

In Re: Consideration of) DOCKET NO. 96-786-TL
BellSouth Telecommunications) FILED: July 17, 1997
Inc.'s entry into InterLATA)
services pursuant to Section 271)
of the Federal)
Telecommunications Act of 1996.)

DIRECT TESTIMONY
OF
C. MICHAEL PFAU
ON BEHALF OF
AT&T COMMUNICATIONS OF
THE SOUTHERN STATES INC.

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is C. Michael Pfau. My business address is 295 North Maple
3 Avenue, Basking Ridge, New Jersey 07920.

4

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?**

6 A. I am employed by AT&T Corp., and I serve as Division Manager, Local
7 Services Division Negotiations Support.

8

9 **Q. WHAT ARE YOUR DUTIES AND RESPONSIBILITIES IN THAT**
10 **CAPACITY?**

11 A. My responsibilities include helping to develop and communicate the business
12 requirements to the regional teams negotiating with the Incumbent Local
13 Exchange Carriers (ILECs). I also assist the regional teams in performing
14 feasibility assessment of business arrangements offered by the ILECs.

15

16 **Q. WHAT IS YOUR PROFESSIONAL EXPERIENCE?**

17 A. I began my career in Bell of Pennsylvania, where I had various assignments
18 in central office engineering, plant extension, circuit layout and regulatory
19 operations. Just prior to divestiture, I moved to AT&T General Departments,
20 where I was responsible for managing intrastate service cost models. My
21 next assignment was in an AT&T regional organization responsible for
22 regulatory implementation support of service and marketing plans within the
23 five Ameritech states. I then moved to a headquarters position responsible
24 for managing market research related to business communications services.

1 Immediately prior to my current assignment, I worked within the product
2 management organization, focusing upon private line data services.

3

4 **Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?**

5 A. I have a Bachelor of Science Degree in Mechanical Engineering and a
6 Masters Degree in Business Administration, both from Drexel University. In
7 addition, I have a Professional Engineering License from the State of
8 Pennsylvania.

9

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11 A. My testimony specifically addresses Issues 3(a) and 15(a) which this
12 Commission is examining. Issues 3(a) addresses performance measurements
13 for UNEs and Issue 15(a) addresses performance measurements and
14 standards applicable to services available for resale. I address both of these
15 issues concurrently below. Both issues involve two considerations: (1)
16 whether adequate performance measurements have been established to
17 monitor BellSouth's fulfillment of the nondiscrimination obligations woven
18 throughout the Telecommunications Act of 1996; and (2) whether BellSouth
19 has demonstrated that it is providing nondiscriminatory support for services
20 resale, use of Unbundled Network Elements ("UNEs"), and access to
21 operations support systems ("OSS").

22

23 Establishment of performance measures is a critical component in the
24 determination of BellSouth's provision of nondiscriminatory support as
25 established in both Sections 271 and 251 of the Federal Telecommunications

1 Act of 1996 ("the Act"). The FCC ordered all incumbent local exchange
2 carriers ("ILECs") to provide nondiscriminatory access to OSS functions.
3 FCC First Report and Order No. 96-325 ¶ 525 (Aug. 8, 1996). This
4 Commission similarly ordered such access following the BellSouth/AT&T
5 arbitration hearings; such provisions are now included in the
6 AT&T/BellSouth Agreement. There is no question that a well developed and
7 properly operating set of performance measures is necessary for this
8 Commission to make a determination regarding BellSouth's compliance with
9 the requirements of nondiscriminatory access and support.

10
11 I will outline the most fundamental structural characteristics of a performance
12 measurement plan necessary to carry out the pro-competitive objectives of
13 this Commission. Clearly laying out the desirable characteristics of a
14 measurement plan is necessary to evaluate the adequacy of the performance
15 standards and measurements proposed by BellSouth.

16
17 **Q. WHAT CHARACTERISTICS SHOULD BE PRESENT IN A**
18 **MEASUREMENT PLAN DESIGNED TO MONITOR DELIVERY OF**
19 **NONDISCRIMINATORY SUPPORT OF SERVICES RESALE,**
20 **UNBUNDLED NETWORK ELEMENTS, AND OSS ACCESS ?**

21 **A** Five key attributes must be evident in any measurement plan designed to
22 monitor nondiscrimination. The attributes constitute the "ground rules" that
23 should be applied when determining that the overall measurement plan is
24 functional and capable of monitoring on-going delivery of the

1 nondiscriminatory support necessary for CLECs to have a meaningful
2 opportunity to compete.

3 (1) Comparative (CLEC versus BellSouth) measures of performance
4 must exist to monitor the key attributes of nondiscriminatory support for
5 services resale, the use of UNEs and access to OSS functionality.

6 (2) Each performance monitoring measure must be fully documented.
7 This means the data elements required for computation must be defined and
8 any necessary calculations must be set forth clearly. In addition, all
9 conditions resulting in omission of any data from computation of the
10 performance measure must be completely disclosed.

11 (3) The comparison of performance results for CLECs to the results for
12 BellSouth's local service operations must be accomplished through generally
13 accepted and documented statistical tests of difference.

