task. Carriers have interconnected networks - local network to local network and interexchange network to local network - for years. Thus, physical linking is neither new nor overly complicated. Physical linking of networks involves the following steps:

- Physically connecting WorldCom's facilities to BellSouth's facilities at the interconnection point (IP).
- Establish 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.
- Physically connecting WorldCom's signaling network and the ILEC's signaling network so that signaling information can be exchanged.

From an engineering perspective, establishing the IP includes the 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. The following diagram depicts WorldCom's preferred network architecture. BellSouth has implemented a similar interconnection with WorldCom in Florida, but has not agreed to blanket contractual language for this type of interconnection. This interconnection method is discussed in detail under Issue 33.

MCIW-ILEC Preferred Interconnection Architecture

Mid-Span Meet Network Facility Configuration



MCIW Proprietary

Q. PLEASE EXPLAIN HOW THE PHYSICAL INTERCONNECTION OF FACILITIES IS DONE.

A. In engineering terms, facilities are connected to 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-connect apparatus, and Wire B comes in on another point. Then a jumper is used to 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.

IPs do not have to be limited to residing at the central office housing 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 we have defined above. There are other potential cross-connect points in the network. For example, WorldCom's switches are generally located in commercial office buildings. For any particular WorldCom switch, the ILEC will also have network facilities into that building that terminate 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, WorldCom interconnects with Ameritech at such telco closets now in Detroit. Thus, this type of IP is certainly technically feasible.

Q. CAN YOU PLEASE DESCRIBE HOW TRAFFIC IS EXCHANGED OVER THE IP ARRANGEMENTS YOU DESCRIBED ABOVE?

A. Once networks are physically connected via the facilities and arrangements I have just described, it is necessary from an engineering perspective to partition those facilities into various types of trunk groups required to carry the different types of local interconnection traffic. Based on our experience, we believe that traffic should be segregated as follows:

- A separate trunk group that carries local traffic, non-equal access intraLATA interexchange (toll) traffic, and local transit traffic to other LECs;
- A separate trunk group for equal access inter-LATA or intraLATA interexchange traffic that transits the ILEC network.
- Separate trunks connecting WorldCom's switch to each 911/E911 tandem.
- A separate trunk group connecting WorldCom's switch to BellSouth's operator service center. This permits WorldCom's operators to talk to BellSouth'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 WorldCom's switch to the BellSouth directory assistance center if WorldCom is purchasing BellSouth's unbundled directory assistance service.

To be clear, all of these trunk groups described above, should be provisioned over the mid-span fiber meet discussed under Issue 33. This is the most efficient use of resources for both companies. With regard to the first requested trunk group, it should be noted that there is no technical requirement to segregate local,

intraLATA interexchange (toll), and transit traffic on separate trunk groups. Indeed, it is often more efficient to "pack" a trunk group with both local traffic, intraLATA interexchange (toll), and transit traffic. Because these types of traffic are "rated" differently, the receiving carrier would either have to have a way to discern the jurisdiction of the traffic (for example, calling party number or "CPN") or 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 WorldCom's immediate needs for interconnection. The trunks that carry local, intraLATA interexchange (toll), and transit traffic are generally similar to the industry standard Feature Group D trunks with CCS7 signaling. WorldCom requires CCS7 signaling on all trunks used to pass local, intraLATA interexchange (toll), and transit traffic. WorldCom also requires that the trunks used to carry local, interexchange intraLATA (toll), and transit 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 ALECs. Without Clear Channel transmission, subscribers of ILECs and ALECs would not be able to terminate various types of switched data traffic, including some ISDN applications. There are also some unique instances where the more outdated MF signaling may be required on certain trunk groups due to the connectivity to other carriers, and WorldCom requests that BellSouth comply with this request in order to complete this traffic.

ISSUE 32

Should there be any charge for use of a joint optical interconnection facility built 50% by each party? (Attachment 4, sections 1.6.1.8, 1.6.1.9)

Q. HAS BELLSOUTH PROPOSED LANGUAGE WHICH WOULD REQUIRE WORLDCOM TO PAY BELLSOUTH FOR USE OF A JOINT INTERCONNECTION FACILITY BUILT 50% BY WORLDCOM?

