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March 27, 1998

K. David Waddell
Executive Secretary
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37243-0505

In Re: Bellsouth Telecommunications, Inc.'s Entry into Long Distance Interlata Service in Tennessee Pursuant to Section 271 of the Telecommunications Act of 1996
Docket No. 97-00309

Dear David:

Enclosed please find an original and thirteen (13) copies of the testimony of Ron Martinez, Bryan Green and Vanetta Bridges filed on behalf of MCI Telecommunications Corporation's. Copies will be served on all parties of record.

Very truly yours,

BOULT, CUMMINGS, CONNERS & BERRY, PLC

Jon Hastings

Jon E. Hastings

JEH/sja
Enclosures

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing has been hand delivered or mailed to the following persons on this the 27th day of March, 1998:

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BEFORE THE

TENNESSE REGULATORY AUTHORITY

IN THE MATTER OF: BellSouth Telecommunications, Inc's Entry Into Long Distance (InterLATA) Service in Tennessee Pursuant to Section 271 of the Telecommunications Act of 1996	)))))	DOCKET NO. 97-00309

TESTIMONY OF BRYAN GREEN
ON BEHALF OF MCI TELECOMMUNICATIONS CORPORATION

MARCH 27, 1998

Q. PLEASE STATE YOUR NAME, ADDRESS AND POSITION.

A. My name is Bryan Green. My business address is 2520 Northwind Parkway, Alpharetta, Georgia 30004. I am employed by MCI Telecommunications Corporation (MCI) in the Southern Financial Operations group as a Senior Manager. (I also will use "MCI" to refer to MCImetro Access Transmission Services, Inc., which is the MCI subsidiary that provides local telephone service.) My responsibilities involve implementing Operation Support Systems (OSS) that support MCI's entry into local telephone markets. Among other things, I deal with BellSouth and other ILECs and industry forums to facilitate OSS implementation.

Q. PLEASE PROVIDE INFORMATION ON YOUR BACKGROUND AND EXPERIENCE.

A. Before coming to MCI last year, I worked for Pacific Bell for more than eleven years. I held a number of positions with Pacific Bell ranging from data communications manager, data network manager, data network design and sales and new product development. The majority of my tenure with Pacific Bell was in sales and marketing as a system design consultant. In this role, I was responsible for the design and sale of data networks to medium and large business customers. Finally, I was a product manager with responsibility for new products and market development. I obtained a Bachelor of Science degree in Business Information and Computing Systems in 1984 from San Francisco State University.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide information to the Tennessee Regulatory Authority (Authority) concerning BellSouth's failure to provide CLECs with nondiscriminatory access to BellSouth's OSS.

OVERVIEW

Q. WHAT IS OSS?

A. One industry publication has explained that "OSS includes everything that runs or monitors the network, such as trouble reporting or billing systems, but is not actually the network itself." Ed Feingold, Making Sense of OSS, Billing World, Jan. 1997, at 21, 22. Stated otherwise, OSS consists of all the computerized and automated systems, together with associated business processes, that ensure the carrier can satisfy customer needs and expectations. As the FCC recently stated, in today's environment, "operations support systems and the information they contain are critical to the ability of competing carriers to use network elements and resale services to compete with incumbent LECs." In re Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, to Provide In-Region, InterLATA Services in Michigan, CC Docket No. 97-137, August 19, 1997, ¶ 129 (FCC Michigan Order). It is customary and useful to distinguish five discrete business functions OSS serves: pre-ordering, ordering, provisioning, maintenance & repair, and billing, as is explained in the FCC's Local Competition Order. See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, First Report and Order, at ¶¶ 515, 518, CC Docket No. 96-98, FCC 96-325 (rel. Aug. 8, 1996) (Local Competition Order).

Q. PLEASE DESCRIBE BELLSOUTH'S OSS GENERALLY.

A. Like all Bell Operating Companies (BOCs), BellSouth has for years utilized highly complex OSS systems to successfully manage its internal processes and customer interactions. These well-tested systems ensure, for example, that customer service representatives have immediate real-time access to all information necessary to respond fully and correctly to customer queries about such things as the variety and prices of services available, or the status of repair calls. They also ensure, among other things, that customer orders are correctly processed and that bills are accurate and timely.

Q. GENERALLY WHAT CHANGES DOES THE ACT REQUIRE BELLSOUTH TO MAKE TO ITS OSS?

A. BellSouth's existing systems are complete and adequate to serve its own retail customers. Consistent with the Act, however, changes must be made to enable competition to develop in the local markets. To the extent new BOC competitors such as MCI must rely on the BOC's network and OSS capabilities for a realistic opportunity to compete, it will be essential for the BOC to develop and implement OSS interfaces and downstream processes sufficient to ensure that they can provide unbundled network elements and resale rapidly and effectively in volumes adequate to satisfy demand. Another related point is that the FCC's rules specifically require that incumbent local exchange carriers (ILECs) develop interfaces capable of providing competitive local exchange carriers (CLECs) nondiscriminatory unbundled access to OSS functions. I understand this requirement to mean that ILECs must provide parity to requesting CLECs across three dimensions: scope of information available; accuracy of information supplied; and

timeliness of communication. FCC Michigan Order ¶ 139. In the rare instance where there is no retail analogue for OSS provided to a CLEC and parity cannot be measured, the FCC has stated that the BOC must show that it is providing CLECs "a meaningful opportunity to compete." FCC Michigan Order ¶ 141.

In order to determine whether a BOC has satisfied the twin requirements that it has implemented OSS systems and interfaces capable of ensuring that it can "fully implement" the competitive checklist, and that it provides nondiscriminatory unbundled access to OSS functions and databases, two questions are key, as the FCC has recognized: First, are the interfaces, back end systems, business processes, and training the BOC employs non-discriminatory and adequate to fulfill competitive needs of CLECs? Second, assuming the BOC proposes to use a competitively acceptable interface, systems, and processes to provide competitors access to a particular OSS function, has there been sufficient experience with the interface and associated systems and processes so as to ensure they will work "as advertised"? FCC Michigan Order ¶ 136.

Q. IS MANUAL ACCESS TO BELLSOUTH'S OSS ACCEPTABLE UNDER THE ACT?

A. In theory there are numerous ways a CLEC might be able to access BOC OSS functions. One basic distinction is between automated access and manual access. Manual access means that the CLEC's access is mediated by human intervention on the part of the BOC. For example, when a CLEC orders a resale service or unbundled element manually, it ordinarily means that the CLEC transmits an order form to the BOC by facsimile, at which point a BOC employee types the information supplied on the form into the BOC's computerized order entry system. Manual intervention also occurs when, after

information is exchanged electronically, a BOC representative must re-enter or otherwise manipulate it before it can be processed downstream.

Manual access arrangements simply are not compatible with MCI's needs as a new entrant. Every manual intervention causes delay, sometimes substantial, and creates significant risk of error. By relying upon manual interventions, the ILEC makes its competitors dependent on the hours, efficiency, and accuracy of its own employees -- including their incentive or lack of incentive to be efficient and accurate. Also, manual arrangements increase CLECs' costs in two ways: CLECs must employ more people to handle the process and to audit the ILEC's performance; and the ILEC will try to pass its own inflated costs through to the CLECs. As the FCC recognized in the FCC Michigan Order, Ameritech's reliance on manual processing caused a "significant deterioration in performance as orders increase." FCC Michigan Order ¶ 173. Accordingly, solutions that require manual intervention on the ILEC's side cannot be acceptable in either the short or long term. The question, then, is what automated arrangements are satisfactory.

Q. PLEASE EXPLAIN WHAT IS MEANT BY AUTOMATED ACCESS.

A. Automated access means that information is exchanged between the CLEC and BOC computers. This can be done through a variety of different interfaces and protocols that range widely in degrees of sophistication and utility. The most sophisticated type of automated access is termed electronic bonding and is articulated by several different specific protocols, the most common of which is the Open Systems Interconnect (OSI) Common Management Information Services Element (CMISE) Common Management Information Protocol (CMIP) network management protocol. Electronic bonding solutions are the most sophisticated and useful because, in certain applications, they can allow new entrants to approximate the same real-time access to the BOC's functions as the BOC itself enjoys. From the customer's perspective, interactions with a CLEC that

has electronically bonded to the ILEC are indistinguishable from interactions with the ILEC. Furthermore, because electronic bonding links the CLEC's existing OSS system to that of the ILEC, the CLEC does not need to develop a new OSS to interface with the ILEC for a given function.

Less sophisticated automated access arrangements include dedicated access arrangements. In these arrangements, a CLEC has a computer terminal that gives it direct access to the ILEC's system. The ILEC's system is not connected to the CLEC's system, however. Thus, when the CLEC obtains information from the ILEC system, it must retype that information into its own system.

Another less sophisticated automated arrangement involves the transfer of data between computer systems in batches. These "batch transfer" solutions work much like electronic mail. File transfer protocol, perhaps the classic batch interface, transmits large amounts of data at scheduled, periodic intervals. A second common batch transfer interface is Electronic Data Interchange (EDI).

Q. WHAT TYPE OF AUTOMATED ACCESS TO BELLSOUTH'S OSS SHOULD BE REQUIRED?

A. Each ILEC should adopt the automated interfaces and data formats adopted and approved by the relevant national standard-setting bodies or industry forums. The four principal groups are: the Ordering and Billing Forum (OBF) of the Carrier Liaison Committee; the Standards Committee T1-Telecommunications; the Telecommunications Industry Forum (TCIF), and the Electronic Communications Implementation Committee (ECIC) of the TCIF. All four are sponsored by the Alliance for Telecommunications Industry Solutions (ATIS) and accredited by the American National Standards Institute (ANSI). ILECs should adopt standardized systems for two reasons. First, for CLECs that hope to

compete in markets currently controlled by different BOCs, it is absolutely critical that interfaces are uniform. The costs of developing systems and software and of training necessary to use any particular interface are substantial. This is why most BOCs try to unify their own systems. A nationwide CLEC like MCI must be able to realize similar economies. We can only do so, however, if the several large ILECs conform to nationally standardized interfaces and formats.

Second, the industry forums are well positioned to resolve which interfaces and formats are reasonably necessary and practical for each particular OSS function or sub-function. Different functions and services may create different OSS needs. For example, pre-ordering functions that are conducted while the carrier's service representative is actually speaking with the end-user require real time accessibility; billing functions do not.

For both of these reasons, I agree that "[i]deally, each incumbent LEC would provide access to support systems through a nationally standardized gateway." Local Competition Order ¶ 527. Consistent with this view, MCI is investing its development funds for OSS in the technical interface solutions developed through the industry forums. The FCC chose to rely on the carriers to agree to nationally standardized interfaces voluntarily. I believe that the likelihood that the large ILECs and CLECs will reach voluntary consensus on nationally uniform interfaces will be sorely tested if the BOCs are allowed to offer in-region long distance services before such solutions are adopted. Because the time and additional capital investment required for CLECs to develop non-standard OSS interfaces are substantial, giving the BOCs incentives toward standardization is critical.

Q. WHAT IS THE FCC'S POSITION ON THE NATIONAL STANDARD ISSUE?

A. The FCC has stated that it does not yet consider national standards a prerequisite to non-discriminatory access, although "use of industry standards is the most appropriate solution to meet the needs of a competitive local exchange market." FCC Michigan Order ¶ 217. The FCC also has stated that it will consider taking additional action with respect to industry standards in the future. FCC Michigan Order ¶ 217. I continue to believe that the FCC should make adoption of industry standards a prerequisite of BOC entry into in-region long distance. At a minimum, where a BOC fails to adhere to an industry standard, the interface it adopts instead should provide equivalent functionality without requiring extensive and expensive duplicate development and training on the part of the CLECs.

Q. HAVE INDUSTRY FORUMS ESTABLISHED STANDARDS FOR ALL OSS FUNCTIONS?

A. No. While the industry forums have made substantial progress, they have not yet established standards for all OSS functions. Although this process can and should be completed promptly, one still has to ask what a BOC should be expected to do in the interim in order to satisfy section 271. Part of the answer is that the BOC should be expected to adopt the least costly interim solution that would give requesting carriers the same level of access to the BOC's OSS functions as the BOC itself enjoys. Where the basic shape of the industry solution is apparent, for example, the BOC should deploy an interface that fills in the contours of that shape, rather than deploying an entirely separate interface. That way both the BOC and the CLEC can concentrate their resources on implementing industry standards, while still achieving needed additional functionality through incremental expenditures prior to completion of those standards.

Q. PLEASE SUMMARIZE THE STANDARD THE AUTHORITY SHOULD APPLY IN EVALUATING THE OSS INTERFACES PROVIDED TO CLECS.

A. BellSouth's OSS interfaces should be deemed satisfactory only if these conditions are satisfied: (1) Wherever there exists an existing industry standard, the BOC must have adopted and implemented it; and (2) wherever an industry standard does not yet exist, the BOC must (a) enter into a binding contractual commitment (backed up by adequate contractual guarantees and enforcement mechanisms) to comply with industry standards as soon as possible (pursuant to a specified implementation schedule) and (b) offer and implement an interim solution that gives requesting carriers the same level of access that the BOC's operational groups have to its systems, and that is as consistent as possible with expected industry standards.

Q. WHY IS IT IMPORTANT THAT OPERATIONAL READINESS OF BELLSOUTH'S OSS BE SHOWN?

A. The adoption and implementation of an appropriate OSS interface, configured to appropriate specifications, is a necessary condition for the development of local competition, but it is far from sufficient. The interface merely governs the communication between the BOC and CLECs. The theoretical capacity for rapid and efficient communication between the carriers is of minimal benefit if either the BOC lacks the internal systems necessary satisfactorily to effect the functions a particular interface is designed to support, or the CLECs lack the systems, software, and training needed to make efficient and effective use of the OSS access provided.

Q. WHAT STEPS MUST BE TAKEN TO ESTABLISH OPERATIONAL READINESS?

A. In some cases the ILEC can employ the business systems it uses for its own retail customers in order to serve CLECs. But in some other cases the new CLEC-ILEC

dynamic does impose new requirements on the ILEC's business systems. For example, before the 1996 Act, the ILECs did not have OSS systems in place to effectuate the unbundling of local switching. When a CLEC orders unbundled elements, the ILEC faces a new challenge not only in receiving and understanding that order (this is where the ordering interfaces come in), but also in carrying out that order. Thus, in addition to implementing an adequate interface, the ILEC must put in place business processes to use that interface as it is intended. The FCC therefore appropriately has recognized that the requirements of non-discriminatory access to OSS apply not only to the interface between the BOC and the CLEC but also to a BOC's downstream systems and business processes. FCC Michigan Order ¶¶ 134-135.

Q. DOES BELLSOUTH HAVE A DUTY TO ENABLE CLECS TO USE ITS INTERFACES EFFECTIVELY?

A. Yes. Assuming that an ILEC has deployed an appropriate interface and adequate downstream systems, it remains independently critical that the CLEC is able to use the ILEC's interfaces effectively. FCC Michigan Order ¶137. One may be tempted to assume that is the CLEC's own problem, and that the ILEC has no responsibility to train or support the new entrants. From the perspective of system development, that is a mistaken view. The ILECs in general, and certainly the BOCs, drive the process. They select the interface, tailor its specifications and vocabulary, and control the timing of its implementation. Moreover, as the staff of the Wisconsin Public Service Commission has explained, because a CLEC will have to rewrite its own OSS interfaces whenever an ILEC modifies its interfaces, "a company with significant market share [like the BOCs] can extend that market share" simply by revising its OSS specifications. Memorandum Re: Matters Relating to Satisfaction of Conditions for Offering InterLATA Service, Docket No. 6720-TI-120, at 11 (Wisc. PSC, Feb. 6, 1997). This is true even where a BOC nominally adopts an interface approved by an industry forum, because most industry-

standard interfaces are loosely defined to allow individual carriers flexibility in tailoring their own specifications. Consequently, just as the market requires the manufacturer of a complicated software package to provide initial and ongoing customer support, regulators must ensure that the BOCs provide CLECs with adequate training and assistance -- including complete and intelligible manuals and pull-down on-screen menus where necessary.

Q. WHAT MUST BE SHOWN TO DEMONSTRATE OPERATIONAL READINESS?

A. In order for an OSS interface to work as planned, the interface itself, the business processes, and the training must all function appropriately. Ensuring that this occurs is a lengthy process and requires careful planning and testing. After each carrier's systems are developed and deployed, it is necessary to conduct "integration" testing -- full end-to-end trials designed to make sure that the systems can communicate properly with each other to accomplish the intended results in the designed manner. After integration testing has been successfully completed, it is time to put the systems into actual competitive use, supporting "live" customer transactions. Even once this stage of actual implementation is reached, however, testing is not completed. To the contrary, it is almost inevitable that the early stages of actual competitive use will reveal design and operating flaws that had escaped detection up through integration testing, thus requiring further trouble-shooting and system modification.

Experience proves the critical point that a successfully tested OSS system is not the same thing as an operationally and commercially satisfactory system. The FCC's analysis of Ameritech's Michigan application shows why. Despite Ameritech's repeated pronouncements of the conclusion of successful testing, commercial usage of Ameritech's OSS revealed extensive problems including extensive due date modification, delayed firm order confirmations and rejection notifications, and double billing. The

problems with Ameritech are not unique. MCI has also experienced extensive problems with carriers' deployment of new interfaces in the access arena as well as with the deployment of new interfaces by other BOCs such as Pacific Bell for local.

Q. ARE PAPER PROMISES ENOUGH TO DEMONSTRATE OPERATIONAL READINESS?

A. No. As the foregoing discussion should make clear, from an OSS perspective, paper promises are not enough to ensure effective real-world application. Because deploying "operationally ready" OSS is a substantial and time-consuming undertaking, there is a real difference between saying a system is ready and actually using it to provide services in a commercially satisfactory way. In light of the innumerable potential glitches and pitfalls that must be eliminated prior to commercial availability, one cannot know how well things can be provided until they are supported by a full and varied track record of having been provided. In short, OSS must be in real competitive use (not just business trials), subject to auditing and monitoring of key performance indicators and/or operation performance indicators, before OSS can be deemed to be operationally and competitively satisfactory. The FCC therefore appropriately has recognized that "the most probative evidence that OSS functions are operationally ready is actual commercial usage." FCC Michigan Order ¶ 138. Indeed, I believe that commercial usage is the only reliable evidence of readiness. The FCC has indicated that there may be some circumstances where evidence other than commercial usage can prove readiness of an interface, FCC Michigan Order ¶ 138, but those circumstances certainly do not exist where CLECs are attempting to use that interface somewhere in the BOC's region. FCC Michigan Order ¶ 161. The FCC has recognized that OSS should be assessed on a regional basis where, as here, the BOC's OSS is regional. FCC Michigan Order ¶ 156.

PRE-ORDERING

Q. WHAT IS PRE-ORDERING?

A. The pre-order function involves the exchange of information between carriers prior to, and in anticipation of, the placing of an actual order. Pre-order functions include, for example, address validations, telephone number reservation, and access to customer service records (CSRs).

Q. WHAT SYSTEM DOES BELLSOUTH PROVIDE TO CLECS FOR PRE-ORDERING?

A. BellSouth offers its Local Exchange Navigation System (LENS) as its means for CLECs to access pre-ordering functions. But LENS is wholly inadequate both because LENS is not a system-to-system interface and because the functionality offered through LENS is inferior to the functionality available to BellSouth itself. Recently, BellSouth has provided Common Gateway Interface specifications for LENS, which, if successfully implemented, would provide an enhanced screen scraping capability. (I will discuss LENS with the CGI enhancement separately from the general discussion of LENS below.) Finally, BellSouth offers EC-LITE, but as I discuss below that interface is unacceptable to MCI and probably to most other CLECs as well.

Q. PLEASE EXPLAIN WHY LENS GENERALLY IS INADEQUATE AS A PRE-ORDERING SYSTEM.

A. LENS is a proprietary system. Proprietary systems create significant industry variations, creating challenges for training CLEC representatives to service customers across multiple service areas. MCI does not have a separate customer service center for each BOC -- let alone each ILEC. Imagine training personnel on numerous different systems just to validate an address or to obtain a CSR, and then imagine having to retrain them each time a single ILEC changes its proprietary systems.

Q. WHAT PRE-ORDERING SYSTEM SHOULD BELLSOUTH USE INSTEAD OF LENS?

A. BellSouth should be required to provide a pre-ordering interface based on emerging industry standards that support security (nonrepudiation) and data integrity that can be integrated with CLECs' ordering systems. Although national standards for electronic interfaces for pre-ordering have not yet been developed, the industry has agreed, through consensus in the ECIC Committee of ATIS, that EDI via TCP/IP SSL3 is an appropriate interim interface for pre-ordering. Indeed, as of September 8, 1997, the OBF finalized its requirements for pre-order functionality with the exception of customer service information; mapping these requirements into EDI should be completed this year. The EDI subcommittee has already mapped the vast majority of data elements needed for this interface; it has done so in the process of developing an EDI interface for ordering. Although inferior to the electronic bonding solution that MCI advocates as the long term solution the industry should adopt, EDI TCP/IP/SSL3 is a good solution for pre-ordering for the intermediate term. EDI TCP/IP/SSL3 is a particularly rapid form of EDI that connects the CLEC's systems to the BOC's system and enables pre-ordering information to be sent in near real-time.

Q. WHAT POSITION HAS BELLSOUTH TAKEN CONCERNING THE ADOPTION OF EDI TCP/IP SSL3?

A. In mid-1997, MCI requested BellSouth to discuss the development of EDI TCP/IP SSL3 as a pre-ordering interface. BellSouth informed MCI in late 1997 that it intends to develop a new interface called the Application Program Interface (API) using another protocol called CORBA. BellSouth has informed MCI that the API interface will be designed for medium sized CLECs that do not use the EDI ordering interface. MCI again has requested that BellSouth also support the EDI TCP/IP/SSL3 protocol, but to date,

BellSouth has made no commitment to support it. Today MCI has no effective way of integrating the pre-ordering and ordering functions.

Q. GENERALLY, WHY IS LENS DEFICIENT?

A. In addition to being proprietary, LENS is deficient because it is a dedicated access system that essentially involves the provision of (an inferior version of) BellSouth's own OSS terminals (or screens) to MCI. Because LENS does not connect CLEC systems to BellSouth systems, it requires MCI customer service representatives to first use BellSouth systems and then use MCI's own internal system. In contrast, a BellSouth representative only has to use BellSouth's own internal systems.

Q. WHAT PROBLEMS ARE CAUSED BY THE LACK OF AN APPLICATION-TO-APPLICATION INTERFACE?

A. The dual data entry required of CLECs not only creates delay while the customer waits on the line, it also inevitably results in order entry errors that impact customers' requested services. BellSouth's proposed solution of "cutting and pasting" information from LENS into the CLEC's systems (Calhoun Direct Testimony, p. 43), may reduce errors but it actually significantly increases delay; cutting and pasting on a field-by-field basis (e.g. cutting the street, then the city, then the zip code) is a cumbersome and arduous process.

The lack of an application-to-application interface also forces CLECs to rely on the pre-ordering screens developed in LENS. With an application-to-application interface, CLECs could take the underlying data and present it to their customer service representatives the way they wanted to. This would free CLECs from the strictures of BellSouth's design and allow CLECs to compete to design superior systems. This is particularly important for national CLECs such as MCI who desire to present pre-ordering information to their customer service representatives in a uniform fashion no

matter the region. With an application-to-application interface, for example, MCI can design its screens to provide a common name for a feature across regions, rather than having feature names vary from region to region depending on the name given by the BOC.

Q. DOES THE LACK OF APPLICATION-TO-APPLICATION INTERFACE CAUSE OTHER PROBLEMS?

A. Yes. CLEC customer service representatives must log into both their own system and the BOC's system; they will be logged off the BOC's system after a period of non-use; and they face a greater risk of being unable to access pre-order information at all because one of the systems is down. The greater risk of down time exists, because a CLEC will be unable to obtain pre-ordering information and enter orders whenever: 1) BellSouth's back-end systems are down; 2) the CLEC's internal systems are down; or 3) LENS is down. BellSouth's retail operation is only delayed by the first of these exigencies. If BellSouth provided an application-to-application interface, on the other hand, CLECs would be more like BellSouth: they would only be precluded from entering orders when BellSouth's backend systems were down or when their own systems were down. In other words, there is more potential for "down" time with LENS than with an application to application interface.

Q. WHAT DID THE FCC CONCLUDE ABOUT LENS?

A. The FCC concluded that "new entrants using LENS cannot readily transfer information electronically from LENS to their operations support systems and deploy an integrated pre-ordering and ordering system. In contrast, BellSouth's retail operation uses an integrated pre-ordering and ordering system. Given that BellSouth has chosen not to deploy a machine-to-machine interface for competing carriers and has impeded the efforts of competing carriers to pursue other methods of connecting LENS electronically to their

operations support systems and to the EDI interface, we conclude that BellSouth has failed to deploy a system that offers to competing carriers equivalent access to OSS functions for pre-ordering." In re Application of BellSouth Corporation Pursuant to Section 271 of the Communications Act of 1934, as amended, to Provide In-Region, InterLATA Services in South Carolina ¶ 166 (the FCC South Carolina Order).

Q. DOES THE CGI ENHANCEMENT TO LENS CORRECT ITS DEFICIENCIES?

A. No. In the first place, BellSouth has refused to cooperate with MCI in providing complete CGI specifications. Although Ms. Calhoun states at page 43 of her testimony that "BellSouth's CGI specification is available to any interested CLEC," in fact MCI has made repeated requests beginning in May 1997 and extending over a period of months for the LENS specifications that would be necessary for MCI to develop the applications needed to connect its systems to LENS. BellSouth first provided a user's guide rather than specifications, then provided several sets of specifications that were incomplete and out of date.

Only after MCImetro filed an enforcement claim in Georgia in November 1997 seeking (among other things) the CGI specifications did BellSouth provide a more up to date set of specifications on December 15, 1997.

The FCC expressly concluded that MCI had requested the CGI specifications, "but that BellSouth has not met its obligation to provide the complete, detailed, and updated specifications that new entrants need to use CGI to connect electronically their operations support systems to BellSouth's interface." FCC South Carolina Order ¶ 161.

Q. HOW DOES MCI PLAN TO USE THE CGI SPECIFICATIONS?

A. MCI wishes to use the CGI interface to develop an enhanced screen scraping capability for CSRs using the LENS interface, as an interim measure before the development of an industry standard pre-ordering interface.

Q. DO THE CGI SPECIFICATIONS PROVIDED ON DECEMBER 15 PROVIDE ALL THE NECESSARY INFORMATION?

A. No. MCI's information technology staff has reviewed the specifications and determined that they lack a CSR record layout and a LENS data dictionary. The specifications do contain some of the information that typically would be found in a CSR record layout or data dictionary, but that information is insufficient for MCI's development purposes.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY CSR RECORD LAYOUT AND DATA DICTIONARY.

A. The CSR record layout is a visual representation of the physical layout of the data contained in a CSR. Usually the CSR record layout is a picture that describes all the field names, field labels, field lengths and their positioning when displayed on a computer screen or when printed on paper. It also describes the positioning of all the fields relative to one another. The data dictionary is a dictionary of all the data elements contained in CSRs provided by LENS as well as all the data elements used to develop the LENS application. A data dictionary is a document presented in a dictionary style, in alphabetical order, beginning with the data element (or term) and followed by its

definition including the type of data (such as integer, alpha, string or decimal), attributes, parameters, location within the application, exception rules and examples of usage.

Q. WHY DOES MCI NEED THE CSR RECORD LAYOUT AND LENS DATA DICTIONARY?

A. MCI is able to obtain CSR data using the CGI interface, but MCI has been unable to interpret the data, primarily because it is transmitted as a continuous string of characters with no indication as to how it is to be "parsed" so it can be presented on a computer screen to an MCI customer representative.

Q. HAS MCI REQUESTED BELLSOUTH TO PROVIDE THE CSR RECORD LAYOUT AND LENS DATA DICTIONARY?

A. Yes, but BellSouth has refused to provide them.

Q. ONCE IMPLEMENTED, WILL THE LENS CGI INTERFACE PROVIDE AN ACCEPTABLE PRE-ORDERING INTERFACE?

A. No. The CGI LENS interface is proprietary and nonstandard and subject to the general deficiencies of LENS that I already have described. Unlike an application-to-application interface that operates largely independent of a LENS type front-end system, new development costs would accrue each time that BellSouth changed the functionality of LENS, because this would change the way in which the screen scraper needed to grab data. Further, development of screen scraping is at best a make-shift solution; it is far inferior to use of a standardized application-to-application interface. A screen scraping application would go into BellSouth's backend systems and act as if it were a human using LENS -- it would work through each of the BellSouth screens to grab BellSouth's

data and put it into MCI's screens. In contrast, an application-to-application interface would grab the data directly with no need to work through BellSouth's screens.

Q. DO BELLSOUTH'S PROPOSALS DISCUSSED AT PAGE 43 OF MS. CALHOUN'S DIRECT TESTIMONY THAT CLECS USE A SPLIT SCREEN ARRANGEMENT, "CUT AND PASTE" INFORMATION FROM LENS OR MANIPULATE THE DATA IN LENS ADEQUATELY ADDRESS THE LACK OF SYSTEM-TO-SYSTEM INTEGRATION?

A. No. These proposals offer functionality that is inferior even to CGI screen scraping. The FCC rejected such proposals in the FCC South Carolina Order at ¶¶ 162-66.