14 (4) The data collection and reporting of performance measures must
15 permit disaggregation of results according to key factors that may influence
16 the overall metric results, such as product mix, activity variation or
17 differences in the extent of manual intervention.

18 (5) The performance measurement system must capture and produce
19 results on a regular basis. The results produced must be stable and able to be
20 subjected to independent validation through an auditing procedure.

21

22 **Q. WHAT DOES AT&T ADVOCATE AS THE MINIMAL SET OF**
23 **PERFORMANCE MEASURES THAT WILL ASSIST THIS**
24 **COMMISSION IN ITS CONSIDERATION OF WHETHER OR NOT**

1 **BELLSOUTH CURRENTLY PROVIDES NONDISCRIMINATORY**
2 **SUPPORT AND ACCESS TO CLECS?**

3 A. AT&T supports the use of the Local Competition Users Group (LCUG)
4 metrics as a starting point for monitoring parity of performance. The LCUG
5 performance metrics are attached as Exhibit CMP-1 to my testimony. They
6 represent the "critical few" measures upon which a truly effective
7 measurement plan can be constructed.

8
9 Expansion beyond the minimal set of measures should be encouraged to the
10 extent the parties agree or this Commission identifies additional appropriate
11 measures. For example, Local Account Maintenance performance measures
12 are not part of the LCUG list but are, nevertheless, included in Attachment 12
13 to the AT&T/BellSouth Interconnection Agreement in Florida (hereafter
14 referred to Attachment 12). Likewise, as CLECs gain greater experience in
15 the use of individual UNEs and UNE combinations, existing measures may
16 need to be altered or new measures may need to be defined. Such changes
17 and additions to performance measures should not be precluded despite the
18 fact they may not now be fully described in CMP-1.

19

20 **Q. WHAT IS THE LOCAL COMPETITION USERS GROUP?**

21 A. The Local Competition Users Group ("LCUG") is a group of CLECs that
22 meets to discuss and seek workable solutions to common operational issues
23 related to local market entry. LCUG membership includes AT&T, MCI,
24 Sprint, WorldCom, LCI International, and the Competitive
25 Telecommunications Association ("CompTel"). AT&T worked internally

1 and with the LCUG to develop an appropriate set of performance measures
2 that would permit CLECs and regulators to assess whether or not incumbent
3 LECs are providing nondiscriminatory access to their services and systems.

4

5 **Q. CAN BELLSOUTH RELY ON ATTACHMENT 12 OF THE**
6 **BELLSOUTH-AT&T INTERCONNECTION AGREEMENT TO**
7 **DEMONSTRATE AND MONITOR BELLSOUTH'S OBLIGATION**
8 **TO PROVIDE NONDISCRIMINATORY ACCESS TO ITS**
9 **NETWORK?**

10 **A.** No. Although AT&T and BellSouth have reached agreement on some
11 performance measures, the simple fact is that the agreement still is evolving.
12 Paragraph 1.3 of Attachment 12 specifies that the DMOQs (Direct Measures
13 of Quality) specified in the agreement shall be reviewed quarterly "to
14 determine if any additions or changes to the measurements and the standard
15 shall be required or, if process improvements shall be required." Similarly,
16 paragraph 9.4 of Attachment 15 to the Interconnection Agreement states that
17 "[p]erformance measurements shall be established" as contemplated in
18 Section 12 of the Agreement.

19

20 As contemplated in the Interconnection Agreement, measures addressing
21 transaction cycle time, interface availability and transaction accuracy need to
22 be established for all the major operational interfaces. Additionally,
23 performance measures addressing ordering, at a minimum, and preferably
24 also pre-ordering and maintenance, must be disaggregated to show whether or
25 not manual intervention is involved since manual "fall out" of BellSouth

1 support processes has a significant negative effect upon whether CLECs have
2 a meaningful opportunity to compete. Although such disaggregation has not
3 been addressed either in Attachment 12 or Attachment 15 of the
4 BellSouth/AT&T Interconnection Agreement, it is necessary in order to
5 determine whether BellSouth provides services to its competitors in
6 substantially the same time and manner in which it serves itself and its retail
7 customers.

8
9 Attachment 12 can provide a starting point for constructing a performance
10 measurement plan, but only if appropriate OSS related measures are
11 incorporated and measures are refined during implementation. In addition,
12 BellSouth must provide data in the form of actual comparative results
13 necessary to confirm its obligations of providing nondiscriminatory support
14 of service resale, UNEs and OSS functionality. To date, BellSouth has not
15 provided any such data, despite the fact that delivery of such data is
16 envisioned in Paragraph 1.3 of Attachment 12.

17
18 **Q. DO YOU HAVE ANY ADDITIONAL CONCERNS BEYOND THOSE**
19 **LISTED ABOVE?**

20 **A.** Yes. Beyond the issue of monitoring the impact of manual fall out, the
21 measurement plan needs to disaggregate measurement results sufficiently so
22 that differing mixes of services and major types of activities, between the
23 CLECs and BellSouth, do not result in mistaken conclusions regarding parity
24 and nondiscrimination. In other states, BellSouth has attempted to address
25 service mix, but BellSouth's proposed disaggregation does not go far

1 enough. Key high volume local service categories of services are not broken
2 out, such as Centrex/Centrex-like and PBX trunks. Furthermore, the special
3 services category is treated as a single "lump" despite the fact that
4 BellSouth's testimony recognizes the existence of differing treatment within
5 the special services environment based upon whether a class of service is
6 DS3, DS1, DDS, or voice grade private line.