A. Yes, BellSouth has proposed Section 1.6.1.8 of Attachment 4 which provides:

> The WorldCom facility shall be designated as the Primary Route, and the BellSouth facility shall be designated as the Secondary Route. In the event of a service interruption on the Primary Route, caused by a problem in WorldCom's SONET equipment, WorldCom shall be deemed to have leased Dedicated Transport from BellSouth for WorldCom's transit traffic, for the duration of the service interruption that transit traffic is routed over the Secondary Route. WorldCom shall pay BellSouth for the minimum amount of Dedicated Transport necessary to provision the number of trunks used for transit traffic. The charges for Dedicated Transport shall be pro rated on a daily basis, for each day, or fraction thereof, that transit traffic is routed over the Secondary Route. There shall be no charge for Dedicated Transport provided the Secondary Route is used less than 2 hours.

Q. WHY DOES WORLDCOM OPPOSE THIS LANGUAGE?

A. This language requires WorldCom to pay to use an interconnection facility that it has already paid one-half of the construction cost of.

Q. SHOULD EITHER PARTY ASSESS A CHARGE FOR USE OF A JOINTLY CONSTRUCTED AND OPERATED INTERCONNECTION FACILITY?

A. No. As I will discuss below with respect to Issue 33, WorldCom has proposed an interconnection method under which each party provides 50% of the fiber interconnection loop and 100% of the electronics at its own end. Since each

party pays for 50% of the facilities cost, there is no reason for either party to charge for its use. BellSouth's proposal to charge WorldCom for transit traffic traversing the interconnection facility should be rejected since each party has paid for half of the facility. Moreover, BellSouth will receive a transiting fee (the tandem switching rate) for transit traffic; it should not also receive a transport charge from WorldCom for use of a facility paid for 50% by WorldCom.

ISSUE 33

Does MCIW have the right to require interconnection via a Fiber Meet Point arrangement, jointly engineered and operated as a SONET Transmission System (SONET ring) whether or not that SONET ring presently exists in BellSouth's network? (Attachment 4, Section 1.6)

Q. PLEASE SET FORTH THE LANGUAGE THAT GIVES RISE TO THIS ISSUE.

A. WorldCom has proposed the following Section 1.6 of Attachment 4: "Joint Fiber Facilities. Upon request of WorldCom the Parties shall interconnect using a Joint Fiber Facility (i.e., a Fiber Meet or a Joint Optical Interconnection)." BellSouth has proposed this language: "Upon mutual agreement by both Parties, the Parties may interconnect using a Joint Fiber Facility (i.e., a Fiber Meet or a Joint Optical Interconnection)." As can be seen, the language proposed by BellSouth requires mutual agreement, which means that BellSouth can exercise a veto over this form of interconnection. As discussed below, BellSouth does not have the right to veto this technically feasible form of interconnection.

Q. PLEASE DESCRIBE THE INTERCONNECTION ARCHITECTURE PROPOSED BY WORLDCOM.

A. The interconnection architecture that WorldCom is proposing consists of a mid-span fiber meet in which each company provides half of the fiber interconnection loop and all the electronics at its own end. This method of interconnection is depicted in the diagram above. This proposal is consistent with the FCC's Order discussing interconnection methods.

Specifically, in its *Local Competition Order*, the FCC discussed three methods of interconnection: physical collocation, virtual collocation, and meet point interconnection (*Local Competition Order* ¶ 553). Collocation, either virtual or physical, is discussed by Mr. Messina. Meet point arrangements are well known and are commonly used by neighboring ILECs for the mutual exchange of traffic. This "meet point arrangement" is what WorldCom refers to as a mid-span fiber meet in this testimony.

Under a typical "meet point" arrangement, WorldCom and the ILEC would each "build out" to a meet point. Under this type of arrangement the official "Interconnection Point" or "IP" - as we 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" (*Local Competition Order*, ¶ 553).