Q. DOES EC-LITE REPRESENT AN ACCEPTABLE SOLUTION TO THE LACK OF SYSTEM-TO-SYSTEM INTEGRATION?

A. No. EC-LITE was developed by BellSouth specifically for AT&T. I know of no other CLEC that is planning to build to the EC-LITE interface, which is not surprising because EC-LITE is not a standard interface and was voted down by the Electronic Communicaions Interface Committee (ECIC). EC-LITE would require a CLEC several months and millions of dollars to implement, which would be an unwise investment for a system that is not and is not likely to become an industry standard. As a practical matter, EC-LITE is not currently available to CLECs other than possibly AT&T.

Q. HOW DOES MCI INTEND TO USE LENS?

A. As I already have discussed, MCI intends to use the CGI LENS interface for obtaining CSRs as an interim measure. Otherwise, because LENS is so cumbersome, MCI has decided not to use LENS for pre-ordering except in exceptional circumstances.

Q. HOW DO BELLSOUTH'S INTERNAL SYSTEMS COMPARE TO THE OSS IT PROVIDES TO CLECS?

A. The problems I have described relating to LENS generally do not exist in BellSouth's internal systems. BellSouth's systems provide it with superior capabilities with respect to address validation, access to CSR data, telephone number reservation, due date calculation, and determination of feature availability.

Q. WHY IS THE ADDRESS VALIDATION FUNCTION IMPORTANT?

A. Perhaps the most important pre-order function is address validation. Prior to placing an order a CLEC must validate the customer's address against the RBOC's database to ensure that the address is entered in the exact format present in the RBOC's systems. Even slight differences, such as entering 19th Street instead of 19th St. can result in rejection of an order. BellSouth recently has acknowledged that invalid address constitutes the second most common reason for order rejection.

Q. WHAT ALTERNATIVE WOULD BE PREFERABLE TO ADDRESS VALIDATION THROUGH LENS?

A. For the reasons explained above, use of LENS to validate an address is simply too time consuming at the pre-order stage. However, BellSouth could, but will not, provide a far superior solution than LENS at little cost to itself. Information on customer street addresses is not particularly time sensitive. BellSouth could provide downloads of the Regional Street Address Guide (RSAG) on a regular basis through an electronic download; indeed it is contractually obligated to do so. (MCI-BellSouth Interconnection Agreement, Attachment VIII , § 2.1.3.1.)

Q. WHY WOULD OBTAINING A DOWNLOAD OF THE RSAG BE PREFERABLE?

A. A download of the RSAG with periodic updates would allow MCI to electronically enter the information into its own system to be available to customer service representatives. That way MCI representatives would not have to use the BellSouth system and then re-enter the data manually into the MCI system. They could simply use the MCI system to validate addresses and thus substantially reduce the risk of rejected orders.

Q. HAS MCI REQUESTED A DOWNLOAD OF THE RSAG?

A. Yes, many times. BellSouth initially refused to provide a download of the RSAG, but more recently in December 1997 has proposed to provide extracts of the RSAG at a cost of more than $500,000 plus a monthly recurring charge of $8,650 for updates. MCImetro rejected this proposal because its Interconnection Agreement with BellSouth entitles MCImetro to obtain a download of the RSAG at no cost.

Q. WHAT ALTERNATIVE IS MCI LEFT WITH FOR ADDRESS VALIDATION?

A. Although BellSouth has not agreed to provide the RSAG, BellSouth has agreed to provide the Master Street Address Guide or MSAG. But this is not the Guide used in BellSouth's ordering systems, and there are no guarantees that the information in this database is identical to the information in the guide BellSouth uses to validate MCI orders. For example, the MSAG provides ranges of addresses (e.g., 100-200 Main Street) rather than specific addresses contained in the RSAG. Address ranges are not an acceptable substitute for specific addresses because, for instance, if a nonexistent address within the range is keyed in, the information from the extracts will lead a CLEC to believe that the address is valid, but BellSouth, using RSAG, will reject an order for service to that address because it is invalid. Nonetheless, because BellSouth will not provide downloads of RSAG data and because use of LENS is simply too cumbersome,

MCI intends to use the MSAG as the best of a poor set of alternatives. MCI has undertaken a costly and lengthy mapping exercise to ready itself to use the MSAG. MCI also expended resources developing screen scraping as another possible alternative for use in address validation. But, at least for now, MCI has chosen to use MSAG instead, because screen scraping would likely take too long while the customer was on the line. Screen scraping also would not avoid the problems of potential down time of LENS.

Q. IS BELLSOUTH PROVIDING NONDISCRIMINATORY ACCESS TO CSR DATA?

A. No. BellSouth has made a decision not to include all of the information in CSRs in LENS. As a result of BellSouth's business decision, LENS does not provide access to CSRs at parity. LENS only provides CLECs access to a subset of the information available to a BellSouth customer service representative who accesses a CSR. For example, BellSouth initially provided pricing information on CSRs, but now strips that information off CSRs provided to CLECs. BellSouth categorizes CSR information as necessary (which is provided to CLECs) and unnecessary or proprietary (which is not). BellSouth claims that CLECs do not need the additional information. But CLECs may be able to use this information to design new services BellSouth has not even thought of. It is not for BellSouth to decide that CLECs do not need information to which BellSouth itself has access. One of the major potential benefits of competition is the possibility of innovation in services offered.

Q. DOES BELLSOUTH PROVIDE NONDISCRIMINATORY ACCESS TO THE TELEPHONE NUMBER RESERVATION FUNCTION?

A. No. LENS only allows a customer service representative to reserve a maximum of six telephone numbers for a customer in one LENS session (as compared to 25 telephone numbers that can be reserved for a customer in RNS). It is therefore particularly cumbersome to use for big business customers. Further, in order to reserve a telephone number through LENS, a CLEC customer service representative must enter the number reservation function and go through the process set forth therein. In contrast, a BellSouth customer service representative using RNS automatically sees an "assigned" telephone number which he/she can offer to the customer; only if the customer does not want this number does the BellSouth representative have to use the number reservation function.

Q. HOW DOES THE ABILITY OF BELLSOUTH REPRESENTATIVES TO VIEW NXX CODES COMPARE TO THAT OF CLEC REPRESENTATIVES?

A. In offering customers a choice of numbers, a CLEC has no way of viewing the NXX codes available to the customers; in contrast, a BellSouth representative using RNS can easily view such codes. This is also true in BellSouth's business system SONGS as can easily be seen by comparing the number reservation screen in SONGS, with the comparable screen in LENS.

Q. DOES BELLSOUTH PROVIDE NONDISCRIMINATORY ACCEES TO THE DUE DATE RESERVATION FUNCTION?

A. No. This function enables a customer service representative to tell the customer when he can expect his service to be turned up. For BellSouth's own customer service representatives, BellSouth's systems calculate due dates based on the availability of BellSouth's work force, the type and size of a customer's order and other factors. The

customer service representative can then quote that due date over the phone to the customer. In contrast, LENS has no method of calculating due dates for unbundled network element (UNE) orders. None of the due date information in LENS applies to UNEs.

LENS is better, but not that much better, with respect to resale. In the past, BellSouth has indicated that its Direct Order Entry Support Applications Program (DSAP) used by BellSouth representatives is available for use by CLECs. This is only true, however, if CLECs are using LENS for ordering. As I will explain below, MCI desires to use BellSouth's EDI interface, rather than its LENS interface for ordering, because EDI is the industry standard and is far superior to LENS. Indeed, BellSouth itself has explained that EDI is the recommended ordering interface and that it expects 80% of service orders from new entrants will be received via EDI. As a result, MCI will not have access to BellSouth's due date calculation function.

Q. PLEASE DESCRIBE THE DUE DATE RESERVATION FUNCTION IN THE INQUIRY MODE OF LENS.

A. In reality, MCI (and all of the other CLECs who use EDI for ordering) will only have access to LENS' own interval calendar for pre-ordering (provided in the inquiry rather than the firm order mode of LENS). In order to use this function, however, a CLEC customer service representative must rely on a cumbersome presentation screen to manually calculate a due date after taking into account several separate pieces of information -- typical installation intervals, normal working days, and days the particular end office may be closed. Finally, because there is a gap between a CLEC's use of pre-ordering functions and submission of a CLEC order, by the time the CLEC submits the order, the dates calculated as available using LENS might no longer be available. As a result, a CLEC cannot reliably quote this date to its customer.

Q. HOW DOES RNS COMPARE TO LENS WITH RESPECT TO DUE DATE RESERVATION?

A. On the screen presented to a BellSouth customer service representative in RNS, the first available due date is automatically calculated and highlighted in green In addition, because a BellSouth order flows immediately from pre-ordering to ordering, the due date calculation will not have changed by the time the order is submitted, so the due date can be quoted much more confidently to the customer.

Q. IS ACCESS TO DUE DATE RESERVATION DISCRIMINATORY IN ANY OTHER RESPECT?

A. Another aspect of BellSouth's discriminatory provision of due dates was gleaned by MCI representatives at a demonstration of BellSouth's OSS in Florida. As we understood that demonstration, a BellSouth customer service representative has the ability to determine if service was ever established at an address. If service has ever been established, the representative quotes "we can have service to you by this afternoon or tomorrow at the latest." The assumption is that the facilities are in place and service will require nothing more than a translation change in the switch to turn on the phone. New entrants, in contrast, are unable to check whether service has ever been established at the particular address and must therefore assume that customers moving into a residence will require new facilities. As a result, the due date they quote the customer is dependent on when a site visit can be arranged; they cannot quote a due date of "this afternoon or tomorrow at the latest." New entrants therefore will not be able to provide service as quickly as BellSouth.

Q. WHAT HAS THE FCC CONCLUDED WITH RESPECT TO BELLSOUTH'S DUE DATE RESERVATION FUNCTION OFFERED TO CLECS?

A. The FCC agrees that BellSouth's does not offer nondiscriminatory access to due dates. FCC South Carolina Order ¶ 167. As the FCC stated: "New entrants do not obtain actual due dates from LENS during the pre-ordering stage. Instead, the actual, firm due date is assigned once BellSouth processes the order through SOCS. A new entrant therefore will not be informed of the actual due date until it receives a firm order confirmation (FOC) from BellSouth." FCC South Carolina Order ¶ 168. BellSouth has not changed LENS' ability to calculate due dates since the South Carolina Order was issued.

Q. DO CLECS HAVE THE SAME CAPABILITY AS BELLSOUTH TO DETERMINE WHETHER FACILITIES ARE AVAILABLE AT A LOCATION, AND THUS WHETHER A SERVICE VISIT WILL BE REQUIRED TO INSTALL SERVICE?

A. No. BellSouth claims that LENS provides indicators for QuickService or Connect-Through, which indicates whether a location has received prior service and (and thus whether facilities are available). MCI has made dozens of LENS inquiries since this functionality was added to LENS in October 1997, and all of these inquiries except one suggested by BellSouth showed that QuickService was not available for the customer's account. From MCI's investigation, it appears that either QuickService is not widely available or that LENS does not accurately reflect the availability of QuickService. Whichever is true, the QuickService feature of LENS does not enable MCI to determine whether a location has received prior service, and thus whether a service visit will be require to install service for a new customer.

Q. IS BELLSOUTH PROVIDING NONDISCRIMINATORY ACCESS TO THE FEATURE AVAILABILITY FUNCTION?

A. No. Feature availability enables CLECs to ensure that a feature requested by the customer is available at the end office serving the customer's address. Using LENS, a CLEC must manually scroll through a non-alphabetized list of services, features and functions to determine which ones are available In contrast, a BellSouth representative using RNS can access information about a particular service or feature simply by typing in the name (or the first few characters of the name) of the desired feature .

BellSouth is providing MCI with downloads of feature availability information -- which enables MCI to avoid most of the problems with use of LENS to access feature availability by enabling MCI to make a feature availability function part of MCI's own systems. However, the downloads of feature availability provided by BellSouth are missing some crucial information -- the Universal Service Order Codes (USOCs) by which the particular features are ordered. There are thousands of USOC codes. MCI has had to manually type in the codes that BellSouth has provided into its own database. This is inferior to receiving the codes as a download, because the codes may change before a new manual guide is issued and this will cause MCI's orders to reject. I should note that BellSouth has published USOCs on its website for CLECs, but CLECs are not able to download USOCs from the website such that USOC information can be integrated into their front-end pre-ordering systems. All that can be downloaded is an electronic copy of the USOCs that cannot be broken down or parsed for incorporation into a data base. In contrast, a BellSouth representative has automated access to the current USOCs. As a result, while downloads of feature availability are superior to use of LENS, the current downloads still do not provide parity.

Q. IS BELLSOUTH PROVIDING NONDISCRIMINATORY ACCESS TO THE PIC FUNCTION?

A. LENS's provision of information on the interexchange carriers available to a customer is also discriminatory. If a customer requests a particular interexchange carrier, a CLEC customer service representative must page through a non-alphabetical list of the many interexchange carriers to determine if the requested carrier is available and to determine the ordering code for that carrier. In contrast, a BellSouth customer service representative using RNS can simply type the name of the requested carrier and, if that carrier is available to the customer, the ordering code will appear automatically.

However, unlike with most other pre-order functions, MCI, at least, has arranged to avoid the difficulties of using LENS to access PIC information. BellSouth provides MCI with downloads of PIC availability that MCI can integrate into its own systems.

Q. PLEASE DISCUSS OTHER DEFICIENCIES IN LENS.

A. There are three pre-order functions being addressed by the OBF to which BellSouth provides no access at all. These are: (1) block of direct inward dial (DID) numbers inquiry; (2) DID trunk inquiry; and (3) unbundled network element service provider inquiry. These missing functionalities are important. The last one, for example, is essential in an environment in which multiple service providers might be providing different pieces of a single customer's service -- where, say, carrier A furnishes the loop, carrier B furnishes the switching capability, and carrier C furnishes directory assistance services. By overlooking this functionality, BellSouth's pre-order OSS fails to present all information that a CLEC requires at the pre-ordering stage in order to convert an existing

customer's services through an unbundling situation involving another CLEC. Thus, only BellSouth has visibility into the existing unbundled network architecture for a customer that converts between CLECs. This is discriminatory.

ORDERING AND PROVISIONING

Q. PLEASE PROVIDE AN OVERVIEW OF BELLSOUTH'S ORDERING AND PROVISIONING PROCESSES.

A. After a CLEC's service representative has determined what phone service is desired by a new customer -- and has determined that service will be provided by some combination of resale or unbundled network elements -- the representative must transmit the order to BellSouth. BellSouth offers several interfaces for ordering, including EDI. MCI fully supports BellSouth's planned use of EDI; EDI is the approved industry solution and should be used by all ILECs. (There are a few exceptions to the industry's general commitment to EDI, such as the ordering of local interconnection trunks where the industry plans to use a version of the process developed for ordering trunks in the access arena. BellSouth offers its EXACT process for ordering such trunks. (Calhoun Direct Test., p. 48.) BellSouth also offers LENS as an alternative for some ordering functions, but does not rely on it to support its claim that it is providing non-discriminatory access to ordering functions. (Calhoun Direct Test., p. 45.)

In conjunction with the ordering process, the provisioning process provides the means by which the ILEC reports on the status of orders to the CLECs. There are four provisioning sub-functions, i.e., four types of reports the provisioning ILEC must communicate to the requesting CLEC: (i) firm order confirmation; (ii) error notification; (iii) change in order status (jeopardy notification); and (iv) order completion. The OBF has already

recognized EDI as the correct format for firm order confirmation; it is likely to soon recognize EDI as the correct format for the three other provisioning functions as well. BellSouth offers EDI as an automated option for some provisioning functions but offers manual processes for others. MCI believes that BellSouth should use EDI for all provisioning functions.

Q. IS BELLSOUTH PROVIDING NONDISCRIMINATORY ACCESS TO OSS FUNCTIONS FOR ORDERING AND PROVISIONING OF SERVICES?

A. No. BellSouth's mere promise to provide an EDI ordering and (partial) provisioning interface is insufficient to satisfy the checklist requirement for entry into long distance. The FCC agrees with this assessment. In the FCC South Carolina Order, it ruled that "BellSouth has failed to demonstrate that it is providing nondiscriminatory access to OSS functions for the ordering and provision of resale services." FCC South Carolina Order, ¶ 103.

Q. PLEASE SUMMARIZE THE BASIS FOR YOUR CONCLUSION.

A. My explanation as to why BellSouth is failing to provide nondiscriminatory access to OSS functions for the ordering and provisioning of services has several parts: 1) BellSouth's ordering systems call for inordinate manual intervention; 2) BellSouth's provisioning processes involve too much manual processing; and 3) Other deficiencies exist with BellSouth's ordering and provisioning systems.

Q. DOES BELLSOUTH'S EDI INTERFACE PROVIDE PARITY?

A. Even setting aside BellSouth's lack of experience with its EDI interface, it is clear that BellSouth's EDI interface, as currently structured, cannot be used to provide service at parity. BellSouth simply relies on too much manual processing in both its ordering and provisioning processes to be capable of providing service at parity. BellSouth relies on

manual intervention for most unbundled element orders and complex resale orders and has an almost entirely manual process for reject notification associated with orders with local number portability and for many jeopardies.

Q. TO WHAT DEGREE IS BELLSOUTH'S ORDERING PROCESS MANUAL?

A. BellSouth's Ordering processes are largely manual. BellSouth claims that some types of orders, basically orders for resold Plain Old Telephone Service (POTS) and associated features, will flow through EDI and automatically flow into BellSouth's backend systems. (Calhoun Direct Test., p. 51.) BellSouth acknowledges that other types of orders, such as orders for most complex business services like Centrex, cannot be processed automatically at all. (Calhoun Direct Test., p. 52.) BellSouth certainly has not shown the level of automation necessary to provide non-discriminatory access to OSS.

Q. WHAT COMPLEX ORDERS REQUIRE MANUAL PROCESSING?

A. BellSouth acknowledges that orders for the vast majority of complex business services (all but four services) are processed manually -- they are not even sent to BellSouth via EDI, let alone being processed without manual intervention. (Calhoun Direct Test., p. 52.) Complex orders that must be sent manually include basic business services such as Centrex, private lines, and frame relay all of which could readily be automated.

BellSouth also considers all orders for nine lines or more to be complex orders. This is so even if the order is simply for nine POTS lines! As a result, most business orders will have to be sent manually.

For complex services that are handled manually, BellSouth requires that orders be coordinated with its "account teams." BellSouth expects a CLEC to work with its prospective customer to understand what the customer needs, then for BellSouth to

design the service for the customer, and finally for the CLEC to hand the order off to a BellSouth service representative to type the order into the system. But it is simply unrealistic to expect CLECs to be able to compete with BellSouth when BellSouth employees are this integrally involved in the satisfaction of basic requests from major CLEC customers.

Q. WHAT WILL THE IMPACT BE OF BELLSOUTH'S REFUSAL TO MECHANIZE COMPLEX ORDERS THAT ARE CHANGE ORDERS?

A. The effect of the lack of mechanization is particularly pronounced with respect to "change" orders. At the early stages of competition, most CLEC customers will be changing from BellSouth to the CLEC, rather than being entirely new customers. These customers will already have been through the process of coordinating their "complex" orders with BellSouth. They should not have to, and are unlikely to want to, go through this process (indeed, a more difficult version of this process) again simply in order to change their bill to a CLEC. Failure to mechanize change orders will lock in existing BellSouth business customers.

Q. DOES BELLSOUTH PROVIDE PARITY WITH RESPECT TO PROCESSING COMPLEX ORDERS?

A. No. BellSouth claims that manual processing of complex orders provides parity, because BellSouth processes complex orders manually for its retail customers as well. As currently structured, a BellSouth retail customer coordinates its order with its assigned BellSouth account team which then enters the orders into BellSouth's RNS or SONGS systems at which point the orders flow through automatically. In contrast, a CLEC retail customer coordinates with the CLEC which in turn coordinates with its assigned BellSouth account team that then enters the orders. There is therefore an extra level of manual involvement in the processing of CLEC orders. In addition, even if the amount of

manual involvement were the same, the involvement of a BellSouth account team at almost all stages of a CLEC order is not equivalent to the involvement of a BellSouth account team at the initial stages of a BellSouth order. The BellSouth account team has every incentive to treat the CLEC orders worse than the BellSouth orders and to use the information to attempt to win back customers. Certainly, until there has been significant experience with BellSouth's business processes, there is no way to know that CLEC orders will be treated the same as BellSouth orders. Finally, providing an unnecessarily cumbersome process for "change" orders is not parity, because most customers are already BellSouth customers and the cumbersome nature of changing carriers locks them into that position. In order truly to provide parity to BellSouth's retail process of account team coordination with a customer and account team entry of the order, BellSouth's ordering process would enable a CLEC to coordinate an order with its customer and then to enter the order itself (at which point it would flow through automatically).

There are four types of "complex" orders for which BellSouth claims that it does have the ability to offer through EDI -- PBX trunks, SynchroNet services, multiline hunt groups, and basic rate ISDN. (Calhoun Direct Test., p. 52.) I do not consider hunting to be a complex order, and, it is hard for me to believe that BellSouth handles hunting orders in anything but an automated fashion for its retail customers

Q. PLEASE EXPLAIN HOW BELLSOUTH PROCESSES UNE ORDERS FOR CLECS.

A. In addition to relying on manual processing for UNE orders for which EDI is available, orders for other unbundled elements other than unbundled analog loops, unbundled

analog ports, interim number portability and loops with interim number portability cannot even be ordered via EDI. (Calhoun Direct Test., p. 51.)

Q. PLEASE EXPLAIN HOW BELLSOUTH PROCESSES ORDERS FOR UNE COMBINATIONS.

A. BellSouth fails to offer OSS to handle combinations where the combining would be performed by BellSouth. BellSouth also fails to offer the OSS needed to enable CLECs to purchase and then recombine themselves basic combinations of network elements, such as loop plus port -- combinations that BellSouth is required to offer under the governing law as it exists today. Even under its own view of the combination that CLECs are allowed to perform themselves, BellSouth fails to provide OSS to order such combinations. The FCC rejected Ameritech's Michigan application in part because Ameritech had not deployed the necessary OSS to allow CLECs to order, and be properly billed for, combinations of network elements. FCC Michigan Order ¶ 110.

Q. PLEASE SUMMARIZE THE EVIDENCE WITH RESPECT TO BELLSOUTH'S MANUAL PROCESSING OF ORDERS.

A. BellSouth substantially relies on manual ordering processes for almost all types of orders. This is entirely unacceptable. The FCC recently rejected Ameritech's Section 271 application in large part based on Ameritech's extensive reliance on manual processing which resulted in extensive modification of due dates, backlogged orders, late FOCs and rejection notices, and increased problems at higher volumes of orders . FCC Michigan Order ¶¶ 173, 183, 189, 193. Manual ordering processes cause delays when fax or phone lines are busy, and when the BOC customer service representative who receives the fax or phone call (or EDI order which drops out of EDI) delays entering the information. FCC

Michigan Order, ¶ 178. Manual ordering processes also result in errors when the BOC customer service representative enters incorrect information. In MCI's experience with other ILECs, the use of manual interfaces for ordering has proven consistently disastrous. PacBell's manual intervention in the ordering process has resulted in vast delay in processing orders -- often amounting to months. It has also resulted in innumerable errors, such as loss of customer features during customer migration to MCI and failure to include new MCI customers in the 411 database. These delays and errors are so significant -- and so potentially harmful to MCI's reputation in the marketplace -- that MCI had to tell customers that it could not determine when new service would be turned up and that they could receive service faster from PacBell, and MCI, like other CLECs, has been compelled to reduce the scale of its planned market entry in California. In short, by using manual processes, PacBell has effectively preserved its monopoly market share by forcing CLECs to "voluntarily" scale back marketing efforts as a means of limiting the damage that PacBell's manual processes cause. BellSouth provides no reason to think that its manual ordering processes will be any better than those of PacBell.

Q. TO WHAT DEGREE ARE BELLSOUTH'S PROVISIONING PROCESSES MANUAL?

A. BellSouth's provisioning processes are largely manual. BellSouth entirely lacks an automated process for all reject notifications for LNP orders and for one of two major types of jeopardy notifications. It also processes some firm order confirmations and completion notifications manually. The standard for providing such notifications is clear. The FCC recently has stated that "[i]t is critical to a competing carrier's ability to compete through the use of resale services that it receive information concerning the status of its customers' ordering in substantially the same time and manner as the BOC provides such information to its retail operations." FCC South Carolina Order ¶ 114.

Q. HOW DOES BELLSOUTH PROCESS JEOPARDY NOFICATIONS?

A. BellSouth also relies on an entirely manual process for one of two major categories of jeopardy notifications. BellSouth divides jeopardy notifications into "missed appointment" jeopardies and "service" or "facilities" jeopardies. Missed appointment jeopardies involve situations in which, for example, the customer is not home when the technician comes out to install service. Service jeopardies involve situations in which, for example, fulfilling the order will take longer than anticipated because BellSouth finds out that it lacks outside plant and must install such plant before completing the order.

BellSouth has agreed to provide missed assignment jeopardies via EDI. However, this process is entirely untested.

BellSouth obtains a substantial amount of jeopardy information by automated means. BellSouth provides notice of service jeopardies to its customer representatives who call BellSouth's customers, and to other representatives who call CLECs. CLECs thus cannot relay jeopardy notifications to their customers as rapidly and efficiently as BellSouth. The relevant comparison is what BellSouth provides to CLECS versus what it provides to itself, <u>not</u> versus what BellSouth provides to its customers. This problem is made worse because CLECs are unable to track orders once they have been submitted. BellSouth's policy is to continue working on an order as long as possible and not to give notice of a problem to a CLEC until it becomes clear that the order cannot be installed on time. Such notice usually is given on the day the order is scheduled to be installed. The manual process for informing CLECs of service-based jeopardies will negatively impact CLECs, who may not receive notice of the changed due date in sufficient time to notify their customers. When the customers call MCI to find out why their service has not been

turned up MCI will not know the reason. Not only will this anger the customer, but MCI will have to waste time and money attempting to track down the status of the order.

Q. IS THE MANUAL PROCESSING OF SERVICE JEOPARDIES ACCEPTABLE?

A. No. The manual notification process is discriminatory. BellSouth fails to present any data on how long it takes to return jeopardies to CLECs. BellSouth also fails to provide data on how long it takes to return jeopardies to customer service representatives who call its retail customers. But the process is inevitably discriminatory for the reasons I just described.

Q. HOW DOES BELLSOUTH PROCESS FOCS?

A. BellSouth does claim to provide Firm Order Confirmations and Completion Notifications via EDI, but even FOCs and completions are returned manually for orders that are sent manually to BellSouth. Additionally, I assume that for orders that fall out for manual processing, that manual processing occurs prior to return of the FOC thus delaying return of the FOC. FCC Michigan Order ¶¶ 186, 188. Also, as with other aspects of EDI, BellSouth has presented no evidence that its process of returning FOCs and completions via EDI is operational. The FCC required BOCs, in applications filed after the Ameritech Michigan application, to submit data showing how long it takes to return a FOC and how long it takes to supply the equivalent of a FOC to its retail operation. FCC Michigan Order ¶ 187. Although the equivalent of FOCs are sent to BellSouth's retail units, BellSouth has not supplied any such data. Because MCI has to date only placed orders via LENS and through manual processes, and, as I discuss below, LENS does not return FOCs and completions in a traditional manner, MCI has such data for its manual orders (which were for loop/port combinations). For these orders, return of FOCs averaged 4.5 days for orders for change as is or change as specified, and averaged 3.9 days for new installs. Completion notices were never provided at all.

Moreover, MCI has experienced substantial delays in receiving FOCs from BellSouth for orders for of off-net T1s (lines used to connect the customer's premises to BellSouth's network) for MCI local customers. Data collected by MCI over the seven month period ending December 1997 reveals that the average time for BellSouth to return FOCs on orders for off-net T1s (lines used to connect the customer's premises to BellSouth's network) for MCI local customers is more than seven days. This data was collected in four states, including Tennessee.

Q. PLEASE DESCRIBE OTHER IMPORTANT DEFICIENCIES IN BELLSOUTH'S ORDERING AND PROVISIONING PROCESS.

A. In addition to the delays in processing that became apparent from MCI's LENS ordering, MCI's LENS orders with BellSouth and its efforts to develop an EDI interface with BellSouth have revealed several major functional deficiencies with BellSouth's ordering processes. These include loss of dialtone, a manual process in some cases to notify CLECs that their customer has changed to another carrier, a non-existent process of change management and others.

To start with, BellSouth's ordering processes resulted in the loss of dialtone for a significant number of test customers who switched to MCI last year. The high number of customers losing dial tone appears to have resulted from the fact that rather than simply changing the customer's billing information from BellSouth to MCI, BellSouth processed the orders in two steps: one to disconnect the customer from BellSouth and one to connect to MCI local. When the first step was completed and the second step was not, the customer was left without dialtone. BellSouth has stated that this problem has been fixed for simple orders, but has not confirmed that the problem has been fixed for complex orders. Further, early this year MCI test customers migrating back to BellSouth

experienced the same problem with loss of dial tone, so still more work remains to be done.

A second functional deficiency in BellSouth's ordering processes is the lack of an acceptable process to inform CLECs of "competitive disconnects" in some cases. If MCI is providing resold local service to a customer (or service through a combination of unbundled elements) and that customer later switches to BellSouth or another provider for local service, it is BellSouth that makes the switch. BellSouth recently agreed that it would provide loss notifications via Network Data Mover (NDM) -- a process superior to use of the United States mail but inferior to EDI. This interim solution does not, however, provide any loss notification (either via the United States mail or via NDM) in cases of a partial disconnect (for example, a customer switches one of its two lines from MCI to BellSouth or any other CLEC); disconnect of services identified by circuit (e.g. data services); and disconnect of services identified by terminal identification (e.g. DID trunks). As a result, in these circumstances, CLECs will be entirely unaware that their customers have switched to another carrier. This will almost certainly lead to double billing of customers for a significant period of time as CLECs will continue to bill customers for services that are in fact being provided by another carrier.