7

8 Adequate product disaggregation must be incorporated into the measurement
9 plan ultimately adopted. The Michigan Public Service Commission
10 recognized the absence of product disaggregation by Ameritech as a
11 deficiency in its consultation provided to the FCC with regard to Ameritech's
12 current 271 application (CC Docket No. 97-137).

13

14 Measurements must be refined enough to permit meaningful parity
15 comparisons to be made. That is, if business orders are more complex and
16 handled differently by Ameritech's retail operations than are residential
17 orders, performance measures should distinguish these operations. Separate
18 measurements for different customer classes, geographic areas or service
19 products may be required.

20

21 Consultation of the Michigan Public Service Commission, at 31-32.

22

23 **Q. WHAT REFINEMENTS MUST BELL SOUTH MAKE IN ORDER TO**
24 **IMPROVE ITS ABILITY TO MONITOR DELIVERY OF**
25 **NONDISCRIMINATORY ACCESS?**

1 A. In addition to those minimal measures included in Attachment 12 , the
2 following performance measures must be addressed to create a functional
3 monitoring mechanism for nondiscrimination:

4 (1) Timeliness measures for the primary preordering and maintenance
5 activities must be incorporated. The time to complete a request for a
6 telephone number or the time required to log a trouble ticket are examples of
7 timeliness measures for preordering and maintenance, respectively.

8 (2) Timeliness measures for return of order completion information must
9 be established. Although some target intervals are provided, there is no
10 metric that measures the elapsed time between BellSouth's completion of a
11 work order and the forwarding of a valid completion notice by BellSouth to
12 the CLEC. Timely notification of work completion is critical because such
13 notification is the sole means by which a CLEC knows that service has been
14 "turned up" for its retail customer.

15 (3) System availability measures must be defined for each operational
16 interface. An availability measurement monitors the amount of time each
17 interface is usable by a CLEC compared to the total time each interface is
18 scheduled to be available. If a CLEC cannot utilize an interface to transact
19 business with BellSouth, then the CLEC's business operations are effectively
20 "shut down" for all practical purposes.

21 (4) Availability measures for network elements must be addressed. These
22 measures are similar in nature to the interface availability measures, but
23 address individual UNEs and combinations of UNEs. For example, an
24 availability measure for the local switching element could be speed of dial
25 tone. This Commission could assist this measurement definition process by

1 establishing, as a basic principle, that availability measures should be
2 established for each UNE and UNE combination.

3 (5) Performance measures for network elements must be addressed. This
4 category of measures addresses the quality of UNEs or UNE combinations.
5 For example, throughput capacity of an unbundled ISDN loop could be a
6 performance measure for the UNE loop combination. Again, the
7 Commission could assist the measurement definition process by establishing
8 an expectation that performance or quality measures will be defined for
9 UNEs and UNE combinations as they are requested by CLECs.

10 (6) Operator Service ("OS") and Directory Assistance ("DA") speed of
11 answer measures must be incorporated. This monitoring helps assure on-
12 going nondiscriminatory support for a service that is highly visible to CLEC
13 customers.

14 (7) Network Performance measures (e.g., transmission quality and
15 completion rates) must be addressed. Such measures allow the Commission
16 to monitor the relative quality of the local network delivered to CLECs.
17 Comprehensive monitoring of network performance may prove to be a
18 complex undertaking at the CLEC-specific level. Difficulty of measurement
19 does not invalidate the need for a measure. If BellSouth makes a compelling
20 case regarding cost or complexity, then this Commission could adopt a
21 comparative process based upon sampling of performance rather than
22 requiring ongoing tracking and reporting. By utilizing this approach, this
23 Commission could establish a clear expectation that network performance
24 must be nondiscriminatory and also identify the measures that would be
25 considered in testing for nondiscriminatory network performance. In

1 addition, the Commission could establish a mechanism for CLECs, based
2 upon the CLEC sampling of performance, to challenge expeditiously whether
3 BellSouth actually is delivering network performance at parity.

4 (8) Fallout to manual processing must be monitored. The ability to
5 monitor the impact of manual intervention upon the ordering-provisioning as
6 well as the pre-ordering and maintenance processes is crucial to ascertaining
7 that CLECs are afforded a meaningful opportunity to compete. Higher rates
8 of manual processing result in less the processing capacity, longer execution
9 times and higher error rates, all of which contribute to customer
10 dissatisfaction. Separately categorizing and “marking” data as it is gathered
11 to indicate whether manual processing was involved would help address this
12 issue.

13 (9) Capacity measurements must be developed. For example, a measure
14 that monitors the average delay (e.g., days) in the actual completion date
15 compared to the committed completion date helps detect developing
16 processing capacity problems (e.g., longer average delays) and assists in
17 monitoring whether or not nondiscriminatory support is provided when
18 capacity constraints develop.