Under this arrangement, WorldCom and BellSouth would jointly provision the fiber optic facilities that connect the two networks and equally share in the capital investment of the mid-span (each pays for one half of the fibers, and each purchases its own Fiber Optic Terminal ("FOT") at its own end),

which means there is equal capital investment in the diverse mid-span. Neither party would charge the other for the use of the interconnection facility because it is built jointly. When using fiber optic facilities, the facilities do not actually join at a "cross-connect point" but are part of a seamless fiber ring where there is no physically obvious point denoting where ownership or responsibility for the facility changes. Instead the facilities are connected or terminated at the FOT. This is essentially the method of interconnection to which WorldCom and Ameritech, Pacific Bell, and SWBT agreed. Thus, it is certainly technically feasible.

Where WorldCom and BellSouth interconnect their networks pursuant to a mid-span fiber meet, the interconnection should be jointly engineered and operated as a single SONET transmission system. This form of meet point interconnection will benefit the customers of both carriers by providing route diversity and allowing traffic to be rerouted to one ring or the other in the event one of the rings is disabled. The SONET ring architecture is technically feasible and provides value to both carriers and the customers of both carriers. WorldCom has proposed that the minimum data hand-off rate of the SONET transmission system must be OC-48, based on WorldCom and BellSouth traffic volume and forecasts. Any smaller size system would run out of capacity soon, and require the parties to repeat all of the implementation steps, including purchasing, installing, engineering, and grooming the system. This would be inefficient for both companies.

Q. WHAT IS BELLSOUTH'S POSITION WITH RESPECT TO INTERCONNECTION VIA A FIBER MEET POINT ARRANGEMENT OPERATED JOINTLY AS A SONET TRANSMISSION SYSTEM?

A. BellSouth believes that it has the right to refuse to interconnect in this manner.

Q. PLEASE RESPOND TO BELLSOUTH'S POSITION REJECTING WORLDCOM'S TARGET ARCHITECTURE.

A. First, the use of fiber ring architectures are widely recognized as improving on the old hub-and-spoke architectures because of the fiber rings' reliability and redundancy capabilities. Second, such architectures allow the interconnecting carriers to share in the costs, capital as well as operations and maintenance costs, of interconnecting facilities. Third, the shared nature of the facilities permits both carriers to have constant visibility to usage over the facilities so as to be able to augment the fiber or turn up additional trunk groups within the fiber. Fourth, such an architecture permits both carriers to select and designate the most appropriate buildings to house their FOTs rather than wasting scarce collocation space, or other premium space in the BellSouth end offices or tandem offices. Fifth, this form of interconnection is technically feasible. Sixth, the FCC's regulations specifically provide for this form of interconnection.

Q. IS INTERCONNECTION VIA A MID-SPAN MEET TECHNICALLY FEASIBLE?

A. Yes it is, and WorldCom has the right pursuant to the Act, FCC regulations, and the Local Competition Order to require any technically feasible method of interconnection, including a Mid-Span Fiber Meet Point arrangement.

As an incumbent local exchange carrier, BellSouth has the duty under Section 251(c)(2)(B) of the Telecommunications Act of 1996 ("Act") to provide interconnection for the facilities and equipment of any requesting telecommunications carrier at any technically feasible point. The FCC's regulations on interconnection provide that:

> Except as provided in paragraph (e) of this section [concerning collocation], an incumbent LEC shall provide, on terms and conditions that are just, reasonable, and nondiscriminatory in accordance with the requirements of this part, ***any technically feasible method of obtaining interconnection*** or access to unbundled network elements at a particular point upon a request by a telecommunications carrier.

47 C.F.R. § 51.321(a). (Emphasis added.)

Interconnection via a mid-span Fiber Meet Point Arrangement is technically feasible. Indeed, WorldCom and various incumbent LECs currently interconnect in this manner. The fact that this method of obtaining interconnection has been employed successfully constitutes substantial evidence that such method is technically feasible. 47 C.F.R. § 51.321(c).