Further, BellSouth altogether lacks a formal process of change management. Although the parties currently are negotiating such a process, none has been agreed upon yet. When an ILEC makes changes to its systems that effect CLECs, it should inform CLECs of those changes as early as possible so that they can prepare to make necessary changes, if needed, on their side of the interface and so that they can ensure appropriate changes in training to their customer service representatives. Otherwise, the changes are likely to result in significant confusion and a new round of errors. BellSouth, however, has not provided effective notification of changes. When LENS has changed, for example,

BellSouth has not provided CLECs interested in CGI the updated specifications prior to the updates being implemented. To date, for instance, MCI has not received the updated CGI specifications for release 2.0 of LENS implemented on March 16, 1998.

Similar issues have arisen with respect to other changes made by BellSouth. When BellSouth deleted the ability to order unbundled digital loops and inter-office transport via EDI from the LEO guide, for example, it provided no information on the change. MCI found out about the change as a result of negotiating the migration to EDI 7.0.

In addition, it has become apparent that the PSIMS is missing important information and also contains errors. The PSIMS database, which BellSouth downloads and provides to MCI, shows feature availability by central office. PSIMS had incorrect voice mail feature information such as the voice mail platform and the call forwarding information -- information needed in order to issue an order for voice mail. The fundamental inaccuracies in the PSIMS database -- which BellSouth has stated in filings with the Georgia Public Service Commission will take until June 1998 to correct -- suggest that PSIMS is not the database for feature availability that BellSouth uses itself. If BellSouth were using this database regularly, it would have corrected such basic errors. BellSouth's decision that CLECs will use different databases than BellSouth uses and BellSouth's failure to explain what differences exist between the two sets of databases prevent CLECs from knowing all of the discriminatory aspects of BellSouth's OSS.

Q. DOES BELLSOUTH PERMIT CLECS TO MONITOR PENDING ORDERS?

A. No. Once a CLEC order passes through the gateway to BellSouth's systems, the CLEC must rely on BellSouth to make any changes. In contrast, BellSouth can track its orders from the time they are submitted until the time they are completed.

MAINTENANCE AND REPAIR

Q. IS THE TAFI INTERFACE FOR MAINTENANCE AND REPAIR ADEQUATE?

A. No. Like LENS, TAFI is not a true interface. It does not connect to CLECs' systems and thus requires them to retype trouble tickets from their systems into BellSouth's systems. As with LENS, this inevitably creates delay and increases errors, increases the risk of system down time, and forces CLECs to use BellSouth designed screens.

Again like LENS, TAFI "times out" after a certain period of non-use. A CLEC customer service representative who is responding to troubles from more than one ILEC and therefore spends periods of time on which he is not working on BellSouth would have to re-log in to TAFI each time a BellSouth trouble came up.

Most important, as a proprietary offering, TAFI simply costs too much to be worthwhile for national CLECs like MCI to build to, train their employees on, and periodically have to upgrade. In addition, because BellSouth relies on EB for some maintenance and repair functions, a CLEC would have to use two separate maintenance and repair interfaces just to do business with BellSouth.

Q. WHAT IS THE STATUS OF THE IMPLEMENTATION OF AN ELECTRONIC BONDING INTERFACE FOR MAINTENANCE AND REPAIR?

A. BellSouth has promised MCI that it will implement electronic bonding within one year from the effective date of its first signed contract with MCI (April 1997). MCI and BellSouth have agreed upon the initial functionality and begun testing. Testing, however, has been placed on hold pending the resolution of a problem with the BellSouth interface. Because of this problem, the interface, which was scheduled to be operational on March 1, 1998, will not be available until May 15, 1998 at the earliest. Until EB is up and running, MCI will be forced to rely on phone calls to report troubles.

BILLING

Q. **PLEASE EXPLAIN BELLSOUTH'S PERFORMANCE WITH RESPECT TO BILLING.**

A. The billing function encompasses two discrete sub-functions: daily usage reports that provide the information required to enable CLECs to bill their end users, and monthly bills detailing what the CLECs owe the ILEC.

Daily usage feeds are important to MCI, because MCI plans to offer local plans in which customers are billed based on their usage of telephone service. BellSouth employs the correct format, EMR for daily usage feeds. However, BellSouth refuses to provide daily usage feeds for all customers. It will only agree to provide daily usage feeds for customers whose CLECs bill based on usage (measured rate customers). But, MCI needs the daily usage feed for all customers so that MCI will know if a particular customer would be better off becoming a measured rate customer and can advise the customer of this fact.

MCI's interexchange agreement with BellSouth requires BellSouth to bill monthly summary bills for resale, unbundled network elements, and interim number portability in the CABS billing format – the industry standard. BellSouth is not complying with this requirement with respect to Directory Assistance, Unpublished, Unlisted and expanded Directory Listing charges, which continue to be billed in the BellSouth proprietary CRIS format.

Q: IS CRIS SATISFACTORY?

A. No. The Interconnection Agreement specifically states that billing will be provided in CABS, the standard industry format. BellSouth has created an unnecessary burden of partially billing for a given service through one system, CABS, and billing for additional charges related to that service through another system, CRIS. Moreover, the CRIS bills are difficult to audit and are not in an industry standard format.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, at this time.

BEFORE THE

TENNESSE REGULATORY AUTHORITY

IN THE MATTER OF: **BellSouth Telecommunications, Inc's** **Entry Into Long Distance (InterLATA)** **Service in Tennessee Pursuant to Section** **271 of the Telecommunications Act of 1996)**	)))))	**DOCKET NO. 97-00309**

TESTIMONY OF VENETTA BRIDGES
ON BEHALF OF MCI TELECOMMUNICATIONS CORPORATION

MARCH 27, 1998

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Venetta Bridges. My business address is 2520 Northwinds Parkway, Alpharetta, GA 30004.

Q. PLEASE STATE BY WHOM YOU ARE EMPLOYED AND IN WHAT CAPACITY AND DESCRIBE YOUR CURRENT RESPONSIBILITIES.

A. I am employed by MCI Telecommunications Corporation ("MCI") as a Manager, Process Development and Analysis, Southern Financial Operations. I am responsible for helping to develop and implement MCI's policies regarding performance standards and measures in the nine states where BellSouth operates. I have participated in the development of performance measures, performance standards, reporting requirements and performance credit structures.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I received a Master of Science in Engineering, Industrial Engineering, from the University of Central Florida in 1989. My undergraduate degree was a Bachelor of Science in Engineering Management/Petroleum Engineering from the University of Missouri in 1985.

In the three years prior to coming to MCI in April 1997, I was employed by U.S. Sprint. I was an operations support manager in the Private Line Service Center, and before that was a senior process consultant. My responsibilities as operations support manager involved performance metrics management; activity based management and staffing

modeling; technical training; and technical support. This position also involved documenting operations metrics and the associated components, as well as implementing software control. My responsibilities as senior process consultant involved working with business units to implement organizational and process quality. Before my employment at Sprint, I had nine years experience with several different companies in positions related to quality assurance and quality engineering.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to (1) explain the purpose served by performance measures in the 271 context; (2) describe the requirements for performance measures that have been articulated thus far by the FCC and the Tennessee Regulatory Authority (Authority); (3) discuss the deficiencies in BellSouth's performance measurement proposal; and (4) describe a far better approach for the Authority to take with respect to performance measures and standards.

PURPOSE SERVED BY PERFORMANCE MEASURES

Q. WHAT ARE PERFORMANCE MEASURES?

A. Performance measures are measurements of incumbent local exchange carriers' functions that provide a basis for evaluating the availability, reliability, timeliness, and accuracy of information, services and OSS functionality across all ILEC interfaces and business processes. Performance measures, along with standards, allow CLECs to: (1) monitor the performance of the ILEC to drive any possible compliance issues; and (2) communicate

installation, maintenance and repair and other intervals to their customers; and (3) generally manage CLEC business processes.

Q. WHAT PURPOSES ARE SERVED BY PERFORMANCE MEASURES AND STANDARDS IN THE 271 CONTEXT?

A. Performance measures and standards are important for 271 purposes for at least two reasons. First, they enable regulators to assess whether BellSouth is providing parity of service to CLECs. As the FCC stated in In re Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services In Michigan, CC Docket No. 97-137, ¶ 204 (FCC Michigan Order), "[f]or the Commission to conclude that Ameritech is providing nondiscriminatory access to OSS functions, we must have a proper factual basis upon which to make such a finding." Quoting the Department of Justice, the FCC went on to state that "proper performance measures with which to compare BOC retail and wholesale performance, and to measure exclusively wholesale performance, are a necessary prerequisite to demonstrating compliance with the Commission's 'nondiscrimination' and 'meaningful opportunity to compete standards.'" Id. The Authority needs the same empirical data if it is to fulfill its duty to consult with the FCC concerning BellSouth's 271 application.

The second reason that performance measures and standards are important in the 271 context is that regulatory authorities must be satisfied that post-entry backsliding can be detected and effectively addressed. As the U.S. Department of Justice has stated, "[a] conclusion that a market has been 'fully and irreversibly opened to competition' requires

both a demonstration that the competitive condition currently in place will foster efficient competition, as well as assurances that those conditions will remain in place after a section 271 application has been granted." Evaluation of the United States Department of Justice at 31, filed in In re Application of BellSouth Corporation Pursuant to Section 271 of the Communications Act of 1934, as amended, to Provide In-Region, InterLATA Services in Louisiana, CC Docket No. 97-231. In other words, the Authority now has the Section 271 "carrot" to ensure BellSouth will cooperate with CLECs. It is critical that specific requirements be in place for performance measures, performance standards, reporting, and enforcement before BellSouth is given authority to provide in-region long distance service; otherwise, BellSouth will have no incentive to do so afterward.

Q. WHAT MUST THE AUTHORITY DO TO ACHIEVE THOSE OBJECTIVES?

A. Among other things, the Authority must ensure that (1) all appropriate performance measures are in place; (2) performance data is sufficiently disaggregated to allow for meaningful comparison; (3) the data has been provided over a sufficient time to gauge performance; (4) a statistically valid method is used to determine whether parity is being provided; (5) appropriate performance standards are established and being met; and (6) self-executing enforcement mechanisms are in place.

REGULATORY BACKGROUND

Q. WHAT REQUIREMENTS FOR PERFORMANCE MEASURES HAVE BEEN ESTABLISHED AT THE FEDERAL LEVEL?

A. Although I am not a lawyer, I understand that the Federal Telecommunications Act of 1996 ("the Act") contemplates the implementation of performance measures and standards. The Act recognizes that Competitive Local Exchange Companies ("CLECs") are entirely dependent on monopoly providers for interconnection, resale, and unbundled elements, and thus requires RBOCs to provide access to all three means of entry on reasonable and nondiscriminatory terms. *See, e.g.*, 47 U.S.C. Sections 251(b)(1), 251(c)(2), 251(c)(3), and 251(c)(4). Without performance measures and standards, these provisions cannot be enforced effectively.

As I already have noted, the FCC concluded in the FCC Michigan Order that an RBOC must provide performance measurement data so that it can determine whether the 271 parity requirements have been met. In that decision, the FCC concluded that "Ameritech has not provided the Commission with all of the empirical data necessary to substantiate Ameritech's asserted provision of nondiscriminatory access to the OSS functions required by section 271 and section 251" of the Act. FCC Michigan Order ¶ 204.

The FCC also stated that Ameritech would be required to ensure that its performance measures were clearly defined, permitted comparisons with Ameritech's retail operations, and were sufficiently disaggregated to permit meaningful comparisons. FCC Michigan Order ¶ 212.

More recently, the FCC has stated its firm agreement with the principle that "without enforcement mechanisms, reporting requirement are 'meaningless.'" In re: NYNEX

Corp. and BellAtlantic Corp. for Consent to Transfer Control NYNEX Corp. and its Subsidiaries, FCC 97-286 ¶ 90 (rel. Aug. 14, 1997).

Q. HOW DID THE AUTHORITY RESOLVE THE ISSUE OF PERFORMANCE MEASURES WHEN CLECS' INTERCONNECTION AGREEMENTS WERE ARBITRATED?

A. The Authority adopted the performance measures proposed by AT&T for use in the interim prior to the development of industry standards. These interim measures were included in the Interconnection Agreement between MCI and BellSouth.

Q. DO THE INTERIM MEASURES COMPLY WITH THE FEDERAL REQUIREMENTS?

A. No. For example, the interim measures do not include all of the measures required by the FCC Michigan Order. To my knowledge, no party to this docket, including BellSouth, is advocating that the Authority use the interim performance measures as the basis for evaluating BellSouth's 271 application.

Q. IN ANY EVENT, IS BELLSOUTH PROVIDING ALL THE REQUIRED PERFORMANCE MEASURES?

A. No. The Interconnection Agreement between BellSouth and MCI calls for reporting on twenty measures. To date, BellSouth is providing reports on nine of those measures and has stated that it will provide reports on two more of the measures in the second quarter of 1998.

BELLSOUTH'S PERFORMANCE MEASUREMENT PROPOSAL

Q. PLEASE SUMMARIZE THE DEFICIENCIES IN BELLSOUTH'S PERFORMANCE MEASUREMENT PROPOSAL.

A. There are several deficiencies, not the least of which is that BellSouth has not begun to supply data for many of the measures it proposes to provide. In addition, BellSouth fails to include several important measures, does not disaggregate the data sufficiently, does not provide a statistically valid model (or for that matter, any model) for assessing whether parity is being provided, does not provide performance standards, and does not provide for self-executing enforcement mechanisms.

Q. WHY IS IT SIGNIFICANT THAT BELLSOUTH HAS NOT PROVIDED RESULTS FOR ALL THE MEASURES IT HAS PROMISED TO PROVIDE?

A. BellSouth's failure to produce data on several of the measures before now is critical because BellSouth's promises to provide performance measures cannot substitute for actual provision of performance data. Without the data, the Authority cannot assess parity based on empirical evidence. Further, until CLECs are able to review suitable performance measurement reports, CLECs cannot assess the adequacy of reporting formats, much less the results of the reports. Even if BellSouth produces the additional reports between now and the hearing, CLECs will have been denied the opportunity to review the reports prior to submitting their testimony. The Authority thus will be denied the benefit of testimony on this important issue.

Q. WHAT PERFORMANCE MEASURES IS BELLSOUTH PROPOSING TO PROVIDE?

A. BellSouth is proposing the following measures by function:

Pre-Ordering	Average Response Interval
	OSS Interface Availability
Ordering	Firm Order Confirmation Timeliness
	Reject Interval
	Percent Rejected Service Requests
	Percent Flow-through Service Requests
	Total Service Order Cycle Time
	Service Request Submissions per Request
	Speed of Answer – Order Center
Provisioning	Average Completion Interval
	Order Completion Interval Distribution
	Orders Provisioned Out of Interval
	Mean Held Order Interval ($\geq$ 15 days, $\geq$ 90 days)
	Percent Missed Installation Appointments
	Percent Provisioning Troubles w/i 30 days
	Percent Order Accuracy
Maintenance and Repair	
	Customer Trouble Rate
	Missed Repair Appointments (Dispatch, No-Dispatch)
	Out of Service > 24 hours (Dispatch, No-Dispatch)
	Percent Repeat Troubles w/i 30 days (Dispatch, No-Dispatch)
	Mean Time to Restore
	Average Answer Time – Repair Center
Billing	Invoice Accuracy (Connectivity and Usage)
	Mean Time to Deliver Invoices (Connectivity and Usage)
	Account Maintenance
Operator Services and Directory Assistance	
	Average Speed to Answer
	Mean Time To Answer

E911	Missed E911 Orders Timeliness Accuracy
Trunking	CLEC Trunk Group Service Report BellSouth CTTG Blocking Report Local Network Trunk Group Service Report BellSouth Local Network Blocking Report

Q. PLEASE GIVE EXAMPLES OF MEASURES THAT BELLSOUTH FAILED TO INCLUDE.

A. BellSouth fails to provide a complete picture of order statuses and emergency services, and does not address provisioning of collocations. The order status measures proposed by BellSouth do not address order jeopardies or the average offered interval (i.e., the interval between order submission and the date given on the FOC). The mean jeopardy interval measure allows MCI to determine its ability to communicate problems with installations to its customers, while the average offered interval allows MCI to assess installation intervals being offered against BellSouth's published intervals.

Emergency services measures are missing from 911/E911 trunk provisioning and blockage. In order for MCI customers to be able to access BellSouth's 911/E911, BellSouth office trunk facilities need to be installed in a timely fashion. They also need to be provided in a quantity to minimize the risk of trunk blockage, which could prevent critical emergency call attempts from reaching 911. MCI customers need to be able to access BellSouth's 911/E911 office on the first try due to the nature of their emergency situations. The "mean interval to provision 911/E911 trunks" monitors the timeliness of adding trunks utilized by MCI customers, which enables MCI to improve capacity to

BellSouth 911/E911 office. The "percent (911/E911) trunk blockage" measure monitors overflow situations where calls are blocked due to inadequate trunking, trunks turned down due to maintenance, or other network failures.

Collocation measurements are necessary to assess BellSouth's responsiveness to MCI collocation requests. Thus, the mean response to request interval measure shows the interval between the order for a collocation space and receipt of a FOC. In addition, measures are needed to assess whether or not BellSouth is meeting its commitments, which is shown in the measure for percentage of physical (and virtual) commitments met.

Q. DO BELLSOUTH'S TRUNK BLOCKAGE REPORTS PROVIDE SUFFICIENT INFORMATION?

A. No. This issue is covered in the testimony of Ron Martinez.

Q. ARE BELLSOUTH'S PERFORMANCE MEASURES SUFFICIENTLY DISAGGREGATED?

A. No. BellSouth's performance measures lack sufficient disaggregation necessary for a meaningful product-to-product comparison and thus would enable BellSouth to conceal its failure to provide parity. For instance, it would be impossible for MCI to determine whether its customers using resold residential ISDN are treated at parity with BellSouth's ISDN customers because ISDN orders are lumped together with orders for other services.

Q. DO BELLSOUTH'S PROPOSED MEASURES ADEQUATELY ACCOUNT FOR VARIATIONS IN DISTRIBUTION OF DATA?

A. No. BellSouth offers to provide data for performance for days zero through five and for six days or more. The result is that (for instance) for complex services that on average take longer than five days to provision, virtually all installation performance will fall in the six days or more category, thus making significant variations in BellSouth's performance undetectable. The distribution of data provided should have a stronger correlation to the type of service being provided.

Q. HAS BELLSOUTH PROVIDED A STATISTICALLY VALID MODEL TO EVALUATE THE PERFORMANCE MEASUREMENT DATA IT WILL BE PROVIDING?

A. No. Indeed, it has not provided any model for assessing whether its performance measurement data reflects parity of service.

Q. DOES BELLSOUTH'S PROPOSAL INCLUDE PERFORMANCE STANDARDS?

A. No.

Q. SHOULD BELLSOUTH BE REQUIRED TO MEET PERFORMANCE STANDARDS?

A. Yes. Because of BellSouth's monopoly position, the Authority must ensure that satisfactory performance measures *and* standards are in place if CLECs are to open the local telephone business to competition. *Performance measures* are the criteria by which

BellSouth's performance is gauged, such as the average order completion interval or the percentage of orders completed on time. *Performance standards* determine the acceptable level of performance, such as an order completion interval of one day or an on-time order completion rate of 99%.

BellSouth must establish that it has provided parity of service to CLECs by comparing its performance for itself with its performance for CLECs. In addition, BellSouth must show that it has established and is meeting performance standards. As a new entrant in the local market, MCI must be able to manage its customer service business. From an operations standpoint, performance and standards are critical because the ILECs have the ability to directly control the service experience received by the customers of CLECs. For instance, when a prospective MCI customer calls to request a new service installation, MCI must have the ability to communicate an accurate installation date. In the case of a customer who wants particular services installed within a specified period of time, MCI needs the assurance that it can fulfill its promises to its customers.

Q. DOES BELLSOUTH PROPOSE SELF-EXECUTING ENFORCEMENT MECHANISMS?

A. No.

Q. DO YOU AGREE WITH BELLSOUTH'S POSITION CONCERNING CORRECTIVE ACTION FOR FAILURE TO PROVIDE PARITY OF SERVICE?

A. No. Mr. Moore apparently would have the Authority rely exclusively on joint investigation and agreed-upon corrective measures to remedy BellSouth's failure to meet performance measures and standards. (Moore Direct Test. at 27-28.) Although investigations and corrective measures are important, they cannot be detached from financial incentives to meet performance measures and standards. Obviously, BellSouth would prefer not to be held accountable for its failure to provide parity and a meaningful opportunity to compete, but without financial repercussions BellSouth will lack the necessary incentives to open the local telephone market to its competitors.

In testimony before the Subcommittee on Antitrust, Business Rights and Competition of the Senate Judiciary Committee on March 4, 1998, U.S. Assistant Attorney General Joel Klein emphasized this point. He stated: "[M]erely opening its local market at the time of long distance entry is not sufficient to ensure that the fight between the local and long distance companies will be a fair one; it is also essential that mechanisms be put in place to keep the market open to competition." Klein further stated that "[i]n developing our competitive standard for assessing Section 271 applications, we paid considerable attention to the question of how to ensure that the local market remains open. Accordingly, we have set forth an approach for performance measurement, reporting requirements, and post-entry remedies -- regulatory, contractual, and antitrust -- to guard against any "backsliding" on wholesale performance. Ordinarily, of course, we would not expect companies to assist competitors in taking away their customers. Thus, we believe that a successful Section 271 application must be premised on a system to measure wholesale performance effectively and to guard against any future deterioration in

performance. A number of states have begun to set up such mechanisms, including provisions for liquidated damages, and we encourage more to do so . . . ."

THE PROPER APPROACH TO PERFORMANCE MEASURES AND STANDARDS

Q. PLEASE DESCRIBE THE WORK DONE BY OTHER GROUPS RELATING TO PERFORMANCE MEASURES AND STANDARDS.

A. The Local Competition Users Group ("LCUG"), consists of members from national long-distance carriers: MCI, AT&T, Sprint, LCI, and WorldCom. As described in LCUG's charter, its purpose is to create and sustain a forum to determine common requirements for system interfaces and operational support systems. These requirements are necessary for ILECs to support competitive local market entry via interconnection, resale, and comprehensive unbundling. According to its charter, LCUG will seek to develop common public advocacy positions to: (1) create an environment that supports the efficient implementation of interconnection, resale and unbundling; (2) ensure that ILEC industry provides systems and processes consistent with the Act; and (3) ensure that competitive carriers are able to access and use ILEC systems and processes to provide services at least at parity with those offered by the ILECs to their customers.

LCUG's work has resulted in the issuance of the LCUG "Service Quality Measurements (SQM)" document, Version 6.1, which is attached hereto as Exhibit 1. Additional necessary requirements have been identified by MCI and are being submitted to LCUG for approval. Such requirements include additional measures, a parity model and a system for performance credits.

It is worth noting that on November 3, 1997 the Florida Public Service Commission adopted its Staff's recommendation that BellSouth should use the LCUG proposal (prior to MCI's proposed revisions) in the interim to pattern its performance standards and measurements.

Q. GENERALLY, HOW DO THE LCUG PERFORMANCE MEASURES AND STANDARDS COMPARE TO THOSE IN BELLSOUTH'S PROPOSAL?

A. The LCUG performance measures are more comprehensive, and address the FCC Michigan Order requirements. As shown in Appendix A to Exhibit 1 of my direct testimony, the LCUG proposal sets out the information to be disaggregated in much greater detail than what BellSouth offers to provide. The level of disaggregation provided in the LCUG proposal meets the requirement of the FCC Michigan Order that performance measures must be "sufficiently disaggregated to permit meaningful comparisons." FCC Michigan Order ¶ 212.

Unlike the BellSouth proposal, the LCUG proposal (with the revisions proposed by MCI) includes a parity assessment model, performance standards and a system of performance credits.

Q. WHAT INCENTIVES SHOULD BELLSOUTH BE GIVEN TO MEET THE PERFORMANCE STANDARDS?

A. A system of performance credits should be used. The overall purpose of performance credits is to create an incentive for the ILEC to meet the performance standards outlined in the interconnection agreement. New entrants are concerned that ILECs may lack that incentive to meet performance standards, so performance credits should be constructed to have a sufficient impact to provide the incentive for ILECs to meet all performance standards that are associated with each measure awarded in interconnection agreements. This performance credit structure should not preclude the CLEC from taking further action in the event of overall performance failures with theAuthority.

Q. HOW SHOULD PERFORMANCE CREDITS BE STRUCTURED?

A. Performance credits are the most appropriate mechanism for addressing the failure to meet performance standards. They should be outlined in a two-tiered structure; per-occurrence performance failure credits and overall performance failure credits. The per-occurrence performance credits alone would allow the ILEC easily to calculate the potential financial risk for failing to meet a particular standard and make a business decision to intentionally not meet a performance standard based on this calculated risk. The overall performance failure credits provide a safety-net that will not allow the ILEC to pre-determine the total financial impact of a performance failure relative to any other failures during a report month. The total financial impact of a performance failure cannot be determined until the end of a reporting period.

Q. TO WHAT EXTENT SHOULD THE AUTHORITY CONSIDER PROVISIONS FOR CORRECTIVE ACTION TO BE TAKEN IN THE EVENT AN ILEC OR COMPETING LEC FAILS TO COMPLY WITH ANY STANDARDS ADOPTED?

A. Because consistent performance within specified standards is the goal, not financial remedies, process improvement plans also must be designed to address overall performance failures. The process improvement plan should be agreed to by both parties and: (1) document the existence of the overall performance failure, (2) outline specific steps and checkpoints designed to improve the substandard performance, (3) contain an additional performance credits structure that is tied to the specifications of the process improvement plan, and (4) contain a firm start and end date for the improvement plan.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

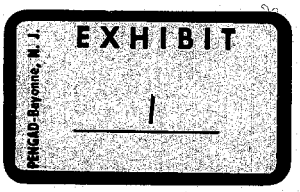
A. Yes, it does at this time.

LOCAL COMPETITION USERS GROUP (LCUG)

SERVICE QUALITY MEASUREMENTS (SQM)

September 26th, 1997
Membership: AT&T, Sprint, MCI, LCI, WorldCom

Version 6.1



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Introduction

Background:

On August 8, 1996, the Federal Communications Commission released its First Report and Order (the Order) in CC Docket No. 96-98 (Implementation of the Local Competition Provisions of the Telecommunications Act of 1996). The Order establishes regulations to implement the requirements of the Telecommunications Act of 1996. Those regulations are intended to enable potential competitive local exchange carriers (CLECs) to enter and compete in the local telecommunications markets. One requirement found to be "absolutely necessary" and "essential" to successful entry is that the incumbent local exchange carriers (ILECs) provide nondiscriminatory access to their operations support systems (OSSs). Many variations of interim OSS GUIs (graphic user interfaces), and electronic gateways have been or are being offered by the ILECs. These interim systems have not provided the capability for the CLECs to provide the same customer experience for their customer as compared to what the ILECs do for theirs. The timeliness and accuracy of information processed by the ILEC for pre-ordering, ordering and provisioning, maintenance and repair, unbundled elements, and billing have not, to date, been satisfactory. The service delivery problems exist regardless whether total service resale or unbundled elements are utilized. Final solutions for application-to-application real time system interfaces are evasive because of the complexity, the diversity of committed implementation schedules and lack or inconsistent use of industry guidelines.

On February 12, 1997 the Local Competition Users Group (LCUG) issued their "Foundation For Local Competition: Operations Support Systems Requirements For Network Platform and Total Services Resale. The core principles contained in the document are: Service Parity, Performance Measurement, Electronic Interfaces, Systems Integrity Notification of Change, and Standards Adherence. Each of these are significant to ensure CLEC customers can receive at least equal levels of service to those the ILEC provides to its own customers. The LCUG group indicated that is was essential that a plan be developed to measure the ILECs performances for all the essential OSS categories (e.g. pre-ordering, ordering and provisioning, maintenance and repair, network performance, unbundled elements, operator services and directory assistance, system performance, service center availability and billing). To that end, an LCUG sub-committee was formed with a charter to address measurements and metrics. The subcommittee jointly developed a comprehensive list of potential measurements which was developed and shared among the team members for review. Each committee member researched an assigned measurement group for the purpose of proposing consolidation and other modifications. The subcommittee discussed each measurement and considered existing regulatory requirements (minimum service standards) as well as good business practices in arriving at the recommended measurement and extent of detail to be reported. The service quality measurement (SQM) goals, or benchmark levels of performance, were established to provide a nondiscrimination standard in the absence of directly comparative ILEC results. Establishing precise benchmark level was difficult because the ILECs have been reluctant to share actual results. The goals, therefore, were based upon best of class and/an assessment of the necessary performance to support a meaningful opportunity for CLECs to compete. The SQM goals may change if the ILECs share historical and/or self report current results.

Measurement Plans:

A measurement plan, capable of monitoring for discriminatory behavior, must incorporate at least the following characteristics; 1) it permits direct comparisons of the CLEC and CLEC industry experience to that of the ILEC though recognized statistical procedures, 2) it accounts for potential performance variations due to differences in service and activity mix, 3) it measures not only retail services but experiences with UNEs and OSS interfaces, and 4) it produces results which demonstrate the nondiscriminatory access to OSS functionality is being delivered across all interfaces and a broad range of resold services and unbundled elements. The measures employed must address availability, timeliness of execution, and accuracy of execution.