19
20 Performance measurements must be established for order accuracy.
21 Attachment 12 identifies this measurement but fails to define the measure or
22 establish performance expectations.

23

24 **Q. CAN BELL SOUTH READILY ADDRESS THE PRECEDING ITEMS?**

1 A. Yes. The performance measurement items identified above, given a
2 concerted effort by BellSouth, are amenable to prompt refinement. Both
3 AT&T and BellSouth must continue to work together to refine the current
4 work on performance metrics. The need for further work was acknowledged
5 by BellSouth in testimony prefiled in Georgia on June 6, 1997: "BST
6 continues to believe that the Commission should allow the parties to work
7 through the negotiations process to define and implement performance
8 standards." (Georgia - Stacy Dir. at 25.)

9
10 **Q. DO THE MEASURES DEFINED IN ATTACHMENT 12 CLEARLY**
11 **DEFINE HOW THEY ARE COMPUTED AND WHAT IS INCLUDED**
12 **IN THE REPORTED RESULTS?**

13 A. No. The parties must provide additional clarity in implementing the
14 performance measures to avoid or minimize future disputes over BellSouth's
15 provision of nondiscriminatory access. BellSouth and AT&T must agree on
16 and document the data elements and computation method for each measure
17 and identify what, if any, operational situations will cause exclusion of data
18 from the reporting process.

19
20 The United States Department of Justice noted clarity of performance
21 measurements as an area of deficiency in the recent Ameritech 271 filings in
22 CC Docket No. 97-137.

23
24 The most complicating factor, discussed by the MPSC and by the
25 Department, below, is the lack of clarity in the performance results reported

1 by Ameritech and the absence of a common language of measures and
2 standards with which to gauge operations of these new processes.
3 Evaluation of the United States Department of Justice, Appendix A at A-11.

4

5 **Q. WOULD YOU PLEASE PROVIDE SOME EXAMPLES REGARDING**
6 **ADDITIONAL DETAIL THAT MUST BE ADDRESSED BY**
7 **BELLSOUTH?**

8 A. There are a number of examples of performance measurements for which
9 additional definitional detail is necessary, but I will only reference two as
10 examples: Paragraph 2.5 of Attachment 12 discusses the metric for
11 timeliness of notice or rejects of errors. Although the measure appears simple
12 enough on the surface, the document neither defines what constitutes an error
13 or a reject, nor does it discuss whether or not manual and electronic
14 notifications will be separately measured.

15

16 Paragraph 3.1 uses the term "Total Duration Time" without defining whether
17 the time is measured in terms of a 24-hour clock or a business hour clock
18 (*e.g.*, only time between 8:00 and 5:00 is accumulated). Also, no
19 documentation covers whether the time stops when BellSouth declares the
20 trouble "resolved" or if the time stops when the CLEC considers the matter
21 closed.

22

23 I am further concerned that definitions are subject to change without
24 appropriate change control. For example, in the discussion of the metrics
25 related to Firm Order Confirmations (Paragraph 2.3) and Notice of Rejects of

1 Error Status (Paragraph 2.5), Attachment 12 makes no mention that the
2 measures are to be reported only when the ordering process is mechanized on
3 an end-to-end basis. However, BellSouth has added this additional
4 limitation.

5
6 **Q. WHAT DO YOU MEAN WHEN YOU SAY THERE MUST BE**
7 **CLARITY REGARDING WHAT, IF ANY, OPERATIONAL RESULTS**
8 **ARE EXCLUDED?**

9 A. At some point parties may agree how a metric is defined. Such agreements
10 must be documented. Following definitional agreement, the parties still must
11 reach agreement and document the computational procedures including
12 whether or not any operational results should or should not be excluded from
13 the results accumulation processes. AT&T and BellSouth did not provide in
14 Attachment 12 what, if any, specific operational results are excluded from
15 each metric's computation. I urge this Commission to establish, as a guiding
16 principle, that no results are excluded from reporting unless clearly
17 documented and supported by a factual showing of unique and restricted
18 operational conditions. Needless to say, without specific mutual agreement
19 as to what situations are "hidden" from the reporting process, there can be no
20 certainty regarding the validity of results.

21
22 **Q. DO THE ATTACHMENT 12 MEASURES SUBMITTED REFLECT**
23 **INDUSTRY CONSENSUS?**

1 A. No. BellSouth indicates it is negotiating measures similar to those provided
2 in the AT&T agreement with other ALECs, but no other agreements have
3 been finalized with respect to performance measures.

4

5 **Q. HAS BELLSOUTH SUBMITTED ANY RESULTS FOR THE**
6 **MEASURES CONTAINED IN ATTACHMENT 12?**

7 A. No. BellSouth has not submitted comprehensive results that demonstrate
8 delivery of nondiscriminatory access and support to AT&T even for the
9 partially completed set of measures documented in Attachment 12. Because
10 BellSouth and AT&T did not agree to even the partial set of metrics until
11 May 9, 1997, and because BellSouth has not yet provided data to AT&T as it
12 agreed to in Attachment 12, this Commission lacks crucial information
13 necessary to draw conclusions whether or not BellSouth is satisfying its
14 obligation to deliver nondiscriminatory access and support.