The FCC has specifically found that one of the technically feasible methods of obtaining interconnection is a meet point interconnection arrangement. 47 C.F.R § 51.321(b)(2). The FCC has held that "other methods of technically feasible interconnection or access to incumbent LEC networks, such as meet point arrangements, in addition to virtual and physical collocation, must be made available to new entrants upon request." Local Competition Order, ¶ 553. The FCC went on to note that "although the creation of meet point arrangements may require some build out of facilities by the incumbent LEC, we

believe that such arrangements are within the scope of the obligations imposed by sections 251(c)(2) and 251(c) (3)." *Id.* Not only has the FCC concluded that ILECs such as BellSouth must provide interconnection via meet point arrangements, it has also concluded that ILECs are obligated to modify their facilities, if necessary, to accommodate interconnection. Local Competition Order, ¶ 198. The FCC has explained in this regard that:

> For example, Congress intended to obligate the incumbent to accommodate the new entrant's network architecture by requiring the incumbent to provide interconnection "for the facilities and equipment" of the new entrant. Consistent with that intent, the incumbent must accept the novel use of, and modification to, its network facilities to accommodate the interconnector or to provide access to unbundled elements.

Id. ¶ 202.

In sum, the interconnection method sought by WorldCom is a technically feasible method of interconnection that is commonly used by telecommunications carriers. Because it is technically feasible, WorldCom is entitled to a mid-span fiber meet point interconnection, pursuant to the Act and the FCC's regulations.

Q. CAN BELLSOUTH CONDITION A MEET POINT INTERCONNECTION ARRANGEMENT ON ITS CONSENT?

A. No it cannot. As the Massachusetts Department of Telecommunications and Energy has found in an arbitration raising the same issue:

> Therefore, the Department finds that because a mid-span meet arrangement is technically feasible, Bell Atlantic must provide this method of interconnection to Media One and Greater Media. Bell Atlantic cannot condition this type of interconnection, as it

claims, on the mutual agreement of the parties, or on the availability of facilities. See Id. ¶ 199.

Petition of Media One, Inc. and New England Telephone and Telegraph, for arbitration, D.T.E 99-42/43, 99-52 (Mass. DTE at 24) August 25, 1999. The Interconnection Agreement proposed by BellSouth does not provide WorldCom the right to interconnect via a mid-span fiber meet point arrangement, even though FCC regulations specifically provide for this form of interconnection, upon request. Instead, BellSouth's position provides for meet point interconnection only upon "mutual agreement." Of course, this provision permits BellSouth to veto a mid-span meet arrangement by simply not agreeing. As discussed above, BellSouth cannot condition this type of interconnection upon "mutual agreement."

ISSUE 34

Is BellSouth obligated to provide and use two-way trunks that carry each party's traffic? (Attachment 4, Sections 2.1.1.2 and 2.1.2)

Q. HAS WORLDCOM PROPOSED CONTRACT LANGUAGE WHICH MAKES TWO- WAY TRUNKING AVAILABLE UPON REQUEST?

A. Yes it has. WorldCom has proposed the following Section 2.1.2 of Attachment 4: "One-way and two-way trunks. The parties shall use either one-way or two-way trunking or a combination, as specified by WorldCom."

Trunks can be 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, intraLATA interexchange (toll), and transit 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. Two-way trunking is also efficient in that it minimizes the number of trunk ports needed for interconnection. The FCC has recognized the benefits of two-way trunking by ordering ILECs to make it available upon an ALEC's request (*Local Competition Order* at Paragraph 219). Therefore, for network efficiency benefits for both companies, WorldCom would like to provision two way interconnection trunk groups over the mid-span fiber meet facilities.