Service Quality Measurements
Introduction

It is essential that the CLECs be able to determine that they are receiving at least equal treatment to that ILECs provide to their own retail operations or their local service affiliates. Benchmarks and performance standards that are voluntarily adopted by the CLECs and ILECs, or ordered by commissions, need to clearly demonstrate that new service providers are receiving nondiscriminatory treatment.

This document discusses measurements at both a summary level (Executive Overview) and at a level suitable for starting the implementation process (Measurement Detail)

Service Quality Measurements
Business Rules

Test for Parity:

ILEC Reports Results For Own Local Operations:
Both the average (mean) result and the variance of the measurement result for the ILEC and the CLEC should be compared to establish that the CLEC result is no worse than the ILEC's result.

ILEC Results Are Not Reported Or Results Are Incomplete:
The mean result for CLEC must be compared and a determination made that the CLEC result is no worse than the benchmark performance level. The benchmark performance to be employed in the comparison is the result produced via special study by an ILEC (as described below) or, in the absence of such a study result, the LCUG default performance benchmarks.

Benchmarking Study Requirements:

A special study may be optionally utilized by the ILEC to establish the benchmark performance level whenever a reasonable ILEC retail analog does not exist. When the ILEC performs a benchmarking study, it must be based upon equivalent experiences of that ILEC and conform to the following minimum requirements: (1) a benchmark result is provided for each reporting dimension described for the measurement; (2) the mean, standard error, and number of sample points are disclosed for each benchmark result; (3) the study process and benchmark results may be subjected to independent audit; (4) update to the benchmark result will be submitted whenever changes may reasonably be expected to impact the study results or six months has elapsed since the conduct of the prior study, whichever occurs earlier. Unless directly ordered by the appropriate regulatory commission, no ILEC benchmark will be utilized in lieu of an LCUG benchmark without mutual agreement of the CLECs impacted by use of the benchmark

Reporting Expectations and Report Format:

CLEC results for the report month are to be shown in comparison to the ILEC result for the same period with an indication, for each measurement result, where the CLEC result is lesser in quality compared to the ILEC (based upon the test for parity described in the preceding). Such detailed results will be reported only to the CLEC unless written permission is provided to do otherwise. Furthermore, reporting to the individual CLECs should include, for each measure, a representation of the dispersion around the average (mean) of the measured results for the reporting period (e.g. percent of 1-4 lines installed in the 1st day, 2nd day, 3rd day, and > 10 days, etc.) In addition to providing the preceding detailed results, the ILEC must also supply, to each interested CLEC, a report showing the ILEC performance for each measure in comparison to both CLEC industry in aggregate and the performance delivered to any affiliate(s) of the ILEC.

Delivery of Reports and Data:

Reports are to be made available to CLEC by the 5th scheduled business day following the close of the calendar report month. If requested by the CLEC, data files of raw data are to be transmitted by the ILEC to the CLEC on the 5th scheduled business day pursuant to mutually acceptable format, protocol and transmission media.

Geographic Reporting:

Measurement data should be reported on a natural geographic area that allows prudent operational management decisions to be made and does not obscure actual performance levels. Presently ILECs report at levels as discrete as indiviual exchanges (Central Office) to as aggregated as the Region level. The recommended default level of reporting is the MSA although further detail should be required where it improves the ability to make meaningful comparisons..

Verification and Auditing:

By joint request of more than one CLEC, an audit of the data collecting, computing and reporting processes must be permitted by the ILEC. The ILEC must also permit an individual CLEC to audit or examine its own results pursuant to terms no more restrictive than those established between the CLEC and the ILEC in the interconnection agreement for the operating area underlying the reported results.

During implementation of the measurement reporting, validation of results of data collection, measurement result computation and report production will be necessary. The ILEC must permit such validation activities and not subsequently contend that an individual CLEC has undertaken an audit either under the terms of the measurement plan or pursuant to the terms of the CLEC's interconnection agreement.

Adaptation:

Technology, market conditions and industry guidelines/standard continue to evolve. LCUG reserves the right to modify the content of this document, adding, deleting or making modification, as necessary to reflect such changes.

Service Quality Measurements
Executive Overview

This Executive Overview section:

- Provides a summary of the detailed requirements
- Enables a quick overview and understanding of the proposed LCUG measurements
- Summarizes the Business Implications associated with each measurement
- Accommodates a target audiences who have a need to know about the measurements but not the specific details

Service Quality Measurements
Executive Overview

Pre-Ordering (PO)

Function:	
Average Response Interval for Pre-Ordering Information	
Business Implications:	
• The CLEC customer service agent must establish such basic facts as availability of desired features, likely service delivery intervals, the telephone number to be assigned and the validity of the street address while the customer (or potential customer) is on the phone • It is critical that the CLEC be perceived as equally competent, knowledgeable and fast as an ILEC customer service agent • This measure is designed to monitor the time required for CLECs to obtain the pre-ordering information necessary to establish and modify service • Comparison to the ILEC results allow conclusions whether an equal opportunity exists for the CLEC to deliver a comparable customer experience (compared to the ILEC) when a retail customer calls the CLEC with a service inquiry	
Measurements:	**Results Detail:**
• Average Response Interval for Pre-Ordering Information	• Major Pre-ordering Query Type

Ordering and Provisioning (OP)

Function:	
Order Completion Intervals	
Business Implications:	
• When the CLEC commits to a due date for service delivery, the customer plans for service availability at that point and will be dissatisfied if the requested service or feature is not delivered when promised • The "average completion interval" measure monitors the time required by the ILEC to deliver integrated and operable service components requested by a CLEC, regardless of whether services resale or unbundled network elements are employed • When the service delivery interval of the ILEC is measured for comparable services, then conclusion can be drawn regarding whether or not CLECs have a reasonable opportunity to compete for customers • The "average completion interval" and "percent completed on time" may prove useful in detecting developing capacity issues	
Measurements:	**Results Detail:**
• Mean Completion Interval • Percent Orders Completed on Time	• By Major Service Family and Order Type

Service Quality Measurements
Executive Overview

Function:	
Order Accuracy	
Business Implications:	
• Customers expect that their service provider will deliver precisely the service ordered and all the features specified • This measurement monitors the accuracy of the provisioning work performed by the ILEC in response to CLEC orders	
Measurements:	**Results Detail:**
• Percent Order Accuracy	• By Major Service Family

Function:	
Order Status	
Business Implications:	
• When a customers calls their service providers, they expect to be able to promptly get the information regarding the progress on their order(s) • When changes must be made, such as to the expected delivery date, customers expect that they will be immediately notified so that they may modify their own plans • The order status measurements monitor, when compared to the ILEC result, that the CLEC has timely access to order progress information so that the customer may be updated or notified, early on, when changes and rescheduling are necessary	
Measurements:	**Results Detail:**
• Mean Reject Interval • Mean FOC Interval • Mean Jeopardy Interval • Mean Completion Interval • Percent Jeopardies Returned	• By Status Type and Order Type

Function:	
Held Orders	
Business Implications:	
• Customers expect that work will be completed when promised • There must be assurances that the average period that CLEC orders are held, due to a delayed completion, is no worse for the CLEC when compared to ILEC orders	
Measurements:	**Results Detail:**
• Mean Held Order Interval • Percent Orders Held ≥ 90 Days • Percent Orders Held ≥ 15 Days	• By Major Service Family and Reason for Hold

Service Quality Measurements
Executive Overview

Maintenance and Repair (MR)

Function:	
Time To Restore	
Business Implications:	
• Customers expect prompt restoral of service to the normal operating parameters whenever troubles are detected • The longer the time required to correct a service problem, the greater the customer dissatisfaction	
Measurements:	**Results Detail:**
• Mean Time to Restore	• By Major Service Family and Trouble Type

Function:	
Frequency of Repeat Troubles	
Business Implications:	
• This measurement, when gathered for both the ILEC and CLEC can establish whether or not CLECs are competitively disadvantaged (vis-à-vis the ILEC) as a result of experiencing more frequent occurrence of customer troubles not being resolved in the first attempt to repair the trouble • Differences in this measure may indicate that the CLEC is receiving inferior maintenance support in the initial resolution of troubles or, in the alternative, it may indicate that the network components supplied are of inferior quality	
Measurements:	**Results Detail:**
• Repeat Trouble Rate	• By Major Service Family and Trouble Type

Function:	
Frequency of Troubles (Troubles per 100 Lines)	
Business Implications:	
• Customers demand high quality service performance from their supplier and differentials in performance are quickly recognized throughout the market place • When measured for both the ILEC and CLEC and compared, this measure can be used to establish that CLECs are not competitively disadvantaged, compared to ILEC, as a result of experiencing more frequent incidents of trouble reports • Disparity in this measure may indicate differences in the underlying quality of the network components supplied	
Measurements:	**Results Detail:**
• Trouble Rate	• By Major Service Family and Trouble Type

Service Quality Measurements
Executive Overview

Function:	
Estimated Time To Restore Met	
Business Implications:	
• When customers experience trouble on working services, they naturally expect the services to be restored within the time frame promised • When this measure is collected for the ILEC and CLEC and then compared, it can be used to establish that CLECs are receiving equally reliable (as compared to the ILEC operations) estimates of the time required to complete service repairs	
Measurements:	**Results Detail:**
• Percentage of Customer Troubles Resolved Within Estimate	• By Major Service Family and Trouble Type

Service Quality Measurements
Executive Overview

General (GE)

Function:	
Systems Availability	
Business Implications:	
• Access to essential business functionality, supported by OSS of the ILEC, is absolutely essential to CLEC operations • This measure monitors that such OSS functionality is at least as accessible to the CLEC as to the ILEC	
Measurements:	**Results Detail:**
• Percent System Availability	• By Function Interface

Function:	
Center Responsiveness	
Business Implications:	
• When CLECs experience operational problems dealing with ILEC processes or interfaces, prompt support by the ILEC is required in order to assure that the CLEC customers are not adversely impacted • Any delay in responding to CLEC center requests for support (e.g., request for a vanity telephone number) will, in turn, adversely impact the CLEC retail customer who may be holding on-line with the CLEC customer service agent • This measure, when gathered for both the CLEC and ILEC, supports monitoring that ILEC handling of support calls from CLECs is at least as responsive as for calls by ILEC retail customers seeking assistance (e.g., calling the business office of the ILEC or call the ILEC to report service repair issues)	
Measurements:	**Results Detail:**
• Mean Time to Answer Calls • Call Abandonment Rate	• By Support Center Provided

Service Quality Measurements
Executive Overview

Billing (BI)

Function:	
Timeliness Of Billing Record Delivery	
Business Implications:	
• Regardless whether the billing is for retail customer or exchange access service, the timing of ILEC delivery of billing records must provide CLECs with the opportunity to deliver timely bills in as timely a manner as the ILEC; otherwise artificial competitive advantage would be realized by the ILEC	
Measurements:	**Results Detail:**
• Mean Time to Provide Recorded Usage Records • Mean Time to Deliver Invoices	• By Type of Usage (End User Direct Bill, End User Alternately Billed, or Access) or By Type of Invoice (TSR or UNE)

Function:	
Accuracy of Billing Records	
Business Implications:	
• The accuracy of billing records affects the accuracy of the billing ultimately delivered to local service customers, whether retail service or exchange access service customers • Billing for the elements from which CLEC services are constructed must be validated to assure that only correct charges are paid	
Measurements:	**Results Detail:**
• Percent Invoice Accuracy • Percent Usage Accuracy	• By Type of Usage (End User Direct Bill, End User Alternately Billed, or Access) or By Type of Invoice (TSR or UNE)

Service Quality Measurements
Executive Overview
Operator Services and Directory Assistance (OS, DA)

Function:	
Speed To Answer	
Business Implications:	
• In order to assure that an unjustified competitive advantage is not created for the ILEC, the speed of answer delivered to CLEC retail customers, when the ILEC provides Operator Services or Directory Services on behalf of the CLEC, must be no slower than the speed of answer that the ILEC delivers to its own retail customers of equivalent local services	
Measurements:	**Results Detail:**
• Mean Time to Answer	• Operator Services and Directory Service Separately Reported Detailed, for eeach Service by Machine and Human Answer Time

Service Quality Measurements
Executive Overview
Network Performance (NP)

Function:	
Network Performance Parity	
Business Implications:	
• The perceived quality of CLEC retail services, particularly when either ILEC services are resold or UNE combinations are employed, will be heavily influenced by the underlying quality of the ILEC network performance • Customers experience the quality of the service provider each time services are used	
Measurements:	**Results Detail:**
• Network Performance Parity	• Transmission Quality • Speed Of Connection • Reliability

Service Quality Measurements
Executive Overview
Interconnect / Unbundled Elements and Combos (IUE)

Function:	
Availability of Network Elements	
Business Implications:	
• Because CLECs use individual elements as well as element combinations to deliver unique services, it is essential that the UNE functionality operate properly due to the crucial role played by such elements in providing quality retail services • This measure monitors individual network element or element combinations, that do not have an apparent retail analog, to assure that CLECs have a meaningful opportunity to compete through access to and use of element (or combination) functionality	
Measurements:	**Results Detail:**
• Availability of Network Elements	• By Unique UNE or UNE Combination employed (e.g., A-Link, D-Link, SCPs/Databases, SCPs/Databases Correctly Updated, Loop Combo Availability)

Function:	
Performance of Network Elements	
Business Implications:	
• As CLECs use individual elements (as well as element combinations) to deliver unique services, it is essential that the UNE functionality operates in a timely manner because of the crucial role played by such elements in providing quality retail services	
Measurements:	**Results Detail:**
• Timeliness of Element Performance	• By Unique UNE or UNE Combination employed (e.g.,LIDB Query time out)

Service Quality Measurements
Formula Quick Reference

	Measurement Description By Business Process:	Measurement Formula:
	Pre-Ordering (PO)	
PO-1	Average Response Interval for Pre-Ordering Information	**Average Response Interval = Σ[(Query Response Date & Time) - (Query Submission Date & Time)]/(Number of Queries Submitted in Reporting Period**
	Ordering and Provisioning (OP)	
OP-1	Average Completion Interval	**Average Completion Interval = Σ[(Completion Date & Time) - (Order Submission Date & Time)]/(Count of Orders Completed in Reporting Period)**
OP-2	Percent Orders Completed on Time	**Percent Orders Completed on Time = (Count of Orders Completed within ILEC Committed Due Date) / (Count of Orders Completed in Reporting Period) x 100**
OP-3	Percent Order Accuracy	**Percent Order Accuracy = (Σ Orders Completed w/o Error) / (ΣOrders Completed) x 100**
OP-4	Mean Reject Interval	**Mean Reject Interval = Σ[(Date and Time of Order Rejection) - (Date and Time of Order Acknowledgment)]/(Number of Orders Rejected in Reporting Period)**
OP-5	Mean FOC Interval	**Mean FOC Interval = Σ[(Date and Time of Firm Order Confirmation) - (Date and Time of Order Acknowledgment)]/(Number of Orders Confirmed in Reporting Period)**
OP-6	Mean Jeopardy Interval	**Mean Jeopardy Interval = Σ[(Date and Time of Committed Due Date for the Order) - (Date and Time of Jeopardy Notice)]/(Number of Orders Jeopardized in Reporting Period)**
OP-7	Mean Completion Interval	**Completion Interval = Σ[(Date and Time of Notice of Completion Issued to the CLEC) - (Date and Time of Work Completion by ILEC)]/(Number of Orders Completed in Reporting Period)**
OP-8	Percent Jeopardies Returned	**Percent Jeopardies Returned = (Number of Orders Jeopardized in Reporting Period)/(Number of Orders Confirmed in Reporting Period)**
OP-9	Mean Held Order Interval	**Mean Held Order Interval = Σ(Reporting Period Close Date - Committed Order Due Date) / (Number of Orders Pending and Past The Committed Due Date) for all orders pending and past the committed due date**
OP-10	Percent Orders Held ≥ 90 Days	**(# of Orders Held for ≥ 90 days) / (Total # of Orders Pending But Not Completed) x 100**
OP-11	Percent Orders Held ≥ 15 Days	**(# of Orders Held for ≥ 15 days) / (Total # of Orders Pending But Not Completed) x 100**

Service Quality Measurements
Formula Quick Reference

	Maintenance and Repair (MR)	
MR-1	Mean Time to Restore	**Mean Time To Restore = Σ[(Date and Time of Ticket Closure)-(Date and Time of Ticket Creation)] / (Count of Trouble Tickets Closed in Reporting Period)**
MR-2	Repeat Trouble Rate	**Repeat Trouble Rate = (Count of Service Access Line Generating More Than One Trouble Within a Continuous 30 Day Period) / (Number of Reports in the Report Period) x 100**
MR-3	Trouble Rate	**Trouble Rate = (Count of Initial & Repeated Trouble Reports in the Current Period) / (Number of Service Access Line in Service at End of the Report Period) x 100**
MR-4	Percentage of Customer Troubles Resolved Within Estimate	**Percentage of Customer Troubles Resolved Within Estimate = (Count of Customer Troubles Resolved By The Quoted Resolution Time and Date) / (Count of Customer Troubles Tickets Closed) x 100**
	General (GE)	
GE-1	Percent System Availability	**% System Availability = [(Hours Functionality is Available to CLECs During Report Period) / (Number of Hours Functionality was Scheduled to be Available During the Period)] x 100**
GE-2	Mean Time to Answer Calls	**Mean Time to Answer Calls = Σ [(Date and Time of Call Answer) - (Date and Time of Call Receipt)]/(Total Calls Answered by Center)**
GE-3	Call Abandonment Rate	**Call Abandonment Rate = (Count of Calls Terminated Before Answer During the Reporting Period)/(Count of All Calls Placed in Queue During the Reporting Period)**
	Billing (BI)	
BI-1	Mean Time to Provide Recorded Usage Records	**Mean Time to Provide Recorded Usage Records ={ Σ[(Data Set Transmission Date)-(Date of Message Recording)]}/(Count of All Messages Transmitted in Reporting Period)**
BI-2	Mean Time to Deliver Invoices	**Mean Time to Deliver Invoices = Σ[(Invoice Transmission Date)-(Date of Scheduled Bill Cycle Close)]/(Count of Invoices Transmitted in Reporting Period)**
BI-3	Percent Invoice Accuracy	**Percent Invoice Accuracy = [(Number of Invoices Delivered in the Reporting Period that Have Complete Information, Reflect Accurate Calculations and are Properly Formatted) / Total Number of Invoices Issued in the Reporting Period)] x 100**
BI-4	Percent Usage Accuracy	**Percent Usage Accuracy = [(Number of Usage Records Delivered in the Reporting Period That Reflected Complete Information Content and Proper Formatting) / (Total Number of Usage Records Transmitted)] x 100**

Service Quality Measurements
Formula Quick Reference

	Operator Services and Directory Assistance (OS, DA)	
OS/DA-1	Mean Time To Answer	**Mean Time To Answer =[Σ(Date and Time of Call Answer) - (Date and Time of Call Receipt)]/(Total Calls Answered on Behalf of CLECs in Reporting Period)**
	Network Performance (NP)	
NP-1	Network Performance Parity	**Network Performance Parity = Σ(Network Performance Parameter Result)/(Number of Tests Conducted)**
	Interconnect / Unbundled Elements and Combos (IUE)	
IUE-1	Function Availability	**Function Availability[1] = (Amount of Time[2] a Functionality is Useable[1] by a CLEC in a Specified Period)/(Total Time[2] Functionality Was Intended to Be Useable)** **Notes:** **1. These measure may also be expressed in the negative, that is, in term of unavailability.** **2. In some instances, rather than time, the availability will be express in terms of transactions executed successfully compared to transactions attempted.**
IUE-2	Timeliness of Element Performance	**Timeliness of Element Performance = (Number of Times Functionality Executes Successfully Within the Established Timeliness Standard)/(Number of Times Execution of Functionality was Attempted)**

Service Quality Measurements
Measurement Detail

The Measurement Detail section:

- Provides explicit detail information for each measurement
- Provides business reasons for the measurement, required data elements, analogs to the existing ILEC business function and comparative results suggestions
- Is targeted at those individuals who need to know and understand the detail categories and measurement methodologies

Service Quality Measurements
Measurement Detail

Pre-Ordering (PO)

Function:	**Average Response Interval for Pre-Ordering Information**
Business Implications:	As an initial step of establishing service, the customer service agent must establish such basic facts as availability of desired features, likely service delivery intervals, the telephone number to be assigned, the current products and features the customer has, and the validity of the street address. Typically, this type of information is gathered from supporting OSS while the customer (or potential customer) is on the telephone with the customer service agent. Because pre-ordering activities are the first tangible contact that a customer may have with a CLEC, it is critical that the CLEC be perceived as equally competent, knowledgeable and fast as and ILEC customer service agent. This measure is designed to monitor the time required for CLECs to obtain the pre-ordering information necessary to establish and modify service. Comparison to the ILEC results allow conclusions whether an equal opportunity exists for the CLEC to deliver a comparable customer experience (compared to the ILEC) when a retail customer calls the CLEC with a service inquiry.
Measurement Methodology:	**Average Response Interval = Σ[(Query Response Date & Time) - (Query Submission Date & Time)]/(Number of Queries Submitted in Reporting Period)** **For CLEC Results:** The response interval for each pre-ordering query is determined by computing the elapsed time from the ILEC receipt of a query from the CLEC, whether or not syntactically correct, to the time the ILEC returns the requested data to the CLEC. Elapsed time is accumulated for each major query type, consistent with the specified reporting dimension, and then divided by the associated total number of query received by the ILEC during the reporting period. **For ILEC Results:** The ILEC computation is identical to that for the CLEC with the clarifications noted below. **Other Clarifications and Qualification:** • The elapsed time for an ILEC query is measured from the point in time when the ILEC customer service agent submits the request for identical or similar information into the ILEC OSS until the time when the ILEC OSS returns the requested information to the ILEC customer service agent. • As additional pre-ordering functionality is established by industry, for example with respect to unbundled network elements, the reporting dimensions may be expanded. • Elapsed time is measured in seconds and tenths of seconds rounded to the nearest tenth of a second • Elapsed time is to be measured through automated rather than manual monitor and logging. • The ILEC service agent entry of a request for pre-ordering information (to the ILEC OSS) is considered to be the equivalent of the ILEC receipt of a query from the CLEC. • The ILEC OSS return of information, whether in hard copy or by display on the ILEC service agent's terminal is considered equivalent to the return of requested information to the CLEC.

Service Quality Measurements
Measurement Detail

Reporting Dimensions:	**Excluded Situations:**
• Pre-Ordering Query Types (See Appendix A) Geographic Scope	• None
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • Query Identifier (e.g., unique tracking number) • Query Receipt Date by ILEC • Query Receipt Time by ILEC • Query Type (per reporting dimension) • Data Response Date • Data Response Time • Geographic Scope	• Report Month • Query Type (per reporting dimension) • Mean response interval • Standard error of the mean response interval • Geographic Scope
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Other than a query when 30 or more telephone numbers are requested, the response interval will be less than or equal 2 seconds for 98% of the CLEC's queries received by the ILEC during the reporting period and no query will take more than 5 seconds. • For queries requesting 30 or more telephone numbers, the response interval is never to exceed two hours.

Service Quality Measurements
Measurement Detail
Ordering and Provisioning (OP)

Function:	**Order Completion Intervals**
Business Implications:	In order to be successful in the marketplace, CLECs must be capable of delivering service in time frames equal or better than what the ILEC delivers for comparable service configurations. Likewise, when the CLEC commits to a due date for service delivery, the customer plans for service availability has been established and the customer will be dissatisfied if the requested service or feature is not delivered when promised. The "average completion interval" measure monitors the time required by the ILEC to deliver integrated and operable service components requested by the CLEC, regardless of whether services resale or unbundled network elements are employed. When the service delivery interval of the ILEC is measured for comparable services, then conclusion can be drawn regarding whether or not CLECs have a reasonable opportunity to compete for customers. The "orders completed on time" measure monitors the reliability of ILEC commitments with respect to committed due dates to assure that CLECs can reliably quote expected due dates to their retail customer. In addition, when monitored over time, the "average completion interval" and "percent completed on time" may prove useful in detecting developing capacity issues.
Measurement Methodology:	**Average Completion Interval = Σ [(Completion Date & Time) - (Order Submission Date & Time)]/(Count of Orders Completed in Reporting Period)** **Percent Orders Completed on Time = (Count of Orders Completed w/o ILEC Committed Due Date) / (Count of Orders Completed in Reporting Period) x 100** **For CLEC Results:** The actual completion interval is determined for each order processed during the reporting period. The completion interval is the elapsed time from the ILEC receipt of a syntactically correct order from the CLEC to the ILEC's return of a valid completion notification to the CLEC. Elapsed time for each order is accumulated for each reporting dimension (see below). The accumulated time for each reporting dimension is then divided by the associated total number of orders completed within the reporting period. The percentage of orders completed on time is determined by first counting, for each specified reporting dimension, both the total numbers of orders completed within the reporting interval and the number of orders completed by the committed due date (as specified on the initial FOC returned to the CLEC). For each reporting dimension, the resulting count of orders completed no later than the committed due date is divided by the total number of order completed with the resulting fraction expressed as a percentage. **For ILEC Results:** The ILEC computation is identical to that for the CLEC with the clarifications noted below. **Other Clarifications and Qualification:** • The elapsed time for an ILEC order is measured from the point in time when the ILEC customer service agent enters the order into the ILEC order processing system until the date and time reported by the ILEC installation personnel log actual completion of all work necessary to permit service initiation, whether or not the ILEC initiates customer billing at that point in

	time. • Results for the CLECs are captured and reported at the order level (e.g., unique PON). • The Completion Date is the date upon which the ILEC issues the Order Completion Notice to the CLEC. • If the CLEC initiates a supplement to the originally submitted order and the supplement reflects changes in customer requirements (rather than responding to ILEC initiated changes), then the order submission date and time will be the date and time of the ILEC receipt of a syntactically correct order supplement. • No other supplemental order activities will result in an update to the order submission date and time used for the purposes of computing the order completion interval. • See "Order Status" metric sheet for discussion of ILEC analogs receipt of a syntactically correct and return of a valid completion notice. • Elapsed time is measured in hours and hundredths of hours rounded to the nearest tenth of an hour. • Because this should be a highly automated process, the accumulation of elapsed time continues through off-schedule, weekends and holidays.

Reporting Dimensions:	**Excluded Situations:**
• Service - Standard Service Groupings (See Appendix A) • Activity - Standard Order Activities (See Appendix A) • Geographic Scope	• Canceled orders • Initial Order when supplemented by CLEC • ILEC Orders associated with internal or administrative use of local services
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • CLEC Order Number • Order Submission Date • Order Submission Time • Order Completion Date • Order Completion Time • Service Type • Activity Type • Geographic Scope	• Report Month • Average Order Completion Interval • Standard Error for the Order Completion Interval • Service Type • Activity Type • Geographic Scope

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete:
	• Unless otherwise noted, the order completion interval for installations that do not require a premise visit and do not require anything beyond software updates is 1 business day.
	• Unless otherwise noted, the order completion intervals for installations that involve a premise visit or physical work is three business days.
	• Installation Interval Exceptions:
	  • UNE Platform (at least DS0 loop + local switching + common transport elements) installation interval is 1 business day whether or not premise work is required.
	  • The installation interval for unbundled loops is always 1 business day.

Service Quality Measurements
Measurement Detail

	• UNE Channelized DS1 (DS1 unbundled loop + multiplexing) installation interval is within 2 business days. • Unbundled Switching Element installation interval is within 2 business days • DS0/DS1 Dedicated Transport installation interval is within 3 business days • All other Dedicated Transport installation interval is within 5 business days. • The installation interval for all order involving only feature modification is 5 hours. • Order completion interval for all disconnection orders is 1 business day.

Service Quality Measurements
Measurement Detail

Function:	**Order Accuracy**
Business Implications:	Customers expect that their service provider will deliver precisely the service ordered and all the features specified. Any service provider that is unreliable, with respect to fulfilling orders, will not only generate ill-will with customers where errors are made, but will also incur higher cost due to rework and processing of customer complaints. This measurement monitors the accuracy of the provisioning work performed by the ILEC, in response to CLEC orders. When the ILEC provide the comparable measure for its own operation then it is possible to know if provisioning work performed for CLECs is at least as that performed by the ILEC for its own retail local service operations.
Measurement Methodology:	**Percent Order Accuracy = (Σ Orders Completed w/o Error) / (ΣOrders Completed) x 100** **For CLEC Results:** For each order completed during the reporting period, the original account profile and the order that the CLEC sent to the ILEC are compared to the services and features reflected upon the account profile as it existed following completion of the order by the ILEC. An order is "completed without error" if all service attribute and account detail changes (as determined by comparing the original and the post order completion account profile) completely and accurately reflect the activity specified on the original and supplemental CLEC orders. "Total number of orders completed" refers to order completions received by the CLEC from the ILEC for each reporting dimension identified below. **For ILEC Results:** Same computation as for the CLEC with the clarifications noted below. **Other Clarifications and Qualification:** • **Order Supplements** - If the CLEC initiates any supplements to the originally submitted order, for the purposes of reflecting changes in customer requirements, then the cumulative effect of the initial order and all the supplemental orders will be the compared with differences determined by comparison of the pre- and post order completion account profiles. • **Completion Notices** - To the extent that the ILEC supplies a completion notice containing sufficient information to perform validation of the order accuracy, then the Completion Notice information can be utilized in lieu of the comparison of the "before" and "after" account profiles. Use of the completion notice for this purpose would need to be at the mutual agreement of the ILEC and the CLEC. **All Orders** - The comparison is between the CLEC order and the account profile as it existed before and after order completion. • **Service Profile** - If a sample is employed for this measurement, then the ILEC should also be prepared, if requested, to provide the percentage distribution of order activity types represented within each service type for both the ILEC and CLEC sample. Sampling may be utilized to establish order accuracy provided the results produced are consistent with the reporting dimensions specified, the sample methodology is disclosed in advance and reflects generally accepted sampling methodology, and the sampling process may be audited by the CLEC.