15

16 **Q. WHAT OTHER ISSUES MUST BE ADDRESSED IN ORDER FOR**
17 **THE MEASUREMENT PLAN TO BE CONSIDERED**
18 **OPERATIONALLY READY?**

19 A. At least three additional operational considerations must be established and
20 fully documented: (1) the means for assessing whether BellSouth is
21 delivering nondiscriminatory support (*i.e.*, what statistical tests for difference
22 should apply) must be defined; (2) an auditing process must be defined; and
23 (3) a formalized process and expectation for reporting results must be
24 established and put into operation.

1 **Q. WHAT MUST BE ESTABLISHED REGARDING THE MEANS TO**
2 **ASSESS WHETHER OR NOT BELL SOUTH IS DELIVERING**
3 **NONDISCRIMINATORY SUPPORT?**

4 A. Regardless of the measure under consideration, there must be a pre-
5 established comparison process to assure that the level of performance for an
6 individual CLEC, and the CLECs as a group, are equal in quality to that
7 delivered by BellSouth to its own retail local service operation. This
8 comparative process should incorporate well-recognized and documented
9 statistical testing procedures.

10

11 BellSouth should be required to identify, document and incorporate clearly
12 defined statistical tests to establish nondiscrimination into any measurement
13 plan it institutes. Control Charts will not satisfy this requirement.
14 Appropriately defined and structured statistical tests will permit relevant
15 assessment of differences in both the average (mean) result for CLECs
16 compared to BellSouth, as well as for differences in variability of
17 performance. By establishing a requirement for statistical testing of
18 differences in both mean performance and performance variability, this
19 Commission will be in a position to draw fact-based conclusions, at a
20 specified level of confidence (*e.g.*, 95%), regarding whether the performance
21 CLECs experience is of equal quality to the performance BellSouth delivers
22 to its own local operations.

23

1 Q. ARE THE PERFORMANCE MONITORING METRICS IN
2 ATTACHMENT 12 SUFFICIENT TO DETERMINE
3 NONDISCRIMINATION?

4 A. No; these performance metrics generally monitor performance only
5 against specific threshold values. For example, Attachment 12 includes the
6 measure “percentage desired due dates met.” Measures oriented toward
7 percentages of cases exceeding a target do not allow monitoring of
8 nondiscrimination because the measure only tracks the frequency that a
9 potentially arbitrary threshold is exceeded rather than monitoring and
10 comparing actual performance experienced. Moreover, it is not clear that a
11 simple statistical test can be applied to determine whether or not a
12 percentage-based result for a CLECs is equal to that BellSouth experiences.
13 The Department of Justice rejected such a percentage-based standard in the
14 Ameritech 271 filing for Michigan, as did the Michigan Public Service
15 Commission. (CC Docket No. 97-137). Ameritech relied almost exclusively
16 upon percentage-based measures in its proposed plan for monitoring
17 nondiscrimination. The Department of Justice rejected this standard because
18 it did not permit direct comparison of performance.

19

20 The trouble with this position [not monitoring actual installation intervals], as
21 the MPSC has recognized, is that ‘[m]easuring rates of completion within a
22 target period of time rather than determining actual average time to complete
23 a task does not permit direct comparison to Ameritech’s retail performance.’
24 MPSC Consultation at 31.

25 Evaluation of the United States Department of Justice, Appendix A at A-25.

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Q. WHY IS AN AUDIT MECHANISM IMPORTANT TO THIS COMMISSION'S CONSIDERATION OF PARITY, NONDISCRIMINATORY SUPPORT, AND ACCESS BY BELLSOUTH?

A. The competitive marketplace must have the protection of auditing to ensure that BellSouth's reported measures are based upon properly designed data collection processes, that results are computed based upon precisely defined and agreed upon methodologies, and that the results can be independently corroborated. The precise definition of each measure is critical and cannot be subject to unilateral change by BellSouth. The discipline of auditing will help ensure that data is retained according to specific guidelines and structured to allow an interested and authorized party to verify independently that a CLEC is receiving nondiscriminatory access and support from BellSouth. Without such mechanisms, the CLECs, this Commission and Florida consumers will be entirely dependent upon BellSouth for the production, accuracy and conclusions related to performance measures crucial to assessing the development of competition in Florida.

Q. HAS BELLSOUTH AGREED TO PROVIDE ALL DATA NECESSARY TO PERFORM AUDITING OF PERFORMANCE NECESSARY TO ESTABLISH NONDISCRIMINATION?

A. No. In Attachment 12, BellSouth commits to make available "the raw data used to calculate each measurement for AT&T as reasonably requested by AT&T." Agreement, Att. 12 § 1.2. BellSouth has not yet fulfilled this

1 commitment. Moreover, this commitment standing alone is insufficient to
2 permit monitoring of nondiscriminatory treatment by BellSouth. Two
3 additional commitments are crucial to this process, and BellSouth has failed
4 to provide them. First, BellSouth is silent regarding the extent to which it
5 will make its own data available for audit by a CLEC (or other parties
6 authorized by this Commission). Second, BellSouth makes no
7 recommendation regarding the process that should apply in the event that a
8 CLEC believes that BellSouth is failing to adhere to its obligation to deliver
9 nondiscriminatory support.