Q. WHAT IS BELLSOUTH'S POSITION WITH RESPECT TO TWO-WAY TRUNKS?

A BellSouth believes that it should be able to use one-way trunks for its traffic, including for combination trunks should the parties ever choose to develop combination trunks. BellSouth's position that it can use one-way trunks should be rejected because FCC regulations require ILECs to provide and use two-way trunks if requested by a new entrant. 47 CFR 51.305(f) provides that "If technically feasible, an incumbent LEC shall provide two-way trunking upon request." If BellSouth uses one-way trunks for its own originating traffic it will effectively deny WorldCom the two-way trunks required by the regulations. Also, if BellSouth uses one-way trunks the efficiencies inherent in two-way trunking are lost by both companies.

ISSUE 35

If the parties ever choose to implement a combination trunk group, should that trunk group be operated as a two-way trunk? (Attachment 4, Sections 2.1.2, 2.1.1.3-2.1.1.3.2, 2.2.6-2.2.7.)

Q. HAS WORLDCOM PROPOSED CONTRACT LANGUAGE WHICH MAKES TWO- WAY TRUNKING AVAILABLE UPON REQUEST FOR COMBINATION TRUNK GROUPS?

A. Yes, the language WorldCom has proposed regarding two-way trunking generally is applicable to any combination trunks which the parties choose to implement. This provision is cited above with respect to Issue 34 and the discussion regarding Issue 34 is relevant to this issue also.

ISSUE 36

Does MCIW, as the requesting carrier, have the right pursuant to the Act, the FCC's Local Competition Order, and FCC regulations, to designate the network point (or points) of interconnection at any technically feasible point? (Attachment 4, Sections 1.3 and 1.3.1, Attachment 5, Section 2.1.4.)

Q. HAS WORLDCOM PROPOSED CONTRACT LANGUAGE SETTING FORTH ITS RIGHT AS A REQUESTING CARRIER TO DESIGNATE ANY TECHNICALLY FEASIBLE POINT OF INTERCONNECTION?

A. Yes. WorldCom has proposed language setting forth its right under the Act to choose any technically feasible point of interconnection. This language includes WorldCom's right to designate a single point of interconnection, such as a BellSouth tandem, for LATA-wide termination. WorldCom has proposed Section 1.3 of Attachment 4 which provides that "WorldCom will designate the Point or Points of Interconnection and determine the method or methods by which the Parties interconnect."

Q. WHAT IS BELLSOUTH'S POSITION WITH RESPECT TO THE CHOICE OF AN INTERCONNECTION POINT?

A. BellSouth has taken the position that it can designate the point of interconnection for traffic that originates on its network. As I discuss below, the FCC's regulations impose an obligation on BellSouth to permit interconnection of new entrant facilities at any technically feasible point, but they do not grant BellSouth the right to designate a point of interconnection. Moreover, BellSouth's proposal to designate several points of interconnection per LATA for traffic it originates would either require WorldCom to build facilities to BellSouth offices unnecessarily or pay to transport BellSouth originated traffic. BellSouth's position is inconsistent with the FCC's policy holding that new entrants may choose any technically feasible point of interconnection and is inconsistent with development of efficient network architecture.

Q. IS WORLDCOM REQUIRED TO PHYSICALLY INTERCONNECT AT MULTIPLE BELLSOUTH TANDEMS WITHIN A LATA, OR MULTIPLE END OFFICES, OR TO BEAR THE COST OF TRANSPORTING BELLSOUTH ORIGINATED TRAFFIC FROM THESE POINTS?

A. No. BellSouth's position is that it can designate the point of interconnection for traffic which it originates and that WorldCom must have a point of interconnection in each BellSouth local calling area. BellSouth's position has the effect of either forcing WorldCom to build out our network all over the LATA or to lease trunks from BellSouth.

WorldCom has no problem with creating logical interconnection trunk groups from each WorldCom switch in a LATA to every BellSouth tandem. It

does not, however make sense to physically create an IP at every tandem. WorldCom should take trunk groups on its side of the mid-span meet interconnection point back to all switches in the WorldCom network; and BellSouth should do the same, and charges for call termination under this architecture would reflect the transport distances involved. WorldCom is not required to physically build out its network all over the LATA. It is not efficient, nor necessary for interconnection, nor in compliance with the FCC order. Nor should BellSouth be allowed to achieve the same objective by naming the points of interconnection for traffic it originates.