Service Quality Measurements
Measurement Detail

Reporting Dimensions:	**Excluded Situations:**
• Service - Standard Service Groupings (See Appendix A)	• Orders canceled by the CLEC • Order Activities of the ILEC associated with internal or administrative use of local services.
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • Percentage Order Accuracy • Service Type • Geographic Scope	• Report Month • Percentage Order Accuracy • Service Type • Geographic Scope
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Completed CLEC orders, by reporting dimension, are accurate no less than 99% of the time.

Service Quality Measurements
Measurement Detail

Function:	Order Status
Business Implications:	When a customer calls their service provider, they expect to get information promptly regarding the progress on their order(s). Likewise, when changes must be made, such as to the expected delivery date, customers expect that they will be immediately notified so that they may modify their own plans. A service provider that cannot fulfill such expectations will generate customer dissatisfaction. Lengthy delays in exchange of status information will result in the delay of other customer affecting activities: Inside wiring activity is often not confirmed until the firm order confirmation is returned, and customer billing will not be initiated until the CLEC receives the order completion notice, to cite two examples of impact. The order status measurements monitor, when compared to the ILEC result, that the CLEC has timely access to order progress information so that the customer may be updated or notified, early on, when changes and rescheduling are necessary. Furthermore, the "% jeopardies returned" measure for the CLEC, when reported in comparison to the ILEC result, will gauge whether initial commitments to the CLEC for order processing are at least as reliable as the commitments the ILEC makes for its own operations.
Measurement Methodology:	Order status intervals measure the elapsed time necessary to provide a notice to the CLEC that an "unexpected" condition has been encountered when processing an order. Order status includes notification of order rejection due to violation of order content or syntax requirements, confirmation of order acceptance, jeopardy of an order due to the inability to complete work as originally committed and work completion notification. The interval required to supply each of these four preceding major categories of status must be separately monitored and reported. **Reject Interval = Σ[(Date and Time of Order Rejection) - (Date and Time of Order Acknowledgment)]/(Number of Orders Rejected in Reporting Period)** Reject Interval is the elapsed time between the ILEC receipt of an order from the CLEC to the ILEC return of a notice of a syntax rejection to the CLEC. The time measurement starts when the ILEC accepts (acknowledges) the order from the CLEC. The time measurement stops when the ILEC returns a rejection notice to the CLEC. The elapsed time is accumulated by order type with the resulting accumulated time then divided by the count of rejected orders associated with the particular service and order type. **FOC Interval = Σ[(Date and Time of Firm Order Confirmation) - (Date and Time of Order Acknowledgment)]/(Number of Orders Confirmed in Reporting Period)** Interval for Return of a Firm Order Confirmation (FOC Interval) is the elapsed time between the ILEC acceptance of a syntactically correct order and the return of a confirmation to the CLEC that the order will be worked as submitted or worked with the modifications specified on the confirmation. The time measurement starts when the ILEC accepts (acknowledges) the order from the CLEC. The time measurement stops when the ILEC returns a valid firm order confirmation to the CLEC. The elapsed time is accumulated by order type with the resulting accumulated time then divided by the count of orders associated with the particular service and order type. **Jeopardy Interval = Σ[(Date and Time of Committed Due Date for the Order) -**

(Date and Time of Jeopardy Notice)]/(Number of Orders Jeopardized in Reporting Period)

Jeopardy Interval is the remaining time between the pre-existing committed order completion date and time (communicated via the FOC) and the date and time the ILEC issues a notice to the CLEC indicating an order is in jeopardy of missing the due date. The scheduled completion time will be assumed to be 5:00 p.m. local time unless other information is communicated in the FOC. The date and time of the jeopardy notice delivered by the ILEC is subtracted from the scheduled completion date to establish the jeopardy interval for any order placed in jeopardy. The jeopardy interval is accumulated by standard order activity with the resulting accumulated time then divided by the count of orders associated with the particular service and standard order activity.

Completion Interval = Σ[(Date and Time of Notice of Completion Issued to the CLEC) - (Date and Time of Work Completion by ILEC)]/(Number of Orders Completed in Reporting Period)

Completion Notice Interval is the elapsed time between the ILEC technician's reported completion of physical work and the issuance of a valid completion notice to the CLEC. Where physical work is not required, such as in the case of software-only changes, the elapsed time will be measured beginning at 5:00 p.m. local time of the date for the committed completion and will end when the ILEC returns a valid completion notice to the CLEC. If a valid completion notice is returned before 5:00 p.m. on the committed completion date and no physical work is involved, then the elapsed time will be recorded as 1/10 hour. The elapsed time is accumulated by order type with the resulting accumulated time then divided by the count of orders associated with the particular service and order type.

% Jeopardies = (Number of Orders Jeopardized in Reporting Period)/(Number of Orders Confirmed in Reporting Period)

Percentage Jeopardies Returned is the percentage of total orders processed for which the ILEC notifies the CLEC that the work will not be completed as committed on the original FOC. The measurement result is derived by dividing the count of jeopardy notices the ILEC issues to the CLEC by the count of FOC returned by the ILEC during the identical period. Both the "Number of Orders Jeopardized in Reporting Period" and "Number of Orders Confirmed in Reporting Period" are utilized in other status measurement computations.

For ILEC Results: Same computation as the CLEC with the clarifications outlined below.

Other Clarifications and Qualification:

- When the ILEC processes orders for a CLEC via different interfaces (e.g., ASR and EDI) then the preceding measurement must be computed for each interface arrangement.
- All intervals are measured in hours and hundredths of hour rounded to the nearest hundredth.
- Because this should be a highly automated process, the accumulation of elapsed time continues through off-schedule, weekends and holidays.
- "Syntactically correct" means all fields required to process an order are

	populated and reflect the correct format. • The ILEC service agent's attempt to submit an order for processing by the ILEC OSS is considered equivalent to the ILEC acknowledgment of the CLEC's order. • The ILEC OSS return of any indication to the service agent that an order cannot be processed as submitted is considered equivalent to the ILEC return of a rejection notice to the CLEC. • Return of any information (e.g., order recapitulation) to the ILEC customer service agent that indicates the order can be processed, is the equivalent of the ILEC return of a FOC to the CLEC. • Logging of information in the ILEC OSS, whether manual or automatic, that indicates an order may not be completed by the existing due date, is equivalent of the return of a jeopardy notice to the CLEC regardless of whether or not the ILEC takes action based upon such information. • Automatic logging of work completion and manual logging of work completion, whether input to directly to the ILEC OSS or into an intermediate storage devise, is consider the equivalent of the return of a completion notice to the CLEC.

Reporting Dimensions:	**Excluded Situations:**
• Standard Order Activities (See Appendix A) • Geographic Scope	• Rejection Interval - None • Jeopardy Interval - None • Firm Order Confirmation Interval - None • Completion Notification Interval - None • Percentage Jeopardies Returned - None
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • CLEC Order Number • Order Submission Date • Order Submission Time • Status Type (Rejection, FOC, Jeopardy Type, Completion Notice) • Status Notice Date • Status Notice Time • Standard Order Activity • Geographic Scope	• Report Month • Status Type (Rejection, FOC, Jeopardy Type, Completion Notice) • Average Status interval • Standard error of status interval • Standard Order Activity • Geographic Scope

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • no less than 97% of Rejects in a reporting period are returned within 15 seconds • all Firm Order Confirmations are returned within 4 hours • no less than 97% of order completions are returned within 30 minutes of work completion • no less than 97% of Jeopardies should be received by the CLEC a minimum of 2 business days prior to the due date indicated on the final FOC • no more than 5% of the total number of orders should result in a Jeopardy in any given report period

Service Quality Measurements
Measurement Detail

Function:	Held Orders
Business Implications:	Customers expect that work will be completed when promised. Therefore, when delays occur in completing CLEC orders, there must be assurances that the average period that CLEC orders are held, pending a delayed completion, is no worse for the CLEC when compared to ILEC orders.
Measurement Methodology:	**Held Order Interval = Σ(Reporting Period Close Date - Committed Order Due Date) / (Number of Orders Pending and Past The Committed Due Date) for all orders pending and past the committed due date** **For CLEC Results:** This metric is computed at the close of each report period. The held order interval is established by first identifying all orders, at the close of the reporting interval, that both have not been reported as "completed" via a valid completion notice and have passed the currently "committed completion date" for the order. For each such order the number of calendar days between the committed completion date and the close of the reporting period is established and represents the held order interval for that particular order. The held order interval is accumulated (by standard service grouping and reason for the order being held, if identified.) The total number of day accumulated in a category is then divided by the number of held orders within the same category to produce the mean held order interval. **(# of Orders Held for ≥ 90 days) / (Total # of Orders Pending But Not Completed) x 100** **(# of Orders Held for ≥ 15 days) / (Total # of Orders Pending But Not Completed) x 100** This "percentage orders held" measure is complementary to the held order interval but is designed to detect orders continuing in a "non-completed" state for an extended period of time. Computation of this metric utilizes a subset of the data accumulated for the "held order interval" measure. All orders, for which the "held order interval" equals or exceeds 90 (or 15) days, are counted by service type. The total number of pending and past due orders for the same service type are counted (as was done for the held order interval) and divided into the count of orders held past 90 (or 15) days. **For ILEC Results:** Same computation as for the CLEC with the clarifications provided below.. **Other Clarifications and Qualification:** • The "held order" measure established by some state commissions as part of minimum service standards is analogous to this proposed measure but, because it is typically limited to monitoring only those orders held because of facility shortages, needs to be expanded to include all reasons that an order is past due. • **Order Supplements -** If the CLEC initiates a supplement to the originally submitted order for the purpose of reflecting changes in customer requirements, then the due date returned on the FOC will be the basis for the preceding calculations. No other supplemental order activities will result in an update to the committed due date. • See "Order Status" measurement definitions for discussion of the ILEC analog to a completion notice.

	• The held order interval is measured in calendar rather than business days.
Reporting Dimensions:	**Excluded Situations:**
• Service - Standard Service Groupings (See Appendix A) • Reason for Hold (no facilities, no equipment, workload, other) • Geographic Scope	• Any orders canceled by the CLEC will be excluded from this measurement. • Order Activities of the ILEC associated with internal or administrative use of local services
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • CLEC Order Number • Committed Due Date • Order Submission Date • Service Type • Hold Reason • Geographic Scope	• Report Month • Average Held Order Interval • Standard Error for Average Held Order. Interval • Service Type • Hold Reason • Geographic Scope
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Less than 0.1% of orders held for more than 15 calendar days • No orders held for more than 90 calendar days

Service Quality Measurements
Measurement Detail

Maintenance and Repair (MR)

Function:	**Time To Restore**
Business Implications:	Customers expect prompt restoral of service to the normal operating parameters whenever troubles are detected. The longer the time required to correct a service problem, the greater the customer dissatisfaction. This measure, when collected for both the CLEC and ILEC and compared, monitors that CLEC maintenance requests at least as quickly as ILEC maintenance requests.
Measurement Methodology:	**Mean Time To Restore = Σ[(Date and Time of Ticket Closure)-(Date and Time of Ticket Creation)] / (Count of Trouble Tickets Closed in Reporting Period)** **For CLEC Results:** The restoral interval for resolution of customer requested maintenance and repair is the elapsed time, measured in hours and tenths of hours, measured from the CLEC logging a trouble ticket with the ILEC, regardless of the ultimate resolution of the trouble, to the time the ILEC returns a valid trouble resolution notification to the CLEC. The elapsed time is accumulated by service type and trouble disposition for the reporting period. The accumulated time is divided by the count of maintenance tickets reported as resolved by the ILEC (by service type and trouble disposition and cause) during the report period. **For ILEC Results:** Same computation as for the CLEC. **Other Clarifications and Qualification:** • This measure is analogous to the Out Of Service Measure of the ILEC with the exception that all trouble causes are monitored and that the average time to restore is reported rather than a comparison to a target (the same underlying data is required for both computations) • Elapsed time is measured on a 24 hour day, seven days a week basis. The time is measured in hours and hundredths of hours rounded to the nearest hundredth hour. • Multiple reports for the same customer service are treated as separate incidents. • "Restore" means to return to the normally expected operating parameters for the service regardless of whether or not the service, at the time of trouble ticket creations, was operated in a degraded mode or was completely unusable. • A trouble ticket or trouble report is any record (whether paper or electronic) by the ILEC for the purpose of monitoring action and disposition of a service repair or maintenance situation. • ILEC acceptance of a trouble by the call receipt agent is considered equivalent to the CLEC logging or submitting a trouble to the ILEC. • The ILEC closure of a trouble ticket (whether automatic or manual) is considered equivalent to returning a trouble resolution notice to the CLEC.

Reporting Dimensions:	**Excluded Situations:**
• Service - Standard Service Groupings (See Appendix A) • Disposition and Cause (See Appendix A) • Geographic Scope	• Trouble tickets that are canceled at the CLEC request • ILEC trouble reports associated with administrative service • Instances where the CLEC or an ILEC customer requests that a ticket be "held open" for monitoring.

Service Quality Measurements
Measurement Detail

	• Subsequent Reports (additional reports on an already open ticket).
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • CLEC Ticket # • Ticket Submission Time • Ticket Submission Date • Ticket Completion Time • Ticket Completion Date • Service Type • WTN or CKTID (a unique identifier for elements combined in a service configuration) • Disposition and Cause • Geographic Scope	• Report Month • Average Restoral Interval • Standard Error for the Average Restoral Interval • Service Type • Disposition and Cause • Geographic Scope
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Out of Service conditions where dispatch is required: •≥90% resolved within 4 hours •≥95% resolved within 8 hours •≥99% resolved within 16 hours • Out of Service conditions where no dispatch is required: •≥85% resolved within 2 hours •≥95% resolved within 3 hours •≥99% resolved within 4 hours • ≥ all other troubles resolved within 24 hours

Service Quality Measurements
Measurement Detail

Function:	**Frequency of Repeat Troubles**
Business Implications:	Customers are keenly aware of the effectiveness of repair activities. First time troubles are sufficiently annoying and disruptive. When the trouble recurs within a short time frame it is even more dissatisfying. This measurement, when gathered for both the ILEC and CLEC can establish whether or not CLECs are competitively disadvantaged (vis-à-vis the ILEC) as a result of experiencing more frequent occurrence of customer troubles not being resolved in the first attempt to repair the trouble. Differences in this measure may indicate that the CLEC is receiving inferior maintenance support in the initial resolution of troubles or, in the alternative, it may indicate that the network components supplied are of inferior quality.
Measurement Methodology:	**Repeat Trouble Rate = (Count of Service Access Line Generating More Than One Trouble Within a Continuous 30 Day Period) / (Number of Reports in the Report Period) x 100** **For CLEC Results:** The repeat trouble rate measure is computed by accumulating the number of instances where a trouble ticket is submitted by a CLEC to the ILEC for a service arrangement that had at least one prior trouble ticket any time in the 30 calendar days preceding the creation of the current trouble ticket. The number of repeat troubles are accumulated for the reporting period by service type. The count of repeat troubles, by service type, is divided by the count of initial trouble reports (by service type) received during the report period. **For ILEC Results:** Same computation as for CLECs. **Other Clarifications and Qualification:** • No trouble types excluded (for example, trouble dispositions of "no access" are included) • Unbundled loops or UNE combination involving and unbundled loops are considered a "service access line". • The "same service arrangement" means a trouble report being reported for the same telephone number or the same circuit identifier. • The trouble resolution need not be identical between the repeated reports for the incident to be counted as a repeated trouble.

Reporting Dimensions:	**Excluded Situations:**
• Service - Standard Service Groupings (See Appendix A) • Disposition and Cause (See Appendix A) • Geographic Scope	• Trouble tickets that are canceled at the CLEC request • ILEC trouble reports associated with administrative service • Instances where the CLEC or an ILEC customer requests that a ticket be "held open" for monitoring. • Subsequent trouble report(s) on a maintenance ticket that has (have) not been reported as resolved (or closed)

Service Quality Measurements

Measurement Detail

Data Retained Relating To CLEC Experience:	Data Retained Relating To ILEC Performance:
• Report Month • CLEC Ticket # • Ticket Submission Time • Ticket Submission Date • Ticket Completion Time • Ticket Completion Date • Service Type • WTN or CKTID (a unique identifier for elements combined in a service configuration) • Disposition and Cause • Geographic Scope	• Report Month • % repeat trouble • Service Type • Disposition and Cause • Geographic Scope

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Less than 1% of trouble reports, by service type, experience a repeat report, regardless of the trouble disposition, within a 30 day period.

Service Quality Measurements
Measurement Detail

Function:	**Frequency of Troubles (Troubles per 100 lines)**
Business Implications:	Customers demand high quality of service performance from their supplier and differentials in performance are quickly recognized throughout the market place. Poor performance is difficult to overcome and may require lengthy periods of sustained superb performance in order to re-establish a product image that has been tarnished. When measured for both the ILEC and CLEC and compared, this measure can be used to establish that CLECs are not competitively disadvantaged, compared to ILEC, as a result of experiencing more frequent incidents of trouble reports. Disparity in this measure may indicate differences in the underlying quality of the network components supplied.
Measurement Methodology:	**Trouble Rate = (Count of Initial & Repeated Trouble Reports in the Current Period) / (Number of Service Access Line in Service at End of the Report Period) x 100** **For CLEC Results:** The frequency of trouble metric is computed by accumulating, by standard service grouping and disposition and cause, the total number of maintenance tickets logged by a CLEC (with the ILEC) during the reporting period. The resulting number of tickets for each disposition and cause is accumulated within each standard service grouping, is divided by the total number of "service access lines" existing for the CLEC at the end of the report period. **For ILEC Results:** Same calculation as for the CLEC with the clarifications provided below. **Other Clarifications and Qualification:** • This measure is frequently a minimum service standard required by state commissions for monitoring ILEC performance. • There are no trouble types that are excluded from this measurement. • Unbundled loops or UNE combinations involving unbundled loops would be counted as a "service access line". • See the "Time to Restore" measurement for a discussion of the ILEC equivalent of "trouble tickets" and "trouble logging".

Reporting Dimensions:	**Excluded Situations:**
• Standard Service Groupings (See Appendix A) • Disposition and Cause (See Appendix A) • Geographic Scope	• Trouble tickets that are canceled at the CLEC request • ILEC trouble reports associated with administrative service • Instances where the CLEC or an ILEC customer requests a ticket be "held open" for monitoring.

Service Quality Measurements
Measurement Detail

Data Retained Relating To CLEC Experience:	Data Retained Relating To ILEC Performance:
• Report Month • CLEC Ticket # • Ticket Submission Time • Ticket Submission Date • Ticket Completion Time • Ticket Completion Date • Service Type • WTN or CKTID (a unique identifier for elements combined in a service configuration) • Disposition and Cause • Geographic Scope	• Report Month • Trouble Rate • Service Type • Disposition and Cause • Geographic Scope
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Less than 1.5% of lines, by service type, experience a trouble in a report period.

Service Quality Measurements
Measurement Detail

Function:	**Estimated Time To Restore Met**
Business Implications:	When customers experience trouble on working services, they naturally expect the services to be restored within the time frame promised. When such commitments are not fulfilled, an already unsatisfactory condition, in the customer's eyes, becomes even worse. When this measure is collected for the ILEC and CLEC and then compared, it can be used to establish that CLECs are receiving equally reliable (as compared to the ILEC operations) estimates of the time required to complete service repairs.
Measurement Methodology:	**Percentage of Customer Troubles Resolved Within Estimate = (Count of Customer Troubles Resolved By The Quoted Resolution Time and Date) / (Count of Customer Troubles Tickets Closed) x 100** **For CLEC Results:** The computation of the measure is as follows: The quoted repair completion date and time is compared to the actual repair date and time (ticket closure as defined in Time to Restore metric). In each instance where the actual repair date and time is on or before the initially provided estimated or quoted date and time to restore, the count of "troubles resolved within estimate" is incremented by one for the relevant "service type" and "disposition and cause". The resulting count is divided by the total number of troubles resolved (for the consistent service type - disposition and cause), for the report period, where a estimated interval was provided or a standard interval existed. **For ILEC Results:** Same as for CLEC. **Other Clarifications and Qualification:** • The ILEC analog for this measure is derived by comparing the actual date and time of ILEC trouble ticket closure compared to the projected trouble clearance date and time established through the ILEC agent's on-line interaction with the work management system of the ILEC, regardless of whether or not the ILEC currently quotes this information to its retail customer. • There are no trouble types that are excluded from this measurement. • See the "Time To Restore" measurement for discussion of analogous ILEC maintenance activities (e.g., trouble resolution). • The "quoted" or "estimated" time to restore is the actual schedule time projection returned by the ILEC work management system or the standardized repair interval that the ILEC uses for its own operations when equivalent service arrangements are involved. • If the ILEC supplies only the estimated repair interval, then the estimated date and time of repair is determined by adding the repair interval to the date and time that the CLEC logged the repair request with the ILEC.

Reporting Dimensions:	**Excluded Situations:**
• Service - Standard Service Groupings (See Appendix A) • Disposition and Cause (see Appendix A) • Geographic Scope	• Trouble tickets that are canceled at the CLEC request • ILEC trouble reports associated with administrative service • Instances where the CLEC or an ILEC customer requests a ticket be "held open" for monitoring.

Service Quality Measurements
Measurement Detail

Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • CLEC Ticket # • Ticket Submission Time • Ticket Submission Date • Ticket Completion Time • Ticket Completion Date • Service Type • WTN or CKTID (a unique identifier for elements combined in a service configuration) • Disposition and Cause • Geographic Scope	• Report Month • Percentage of Customer Troubles Resolved Within Estimate • Service Type • Disposition and Cause • Geographic Scope

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Greater than 99% of a maintenance problems, by service type, are corrected by the quoted or estimated date and time of repair.

Service Quality Measurements
Measurement Detail

General (GE)

Function:	**Systems Availability**
Business Implications:	Access to essential business functionality, supported by OSS of the ILEC, is absolutely essential to CLEC operations. This measure monitors that such OSS functionality is at least as accessible to the CLEC as to the ILEC.
Measurement Methodology:	**% System Availability = [(Hours Functionality is Available to CLECs During Report Period) / (Number of Hours Functionality was Scheduled to be Available During the Period)] x 100** **For CLEC Results:** The total "number of hours functionality was scheduled to be available" is the cumulative number of hours (by date and time on a 24 hour clock) over which the ILEC planned to offer and support CLEC access to ILEC OSS functionality during the reporting period. The ILEC must provide a minimum advance notice of one reporting period regarding availability plans and such plans must be interface-specific. If scheduled availability is not provided with at least one report period advance notice then the default availability for the subsequent reporting period will be seven days per week, 24 hours per day. "Hours Functionality is Available" is the actual number of hours, during scheduled available time, that the ILEC gateway or interface is capable of accepting CLEC transactions or data files for processing in the gateway / interface and supporting OSS. The actual time available is divided by the scheduled time available and then multiplied by 100 to produce the "% system availability" measure. The "% system availability" measure is required for each unique interface type offered by the ILEC . **For ILEC Results:** Each OSS of the ILEC that is employed in the support of CLEC operations must first be identified by supported functional area (e.g., pre-ordering, ordering and provisioning, repair and maintenance and billing) with such mapping disclosed to the CLECs. The "available time" and "scheduled available time" is gathered for each of the identified ILEC OSS during the report period. The OSS function availability is computed based upon the weighted average availability of the subtending support OSS. That is, the available time for each OSS supporting a functional area is accumulated over the report period and then divided by the summation of the scheduled available time for those same supporting OSS. **Other Clarifications and Qualification:** • The ILEC analogs for this performance measure are the internal measures of system downtime (up time) typically established between the ILEC Systems Management Organization and the client organizations. • OSS scheduled and available time may be utilized in the computation of more than one functional area. • Parity exists if the CLEC "% system availability" $\geq$ ILEC function availability for the functionality accessed by the CLEC. • "Capable of accepting" must have a meaning consistent with the ILEC definition of down time, whether planned or unplanned, for internal ILEC systems having a comparable potential for customer impact. • Time is measured in hours and tenths of hours rounded to the nearest tenth of an hour.

Service Quality Measurements
Measurement Detail

Reporting Dimensions:	**Excluded Situations:**
• Interface type offered for each functional area (See Appendix A) • Business Period (8:00AM to 8:00PM local time versus 8:00PM to 8:00AM , weekends and holidays)	• None
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • Interface Type (Identifies each unique interface available to CLECs) • Scheduled Hour Available • Actual Hours Available	• Report Month • Functionality Identification • % Availability of Functionality
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Less than 0.1% of unplanned down time, by interface type, during either business period .

Service Quality Measurements
Measurement Detail

Function:	Center Responsiveness
Business Implications:	When CLECs experience operational problems dealing with ILEC processes or interfaces, prompt support by the ILEC is required in order to assure that the CLEC customers are not adversely impacted. Any delay in responding to CLEC center requests for support (e.g., request for a vanity telephone number) will, in turn, adversely impact the CLEC retail customer who may be holding on-line with the CLEC customer service agent. This measure, when gathered for both the CLEC and ILEC, monitors that ILEC handling of support calls from CLECs is at least as responsive as for calls by ILEC retail customers seeking assistance (e.g., calling the business office of the ILEC or call the ILEC to report service repair issues).
Measurement Methodology:	**Mean Time to Answer Calls = Σ [(Date and Time of Call Answer) - (Date and Time of Call Receipt)]/(Total Calls Answered by Center)** **Call Abandonment Rate = (Count of Calls Terminated Before Answer During the Reporting Period)/(Count of All Calls Placed in Queue During the Reporting Period)** **For CLEC Results:** Speed of answer (mean time to answer calls) and call abandonment rates are monitored through the call management technology utilized to distribute calls to ILEC agents supporting CLEC activities (i.e., call receipt personnel staffing ILEC support centers intended for CLEC use). Results for each measure are to be provided separately for each center handing CLEC inquiries. If centers deployed by the ILEC support multiple functions (e.g., both maintenance and provisioning) then the results for each function supported should be separately reported, if feasible. Speed of Answer is determined by measuring and accumulating the elapsed time from the entry of a CLEC call into the ILEC call management system until the CLEC call is transferred to the ILEC personnel assigned to handling CLEC calls for assistance. The elapsed time is measured in seconds and tenths of seconds rounded to the nearest tenth of a second. The Call Abandonment Rate is also monitored through the call management technology for the CLEC service agents. The number of calls received by the call distribution system is counted for the reporting period, regardless whether the call actually is transferred to an agent for processing. In addition, a count is accumulated of all calls received into the call distribution system that are subsequently terminated by the calling party or due to equipment failure before transfer to the service agent for processing. This call termination may occur at any point (e.g., the call may be within an Automatic Call Distributor, within a Voice Response Unit, in an answer queue, or at any other point in the call management system.) **For ILEC Results:** Both Speed of Answer and Call Abandonment Rate, as it relates to the ILEC, will be measured in an identical manner as described for the CLEC. The results for the ILEC business office operations and its repair bureau operations should be separately accumulated, computed and retained. Where call receipt for such operations are commingled and inseparable, then only a single results for each

measure will be generated and serve as the comparative result for both the CLEC repair support and the CLEC provisioning support results.

Other Clarifications and Qualification:

- Speed of Answer minimum service standards, established in many states for business office, maintenance center, and/or operator services represent a similar ILEC measure and are derived from identical data (although the result displayed may be in comparison to a pre-established standard performance minimum)
- For ILEC and CLEC calls, an ILEC Agent answering and placing the caller on hold does not stop timing for purposes of the speed of answer interval.
- A Voice Response Unit does not stop the timing for purposes of the speed of answer interval. For a call to be considered answered, the live ILEC Agent must handle the CLEC request.
- Results may be reported for the CLEC industry in aggregate to the extent separate carrier-specific support centers are not provided. If separate centers are provided (either for an individual CLEC or a group of CLECs) then results should be gathered and supplied for each center and reported to the CLEC(s) based upon the center providing the specific CLEC's support.
- If the ILEC call management technology cannot measure speed of answer for on a call-specific basis, then an alternate methodology that simulates speed of answer based upon the average time for component parts of the call (e.g., queue to IVR + IVR to queue + queue to agent answer) can be utilized by mutual consent of the ILEC and CLECs.

Reporting Dimensions:	**Excluded Situations:**
• Support Center Type (i.e., Center supporting CLEC maintenance, Center supporting CLEC provisioning, ILEC Center supporting retail customer maintenance calls, ILEC Center supporting business office inquiries).	• None
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Month • Center Type • Mean Speed of Answer • Standard Error for Mean Speed of Answer • Call Abandonment Rate	• Month • Center Type • Mean Speed of Answer • Standard Error for Mean Speed of Answer • Call Abandonment Rate

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Greater than 95% of the calls, by center, are answered within 20 seconds • All calls are answered within 30 seconds.