10

11 Safeguards must be established beyond mere promises by BellSouth, to
12 ensure BellSouth is collecting necessary data properly, that the measures are
13 computed properly, and that appropriate and consistent comparative analyses
14 are made. Such a process cannot and should not be constructed “on the fly”
15 when the first complaint or allegation of discrimination arises.

16

17 **Q. HOW SHOULD PERFORMANCE METRICS BE REPORTED?**

18 A. Because the primary purpose of such reporting is to demonstrate the existence
19 (or detect the lack of) parity, the reports submitted should clearly show an
20 individual CLEC experience in comparison to the analogous BellSouth
21 performance experience. Likewise, a comparison should be provided of
22 aggregate CLEC experience to the experience of BellSouth. As part of the
23 display of such comparisons, a clear indication should be made whether or
24 not a statistically significant difference exists in either mean performance or
25 performance variations. Finally, the display should make it simple to

1 determine whether or not there are wide month-to-month variations in
2 performance as well as whether performance trends are either slipping or
3 improving.

4

5 **Q. WHAT ROLE SHOULD BENCHMARKS PLAY IN THE**
6 **PERFORMANCE MEASUREMENT PROCESS?**

7 A. The delivery of nondiscriminatory support is demonstrated best by comparing
8 performance delivered to CLECs directly to the performance BellSouth
9 delivers to its own retail operations in the same or reasonably analogous
10 situations. Benchmarks can, however, be used to establish minimum levels
11 of performance on an interim basis, pending development of performance
12 measures. The performance benchmarks in Exhibit CMP-2 represent the
13 minimum levels of performance necessary to establish that BellSouth will be
14 affording CLECs at least a reasonable opportunity to compete. The
15 benchmarks outlined in Exhibit CMP-2 were developed by LCUG out of
16 frustration over the ILECs' unwillingness to disclose their actual performance
17 levels for the same or analogous activities carried out in support of local
18 services. The levels are based on the participating CLECs' experience in the
19 long distance market combined with their expectations for the provision of
20 local services. As stated above, however, nondiscriminatory support is best
21 demonstrated by actual performance measurement.

22

23 **Q. WOULD YOU SUMMARIZE YOUR TESTIMONY?**

24 A. I urge this Commission to reject BellSouth's petition. The current
25 inadequacies of BellSouth's performance measurements alone are sufficient

1 to demonstrate that BellSouth's request for long distance authority is
2 premature whether considered from the perspective of either UNEs (Issue
3 3(a)) or services available for resale (Issue 15(a)). No factual evidence has
4 been delivered to this Commission showing that BellSouth is now delivering
5 comprehensive and nondiscriminatory support to CLECs through
6 performance standards and measures adequate to establish nondiscriminatory
7 support. Nondiscriminatory support of access to OSS functionality, support
8 of services resale and the support of UNEs cannot be established solely by
9 declaration. Nondiscrimination can be demonstrated only by showing actual
10 results that, when subjected to generally accepted statistical procedures for
11 testing of differences in results, confirms that BellSouth's support of CLEC
12 operations are no less in quality than the support BellSouth delivers in its
13 own local operations. Beyond that, submission of complete results, stability
14 of performance, and the capability to monitor performance on an on-going
15 basis are necessary to assure that CLECs have a meaningful opportunity to
16 compete.

17

18 I urge this Commission to find that BellSouth has not proven that it provides
19 nondiscriminatory services to CLECs.

20

21 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

22 **A. Yes.**

PERFORMANCE MEASURES

Process	Key Measure	Measurement Description
Pre-Ordering	Timeliness of Providing Pre-Ordering Information Delivery	Measures the ILEC response time to queries such as appointment scheduling, service & feature availability, address verification, request for phone numbers and Customer Service Records. The measurement interval starts when the CLEC request is issued and ends when the ILEC response message is received by the CLEC.
Ordering/ Provisioning	Orders completion intervals	Measures the ILEC order processing interval, beginning with the delivery of a valid order to the ILEC and ending when the CLEC receives confirmation of all work being completed by the ILEC.
	Order Accuracy	Measures the accuracy and completeness of the ILEC order related activities by comparing what the CLEC ordered to what the ILEC confirmed as completed. The measure is expressed as a ratio of orders completed without error to total orders completed.
	Order Status	Measures the response time for the ILEC supplying key customer impacting status information (e.g., Firm Order Confirmations, Initial Jeopardies, Rejects, and Completions) from the time an order is sent to the ILEC (FOC, Initial Jeopardy & Rejects) or work is completed (Completion Notices) until a status is received by the CLEC.
	Percent of Held Orders	Monitors the ordering process operational capacity by comparing the number of orders completed after the committed due date by a prescribed interval of time to the total number of orders processed within the same measurement period.
Maintenance & Repair	Average Restoral Time	Measures the mean (average) time that it takes for the ILEC to resolve customer troubles within the measurement period. The interval begins when the CLEC transmits a valid trouble ticket to the ILEC and ends when the ILEC transmits a valid closure of the ticket to the CLEC.
	Restoral Variability (also referred to as Restoral Intervals)	Measures the trouble resolution interval by reporting the percentage of troubles resolved within the a specified intervals (e.g., 2 hour intervals up to 24 hours). The distribution is derived from the data underlying the average restoral time.
	Repeat Troubles	Measures the number of instances that the same customer line generates more than one trouble report in a specified period of time. The total number of repeat troubles is divided by the total number of troubles reported in the same measurement period.