FCC Rule 51.305 (a)(2) identifies the minimum set of places where ILECs must provide interconnection, but explicitly states that interconnection must be provided "at any technically feasible point within the incumbent network." Therefore, it is clear that the FCC rules do not limit potential IPs to a location at every tandem within a LATA (Local Competition Order at paragraphs 209, 549, 550, 551, 553 and 554). Nor do they limit potential IPs to a location in each ILEC local calling area, as proposed by BellSouth.

Q. CAN YOU FURTHER EXPLAIN INTERCONNECTION ARCHITECTURE WITH RESPECT TO THE LOCATION OF THE IP?

A. It appears that BellSouth would like for WorldCom to, in effect, build 100% of the interconnection facilities to multiple points throughout the BellSouth network. WorldCom's proposal, on the other hand, requires that WorldCom and BellSouth jointly provision the fiber optic facilities that connect the two networks at one or two points, and share the financial and other responsibilities (as detailed

above) for that facility. In this situation, the facilities do not actually join at the "cross-connect point" but are part of a seamless fiber ring where there is no physically obvious point denoting where ownership or responsibility for the facility changes but instead are connected or terminated at the FOT equipment. As stated above, this is essentially the method of interconnection that WorldCom and BellSouth have actually implemented in Florida in at least one instance, and which WorldCom and other ILECs have practiced in other areas of the country (e.g. SWBT, Pacific Bell, and Ameritech).

It is not cost justifiable in a business case to build a transport network to areas within a LATA that the ALEC does not intend to serve through its own facilities. An ALEC will decide not to build facilities in an area if it does not see a viable target customer base in that area. If forced to build everywhere before entering the LATA, this would be yet another barrier to entry, leading to no entrants; hence, no competition. New entrants have experienced attempts by ILECs to make them establish IPs at each of their access tandems in a LATA. For example, Bell Atlantic covers the Metropolitan New York City area with six access tandems in that LATA. Clearly, for a new entrant such as WorldCom, physically building out facilities to establish an IP at each of those access tandems would be a time consuming and expensive proposition. Moreover, requiring a build out to each tandem would impose an unnecessary expense on WorldCom. Such a requirement is inefficient and would only serve to delay the ability of WorldCom to offer service in that LATA and artificially and unnecessarily increase the cost of implementing a local network. The "technical

feasibility" portion of the FCC Local Competition Order precludes Bell Atlantic from insisting on the build out and here is why. WorldCom already established an IP with Bell Atlantic in Manhattan. Because of Bell Atlantic's extensive transport network in the LATA, it is technically feasible for Bell Atlantic 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 WorldCom's discretion should, serve as the IP for the entire LATA. Similarly, it is technically feasible for BellSouth to terminate calls throughout a LATA from a single tandem used as the point of interconnection .

Q. WILL BELLSOUTH BE FAIRLY COMPENSATED IF A SINGLE INTERCONNECTION POINT IS DESIGNATED BY WORLDCOM?

A. Yes. Naturally, 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 (and visa versa). If WorldCom chooses to have only one IP in the LATA, for example, the transport charges that WorldCom must pay as part of the "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. Thus, BellSouth is compensated for the use of its network to transport and terminate calls from the interconnection point.

Q. IS THERE OTHER SUPPORT FOR WORLDCOM'S POSITION ON ESTABLISHING A SINGLE IP FOR THE PURPOSES OF INTERCONNECTION AND THE TECHNICAL FEASIBILITY OF THIS PROPOSAL?

A. Yes. As the Act and the FCC's interconnection rules state, the ILEC must provide interconnection "at any technically feasible point within the ILEC's network" (Act § 252 (c) (2) (b); 47 CFR Section 51.305(a)(2)). Thus, WorldCom, as the new entrant, is permitted to select the IP at any point in the ILEC's network where it is technically feasible to physically interconnect networks and exchange (*Local Competition Order*, ¶ 220, footnote 464). Also, as Paragraph 198 of the *FCC's Local Competition Order* notes, "technically feasible" under this definition "refers solely to technical or operational concerns, rather than economic, space or site considerations."