Service Quality Measurements
Measurement Detail

Billing (BI)

Function:	**Timeliness Of Billing Record Delivery**
Business Implications:	Regardless whether the billing is for retail customer or exchange access service, the timing of ILEC delivery of billing records must provide CLECs with the opportunity to delivery timely bills in as timely a manner as the ILEC; otherwise artificial competitive advantage would be realized by the ILEC. The "mean time to provide recorded usage" and the "mean time to deliver invoices" monitor this situation.
Measurement Methodology:	**Mean Time to Provide Recorded Usage Records ={ Σ[(Data Set Transmission Date)-(Date of Message Recording)]}/(Count of All Messages Transmitted in Reporting Period)** **Mean Time to Deliver Invoices = Σ[(Invoice Transmission Date)-(Date of Scheduled Bill Cycle Close)]/(Count of Invoices Transmitted in Reporting Period)** **For CLEC Results:** Usage Records: This measure captures the elapsed time between the recording of usage data generated either by CLEC retail customers or by CLEC access customers (by the AMA recording equipment associated with the ILEC switch) and the time when the data set, in a compliant format, is successfully transmitted to the CLEC. For each usage record, the calendar date and time of usage recording is compared to the calendar date and time of successful completion of data set transmission to the CLEC. The number of hours and tenths of hours elapsed between message recording and data set transmission will constitute the elapsed delivery time. The elapsed delivery time is accumulated for each usage record with the resulting total number of hours accumulated being divided by the number of complete usage records in all the data sets transmitted. Invoices: This measure captures the elapsed number of days between the scheduled close of a Bill Cycle and the ILEC's successful transmission of the associated invoice to the CLEC. For each invoice, the calendar date of the scheduled close of Bill Cycle is compared to the calendar date that successful invoice transmission to the CLEC completes. The number of calendar days elapsed between scheduled Bill Cycle close and completion of invoice transmission will constitute the elapsed delivery time. The elapsed delivery time is accumulated for each invoice with the resulting total number of days accumulated being divided by the number of complete invoices sent in the reporting period. **For ILEC Results:** Identical computations are made for the ILEC with the clarifications provided below. **Other Clarifications and Qualification:** • The elapsed time for delivery of ILEC usage records is measured from the time of message recording, as captured on the AMA tape of the ILEC, to the time the reformatting of the AMA tape to an EMR format (or equivalent) is completed. • The elapsed time for ILEC invoice delivery is measured from the scheduled

	close date of the retail customer bill cycle to the production of the customer bill in electronic format (i.e., bill is ready for printing) appropriate for delivery to retail customers regardless whether or not such a distribution is immediately undertaken. • Mean time to deliver usage records is to be reported separately for end user usage, access related usage. • Alternately billed usage (e.g., bill-to-third party, collect, credit card usage processed through CMDS), although commingled on the daily usage feeds to the CLEC, is to be monitored separately from the directly billed usage with respect to timeliness because of the different and more time consuming settlements and clearing process associated with such usage.
Reporting Dimensions: • End user usage records • Access usage records • Alternately billed usage records • Wholesale Bill Invoices (TSR) • Unbundled Element Invoices (UNE)	**Excluded Situations:** • Any usage records or invoices rejected due to formatting or content errors.
Data Retained Relating To CLEC Experience: • Report Monthly • Record Type or Invoice Type • Mean Delivery Interval • Standard Error of Delivery Interval	**Data Retained Relating To ILEC Performance:** • Report Month • Record Type or Invoice Type • Mean Delivery Interval • Standard Error of Delivery Interval

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete:
	• For usage records, separately for access usage and end user usage:
	  • Greater than 99.9% records received within 24 hours or usage recording
	  • All usage is received within 48 hours of usage recording
	• Greater than 99.95% of services resale invoices received within 10 calendar days of bill cycle close
	• Greater than 99.95% of wholesale (UNE) invoices received within 10 calendar days of bill cycle close.

Service Quality Measurements
Measurement Detail

Function:	**Accuracy of Billing Records**
Business Implications:	The accuracy of billing records affects the accuracy of the billing ultimately delivered to local service customers, whether retail service or exchange access service customers. Billing for the elements from which CLEC services are constructed must be validated to assure that only correct charges are paid. This validation is necessary to assure that the cost structure for services is not inflated. Furthermore, charges such as "time and material" related charges may be on the invoice and need to be promptly passed on to customers (by CLECs) to avoid dissatisfaction regarding the timeliness of CLEC billing and to minimize customer inquiries on late billing. Fair competition requires that the accuracy of billing records (both usage and invoices) delivered by the ILEC to the CLEC must provide CLECs with the opportunity to delivery bills at least as accurate as those delivered by the ILEC. Producing and comparing this measurement result for both the ILEC and CLEC allows a determination as to whether or not parity exists.
Measurement Methodology:	**Invoice Accuracy = [(Number of Invoices Delivered in the Reporting Period that Have Complete Information, Reflect Accurate Calculations and are Properly Formatted) / Total Number of Invoices Issued in the Reporting Period)] x 100** **Usage Accuracy = [(Number of Usage Records Delivered in the Reporting Period That Reflected Complete Information Content and Proper Formatting) / (Total Number of Usage Records Transmitted)] x 100** **For CLEC Results:** The completeness of content, accuracy of information and conformance of formatting will be determined based upon the terms of the individual CLEC interconnection agreements with the ILECs. The ILEC will establish a quality control process that is disclosed to CLECs and that is no less rigorous than the most rigorous quality monitoring established in the ILEC billing service contracts for long distance service providers. The quality monitoring process must be disclosed in advance and process auditing must be permitted. The records and invoices delivered by the ILEC must simultaneously meet the standards relating to content, accuracy and formatting in order to be counted as accurate. Each of the above measurements, is expressed as a ratio (expressed as a percentage) of accurate records (or invoices) to the total records (or invoices) delivered. **For ILEC Results:** The results computation for the ILEC is identical to that described for the CLECs. The usage accuracy determination is based upon comparison of the usage records, following conversion to the EMR (or equivalent) format as compared to the internally established content and formatting requirements. Likewise, the accuracy measure for invoice delivery will be based upon a statistically reliable comparison of ILEC invoices to the content, calculation methodology and formatting standards of the ILEC. Separate comparisons are to be made for retail service invoices and access invoices with the results compared to wholesale (TSR) and UNE invoices, respectively. **Other Clarifications and Qualification:** • The usage accuracy measure identified here is similar to the type of measures that the ILEC commonly has instituted in service contracted established with long distance service suppliers who use ILEC billing

	services. • The wholesale invoice accuracy identified here is analogous to the measures contained within the Billing Quality Assurance Programs that the ILECs have with IXCs for monitoring access billing quality. If a sampling process is used to monitor accuracy, then the study results must be reconfirmed no less than quarterly.
Reporting Dimensions: • End user usage records • Access usage records • Alternately billed usage records • Wholesale Bill Invoices (TSR) • Unbundled Element Invoices (UNE)	**Excluded Situations:** • None
Data Retained Relating To CLEC Experience: • Report Month • Record or Invoice Type (per Reporting Dimensions) • Accuracy	**Data Retained Relating To ILEC Performance:** • Report Month • Record or Invoice Type (per Reporting Dimensions) • Accuracy
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Greater than 98% of usage records transmitted, by usage type, reflect the agreed upon format and contain complete information. • Greater than 98% of wholesale bill, by invoice type, are financially accurate

Service Quality Measurements
Measurement Detail

Operator Services and Directory Assistance (OS, DA)

Function:	**Speed To Answer**
Business Implications:	In order to assure that an unjustified competitive advantage is not created for the ILEC, the speed of answer delivered to CLEC retail customers, when the ILEC provides Operator Services or Directory Services on behalf of the CLEC, must be no slower than the speed of answer that the ILEC delivers to its own retail customers of equivalent local services.
Measurement Methodology:	**Mean Time To Answer =[Σ(Date and Time of Call Answer) - (Date and Time of Call Receipt)]/(Total Calls Answered on Behalf of CLECs in Reporting Period)** **For CLEC Results:** Speed of answer and call abandonment rates are monitored through the call management technology used to distribute calls to ILEC agents supporting CLEC activities (i.e., call receipt personnel staffing Directory Assistance or Operator Service Positions). Speed of Answer is determined by measuring and accumulating the elapsed time from the entry of a CLEC retail customer call into the ILEC call management system queue until the CLEC retail customer call is transferred to the ILEC personnel assigned to handling CLEC calls for assistance (whether DA or OS). The elapsed time is measured in seconds and tenths of seconds rounded to the nearest tenth of a second. **For ILEC Results:** Identical measures as described for the CLEC with the clarification provided below. **Other Clarifications and Qualification:** • This measure is directly analogous to speed of answer minimum service standards established within many states. • Results may be reported for the CLEC industry in aggregate. • See the "Center Responsiveness" measurement for the treatment of the situation where ILEC call management technology cannot measure speed of answer on a call basis from receipt to answer.

Reporting Dimensions:	**Excluded Situations:**
• Operator Services in Aggregate • Directory Assistance • Processing Method (human versus machine processes)	• Call abandoned by customers prior to answer by the ILEC OS or DA operator
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Month • Call Type (OS or DA) • Mean Speed of Answer • Standard Error for Mean Speed of Answer	• Month • Call Type (OS or DA) • Mean Speed of Answer • Standard Error for Mean Speed of Answer

Service Quality Measurements
Measurement Detail

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • More than 90% of call involving answer by a "live" agent, separately for OS and DA services, are answered within 10 seconds. • All calls involving answer by a Voice Response Unit, separately for OS and DA services, are answered within 2 seconds.

Service Quality Measurements
Measurement Detail

Network Performance (NP)

Function:	**Network Performance Parity**
Business Implications:	The perceived quality of CLEC retail services, particularly when either ILEC services are resold or UNE combinations are employed, will be heavily influenced by the underlying quality of the ILEC network performance. Customers experience the quality of the service provider each time services are used. This metric monitors, when collect for both the CLEC and ILEC and then compared will help show whether CLEC network performance is at least at parity with ILEC network performance.
Measurement Methodology:	**Network Performance Parity = Σ(Network Performance Parameter Result)/(Number of Tests Conducted)** **For CLEC Results:** Based upon a random and statistically reliable (at a preset level) sample of network configurations employed by the CLEC, the network performance parameter (as indicated in the reporting dimension) is monitored based upon generally accepted testing procedures and the resulting parameter value(s) recorded. The measured values are accumulated across the sample base and the mean and associated variance computed **For ILEC Results:** The approach is identical to that described for the CLEC, except that the network performance is measured only for representative ILEC service configurations. **Other Clarifications and Qualification:**

Reporting Dimensions:	**Excluded Situations:**
• Transmission Quality (See Appendix A) • Speed of Connection (See Appendix A) • Reliability (See Appendix A)	• None
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Report Month • Reporting Dimension • Mean Performance Result • Standard Error of Mean Performance • Number of Data Points • Geographic scope	• Report Month • Reporting Dimension • Mean Performance Result • Standard Error of Mean Performance • Number of Data Points • Geographic scope

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Performance Standards in this area are yet to be published.

Service Quality Measurements
Measurement Detail

Interconnection/Unbundled Elements and Combinations (IUE)

Function:	**Availability of Network Elements**
Business Implications:	As CLECs use individual elements as well as element combinations to deliver unique services, it is essential that the UNE functionality operate properly due to the crucial role played by such elements in providing quality retail services. This measure monitors individual network element or element combinations, that do not have an apparent retail analog, to assure that CLECs have a meaningful opportunity to compete through access to and use of element (or combination) functionality.
Measurement Methodology:	**Function Availability[1] = (Amount of Time[2] a Functionality is Useable[1] by a CLEC in a Specified Period)/(Total Time[2] Functionality Was Intended to Be Useable)** **Notes:** **1. These measure may also be expressed in the negative, that is, in term of unavailability.** **2. In some instances, rather than time, the availability will be express in terms of transactions executed successfully compared to transactions attempted.** **For CLEC Results:** Availability will be measured for each unique UNE functionality (or combination of UNEs) that deliver a unique functionality that does not have a reasonable retail service analog. The number of times that the functionality executes properly will be shown in comparison to the number of times that the execution of the functionality was requested or initiated. Availability can apply to both physical and logical (e.g., database) elements. Physical element availability (e.g., links to databases, dedicated transport, etc.) will typically be expressed as the % of time that the functionality is useable compared to the total time in the period being observed. "Useable" will typically means that, when monitored, the element indicates readiness to operate (e.g., an electrical (or equivalent) continuity is detected, expected signaling is returned, etc.). Logical element availability will typically be expressed in terms of the number of transactions successfully executed (e.g., successful database updates, success query responses) compared to the number of transactions attempted. Illustrative examples of availability measures are shown below • A-link: minutes unavailable per year • D-link: seconds unavailable per year • databases: percentage of queries receiving a response • databases: percentage of transactions experiencing time-outs • databases: percentage of queries experiencing a return of unexpected values • routing: percentage of calls blocked **For ILEC Results:** Identical measurements are performed where the ILEC employs the same or reasonably comparable functionality. Where such analogs do not exist, the ILEC is expected to establish benchmark performance levels jointly with the CLEC requesting the functionality. **Other Clarifications and Qualification:**

	• The preceding list of elements is illustrative and is not to be considered exhaustive • ILEC failure to provide timeliness performance that is no worse than what its own operations experience when using comparable functionality or, where comparable functionality is not employed, failure to meet or exceed parameters established as result of negotiation with the CLEC, constitutes failure to deliver nondiscriminatory access. • For each element or element combination requested, where a retail analog is not identified, the ILEC is expected to establish both a availability measure and an availability standard (ILEC functional analog or negotiated) unless the CLEC waives its right for such a measure. • Typical databases for which standards are currently expected are AIN, LIDB and 800 Number.

Reporting Dimensions:	**Excluded Situations:**
• By unique UNE or UNE combinations requested by the CLECs	• None
Data Retained Relating To CLEC Experience:	**Data Retained Relating To ILEC Performance:**
• Month • Element or Element Combination Identification • Result for Agreed Upon Availability Parameter	• To Be Determined

Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Performance Standards in this area are yet to be published.

Service Quality Measurements
Measurement Detail

Function:	**Performance of Network Elements**
Business Implications:	As CLECs use individual elements (as well as element combinations) to deliver unique services, it is essential that the UNE functionality operates in a timely manner because of the crucial role played by such elements in providing quality retail services. This measure monitors individual network element (or element combinations), that do not have an apparent retail analog, to assure that CLECs are afforded a meaningful opportunity to compete when element (or combination) functionality is utilized.
Measurement Methodology:	**Timeliness of Element Performance = (Number of Times Functionality Executes Successfully Within the Established Timeliness Standard)/(Number of Times Execution of Functionality was Attempted)** **For CLEC Results:** Timeliness will be measured for each unique UNE (or combination of UNEs) that delivers unique. The number of times that the functionality executes properly within the established standard time frame will be accumulated and shown in comparison to the number of times that the execution of the functionality was requested or initiated. Illustrative examples of timeliness measures are shown below: • Database Updates: % completed within 24 hours • Post Dial Delay: % calls routed to CLEC OS platform within 2 seconds **For ILEC Results:** Identical measurements are performed where the ILEC employs the same or reasonably comparable functionality. Where such analogs do not exist, the ILEC is expected to establish benchmark performance levels jointly with the CLEC requesting the functionality. **Other Clarifications and Qualification:** • The preceding list of elements is illustrative and is not to be considered exhaustive • ILEC failure to provide timeliness performance that is no worse than what its own operations experience when using comparable functionality or, where comparable functionality is not employed, failure to meet or exceed parameters established as result of negotiation with the CLEC, constitutes failure to deliver nondiscriminatory access. • For each element (or element combination) requested where a retail analog is not identified, the ILEC is expected to establish both a timeliness measure and a timeliness standard (ILEC functional analog or negotiated) jointly with the requesting CLEC unless that CLEC waives its right for such a measure. • Typical databases for which standards are currently expected are AIN, LIDB and 800 Number. • Comparisons of performance should be based upon the criteria for which the element was engineered. For example, if the element was engineered based upon average busy hour criteria, the comparison should be based upon the CLEC busy hour period (likewise for criteria such as busy day, busy season, or ten high days).

Service Quality Measurements
Measurement Detail

Reporting Dimensions:	**Excluded Situations:**
• By unique UNE or UNE combinations requested by the CLECs	• None
Data Retained Relating To CLEC Experience:	**Data Retained Relating to ILEC Performance:**
• Month • Element or Element Combination Identification • Result for Agreed Upon Availability Parameter	• To Be Determined
Performance Standard in Absence of ILEC Results:	If the ILEC does not deliver direct comparative results or the ILEC has not produced benchmark levels based upon a verifiable study of its own operation as agreed to with the CLEC, then result(s) related to the CLEC operation should be provided according to the following levels of performance in order to provide the CLEC with a meaningful opportunity to compete: • Performance Standards in this area are yet to be published.

Service Quality Measurements
Measurements Detail
Appendix A: Reporting Dimensions

Standard Service Groupings:	• Resold Residence POTS • Resold Business POTS • Resold Residence ISDN • Resold Business ISDN • Resold Centrex/Centrex-like • Resold PBX trunks • Resold 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
Standard Order Activities:	• New Service Installations • Service Migrations Without Changes • Service Migrations With Changes • Local Number Porting • Move and Changes Activities • Feature Changes • Service Disconnects
Pre-Ordering Query Types:	• Due Date Reservation • Feature Function Availability • Facility Availability • Street Address Validation • Service Availability Information • Appointment Scheduling • Customer Service Records • Telephone Number • Rejected of Failed Queries (regardless of type)
Transmission Quality Parameter:	• Subscriber Loop Loss • Signal to Noise Ratio • Idle Channel Circuit Noise • Loop-Circuit Balance • Circuit Notched Noise • Attenuation Distortion

Service Quality Measurements
Measurements Detail
Appendix A: Reporting Dimensions

Speed of Connection Parameters:	• Dial Tone Delay • Post Dial Delay • Call Completion/Delivery Rate
Reliability Parameters:	• Network Incident Affecting >5000 Blocked Calls • Network Incidents Affecting >100,000 Blocked Calls
Disposition and Cause:	• Out of Service No Dispatch • Out of Service With Dispatch • Hold Open for Monitoring • Customer Premise Equipment Trouble (including Inside Wire) • No Trouble Found • Central Office Equipment • Interoffice Facilities • Loop/Access Line • All Other Troubles • No access *"Out of Service" means that the customer has no dial tone.* *"Dispatch" means that ILEC repair personnel must be dispatched to a location outside an ILEC building (to customer premises or other off-site facilities) to resolve the trouble.*

Service Quality Measurements
Measurements Detail
Appendix B: Glossary

A

Abandoned Call: An abandoned call occurs when the caller hangs up after the call has been delivered, but before the receiving party has answered the call.

Attenuation Distortion: Attenuation Distortion" should measure the variation in loss at different frequencies across the voice frequency spectrum (200Hz - 3400 Hz).

B

Call Completion Rate The call completion rate for CLEC customers is determined by calculating the total number of calls placed by CLEC customers that were completed to the calling destination. The number of completed calls is then divided by the total # of call attempts made by CLEC customers during the reporting period.

Call Delivery Rate The **call delivery rate** for CLEC customers is determined by calculating the total # of calls received by CLEC customers. This number of delivered calls is then divided by the total # of call attempts received by the ILEC for termination CLEC customers.

Completion: A "completion" is the transaction that the ILEC sends to the CLEC to inform the CLEC that a requested order has been completed.

D

Data Response:

Dial Tone Delay: The "Dial tone delay" is determined for each trial completed during the reporting period by computing the time that transpires from a customer's going off-hook and the receipt of dial tone from the servicing central office. It should be measured in seconds and tenths of seconds. "Post dial delay" for each trial is determined for each trial completed during the reporting period by computing the time that transpires from when the last digit is dialed until a valid response is received by the customer. It should be measured in seconds and tenths of seconds

E

F

FOC A "FOC" is a Firm Order Confirmation notification, which is the transaction that the ILEC will send to the CLEC to confirm that an order can be completed.

G

H

Held Orders:	"Held orders" are orders that the ILEC has confirmed (an FOC was returned to the CLEC) and that are overdue.

I

Idle Channel Circuit Noise	The idle channel circuit noise for each trial is determined for each trial completed during the reporting month by computing the difference between the noise that exists in the channel when no signals are present and the reference noise. The resulting accumulated idle channel circuit noise for all trials is divided by the total # of trials completed during the reporting period.
Interface:	The "interface" is the ILEC interface that allows the CLEC to access the ILEC system
Internal or Administrative Use:	

J

Jeopardy	A "jeopardy" is a transaction that the ILEC sends to the CLEC to inform the CLEC that a previously FOC'd order cannot be processed as specified in the original FOC.

K

Loop-circuit Balance	"Loops-circuit balance" should be measured in decibels and tenths of decibels above the reference noise. "Attenuation Distortion" should measure the variation in loss at different frequencies across the voice frequency spectrum (200Hz - 3400 Hz). It should be measured from the NID to the switch, and from the switch to the NID. It is measured by subtracting the loss at 1004 Hz from the loss at the frequency of interest, and should be reflected in tenths of decibels.

M

N

Network Incident:	A "Network incident" is an unplanned network occurrence that results in blocked calls

O

P

Post Dial Delay:	"Post dial delay" is the time that transpires from when the last digit is dialed until a valid response is received by the customer

Q

R

Receipt of Order:	
Return of Valid Completion:	

S

Signal to Noise Ratio:	Signal to Noise ratio is the ratio of usable signal being transmitted to the noise or undesired signal.
Subscriber Loop Loss:	The subscriber loop loss is by computing the difference between the strength of the signal as it enters the loop and the strength of the transmitted signal. Signal strength is measured in decibels rounded to the nearest tenth of a decibel. The resulting accumulated decimal strength is divided by the total number of trials completed during the reporting period.
Subsequent Reports:	Customer trouble reports where the customer calls to check on the status of a previous trouble report (initial or repeat) that has not been cleared (closed or resolved) at the time of the call.
Syntax Reject:	A "syntax reject" is the transaction that an ILEC will return to a CLEC when a the CLEC has submitted an order transaction that the ILEC's gateway cannot process due to violation of published rules for formatting or content.
System:	The "system" is the combination of ILEC gateways, communications links, hardware and software that, in combination, is used to perform or support business functions or execute supporting transactions.

T

Troubles	"Troubles" include all reported difficulties with performance of resold services or UNEs, whether the report is the initial or a repeated report, that the CLEC refersto the ILEC repair process/interface for resolution. Subsequent reports are categorized seperately.
Trouble Appointment:	A "trouble appointment" is a commitment made by the ILEC (to CLEC or to customer) to resolve a trouble.
U	
V	
W	
X	
Y	
Z	

BEFORE THE TENNESSEE REGULATORY AUTHORITY

TESTIMONY OF RONALD MARTINEZ

ON BEHALF OF MCI TELECOMMUNICATIONS CORPORATION and

MCImetro ACCESS TRANSMISSION SERVICES INC.

In Re: BellSouth Telecommunications, Inc.'s Entry	)	
Into Long Distance (InterLATA) Service in Tennessee	)	**Docket No. 97-00309**
Pursuant to Section 271 of the Telecommunications	)	
Act of 1996	)	

March 27, 1998

Q. PLEASE STATE YOUR NAME, ADDRESS, AND POSITION.

A. My name is Ronald Martinez. My business address is 780 Johnson Ferry Road, Atlanta, Georgia 30342. I am employed by MCI Telecommunications Corporation ("MCI") in the Law and Public Policy group as an Executive Staff Member II.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to explain the many ways in which BellSouth Telecommunications, Inc. ("BellSouth" or "BST") has failed to open its local market to competition, hindering MCI's entry, and to explain how these problems demonstrate that BST falls short of full implementation of the Competitive Checklist set forth in Section 271(c)(2)(B) of the Telecommunications Act of 1996 ("Act"). My testimony addresses BST's level of compliance with the non-OSS aspects of the Checklist in the context of BST's provision of local telecommunications facilities and services to MCI and in Tennessee. Based on MCI's experience to date, it is my opinion that BST has much work to do before it will be able to provide all of the Checklist items in a manner that is even minimally consistent with the requirements of the Act.

A further purpose of my testimony is to respond to BellSouth's Proposed Statement of Generally Available Terms ("SGAT") and their claim that it complies with the fourteen point checklist. My testimony is organized in a way which tracks the proposed SGAT and the fourteen point checklist. The issues discussed in this testimony simply illustrate the myriad of problems with BellSouth's filing. This testimony does not exhaustively discuss all of the defects in BellSouth's filing. However, I will endeavor to

identify the most obvious problems.

BELLSOUTH FAILURE TO OPEN MARKET TO COMPETITION

Q. WHAT IS THE CURRENT STATE OF LOCAL EXCHANGE COMPETITION IN TENNESSEE?

A. In March 1998, actual local telecommunications competition is just beginning in Tennessee. Not surprisingly, BST is far from being able to show that it has sufficiently changed its procedures, trained its personnel, and adapted its equipment to accommodate local competition, as required by the Act. The instances of errors by BST that are recounted in this testimony show that BST has yet to reform the monopolistic habits that it has developed over decades of providing local service without competition. On other issues, BST has simply declared that it is unwilling to accommodate the needs of competitive local exchange providers. BST has dug in its heels in the face of the explicit requirements of the Act, as well as findings by Federal and State regulators. BST has not met the requirements of the Act's Competitive Checklist.

NUMBER PORTABILITY

Q. IS BELLSOUTH MEETING THE REQUIREMENTS OF ITEM 11 OF THE COMPETITIVE CHECKLIST IN ITS PROVISION OF NUMBER PORTABILITY?

A. No. BST is failing to provide interim number portability with as little impairment of functioning, reliability and convenience as possible. Moreover, BST is seeking a

significant delay in the implementation of true number portability which, if granted, will mean that Tennessee consumers will be without the benefits of true local number portability for the foreseeable future.

Q. PLEASE DESCRIBE THE IMPORTANCE OF COORDINATION AND INTERIM NUMBER PORTABILITY.

A. Proper coordination of ILNP is critical to initiating service for new customers of MCI that desire to maintain their current telephone numbers. In order to ensure a smooth transition from MCI local service to MCI's, ILNP must be coordinated with cutover of the local loop. This requires cooperation between BST and MCI at the planning stage and at implementation. MCI must have the ability both to schedule ILNP conversions and to postpone ILNP conversions when necessary (such as to accommodate the schedules of MCI's customers). BST has initiated ILNP cutovers without coordinating with MCI, causing serious damage to MCI's customers, as well as MCI's reputation for high quality service.

Q. DO YOU HAVE AN EXAMPLE OF THE TYPE OF DIFFICULTIES YOU RAISE?

A. Yes. MCI was attempting to change its customer, a brokerage firm in Memphis, over to MCI's local service. In addition to BellSouth sending a "win-back" letter, attached to this testimony as "Exhibit 1," which contained false information (the January 7 date in the letter was erroneous and caused MCI's customer undue concern and a needless call to BellSouth), BellSouth botched the cutover of ILNP. The customer's service was set to be

be changed the evening of February 6, 1998 and, because BellSouth's LCSC had failed to enter the appropriate time for the change in the right spot on the internal BST order form (but rather entered it in the "remarks" section), BellSouth took MCI's customer's service down at 9:30 a.m. The brokerage firm was without service for half an hour until MCI could contact BellSouth to inform them of the error. MCI's contact at the BellSouth LCSC informed MCI that BellSouth's practice, in the event that the time is entered erroneously (in this case by BST employees) with respect to time for an ILNP cutover is to take the customer's service down at 9:30 a.m. Clearly, BST is not following reasonable procedure with respect to ILNP cutovers and is failing to coordinate adequately with MCI.

Q. IT APPEARS THAT TRUE NUMBER PORTABILITY WILL RESOLVE MANY OF THE PROBLEMS IDENTIFIED WITH BST'S PROVISION OF ILNP. WILL TRUE OR "PERMANENT" NUMBER PORTABILITY BE AVAILABLE IN TENNESSEE IN THE NEAR FUTURE?

A. It is not likely. BST has recently announced that it will not be able to meet the mandated deployment schedule for permanent local number portability. On March 2, 1998, BST filed a Petition For Extension of Time with the FCC, seeking an extended delay of local number portability (LNP) implementation for each of the Phases of LNP deployment ordered by the FCC. If the FCC grants BST's request, this delay will only provide BST a longer period in which to fumble ILNP cutovers, to the detriment of all CLECs and their customers.

DIRECTORY LISTINGS

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING WHITE PAGES DIRECTORY LISTS IN ACCORDANCE WITH SECTION 271(c)(2)(B)(viii) OF THE ACT?

A. No. BellSouth has refused to provide, despite repeated requests from MCI, directory listings for independent telephone companies and other new entrants. Through this significant omission, BST is failing to provide MCI with access to its directory assistance ("DA") database on nondiscriminatory terms, as is required by the Act.

Q. DOES THIS FAILURE IMPACT THE AVAILABILITY OF WHITE PAGES DIRECTORY LISTINGS ONLY OR DOES IT HAVE AN IMPACT ON DIALING PARITY, REQUIRED BY SECTION 271(C)(2)(B)(xii) OF THE ACT AS WELL?

A. This failure impacts both the availability of directory listings as well as dialing parity. Though Mr. Milner of BellSouth testifies that local service subscribers in BellSouth's region will dial the same number of digits to place a call, without the use of an access code regardless of their choice of provider, this is not true. With regard to access to Directory Service Listings for independent telephone companies and other new entrants BellSouth refuses to provide the necessary data. Thus an MCI local customer would need to be transferred by MCI to BellSouth's Directory Assistance or dial a special code to bypass MCI to BellSouth's Directory Assistance group to obtain the telephone numbers of end users served by other new entrants or independent telephone companies. This is hardly dialing parity and certainly creates a situation in which MCI's local service is less

attractive than BellSouth's. BellSouth has made clear that it will refuse to provide adequate data base information for Directory Assistance relating to independent telephone companies and new entrants.

BellSouth has recently begun to provide a national directory assistance service. Assuming arguendo that it is lawful that BellSouth is providing this service (a matter to be determined by the FCC) the TRA should inquire whether BellSouth has access to independent telephone company data for this service as well as listings for new entrants. As a result of the failure of BellSouth to provide to new entrants the listings as described above BellSouth fails to satisfy the obligations of checklist item 12.