* At a minimum, detail for the following types of services of facility should be reported: residence POTS, business POTS, ISDN, Centrex/Centrex-like, PBX trunks, Channelized T1.5 Service, Other Resold Services, UNE Platform (at least DS0 loop + local switch + transport elements) UNE Channelized DS1 (DS1 loop + multiplexing), Unbundled DS0 loop, Unbundled DS1 loop, Other Unbundled loops, Unbundled Switch, Other UNEs.

PERFORMANCE MEASURES

Process	Key Measure	Measurement Description
Maintenance & Repair (continued)	Troubles Per 100 Lines	Measures the general service performance quality of the ILEC's network delivered to the CLEC by comparing the total number of trouble reports the CLEC logs with the ILEC to the total average number of CLEC lines in service during the same measurement period.*
	Estimated Time to Restore	Measures the reliability of ILEC restoral commitment by monitoring the proportion of troubles resolved (measured separately for by whether or not a premises visit is required) within the ILEC estimated restoral interval.*
General	Systems availability	Measures the availability of operations support systems and associated interfaces by comparing (separately for each pre-ordering, ordering and provisioning, maintenance interface) the number of hours the required functionality was available for use by the CLEC to the total number of hours that the functionality was scheduled to be available to the CLEC.
	Speed of Answer	Measures the responsiveness of key support centers the ILECs provide to the CLECs by measuring the wait time from initiation of ringing when a CLEC attempts to contact the ILEC to the time the CLEC (caller) is connected with the ILEC agent capable of responding to the call.
Billing	Timeliness of Delivery	Measures the proportion of billing records (measured separately for wholesale bills, usage records, CSRs, service orders, time & materials, adjustments) delivered to the CLEC within the agreed upon interval during the reporting period.
	Accuracy	Measures the proportion of billing records (as defined for billing timeliness) delivered to CLEC during the reporting interval that are provided both in the agreed-upon format and containing the agreed-upon content.

* At a minimum, detail for the following types of services of facility should be reported: residence POTS, business POTS, ISDN, Centrex/Centrex-like, PBX trunks, Channelized T1.5 Service, Other Resold Services, UNE Platform (at least DS0 loop + local switch + transport elements) UNE Channelized DS1 (DS1 loop + multiplexing), Unbundled DS0 loop, Unbundled DS1 loop, Other Unbundled loops, Unbundled Switch, Other UNEs.

PERFORMANCE MEASURES

Process	Key Measure	Measurement Description
Unbundled Network Elements/Combinations	Availability (See Note 1)	Measures the percentages of instances when the CLEC attempts to utilize an element/combination's functionality (e.g., dial tone delay, SCP links, etc.) and the element/combination can be utilized.
	Timeliness (See Note 1)	Measures the average delivery interval for performance of requested support or functionality (e.g., provisioning, repair, data base update intervals, etc.) associated with an element/combination.
	Quality/Reliability (See Note 1)	Measures the frequency with which the element/combination operates according to expected parameters (e.g., failure rate, record not found, function performed erroneously, etc.)
Operator Services and Directory Assistance	Average Speed of Answer	Measures the time required for a call to be answered by either an Operator Service or a Directory Assistance operator. Includes all time from the initiation of ringing until the customer's call is answered.
Network Performance	Network Parity Performance	Measures key network performance parameters related to transmission quality (loss, noise and distortion), speed of connection, call completion rates and reliability

Note 1: Measures for Unbundled Network Elements need to be defined uniquely for each requested element. Where element combinations are employed, the measures should closely parallel those established for reasonably analogous retail services of the ILEC.