The FCC's regulations provide that "an incumbent LEC shall provide any technically feasible method of obtaining interconnection or access to unbundled network elements ***at a particular point*** upon a request by a telecommunications carrier." 47 C.F.R. 51.321(a) (emphasis added).

Thus, WorldCom has the right to request any technically feasible point of interconnection and BellSouth is obligated to provide the requested interconnection. WorldCom has the right 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, the new entrant can choose any technically feasible point. Thus, so long as BellSouth 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.

Section 251(c) of the Act imposes specific obligations upon BellSouth as an incumbent local exchange carrier. Among these obligations is the duty to

provide for the facilities and equipment of any requesting telecommunications carrier interconnection at any technically feasible point. The FCC has noted that this obligation is imposed upon incumbent LECs only, not upon new entrants. Act, Section 251(c)(2). The Act imposes interconnection duties on ILECs such as BellSouth and grants interconnection rights, such as the right to choose any technically feasible interconnection point, to requesting carriers such as WorldCom. The FCC has held that "[o]f course, requesting carriers have the right to select points of interconnection at which to exchange traffic with an incumbent LEC under section 251(c)(2)." Local Competition Order, ¶220, fn.464.

The FCC's Local Competition Order sets forth the right of competing carriers to choose the point of interconnection: "The interconnection obligation of section 251(c)(2), discussed in this section, allows competing carriers to choose the most efficient points at which to exchange traffic with incumbent LECs, thereby lowering the competing carrier's costs of, among other things, transport and termination of traffic." *Local Competition Order*, ¶172. The FCC has not only clearly set forth the right of new entrants to choose the points of interconnection but has indicated that they have this right so that they may lower their costs.

In sum, the FCCs regulations require BellSouth to provide any technically feasible method of obtaining interconnection at a particular point upon a request by a telecommunications carrier. 47 C.F.R 51.321(a). The FCC has concluded that "...under sections 251(c)(2) and 251(c)(3), any requesting carrier may

carrier may choose any method of technically feasible interconnection or access to unbundled elements at a particular point. Section 251 (c)(2) imposes an interconnection duty at any technically feasible point... ." *Local Competition Order*, ¶549.

Q. HAVE ANY COURTS ADDRESSED THE RIGHT OF A NEW ENTRANT TO DESIGNATE ANY TECHNICALLY FEASIBLE POINT OF INTERCONNECTION?

A. Yes. WorldCom's right under the Act to choose the point of interconnection has been affirmed by every Court to review the issue. For example, in reversing a decision by the Pennsylvania Public Utility Commission specifying a minimum number of access points for interconnection, the United states District Court for the Middle District of Pennsylvania affirmed a Magistrate's decision as follows:

> According to Bell [Atlantic] and the PUC, because neither the Act nor the corresponding regulations proscribe a state commission from requiring interconnection at more than one access point per local access transport area (LATA), it was within the PUC's sole discretion to determine a minimum number of access points for interconnection. The court disagrees.
>
> Magistrate Durkin's R& R [Report and Recommendation] contains a thorough, well-reasoned discussion of this issue. Clearly, the Magistrate adopted the interpretation of the Act proffered by MCI, and thus rejected the interpretation proffered by Bell and the PUC. Because the Court agrees with the interpretation set forth by Magistrate Durkin, further discussion is unnecessary.

MCI v. Bell Atlantic-Pennsylvania, Civil No. 1:CV-97-1857, Memorandum And Order, p. 14 (U.S.D.C. for the Middle District of Pennsylvania, June 30, 2000).