LOCAL TANDEMS

Q. DOES BST PERMIT MCI INTERCONNECTION AT BST'S LOCAL TANDEM SWITCHES?

A. No.

Q. WHY, ACCORDING TO BELLSOUTH, DOES IT REFUSE TO ALLOW INTERCONNECTION AT THE LOCAL TANDEM SWITCH AND WHAT CONCERNS DOES THIS RAISE?

A. Mr. Milner, at page 13 and Mr. Moore at page 9, paint a picture of the benevolent provider doing what is right for CLECs in prohibiting this form of interconnection. The reasons given beyond speeding the CLEC to market are: 1) local tandems can not record a call for billing purposes; 2) better ability to provide 64 Clear Channel ("64 CCC"), required for ISDN calls; and 3) better trunk blocking objectives as traffic is routed on the interLATA/intaLATA tier

of the BellSouth network.

I will examine the billing issue first. Before I do, however, it is important to understand that MCI, while informed by BellSouth that their policy restricting CLECs from the BellSouth local tandem had been lifted, has held to the belief that this was not the case. In discussions on this issue BellSouth informed MCI that the Common Language Identifier ("CLLI") codes would be different than those of the Access Tandems. The explanation given was that the local tandem function was being performed by specific local switches. This was true even with respect to dual local/tandem switches such as the DMS100/200. BellSouth's local traffic traversed the local switch trunk network and not the tandem trunk network of these common switches. When BellSouth published the local codes subtending their local tandems they published them under the tandem, in all cases access tandem, CLLI codes. In addition, the NXXs of independent telephone company, other ILECs, cellular, etc. that also subtend these switches were not provided.

Now to billing. It would appear that BellSouth is using the trunk side network of the local switch to process its traffic. This could be the only plausible reason for the lack of billing information. That does not, however, make this a technically infeasible solution. Percent Local Usage ("PLU") reports are required of both BellSouth and the CLEC to resolve these very issues.

Q. PLEASE EXPLAIN THE ISSUE WITH RESPECT TO 64CCC?

A. BST claims that it is simply better able to provision 64CCC to MCI and other CLECs at the access tandem than at the local tandem. This rationale was actually provided to MCI

when MCI made a request to access the BellSouth local tandem in West Tennessee for the purpose of interconnecting with Southwest Bell for the deliverance of local traffic. This alleged restriction surprised MCI in that the Tennessee Regulatory Authority had "FYI Tennessee" in place for some time and that its intent was to ensure that ISDN would be available to Tennessee consumers. Provision of ISDN service is not possible without the deployment of 64CCC equipment. This alleged lack of 64CCC terminating equipment was never fully addressed, as MCI had a pressing need to be able to terminate traffic to SBC. As such, MCI agreed to terminate SBC's traffic at the BellSouth access tandem. In addition, SBC agreed to order trunks to the access tandem for MCI's traffic. It remains unclear to MCI why this equipment is not available at a local tandem while it is available at the access tandem.

Q. WHAT IS YOUR OPINION WITH RESPECT TO BST'S ARGUMENT THAT "BETTER TRUNK BLOCKING OBJECTIVES AS TRAFFIC IS ROUTED ON THE INTERLATA/INTRALATA TIER OF THE BELLSOUTH NETWORK?"

A. First, it is clear that BellSouth's local trunking network will experience a greatly improved blocking objective. This traffic, up until the time it is transferred to the interLATA/intraLATA tier ("IXC 1+") network, was being carried on BellSouth's local network which is kept totally separate from the IXC toll network. Therefore, BellSouth's local network will experience less traffic demand while the IXC toll network will experience a new, undefined, traffic surge. BellSouth's policy would seek to degrade the IXC toll routes under the guise that the MBT 0f ½% on toll routes would provide better service then the MBT of 1% used on local routes. With competition only just beginning,

we are already seeing adverse effects on the IXC CTTG groups. What better time to cause dissatisfaction with the quality of current interLATA service than just prior to BellSouth gaining access into this business?

Q. DO YOU HAVE ANY OTHER CONCERNS WITH RESPECT TO LOCAL TANDEMS?

A. Yes. It would appear that BellSouth has not provided all of the local tandem information that they committed to MCI last year. Mr. Moore states: Page 2 of 9 para. 2.a, "Bellcore had to enhance their software capabilities in order for BellSouth to load SOME data elements on the local service tier of the network into the LERG." First, I know of no Bellcore enhancements that were necessary to achieve the LERG update. Local tandem identifiers had already been established prior to the request MCI made of BellSouth to update the LERG with this information. It is important to note that the Local Exchange Routing Guide ("LERG") is the bible of the North American Numbering Plan and hence must be kept complete and correct at all times. BellSouth has repeatedly refused to: 1) reflect all NXX's that subtend their local tandems in the LERG and 2) have refused MCI access to its entire trunking network.

The latest refusal to permit MCI to use the local tandems at parity with BellSouth, as a conduit for ALL local traffic in Tennessee, came during the discovery process. In its February 24, 1998 response to MCI's First Data Requests, Item No. 7, BST states:

> Traffic originated by and terminating to network service providers other than BST (i.e. Competing Local Exchange Companies (CLECs), Independent Telephone Companies (ITCs), and Interexchange Carriers (IXCs) is offered only at BST's access tandems. [emphasis added]

It is inconceivable that there is any technical limitation to BST's ability to provide access at its local tandems. Moreover, the mutual compensation clauses in our contract assume all local providers pay the same compensation for terminating traffic which would or should exclude any monetary problems. Similarly, BellSouth, as the recognized tandem provider, should not care what carrier's minute is traversing their tandem so long as they are paid for the service provided.

Q. WHY IS BELLSOUTH REFUSING TO PERMIT INTERCONNECTION AT ITS LOCAL TANDEMS?

A. The only reason I can see why BellSouth would refuse to allow interconnection at its local tandems is that BellSouth wants, for the foreseeable future, to maintain its own local traffic separate and distinct from all CLEC local traffic. This is clearly an inappropriate position as it will give BellSouth many opportunities for treating CLEC traffic discriminatorily. The probability of a local call being blocked should be the same for an MCI minute as it is for a BellSouth minute and, with the networks configured as they are and access permitted only at the "access" tandem, BellSouth's inability to service vital traffic routes carrying CLEC traffic only affect and harm IXCs and CLECs. Therefore, under its plan, BellSouth's traffic experiences less blockage and improved service level at the expense of its competitors.

Q. WHAT CAN OR SHOULD THE TRA FIND WITH RESPECT TO LOCAL TANDEMS?

A. The TRA should find that BellSouth, in failing to make interconnection available at any

technically feasible point in its network, (which would clearly include its local tandems) fails to meet Checklist Item 1, which requires BST to provide interconnection on a nondiscriminatory basis and in accordance with the requirements of sections 251(c)(2) and 252(d)(1).

BLOCKING

Q. IS BST FAILING TO CORRECT BLOCKAGES IN ITS INTEREXCHANGE NETWORK, WHICH NETWORK IS ALSO USED BY BST TO DELIVER MCI'S LOCAL TRAFFIC?

A. Yes, as evidenced by the attachments BellSouth provided to the testimony of Keith Milner. BellSouth is simply not maintaining trunk groups handling IXC and CLEC local traffic with same care they maintain their own trunk groups, as detailed below.

Q. DO YOU AGREE WITH MR. MOORE'S DEFINITION OF TIME-CONSISTENT BUSY HOUR AS CONTAINED IN JWM-17?

A. No. Mr. Moore has failed to recognize that the "Time-consistent Busy Hour" may not be the highest blocking that can occur on these trunks. The definition should read: Time-consistent Busy Hour - The identical hour of each day, over a period of days, when a trunk group is offered the highest AVERAGE load. This may or may not be the hour in which calls on the circuit group experience the highest blocking.

Q. DO YOU AGREE WITH MR. MOORE'S STATEMENTS REGARDING MBT?

A. No. By providing information only for blockages greater than the 2% to 3% level, Mr.

Moore ignores the "given design blocking objectives" (1/2% and 1%) and also ignores the fact that the MBT actually represents the maximum blocking level. This 3% represents the maximum blocking level that could be remotely associated with the engineering criteria used (design blocking objective "DBO") to size the trunk group. The MBT, however, also is synonymous with an Immediate Action Limit. Hence the 3.0% Blocking Threshold is the maximum acceptable value for a 1.0% Blocking Objective before the level at which action must be taken immediately to prevent serious blockage problems. If the Immediate Action Limit is exceeded, the company responsible for the determination of circuit quantities on that circuit group will take IMMEDIATE ACTION to validate the cause of the blocking, determine the traffic load value to be used for re-sizing the circuit group and order sufficient additional circuits to bring the trunk group back to the design objective.

The DBO is not a stand alone concept. The interval, called the design interval, is a one year period of time, not necessarily calendar as this may be the same interval as the Busy Season, which represents the planning year. The planning year represents the forecasted traffic load expected to be associated with this trunk group such that, at the end of this period, the DBO is expected to be reached.

The Bellcore study "Trunk Groups above the Blocking Threshold" prepared by C.D. Pack of Bellcore is, I believe, the study that was used as the basis for Section 6.5.7 of the Tariff F.C.C. No. 1. The conclusions reached by this study include the following: there will be approximately 6.5% of all trunk groups above the blocking threshold in any study period. All groups (6.5%) should be examined and appropriate action taken. In addition, groups appearing on consecutive reports reflect: 1) a business decision or

conditions, 2) overlapping data after problem fixed; or 3) NOT statistical fluctuations. "Not statistical fluctuations" was a direct reference to the possibility of anomalies that can occur during a study period that would provide a false indication that the DBO has been exceeded. These could include weather, concert giveaways, etc. However, if the DBO or MBT is exceeded in consecutive study periods, then this is not an anomaly or statistical fluctuation. It is a forecast violation that demands immediate attention. In fact, Mr. Pack stated that groups on a blocking list for multiple months REQUIRE aggressive action by the responsible party.

Q. WHO IS THE RESPONSIBLE PARTY; IS THE CLEC THE RESPONSIBLE FOR MONITORING AND ENGINEERING THESE TRUNKS?

A. Unless the CLECs are provided adequate information constantly updated on the state of the trunk groups, a CLEC has no ability to monitor usage on the common trunk groups. It would be impossible, given current levels of information and total lack of visibility with respect to blockage on trunk groups, for a CLEC, to be held responsible for analyzing and correcting this blockage. Yes Mr. Milner seems to think that they should. On page 12 Mr. Milner states, "Although technically, the calls were blocked in the BST network, more pre-planning by CLECs would have alleviated much, if not all, of the blockage." This is an interesting statement considering that Mr. Moore, in his exhibit JWM-17 at page 3 para. a, rightfully assumes responsibility for traffic from a BellSouth end office to the CLEC switch. However, if Mr. Milner was referring to two-way trunks then, according to Mr. Moore, page 4 of JWM-17, the responsibility rests with the CLEC even though it is most likely BellSouth's customer traffic that is causing the blockage.

Blockage, absent a trouble report from a CLEC customer, is an unknown to the CLEC relying on the BellSouth network.

Q. HAS MCI EXPERIENCED THIS TYPE OF BLOCKAGE?

A. MCI experienced such blockage in Georgia. A BellSouth end office trunk group which had been ordered by MCI was experiencing blockage. The trouble report came from the wife of an MCI technician who complained to her husband that his line was always busy. Questioning this statement from his wife, the technician went home and dialed his number. What he received was not a recording that all trunks were busy. The technician received a "Fast Busy" indicating that all the trunks were busy. To the untrained ear of the technician's wife this was a normal busy signal. The technician immediately placed a trouble ticket with BellSouth and was told that "they had noticed the blockage" and that it most likely was do to the lack of overflow. MCI had forgotten to "request" overflow on this High usage trunk group and significant blockage was occurring on calls from BellSouth customers to MCI's. The order was reissued to add the overflow and the trunk group was augmented.

Q. DOES BST PROVIDE A CLEC WITH THE TOOLS AND INFORMATION THAT WOULD ALLOW IT TO TAKE RESPONSIBILITY FOR ENGINEERING SUCH TRUNK GROUPS?

A. No. As previously stated, a CLEC has no means to detect and analyze the problem, no visibility into the BellSouth switch and would need to rely on the traffic reports that BST promises to deliver. These are: 1) the statewide summary, and 2) the IC-100 Report.

Neither of these reports will help, especially if, as the date indicates June 1997, they are 9 months old. What is interesting about the CLEC trunk group report is that they reflect June through August 1997 data and, despite the fact that from the very beginning the trunks appeared to be exceeding the IMMEDIATE ACTION LIMIT, BellSouth appears to have taken no action to correct this problem. The "Busy Season" for local is an unknown to a CLEC but well known to BellSouth. If these facilities were placed by the CLEC during the busy season then this information should have been conveyed to the CLEC by BellSouth. To the best of my knowledge, BellSouth has never conveyed to MCI what the "Busy Seasons" are for toll much less for local. The last report, the IC100 report, is provided on the Common Transport Trunk Groups" ("CTTG"), but this report is, at best, 2 to 3 months after the fact. The truth of the matter is, the CLEC does not possess the information, at parity with BellSouth, from which they can assess the requirements for these facilities.

Q. DO YOU HAVE ANY OTHER CONCERNS ABOUT THE REPORTS PROVIDED?

A. Yes. The IC100 report in the format being provided represents only the Immediate Action Limit groups that BellSouth should have fixed last month and must now begin to study. The full IC100 report reflecting any and all blockage on these trunks groups should be provided. This is true of all reports that are being provided. Full disclosure of all blockage, regardless of the %, should be reported. This would permit CLECs that do not have the capability to access BellSouth databases near real-time to have some time at which to analyze the data and make corrections.

Q. WHAT MUST BELLSOUTH DO TO BE IN COMPLIANCE?

A. BST must maintain trunk groups to the CLECs at parity with its own trunk groups. In addition, CLECs must be provided access to the near real-time traffic gathering databases that BellSouth traffic engineers have access to. Also, initial trunk groups ordered into a BellSouth end office or tandem should be monitored daily until such time that the sizing of this initial group has been substantiated. Lastly, BellSouth's local tandem should be opened to the CLECs with full use, by the CLEC, of the entire BellSouth network that subtends these tandems.

UNBUNDLED TRANSPORT

Q. IS MCI EXPERIENCING DIFFICULTIES IN ITS ATTEMPT TO ORDER FROM BELLSOUTH TRANSPORT UNBUNDLED FROM LOCAL SWITCHING?

A. Yes.

Q. WHAT DID MCI ORDER?

A. MCI requested from BellSouth trunk ports in their end office switch and tandem switch, to which MCI was going to add the transport element to complete the facility. I say "requested," as BellSouth has not responded to MCI's request for ordering information. The following was requested from BellSouth on December 17, 1997:

> MCI would like to order end office trunk ports and tandem trunk ports for a tandem completing trunk group dedicated to MCI. To accomplish this, MCI needs to know the following: 1) Trunk type translation requirements for each switch type; 2) ordering forms or requirements (i.e. will MCI

submit an order or will the account team handle this type of request); 3) how will MCI inform BellSouth of other carriers intended use of this dedicated common transport; 4) how will MCI order overflow to existing BellSouth Common Trunk Group; 5) As MCIm or third party will in all likelihood be the transport provider will an LOA be required for trunk port hand off; 6) will records recorded by BellSouth be processed on separate or integrated feeds to MCI.

To date, MCI has received nothing but broken promises as to when this information will be made available. It difficult to believe that BellSouth has, as Mr. Milner states on page 36, "conducted testing which verified that services orders for dedicated transport, shared transport and unbundled channelization flowed through as planned and that accurate bills were generated." As BellSouth has been unable, since December of 1997, to provide to MCI the most basic of ordering information on trunk side connections, they can not possibly have unbundled this functionality from their local switches. In their responses, to date, BellSouth has indicated the need to form a task force to determine what, in fact, will be required to process this request.

CUSTOMIZED ROUTING

Q. DO YOU AGREE WITH MR. MILNER WHEN , AT PAGE 38, HE STATES THAT BELLSOUTH PROVIDES UNBUNDLED LOCAL SWITCHING WITH CUSTOMIZED ROUTING?

A. No. To begin, MCI requested that its 0+ and 0- traffic be selectively routed to MCI's FGD trunk groups so that MCI could provide operator services for its resale customers. Even though today 0+ intraLATA, interLATA and interstate traffic and 00- traffic are successfully passed over FGD to carriers such as MCI, BellSouth was able only to pass this traffic to MCI using FGC. With FGC, MCI would not receive the information digits

("ii") which detail any and all restrictions that would be associated with this line and would not receive ANI information for billing.

Operator services are the most basic of services that a carrier, like MCI would be seeking to provide to its customers. FGD, the most widely accepted protocol for passing equal access traffic, must be available if carriers ever expect to compete against BellSouth.

Q. COULD MCI USE BELLSOUTH OPERATORS TO PERFORM THESE SERVICES AS THE SGAT, AT PAGE 20, OFFERS CLECS CUSTOMIZED ROUTING FOR CLEC-BRANDED OPERATOR COMPLETION SERVICES?

A. No. What BellSouth fails to point out in the SGAT is that for a CLEC to obtain their own branding on operator services calls they must order dedicated trunking from every end office from which they want calls branded. This is a ridiculous and needless requirement not only from the CLECs' perspective but from BellSouth's perspective as well. It is unlikely that BellSouth's operator switches could even accommodate the orders for every CLEC wanting to use their own brand. Indeed, even if these switches could handle this trunking demand, what would result is a grossly inefficient and costly parallel network for each of these CLECs. This requirement for a dedicated network, according to BellSouth, also applies if the CLEC merely wants their calls unbranded.

The use of selective routing is totally unwarranted with respect to BellSouth's operator services. If a CLEC did nothing, its calls would end up at the operator switch serving that region. There is no need to selectively route a call to its operator platform. This requirement for selective routing is only to provide routing to this ridiculous

dedicated network. There is no reason why BellSouth could not brand based on the ANI of the call. In fact, Mr. Milner points out at page 58, that the BellSouth operators can determine the CLEC associated with a ported or resold line. At page 58, Mr. Milner addresses busy line verification and interrupt requests that BellSouth will transfer to CLECs. To accomplish this BellSouth had to build a database that associates the numbers to the specific CLEC. This same database could have been used to also identify the CLEC for purposes of branding.

Q. WHAT SHOULD THE TRA FIND WITH RESPECT TO CUSTOMIZED ROUTING?

A. The TRA should find that BellSouth is not providing customized routing as required by this agency and the FCC. BST should be ordered to provide 0+/0- traffic to CLECs utilizing FGD protocol and should be required to establish a cost effective solution, such as ANI screening, for purposes of CLEC branding.

CHECKLIST ISSUES AND BELLSOUTH'S SGAT

Q. DO YOU HAVE ANY INITIAL COMMENTS YOU WOULD LIKE TO MAKE REGARDING BELLSOUTH'S PROPOSED SGAT?

A. Yes. BellSouth has apparently conceded that it should be proceeding under Track A of Section 271. See Testimony of Alphonso J. Varner at p. 7. The proposed SGAT is, therefore, irrelevant since the issue under Track A is whether BellSouth has fully

implemented and is providing each checklist item. Beyond this obvious problem, the proposed SGAT does not offer the checklist items in compliance with the fourteen point checklist and should, therefore, not be approved by the TRA.

INTERCONNECTION - CHECKLIST ITEM I

Q. PLEASE BRIEFLY DESCRIBE THE REQUIREMENTS OF SECTION 271(c)(2)(B)(i) OF THE ACT.

A. The FCC at Paragraph 222 of the Michigan Decision described the requirements as follows:

> Section 271(c)(2)(B)(i) of the Act, item (i) of the competitive checklist, requires a Section 271 applicant to provide "[i]nterconnection in accordance with the requirements of sections 251(c)(2) and 252(d)(1)." Section 251(c)(2) imposes upon incumbent LECs "the duty to provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network...for the transmission and routing of telephone exchange service and exchange access. Such interconnection must be: (1) provided "at any technically feasible point within the carrier's network;" (2) "at least equal in quality to that provided by the local exchange carrier to itself or...[to] any other party to which the carrier provides interconnection;" and (3) provided on rates, terms, and conditions that are "just, reasonable, and non-discriminatory, in accordance with the terms and conditions of the agreement and the requirements of [section 251]...and section 252."
>
> The FCC went on to note in Paragraph 223 of the decision that:
>
> In our Local Competition Order, we concluded "that the equal in quality standard of section 251(c)(2)(C) requires an incumbent LEC to provide interconnection between its network and that of a requesting carrier that is at least indistinguishable from that which the incumbent provides itself, a subsidiary, or any other party." We stated that an incumbent LEC must design its "interconnection facilities to meet the same technical criteria and service standards, such as probability of blocking in peak hours and transmission standards, that are used within [its]...own network[]."

Q. ARE THERE ADDITIONAL REASONS WHY BELLSOUTH HAS FAILED TO MEET THE REQUIREMENTS OF CHECKLIST ITEM 1?

A. Yes. Let me explain. Although the point of interface for the exchange of local and EAS traffic between independent telephone companies and BellSouth is the local tandem switch, BellSouth has refused to permit new entrants to interconnect at their local tandem switches.

While on paper BellSouth has now agreed to allow MCI interconnection to its local tandems, information regarding the locations and identity of these tandem switches has not been provided to MCI and MCI remains interconnected at the access tandems. In addition it is my understanding that BellSouth has yet to establish the methods and procedures for these interconnections. Moreover, it is not clear to me that BellSouth is yet allowing other new entrants to interconnect at the BellSouth local tandems. MCI raised the local tandem issue in private meetings with BellSouth as well as publicly at the June 24-26, 1997 BellSouth CLEC conference. The issue was tagged by BST as a "parking lot" item, one to be answered later by BellSouth in follow-up correspondence. By letter dated August 18, 1997 BellSouth responded to attendees of the CLEC conference with answers to questions which had been deferred for later response. While many questions were answered, the MCI question on interconnection at the local tandem was not.

Additionally, in diagrams provided by BellSouth in support of its application -- Volume 1-2 "Checklist Item 1 - Local Interconnection Switched Local Interconnection" under the Tab Technical Service Description (no page number) entitled "Trunking and Interconnection Arrangement Between BST Access Tandem and OLEC Toll/Local Switch," as filed by Mr. Milner, it is quite clear that new entrants are not provided the

option of interconnecting at the BellSouth local tandem.

The box labeled "BSTEO" Local (BellSouth End Office Local) is in fact the common transport trunk group for all interexchange toll traffic as well as for the local originating/terminating traffic of new entrants. BellSouth's local traffic remains on a dedicated network that does not utilize the access tandem. Hence traffic won by the new entrant is removed from the BellSouth local network and local access tandem and placed onto the IXC toll network. This has the net effect of enhancing the BellSouth local service at the cost or degradation of the IXC toll network as well as the risk of increasing blockage of the new entrant local traffic.

BellSouth's use of local tandems, and the resulting discrimination in interconnection resulting from the requirement that MCI interconnect at the access tandem, was discovered by MCI as the result of a series of problems which arose as MCI was establishing its networks in Florida, Georgia and Tennessee.

In Memphis the MCI switch launch was delayed as Southwestern Bell had to install a dedicated MCI trunk group to the BellSouth Memphis access tandem. Local BellSouth traffic is passed onto Southwestern Bell through the BellSouth local tandem. In Georgia, after cutover of the MCI switch, MCI customers experienced severe blocking problems. The Georgia blocking problems were the result of a special trunk groups being installed to the Atlanta LATA tandem. In Florida, Vista United (serving Disney World area) could not provide temporary relief while an interconnect contract was being negotiated with MCI because MCI was at the LATA tandem and Vista United was terminating its local EAS traffic at BellSouth's Orlando local tandem.

At present MCI has a paper commitment from BellSouth that BellSouth will

allow MCI to interconnect at the BellSouth local tandems. However, BellSouth has not been forthcoming with details so as to enable MCI to make the change from the access tandem to the local tandem. BellSouth purports to still be working on its methods and procedures. Moreover, once the change occurs there is absolutely no assurance that trunk blockage will not occur. Given no performance measures were ordered in Tennessee in the MCI BellSouth arbitration, and BellSouth - AT&T performance measures do not measure blockage, MCI will have no way to measure whether in fact it is receiving treatment equal to that BellSouth provides to itself or other competitors.

Q. DO YOU HAVE ANY OTHER REASONS WHY YOU BELIEVE BELLSOUTH HAS FAILED TO MEET ITS OBLIGATIONS UNDER CHECKLIST ITEM 1?

A. Yes. I understand that BellSouth has refused MCI's request to provide usage detail on resold flat-rated business lines. This information is critical to determine if a customer is better served by a measured line or should remain on a flat rated service offering. In the competitive world we are heading toward, a new entrant will need to provide its end user customers with the products that best meet their needs. One basic need from a new entrant's perspective will be information needed to counsel its customers on the products and services for which they are paying. Whether a customer should be on a measured service or a flat rated service depends upon the calling habits of that particular customer.

Competitors in the long distance arena are well aware that if they leave their customer on an expensive plan that is not needed they will lose the customer to the first competitor that comes through the door. The same will become true in the local arena and information as to local usage will be invaluable in curbing that type of customer loss.

BellSouth has indicated that they do record this usage information, but since they do not pull the information for themselves they have no intention of providing to new entrants. This is true even though the new entrant would be compensating BellSouth for these usage records. Clearly the difference is that BellSouth has the ability to access this information at will but they choose not to.

Additionally, in the SGAT, there is a serious issue relative to 800 access screening. Paragraph 7 of page 4 of the SGAT limits the ability of the new entrant to access the BellSouth STP for purposes of obtaining proper routing information necessary to complete 800/888 calls. New entrants must be allowed options to establish connection to the BellSouth Toll Free Database. As set forth in more detail in the discussion of Checklist Item 10 below, there are three options that should be available: 1) the new entrant is non SS7 capable and the incumbent LEC provides functionality for the new entrant; 2) the new entrant is SS7 capable and the new entrant makes the inquiry through the incumbent LEC's STP/SCP; 3) the new entrant is SS7 capable and makes the query through a third party's STP/SCP. The 800 Access Ten Digit Screen Service described at page 4 of the SGAT satisfies only the first option, where BellSouth performs both the database lookup function and the subsequent call routing function. Because 800 Access Service with ten digit screening is a tariffed offering of BellSouth a new entrant would have the right to obtain this service without this paragraph in the SGAT. BellSouth appears to be trying to claim that it is offering unbundled access to the toll free databases and the associated signaling. As discussed in connection with Checklist item 10, this service falls far short of true unbundled access to the Toll Free Database.

I have two other concerns relative to the SGAT and checklist item 1.

First, it appears at page 4 of the SGAT that BellSouth seeks to dictate the interstate and intrastate switched access rates which new entrants charge to BellSouth. The SGAT states that '[i]f BellSouth is serving as the new entrant's presubscribed interexchange carrier on a 10XXX basis the new entrant will charge BellSouth the appropriate BellSouth tariff charges for originating network access services. There is no explanation for this requirement. The new entrant should be able to charge its own rates and not those of BellSouth. It appears that BellSouth is also attempting to control the new entrant rate for 800 billing.

My second concern is that the SGAT does not contain a dispute resolution clause for billing disputes. Such a clause should be included at page 5 of the SGAT. While I am not a lawyer I am concerned that BellSouth may claim the SGAT controls billing disputes and thus new entrants must remit payment with defined procedure for mediation of disputes.

At this time BellSouth has failed to make available or provide interconnection on reasonable and non-discriminatory terms.

NONDISCRIMINATORY ACCESS - CHECKLIST ITEM II

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING NONDISCRIMINATORY ACCESS TO NETWORK ELEMENTS.

A. NO. First Exhibit JWM-13 to the Moore testimony in this case provides targeted installation intervals for a variety of network elements. The targeted install interval for a 2 wire analog voice grade loop in quantities of 1-5 is five days. The install intervall

increases to ICB basis if the new entrant orders more than 15 such loops.

I would contend that installation of a 2 wire analog voice grade loop is nothing more than installation of a basic pots line for a residential or business customer. For BellSouth retail customers same day next day service is available if availability of plant is not an issue. I was just recently told this during a demonstration of the BellSouth RNS system in Jacksonville by a BellSouth spokesperson.

BellSouth bears the burden to establish that it is installing service in a nondiscriminatory, and BellSouth should be made to come in and establish that this and other intervals as contained in Moore Exhibit JWM-13 are in fact nondiscriminatory when compared against comparable BellSouth retail services. BellSouth should not be found to have met checklist item two until such time as it can establish that it is in fact providing unbundled network elements on a non-discriminatory basis.

LOCAL LOOP TRANSMISSION - CHECKLIST ITEM IV

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING LOCAL LOOP TRANSMISSION IN ACCORDANCE WITH SECTION 271(c)(2)(B)(iv)?

A. No. BellSouth refuses to commit to permitting MCI to order NIDs separate and apart from an unbundled loop. There can be no dispute that this Authority designated the NID as an unbundled element and a set price for such element is contained in the BellSouth-MCI Interconnection Agreement.

BellSouth provisioned loops without NIDs in Georgia for at least two test customers. Then MCI was notified that BellSouth would not permit MCI to order a NID

separate and apart from an unbundled loop. MCI was told that it needed to submit to BellSouth a BFR. MCI pointed out to BellSouth the contract language, and BellSouth then responded that the issue was really one of lack of methods and procedures that BellSouth was working to establish. On August 27, 1997 MCI received a call from BellSouth asking that MCI forget that BellSouth ever said that MCI could not order a NID without a loop, that BellSouth was trying to work out the methods and procedures and there was no reason for MCI to be concerned. MCI is concerned because it has a clear contractual right to obtain a NID separate from the loop. BellSouth's flip flops in position do not provide MCI with comfort that BellSouth will in fact provide the NID. MCI has no dates for methods and procedures to be completed, and this time it is not even a paper promise (except as contained in the contract).