PERFORMANCE BENCHMARKS

Process	Key Measure	Benchmark Performance
Pre-Ordering	Timeliness of Providing Pre-Ordering Information Delivery	<p>< 2 seconds from the time the query is launched until the following data is received back (98% < 2 sec & 100% < 5 sec):</p> <ul style="list-style-type: none"> Due Date Reservation Feature Function Availability Facility Availability Street Address Validation Service Availability Information Appointment Scheduling Customer Service Records <p>TNs: 30 TNs or less ret'd in < 2 sec 98% of time & < 5 sec 100% of time, > 30 TNs ret'd < 2 hours 100% of time</p>
Ordering/ Provisioning	Orders completion intervals	<p>Unless specified below, orders with no Premises Visit or no physical work involved completed within 1 day of service order receipt; orders that require Premises Visit or physical work: completed within 3 days of service order receipt*; 99% orders completed on due date*.</p> <p>Installation:</p> <ul style="list-style-type: none"> • UNE Platform (at least DS0 loop + local switch + all common elements) always w/i 24 hours, regardless of dispatch • UNE Channelized DS1 (DS1 loop + multiplexing) always w/i 48 hours • Unbundled DS0 loop always w/i 24 hours • Unbundled DS1 loop (unchannelized) always w/i 24 hours • Other Unbundled Loops always w/i 24 hours • Unbundled Switch always w/i 48 hours • Dedicated Transport - DSO/DS1 always w/i 3 business days • Dedicated Transport - DS3 always w/i 5 bus days <p>Feature Changes:</p> <ul style="list-style-type: none"> • All orders completed within 5 business hours of receipt <p>Disconnects:</p> <ul style="list-style-type: none"> • Resale Product or Service Disconnects always w/i 24 hours • UNE switching w/i 24 hours • UNE (other) w/i 24 hours
	Order Accuracy	≥ 99% are completed without error
	Order Status	<ul style="list-style-type: none"> • FOC: 100% < 4 hrs • Jeopardies/revised due date: 100% < 4 hours of order acknowledgment • Rejects: > 97% in < 15 seconds acknowledgment • Order Completions: ≥ 97% rec'd w/in 30 min of work completion

PERFORMANCE BENCHMARKS

Process	Key Measure	Benchmark Performance
Ordering/ Provisioning	Percent of Held Orders	Report for: $\leq 0.1\%$ orders completed ≥ 15 days past customer due date no orders held > 90 days past customer due date
Maintenance & Repair	Average Restoral Time	≤ 4 hrs (dispatch required) ≤ 2 hrs (no dispatch required)
	Restoral Variability	Out of Service Dispatch Required $> 90\%$ in 4 hrs $> 95\%$ in 8 hrs $> 99\%$ in 16 hrs No Dispatch $> 85\%$ in 2 hrs $> 95\%$ in 3 hrs $> 99\%$ in 4 hrs All other Troubles $> 95\%$ in 24 hrs
	Repeat Troubles	$< 1\%$ customer lines experience > 1 trouble within 60 day report period
	Troubles Per 100 Lines	$\leq 1.5\%$ lines report troubles per month
	Estimated Time to Restore	$> 99\%$ restored within estimated interval
General	Systems availability	$< 0.1\%$ unplanned downtime per month (reported for each CLEC interface)
	Speed of Answer	$> 95\%$ CLEC calls to ILEC support centers answered (by human agent) within 20 seconds $> 100\%$ CLEC calls to ILEC support centers answered (by human agent) within 30 seconds
Billing	Timeliness of Delivery	$> 99.9\%$ billing records received in ≤ 24 hours 100% billing records rec'd in ≤ 48 hours $> 99.95\%$ wholesale bills rec'd w/in 10 calendar days of bill date
	Accuracy	$> 98\%$ wholesale bill financially accurate $> 99.99\%$ of all records transmitted within same month of service delivery

PERFORMANCE BENCHMARKS

Process	Key Measure	Benchmark Performance
Unbundled Network Elements/Combinations	Availability (See Note 1)	Examples: A-Link: ≤ 1 min unavailability per year D-Link: ≤ 1 sec unavailability per year SCPs/Databases: ≤ 15 min unavailability per year LIDB reply rate to all query attempts $\geq 99.95\%$ LIDB query time-out: $\leq 0.05\%$ Call attempts not routed to CLEC OS/DA Platform: $< 0.1\%$ blocked
	Timeliness (See Note 1)	SCPs/Databases updated: $\geq 99\%$ in ≤ 24 hrs Mean Post Dial Delay for "0" calls (LSO to CLEC OS platform): ≤ 2 seconds Post Dial Delay for "0+" calls with 6 digit analysis (LSO to CLEC OS platform): $95\% < 2.0$ sec; Mean < 1.75 sec
	Quality/Reliability (See Note 1)	Unexpected data values in resp to LIDB query $\leq 1\%$ LIDB queries return a missing customer record = 0% Group troubles in all LIDB queries $< 0.5\%$
Operator Services and Directory Assistance	Average Speed of Answer	OS/DA agent response: 90% of calls answered in 10 sec OS/DA Voice Response Unit: 100% within 2 seconds
Network Performance	Network Parity Performance	Deviation $\leq 0.10\%$ from supplier service performance distribution: Transmission quality: Subscriber Loop Loss Signal to Noise Ratio Idle Channel Circuit Noise Loops-Circuit Balance Circuit Notched Noise Attenuation Distortion Fax Transactions 9.6 kbps Speed of Connection: Dial Tone Delay Post Dial Delay Call Completion: Call Delivery Rate Reliability Requirements: Network Incidents Affecting > 5000 blocked calls Network Incidents Affecting $> 100,000$ blocked calls

Note 1: Measures for Unbundled Network Elements need to be defined uniquely for each requested element. The listed benchmarks are illustrative. Where element combinations are employed, the measures should closely parallel the benchmark levels established for reasonably analogous retail services of the ILEC.