The Magistrate's R&R adopted by the District Court affirmed WorldCom's right to choose a point of interconnection and rejected the PUC's

and Bell Atlantic's efforts to dictate the point of interconnection. The Magistrate ruled as follows:

> The PUC's decision to require MCI to interconnect with Bell Atlantic's network in every access tandem serving area is inconsistent with the Act and FCC regulations. In the absence of proof by Bell Atlantic that it is not technically feasible for MCI to have only one point of interconnection in each LATA, the agreement must permit MCI to establish a single point of interconnection per LATA consistent with the Act and FCC regulations.
>
> . . . As the FCC notes, under the FCC's interpretation new entrants may select the most efficient points at which to exchange traffic with incumbent LEC's thereby lowering the competing carrier's cost of, among other things, transportation and termination, citing FCC Order ¶ 172.

MCI v. Bell Atlantic-Pennsylvania, Civil No. CV-97-1857, Report and Recommendation, p. 36-37, (U.S.D.C. for the Middle District of Pennsylvania, September 16, 1999).

Q. HAVE ANY OTHER FEDERAL COURTS ADDRESSED THE RIGHT OF AN ALEC TO INTERCONNECT AT A SINGLE TANDEM?

A. Yes, the Ninth Circuit Court of Appeals has upheld provisions in the MFS/US West Interconnection Agreement permitting a single point of interconnection per LATA at the tandem, noting that "[t]he plain language requires local exchange carriers to permit interconnection at any technically feasible point within the carrier's network." *US West Communications v. MFS Intelenet*, 193 F.3d 1112 (9th Cir. 1999).

Q. WHAT SHOULD THE COMMISSION DO WITH RESPECT TO WORLDCOM'S PROPOSED INTERCONNECTION ARCHITECTURE?

A. Having addressed the benefits in efficiency, innovation and service quality inherent in WorldCom's proposed interconnection architecture, I would request that this Commission adopt WorldCom's proposed language on this issue.

ISSUE 37

Should BellSouth be permitted to require MCIW to fragment its traffic by traffic type so it can interconnect with BellSouth's network? (Attachment 4, Sections 2.2.6-2.2.7.)

Q. HAS WORLDCOM PROPOSED LANGUAGE WHICH PROHIBITS TRUNK FRAGMENTATION?

A. Yes, WorldCom has proposed Section 2.2.7 of Attachment 4, which provides: "BellSouth shall provision trunks without any user restrictions (e.g., option for two-way trunking where mutually agreed to, and no trunk group fragmentation by traffic types except as specified in this Agreement."

Q. WHAT IS THE NATURE OF THE DISPUTE?

A. There are two parts to this issue. The first part concerns whether BellSouth must provide and use two-way trunking upon request by WorldCom. As I noted in Issue 34, BellSouth should be required to do so. As to the second part of Issue 37, it is WorldCom's position that it should be able to combine local, intraLATA and transit traffic on one trunk group. If BellSouth wishes to continue to separate its traffic between local, intraLATA toll and transit traffic with other CLECs, or within its own network, of course that is its business decision. WorldCom is only proposing these three traffic types be carried on one trunk group for the traffic going over the joint optical mid-span fiber meet between WorldCom and BellSouth, for network efficiency reasons.

ISSUE 53A

Should WorldCom be required to utilize direct end office trunking in situations involving tandem exhaust or excessive traffic volumes? (Attachment 4, Section 2.4.)

Q. WHAT IS WORLDCOM'S POSITION ON THIS ISSUE?

A. WorldCom's position is that it should not be required to utilize direct end office trunking in situations involving tandem exhaust or excessive traffic volumes. BellSouth should manage its network efficiently to avoid this situation occurring.

Q. WHAT IS BELLSOUTH'S POSITION?

A. BellSouth's position is that WorldCom should be required to utilize end office trunking in such situations.

Q. WHAT IS THE BASIS FOR WORLDCOM'S POSITION?

A. WorldCom wants its customers to be able to send and receive calls, and network congestion and blocking is an obvious barrier to this goal. It is important for both companies to work together to size the facilities and trunking accordingly to meet the demand. WorldCom's approach to efficient network trunking is to put up direct end office trunking when traffic volumes warrant. WorldCom should not be required to put up end office trunking just because BellSouth did not manage its tandem switch capacity.

Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes it does.