Checklist Item IV requires that BellSouth provide to MCI local loop transmission unbundled from local services or other services. Mr. Milner, at page 30, states in his testimony in this proceeding that BellSouth has tested the availability of the NID. Testing is not enough. MCI has in fact ordered NIDS without the loop and plans to do so in the future.

As a result BellSouth has not made available or provided local loop transmission as required by checklist item 4.

UNBUNDLED TRANSPORT CHECKLIST ITEM V

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING LOCAL TRANSPORT IN ACCORDANCE WITH SECTION 271(C)(2)(B)(v) OF THE

ACT?

A. No. The Act requires that BellSouth provide transport from the trunk side of a wireline local exchange carrier switch unbundled from switching or other services. The FCC has stated that this requires shared transport facilities between its end offices and its switches, as well as all technically feasible transmission facilities, features, functions, and capabilities that new entrants could use to provide telecommunications service. 47 C.F.R. Section 51.319(d)(1), (d)(2)(i) and (d)(2)(ii). This was confirmed by the FCC in the Michigan decision at paragraph 300:

> Since the release of the Local Competition Order, moreover, the Commission has, on reconsideration, clarified the incumbent LECs' obligation to provide shared transport pursuant to section 251(c)(3) of the Act. Although the Local Competition Order clearly required incumbent LECs to provide shared transport between incumbent LEC end offices and the tandem switch, the order was not clear on all other portions of the network to which the shared transport obligation applied. As discussed below, the Commission, on reconsideration in the Local Competition Third Reconsideration Order, concluded that incumbent LECs are required to provide "shared transport among all end offices or tandem switches in the incumbent LEC's network (i.e., between end offices, between tandems, and between tandems and end offices)." We also concluded that "a requesting carrier may use the shared transport unbundled element to provide exchange access service to customers for whom the carrier provides local exchange service."...We note, however, that all BOCs, including Ameritech, are now on notice as to the clarified shared transport obligations and are required to comply with the revised rules prior to filing any future applications for interLATA entry pursuant to Section 271 of the Act.

Q. PLEASE DESCIRBE HOW BELLSOUTH FAILS TO MAKE AVAILABLE OR PROVIDE UNBUNDLED TRANSPORT IN ACCORDANCE WITH THE ACT AND THE FCC RULES THEREUNDER.

A. BellSouth does not appear to make available unbundled common transport.

A common transport trunk group is a trunk group over which traffic is carried from an originating switch to a tandem switch. It is called a common trunk group because it carries traffic that will ultimately be terminated through the tandem network to a variety of destinations. It can carry either traffic originated by a single carrier (i.e. dedicated common transport) or traffic originated by multiple carriers (i.e. shared common transport). In contrast a dedicated transport trunk group is a trunk group over which traffic is carried from a switch (end office or tandem) to a single destination such as another end office switch or an IXC toll switch.

I do not believe that BellSouth, despite Mr. Milner's contentions to the contrary, is providing unbundled common transport. I base this opinion on the BellSouth SGAT. In the introductory paragraph of Section V on page 11 of the Draft SGAT, BellSouth states that it provides "local transport from the trunk side of its switches unbundled from switching. Based on MCI's experiences in ordering transport, BellSouth cannot possibly be prepared to accept and process orders.

In addition, BellSouth does not offer a trunk port that a new entrant could use to connect to the local end office switch. Without such a port, there would be nothing to which the new entrant could connect the facility piece of the common transport.

With respect to the 21 Switch Ports referred to in Mr. Milner's testimony, Mr. Milner fails to identify whether any of these are trunk ports. Since BellSouth does not offer a trunk port option as part of the local switching and there is no tandem port offer under the tandem switching elements, in my opinion these trunks are not unbundled from the switch.

It is important for a new entrant to be able to obtain all the elements necessary to replicate the incumbent LEC's interoffice trunking network. As with the incumbent's distribution network, the interoffice network represents a bottleneck that, when controlled by the incumbent LEC, presents a barrier to competition.

A new entrant should be able to obtain local transport from BellSouth to support two separate applications. The first is the tandem application where a new entrant that provides its own local switching (using either its own switches, switching capacity leased from a third party, or switching capacity obtained from BellSouth on an unbundled basis) will obtain a dedicated transport network element from BellSouth to connect its local switching to an originating port on BellSouth's tandem switch. In this scenario, the new entrant would be subtending BellSouth's tandem and would be using the dedicated transport network element to deliver traffic to the tandem for termination for BellSouth's network. If the new entrant has opted to utilize unbundled local switching from BellSouth's switch, then the new entrant will have combined BellSouth's local switching, CLECs end office to tandem dedicated transport and BellSouth's tandem switching elements.

The second application is the local switching application in which the new entrant has purchased unbundled local switching from BellSouth but provides the tandem switching function itself (using either its own switch or switching capacity leased from a third party). In this application a new entrant's traffic would be routed from BellSouth to this tandem on a dedicated trunk group provided by BellSouth, by the new entrant or by a third party. If the new entrant opted to use BellSouth's local transport, then BellSouth's local switching network element would be combined with the common transport network

element to permit traffic being originated on BellSouth's local switch to be switched and terminated on the new entrant's provided network elements.

Q. HAS BELLSOUTH PROPERLY UNBUNDLED TANDEM SWITCHING?

A. No. There are two basic elements associated with tandem switching. The first is an originating port which provides access to the tandem switching functionality from the network of either the incumbent LEC, new entrant, IXC or other third party switching provider. The second is a terminating port, which provides egress from the tandem switch to connect to the network of the incumbent LEC, new entrant, IXC or other third party switching provider. The tandem switching network consists of both a physical trunk port and the switching function that connects two network switches together. To effectively unbundle tandem switching each of these two elements must be offered from both the originating side and the terminating side of BellSouth's tandem switch. In other words a new entrant should have the capability to order either an originating port (eg 2-wire analog ground start port or equivalent IMT) or a terminating port and the associated features and functions of that port.

Q. PLEASE EXPLAIN HOW A NEW ENTRANT WOULD USE UNBUNDLED ORIGINATING AND TERMINATING PORTS ON BELLSOUTH'S TANDEM SWITCH.

A. If a new entrant purchases an originating tandem port the new entrant would provide the originating tandem protocol functions as options for its customers and would instruct BellSouth on the call routing or terminating functions required (eg IMT-intermachine

trunk-equipped for 2-stage FGD and route traffic per existing 3rd party and incumbent LEC routes for 0+/0-, 1+, I,DDD, etc.) This element could be combined with common transport obtained from BellSouth provided by the new entrant itself or obtained from a third party.

Similarly a new entrant should have the capability to order a terminating tandem switching port to combine it with dedicated transport (either purchased from BellSouth as a network element provided by the new entrant itself or obtained from a third party) and to instruct BellSouth on the call termination routing or announcement exceptions that may be required by the new entrant for terminating traffic.

In the originating side example BellSouth is providing the tandem functionality for the new entrant so that calls that originate on the new entrant switch (which can be provided by the new entrant a third party or obtained from BellSouth on an unbundled basis) will be terminated over BellSouth's network. In this situation the new entrant would either combine the originating port and tandem switching with a transport network element from BellSouth or would provide this transport itself or through a third party. In the terminating side example BellSouth again is providing the tandem functionality. In this example calls that originate on the network of BellSouth, the new entrant or third party will be switched by BellSouth's tandem and will be terminated over dedicated transport facilities from the tandem to the incumbent LEC, new entrant or other third party switch. This path would be used for the sole purpose of terminating traffic to end user customers.

In either case unless a tandem trunk originating port and/or a tandem trunk terminating port is offered in association with the tandem switching network element it is

not possible to offer either the common transport network element or the dedicated transport network element since there would be nothing to connect the tandem switching network element to.

Lastly the concept of origination and termination is used in the above examples only to depict the two critical functions that a tandem performs. A single path can be established to connect to the tandem to a new entrant switch and used to both originate and terminate traffic. Hence there should be no restrictions on the new entrant's use of two-way trunks to accomplish these important switching connections in the most cost effective manner.

Q. WHAT IS BELLSOUTH'S PROPOSAL WITH REGARD TO ORDERING AND PROVISIONING LOCAL TRANSPORT?

A. This is unclear. BellSouth has at times referred to a BellSouth document entitled "OLEC-to-BellSouth Ordering Guideline (Facilities-based)." This appears to be a document which is similar to the "handbook" referred to earlier in my testimony. As such, BellSouth will be in complete control of the terms and conditions contained in this document. Of course, the fact that ordering and provisioning policies remain entirely in BellSouth's control should give the Authority great concern. Such control provides BellSouth with the opportunity to abuse its monopoly bottleneck position. Such opportunity combined with the strong incentive to BellSouth to protect its local monopoly is a recipe for disaster.

BellSouth bears the burden to establish it meets all checklist requirements. I believe this Authority should make BellSouth come forward and fully explain how it is providing unbundled

local transport as it is obligated to do under the Act and section 271.

800 Access Screening

Q. DO YOU HAVE CONCERNS REGARDING BELLSOUTH'S PROPOSAL RELATING TO 800 ACCESS SCREENING?

A. Yes. Paragraph 7 of page 4 of the Terms and Conditions limits CLECs, such as MCI, from accessing the BST STP for the sole purpose of obtaining the proper routing information necessary to complete the 800/888 call. CLECs must be allowed the options of establishing connection to the BellSouth Toll Free Database. As set forth in more detail in the discussion of checklist item 10 below, there are three options which should be available: 1) The CLEC is non-SS7 and the ILEC provides functionality for the CLEC; 2) the CLEC is SS7 and the CLEC makes a query through the ILEC's STP/SCP; and, 3) the CLEC is SS7 and makes the query through a third party's STP/SCP. As 800 Access Service with ten digit screening is a tariffed offering of BellSouth, a CLEC would have the right to resell this service without this paragraph in the SGAT. However, what BellSouth appears to be doing is masking this offering as an Unbundled Network Element. That is, they appear to be trying to pass this off as proof that they have unbundled access to the toll free databases and the signaling associated with it by making this tariffed service available to CLECs.

UNBUNDLED SWITCHING - CHECKLIST ITEM VI

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING UNBUNDLED SWITCHING IN ACCORDANCE WITH SECTION 271(c)(2)(B)(vi) OF THE ACT?

A. No. Mr. Milner in his testimony states that BellSouth has no unbundled switch ports in service in Tennessee.

However, there are two sides to the switch - the port (or line) side and the trunk side. Only the trunk side of local switching combined with the common transport group is offered in the SGAT. Thus, BellSouth has not unbundled local switching so that both line side and trunk side are offered separately. The FCC in the Michigan Decision states in no uncertain terms that unbundled local switching includes both the line side and trunk side facilities. Michigan Decision at paragraphs 319-320.

This issue is also a concern because at page 12 of the General Terms and Conditions, BellSouth ignores the need for trunk side termination.

There are two basic elements associated with local switching, the ports or access and egress elements and the switching function. To effectively unbundle local switching each of these two elements must be offered from both the line side and the trunk side. That is to say that new entrant should have the capability to order a Port (e.g. 2-wire analog subscriber port). As such, the new entrant would be provided the originating line class functions as options for their customers and instruct the ILEC on the call routing exception functions required (e.g. route o+/o- to the tandem for terminating on the CIC 222 trunk group and all 1+ to the CIC 852 trunk group). From the trunk side of the local switching Network Element, a new entrant should have the capability of ordering a Direct Tandem Trunk/Group (e.g. Intermachine Trunk - IMT - equipped for 2-stage FGD) and instruct the ILEC on the call routing or announcement exceptions that may be required.

I should also note that Mr. Milner's statements relative to the availability of unbundled switching in BellSouth is inconsistent with the testimony of BellSouth witness

Robert Scheye in the Louisiana 271 proceeding. I understand that BellSouth witness Scheye finally conceded in the Louisiana proceeding that BellSouth is simply not providing unbundled switching, in spite of its promises and statements to the contrary. Perhaps Mr. Scheye recognized the need for both trunk and line side connections.

Lastly, while Mr. Milner is silent with respect to unbundling of tandem switching, BellSouth does reference tandem switching (which I have described in great detail in my discussion of common transport) in the SGAT which states that "BellSouth offers all the functionality of its tandem switches to CLPs unbundled from transport." SGAT at page 15, par, V.A.3. What BellSouth fails to mention, however, is that the tandem port is needed to connect the transport.

Q. WHAT INFORMATION IS AVAILABLE TO NEW ENTRANTS ABOUT BELLSOUTH UNBUNDLED SWITCHING?

A. BellSouth has provided little information on how MCI can actually order switching elements, on time frames for ordering, or on billing and auditing. In this area, BellSouth at one time referred to a document entitled "OLEC-to-BellSouth Ordering Guidelines (Facilities-based)" for information regarding ordering and delivery of unbundled switching. I am not sure if this is still BellSouth's position. If so, BellSouth intends to control any changes and the implementation of these guidelines. Of course, leaving the provisioning in the hands of BellSouth creates great opportunity for it to provide favorable treatment to itself and thus disadvantageous treatment to MCI.

In addition to the terms being completely in control of BellSouth, the Guidelines are short on valuable details. Again, this is not surprising. This is a new area, and there are not even

fully developed industry standards. Until standards are set, absent a body of actual experience with unbundled switching, contractual or SGAT commitments will mean little. MCI has requested from BellSouth unbundled local switching and MCI is in discussions with BellSouth about an unbundled local switching trial. Details remain to be established. BellSouth should not be deemed to be making available or providing unbundled local switching until in fact it can be established that BellSouth can provide unbundled local switching, procedures are documented, testing has been completed, and performance measures established.

WHITE PAGES DIRECTORY LISTS - CHECKLIST ITEM VIII

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING WHITE PAGES DIRECTORY LISTS IN ACCORDANCE WITH SECTION 271(c)(2)(B)(viii) OF THE ACT.

A. No. BellSouth has refused to provide, despite repeated requests from MCI, directory listings for independent telephone companies and other new entrants. This issue will be discussed in more detail under checklist item 12.

ACCESS TO DATA BASES AND SIGNALING - CHECKLIST ITEM X

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING ACCESS TO DATA BASES AND SIGNALING IN ACCORDANCE WITH SECTION 271(c)(2)(B)(x) OF THE ACT.

A. No. BellSouth is not making available or providing nondiscriminatory access to data bases. Let me provide two examples.

First, Mr. Milner contends that BellSouth has offered access to its 800 database and LIDB for years. This is not true. What BellSouth has offered with respect to the 800 database is access for the Responsible Organization (RESPORG), which only provides access to the 800 Service Management System ("SMS") database. Such access does not provide a new entrant with access to BellSouth's Service Transfer Point ("STP") for access to the BellSouth Service Control Point ("SCP") for the sole purpose of providing a new entrant the ability to do its own look-up on 800 traffic. In fact Volume 10-4, "Checklist Item 10-Access to Data Bases, Routing and Signaling" under the Maintenance Procedures Tab-Temporary Work Instructions - 800, 888 data Base" filed with Mr. Milner's testimony states:

> Note: This document is for use as a guide as of March 31, 1997. The final 800 Date Base and LIDB service, as related to new entrants, has not yet been finalized in project teams.
>
> The assumption used to write this document is that the Unbundled Local new entrant end users will be using BST dial tone and routing to handle their incoming and outgoing calls. Therefore, Unbundled Local new entrant end users maintenance and provisioning will be similar to BST customer handling.
>
> Unbundled Local Loop new entrant will use their own switches for dial tone and routing translations. Calls to and from these Unbundled Local Loop new entrant end user's, from the BellSouth network, will be via the one way and two way trunk groups connected directly to the new entrant. Trunk groups between the BST End Office, or Access Tandem, will be provisioned and maintained by the ACAC, similar to the IC facilities. Local Call treatment to and from the Unbundled Local Loop new entrant, will be as from a BST End Office.

What follows this statement is nothing but a recap of what is contained today in

BellSouth's access filing and has no relationship to the unbundling required by the Act. Hence no procedures exist today for the provision or billing of these network elements. There are in fact three scenarios that a new entrant could use to handle 800 traffic if these network elements were unbundled. In the first scenario assume the new entrant switch does not have the necessary functionality to be a signal point ("SP") on the SS7 network. Here the new entrant would rely on BellSouth to perform the necessary look-up and to provide a connection to the carrier identified that will carry this traffic. When an 800/888 call originated on the new entrant's switch the switch would select the tandem route and in the first of the Feature Group D (FGD) out pulsing would insert BellSouth's CIC code, normally a 110, and the appropriate OZZ code for that tandem. The BellSouth tandem would respond collecting the second stage (called/calling party information) and through BellSouth's SS7 network query the SCP and establish the path for the call based on the provided information. The BellSouth tandem would then complete the call to the 800/888 transport carrier.

This is one of the offerings available to independent telephone companies that does not appear to be addressed in the BellSouth filing.

In the second scenario the new entrant will make the data base query through BellSouth's STP and SCP. Hence the new entrant queries the SCP and obtains the necessary routing information. Then if direct trunking is available through the new entrant switch it will connect to the 800/888 transport carrier's switch and complete the call. Where direct trunking does not exist the new entrant will seize a trunk to BellSouth's tandem and in the first state of FGD out pulsing send the appropriate CIC/OZZ information. The BellSouth tandem will connect the new entrant to the 800/888 transport

carrier's switch and the new entrant will complete the call by outpulsing the second stage of the FGD call. In order to complete the calls through the BellSouth's tandem under this scenario the new entrant must use FGD signaling. Yet on Page 4 of the SGAT BellSouth states "the CLP will not be required to utilize switched access FGD service." Without the use of the FGD protocol the new entrant would be required to have direct connections to every 800/888 transport provider. The only restrictions should rest with the new entrant as it deals with economics and not capabilities. With respect to pricing the only cost incurred by the incumbent LEC is that of the STP/SCP functions and should be void of the switch and STP transport functions as they are being provided by the new entrant. The availability of this option from BellSouth is not clear nor is it clear whether BellSouth has the ability to properly charge the correct rates.

The third scenario is where the new entrant opts to query a third party SCP. In this case, the routing of the call would be virtually the same as the second scenario with the only difference between the tow that the database query charge is levied by the third party. It should be noted that the above scenarios assume that an new entrant is using only the Access to Database unbundled network element and that no other network element combinations have been requested.

There is also an issue relative to availability of common channel signaling. This is reflected at page 26 of the SGAT. BellSouth states that it will provide LEC Common Channel Signaling where available except for call return. There is no reason why call return should not be made available to a new entrant. Similar to the 800 data base issue just discussed this is further evidence of BellSouth's desire to restrict new entrant access to call completing databases in violation of the Act. In this case call return is a basic

CLASS feature offered by nearly all incumbent LECs to their end users.

LOCAL NUMBER PORTABILITY - CHECKLIST ITEM XI

Q IS BELLSOUTH MAKING AVAILABLE OR PROVIDING NUMBER PORTABILITY IN ACCORDANCE WITH SECTION 271(c)(2)(B)(xi) OF THE ACT.

A. No. While BellSouth does offer Remote Call Forwarding as in interim solution, it is my understanding that MCI is experiencing significant problems with cutovers. While under the BST-MCI contract cutovers should be coordinated, BellSouth at times is not proceeding on a coordinated basis.

The BST-MCI contract provides that on a coordinated cutover that BST shall not begin the cutover more than 20 minutes after the agreed upon time. Despite the language of the contract BellSouth has at times offered cutovers within a 4 hour window, 2 hours before or 2 hours after the desired cutover time.

MCI must have the ability to schedule and postpone ILNP conversions. However, BellSouth has failed to honor MCI requests for postponement and proceeded with the ILNP conversion. By doing so, BellSouth forwards the customer's working BellSouth number to an MCI number that is not operational.

The result is an MCI customer's service being out of order. This results despite MCI's warning to BellSouth that the MCI line was not yet connected and that the ILNP cutover should not be made. In one recent case, the customer was out of service for five hours before BellSouth restored service.

The FCC at Paragraph 174 of the Michigan Decision reaffirmed the importance of ILNP;

> "As we recognized in the number portability order, "number portability is essential to meaningful competition in the provision of local exchange service"(Number Portability order, 11 FCC Rcd at 8367). As a result, we will take very seriously any allegation that a BOC is failing to meet its current obligation to provide number portability through transitional measures pending deployment of a long-term number portability method."

Moreover it appears that in certain instances MCI is having difficulty getting BellSouth to assign adequate paths for ported numbers. MCI requests for up to 10 paths have at times only been fulfilled after escalation. The inability to obtain needed paths means that MCI cannot provide service equal to that being provided by BellSouth to its customers.

This is a very complicated process and ILNP can only be ordered through systems requiring manual intervention. Whether via LENS or EDI it is my understanding that orders do not flow through without manual intervention. This means numerous opportunities for errors.

I do not mean to imply that all the problems with ILNP cutovers are solely the responsibility of BellSouth. MCI has had problems of its own learning the complex processes to order and arrange for cutovers. This only points to the fact that simply offering Remote Call Forwarding as a vehicle for ILNP is very different than providing service using Remote Call Forwarding. There are still many issues to be worked out.

This is perhaps evidenced best by the fact that personalities not set processes determine at times whether a cutover occurs without incident. I have been advised by certain of our sales people that MCI is less likely to experience cutover problems when

certain BellSouth employees handle the cutover. I think this establishes that customers do not have to suffer and new entrants have their reputations injured due to problem cutovers. What it also says is that further refinement of processes is needed to insure that well established methods and procedures and not personalities are the guarantees of success for cutovers.

DIALING PARITY - CHECKLIST ITEM 12

Q. IS BELLSOUTH MAKING AVAILABLE OR PROVIDING DIALING PARITY AS REQUIRED BY SECTION 271(c)(2)(B)(xii) OF THE ACT.

A. No. Mr. Milner testifies that local service subscribers in BellSouth's region will dial the same number of digits to place a call, without the use of an access code regardless of their choice of provider. This is simply not true. With regard to access to Directory Service Listings for independent telephone companies and other new entrants BellSouth refuses to provide the necessary data. Thus an MCI local customer would need to be transferred by MCI to BellSouth's Directory Assistance or dial a special code to by-pass MCI to BellSouth's Directory Assistance group to obtain the telephone numbers of end users served by other new entrants or independent telephone companies. This is hardly dialing parity and certainly creates a situation where MCI's local service is less attractive than BellSouth's. At pages 21 of the SGAT BellSouth makes it clear that it will refuse to provide adequate data base information for Directory Assistance relating to independent telephone companies and new entrants.

BellSouth has recently announced the opening of a national directory assistance

service. Assuming arguendo that it is lawful that BellSouth is providing this service this Authority should inquire whether BellSouth has access to independent telephone company data for this service as well as listings for new entrants.

As a result of the failure of BellSouth to provide to new entrants the listings as described above BellSouth fails to satisfy the obligations of checklist item 12.

Access Rates

Q. DO YOU HAVE CONCERNS WITH BELLSOUTH'S PROPOSAL REGARDING ACCESS RATES CHARGED BY CLECs?

A. Yes. It appears at page 4 of the Draft SGAT that BellSouth seeks to dictate the interstate and intrastate switched access rates which CLECs charge to BellSouth. The Draft SGAT states that "[i]f BellSouth is serving as the CLEC end user's presubscribed interexchange carrier or if the CLEC end user uses BellSouth as an interexchange carrier on a 10XXX basis, the CLEC will charge BellSouth the appropriate BellSouth tariff charges for originating network access services." There is no explanation for this absurd requirement. The CLEC should be permitted to charge its own appropriate and tariffed cost-based access rates, not those of BellSouth.

Records for 800 Billing

Q. DO YOU HAVE CONCERNS WITH THE PROPOSED SGAT'S TREATMENT OF 800 BILLING?

A. Yes. Similar to switched access, BellSouth seeks to require that the CLEC charge the BellSouth rates. Again, there is no explanation for such a requirement.

Billing Disputes

Q. PLEASE EXPLAIN YOUR CONCERNS REGARDING BELLSOUTH'S PROPOSAL TO DEAL WITH BILLING DISPUTES.

A. The proposed SGAT does not contain a dispute resolution clause. Such a provision should be included at page 5 of the Terms and Conditions. While I am not a lawyer, I am concerned that BellSouth may claim that the SGAT controls billing disputes and thus CLECs must remit payment with no defined procedure for mediation of billing disputes.

Customer Daily Usage Data

Q. DOES THE PROPOSED SGAT ADEQUATELY ADDRESS THE ISSUE OF CUSTOMER DAILY USAGE DATA?

A. No. I understand that BellSouth has refused to provide detail on flat business or residential lines. This information is critical to determine if a customer is better served by a measured line or should remain on the flat rated service offering. In the competitive world we are heading toward, a CLEC will need to provide their end user customers with the products that best meet their needs. One basic need, from a CLECs perspective, will be information needed to counsel their customers on the products and services for which they are paying. Whether a customer should be on a measured service or a flat-rated service depends upon the calling habits of that particular customer. Competitors in the long distance arena are well aware that if they leave their customer on an expensive plan that is not needed they will lose that customer to the first competitor that comes through

the door. The same will become true in the local arena and information as to local usage will be invaluable in curbing that type of customer migration.

BellSouth has indicated that they do record this information, but, since they do not pull the information for themselves, they have no intention of providing it for CLECs. This is true even though the CLEC would be compensating BellSouth for these usage records. Clearly the difference is they have the ability to access this information at will but they choose not to. This is a shortcoming in the SGAT which must be corrected.

Local Traffic

Q. DO YOU HAVE CONCERNS WITH BELLSOUTH'S DEFINITION OF LOCAL TRAFFIC?

A. Yes. On pages 1 and 2 of the SGAT, BellSouth defines local traffic by stating that "in no event shall the local traffic for purposes of local call termination billing between the parties be decreased. No company shall represent Exchange Access Traffic as Local Interconnection traffic." Additionally, on page 1, BellSouth alludes to local traffic in terms of NPA-NXXs.

It is essential that if the Authority intends to accept this definition of local traffic, and to hold CLECs to these limitations, BellSouth must be required to provide to CLECs a complete listing of BellSouth's NPA-NXXs that make up a local service area and such information must be provided in a usable format.

Q. DOES THE PROPOSED SGAT PROVIDE ADEQUATE ACCESS TO ENGINEERING RECORDS?

A. No. To effectively compete, CLECs must be able to obtain access to this information with great ease. The SGAT, at page 10, requires a bona fide request for access to engineering information. Upon receiving a request for access to records, it is my understanding that BellSouth then has ninety (90) days to respond. It is not clear what BellSouth will require before it allows access. I am concerned that BellSouth may use the bona fide request process to create delay and to make obtaining this information a difficult and lengthy process.

CLEC Resale Audit

Q. PLEASE DESCRIBE THE SGAT PROPOSAL REGARDING A RESALE AUDIT.

A. According to the proposed SGAT at page 34, BellSouth has the right at any time to audit services purchased by a CLEC for resale. Obviously, such an audit is an opportunity for BellSouth to learn more about a CLEC's market and inhibit its ability to compete. The Authority should not allow such an opportunity to exist at BellSouth's whim.

CONCLUSION

Q. PLEASE PROVIDE A RECOMMENDATION TO THE AUTHORITY.

A. BellSouth has not yet complied with the non-OSS aspects of the Competitive Checklist. The outages, blockages and other difficulties experienced by MCI's customers in Tennessee and throughout the Southeast that have resulted from BST's mistakes and deliberate actions are proof positive that BST has not implemented the requirements of the Act for nondiscriminatory access to its services and facilities by its competitors. The instances in which BST has failed to provide access to its facilities and services in the face of legal and regulatory requirements effectively hampers competition by raising the costs of BST's rivals. An award of long-distance authority given this state of facts and current state of affairs would likely deal a death blow to the incipient competition for local exchange services in BST's region.

As I stated at the outset of my testimony, BellSouth's proposed SGAT is irrelevant since, under Track A, the issue is whether BellSouth has fully implemented and is providing each checklist item not whether it is offering items on paper. Beyond this obvious problem, the proposed SGAT is woefully inadequate and does not even offer the checklist items in compliance with the fourteen point checklist. Finally, not only would the SGAT fail to facilitate competition in local markets, if approved, it would actually thwart competition. Thus, I strongly recommend rejection of the SGAT and a finding that BellSouth has not met the fourteen point checklist.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BELLSOUTH

BellSouth Business Systems
675 W. Peachtree Street - Room 4501
[illegible]

January 11, 1998
(901)272-2110

CBP27**
[redacted]
MEMPHIS TN 38104-4148

Dear Business Customer:

We received your request to move your local service for account (901)272-2110 from BellSouth on December 1, 1997. Because we value you as a customer, we're disappointed that you have selected another provider. However, your services will be transferred as of January 7, 1998, and you will receive a final bill from BellSouth reflecting this change. If the information we have is incorrect, please call us at 1-800-945-6500. ext. 4247

While we fully respect your request to make this change, we want the opportunity to serve you in a manner that effectively meets the needs of your business and allows us to earn back your confidence and the service you are moving. BellSouth wants to be your best choice for all your communication needs.

Your BellSouth Account Team will be in contact with you to discuss this move and to ensure that we are doing everything we can to earn your business.

We thank you for your business and hope to have the opportunity to meet your needs again in the future.

Sincerely,

Executive Vice-president
BellSouth Business Systems

[illegible]

Beverly Ridley 2/2
#4247
1/7 left msg [illegible]

1/30/98 MCI

Diane Haynie
2/4 -1218

password switched on my voice mail

EXHIBIT
1
PENGAD-Bayonne, N.J.

3/26/98 5:38p