Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
Implementation of the Local Competition Provisions in the Telecommunications Act of 1996	)	**CC Docket No. 96-98**
	)	
Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers	)	**CC Docket No. 95-185**

DECLARATION OF
DENNIS HEROLD, JOSEPH STOCKHAUSEN AND ROY LATHROP
On Behalf of MCI WorldCom, Inc.

Based on our personal knowledge and on information learned in the course of our business duties, Dennis Herold, Joseph Stockhausen and Roy Lathrop declare as follows:

1. My name is Dennis Herold. I am a Senior Manager of ILEC Collocations for MCI WORLDCOM, Inc. ("MCI WorldCom"). My business address is 1740 Creekside Drive, Sacramento, California, 95833. I am responsible for all applications, interfaces, payments and documentation in the area of collocation nationwide. I started with Brooks Fiber in 1996 as Senior Manager of Collocations and assumed the same responsibility for MCI WorldCom upon the merger of Brooks and MCI WorldCom. I have been in my current position since 1996.

2. My name is Joseph Stockhausen. I am a Senior Manager of Strategic Planning and Business Analysis for MCI WorldCom. My business address is

One Tower Lane, Suite 1600 Oakbrook Terrace, Illinois, 60181. I joined MCI WorldCom in October, 1991. I am responsible for developing financial models and business plans, as well as evaluating new business ventures for MCI WorldCom. Prior to assuming my current position, I was Manager of Business Planning and Financial Analysis for WorldCom's Telecom Sales force for 18 months, and I held various positions within MFS Development, concentrating on financial analysis, planning and pricing. I have been in my current position since February 1998.

3. My name is Roy Lathrop. I am an Economist in the State Regulatory Analysis Section of MCI WorldCom. My business address is 1133 19th Street, NW, Washington DC, 20036. I joined MCI WorldCom in December 1994. I am responsible for developing and promoting MCI WorldCom public policy positions before state and federal regulators. These policy positions generally involve encouraging local market competition, including network unbundling, economically efficient costing and pricing, and various other local competition initiatives. I have been in my current position since January 1999.

4. Perhaps the greatest impediment to local market entry by competitive local exchange carriers ("CLECs") is the uncertainty and delay inherent in relying on ILEC-provided facilities. The most obvious path around this impediment is for a CLEC to deploy its own facilities and create a ubiquitous nation-wide network. The existence of substantial scale economies and limited availability of capital resources, however, militate against the ubiquitous deployment of facilities by CLECs. Furthermore, ubiquitous deployment of facilities could only be completed at great expense and over a considerable period of time, if it were feasible at all. Even if a CLEC were to forego the

deployment of its own loops, the resources required to deploy the other network facilities (switches, transport, and collocations) would likely surpass those available to any single competitor, and would likely strain the capabilities of other, related entities. For example, even if a CLEC had access to the necessary financial resources, it is not clear that manufacturers could provide sufficient quantities of equipment, or that teams of qualified installers would be available in the various locations.

5. For the purpose of this declaration, we have abstracted from these pragmatic constraints to provide an estimate of the cost and time required for a CLEC to deploy switches, transport and collocation facilities ubiquitously. In making this estimate, we have assumed that a CLEC has the necessary capital resources available. We have also assumed that the CLEC has a sufficient number of qualified and trained employees to staff the numerous switch installation teams needed to implement the deployment. Finally, we have assumed that equipment would be readily available from vendors. Given these assumptions -- each of which would highly doubtful under "real-world" conditions -- and based on our direct experience in CLEC facilities deployment, we have made our best estimate of the time and cost of deploying a ubiquitous network.

Ubiquitous Switching and Transport

6. In order to deploy the switches and the transport network, a CLEC, with the cooperation of ILECs and governmental bodies would have to perform the following activities that are likely to require the following amount of time:

- Planning switch placement for a ubiquitous network. Such planning would take approximately 24 months.
- Planning the transport network. Such planning would take approximately 36 months.

- Obtaining the rights of way and other governmental or private property access. This typically takes approximately 6-12 months per right of way. It is impossible to estimate the amount of time it would take to negotiate these arrangements for several hundred switches simultaneously.

- Planning and negotiating interconnection with the ILEC. Assuming that arbitration and litigation does not arise, this takes approximately 6 months per switch.

- Deploying the switch. This typically takes 18-24 months for a single switch.

7. At this time, MCI WorldCom has deployed 110 switches in its local network, or approximately ½ of one percent of the estimated 20,000 ILEC switches deployed nationwide. Despite the fact that MCI WorldCom devoted enormous resources to this effort, the deployment of those 110 switches took over 5 years--which averages out to 22 switches per year. If one simply extrapolated from this experience, and even built in the assumption that MCI WorldCom's speed in deploying switches would quintuple over time, it would still take more than a decade for MCI WorldCom to deploy enough switches to equal 10 percent of the existing switches deployed by ILECs. (That is, assuming MCI WorldCom increased its deployment rate to 110 switches per year, it would take an additional 17 years to deploy a total of 2000 switches, which equals only 10 percent of the estimated 20,000 existing ILEC switches).

8. Installing a transport network to connect the switches and ILEC collocations would take several more years. Indeed, an extrapolation based on the announced deployment plans of new local market entrants such as Level 3 Communications and Qwest Communications could take 10-20 years. While both companies plan to take up to 8 years to fully build out their networks, they are only

planning to build out to 100 cities or so. Connecting over 2,000 switches to 20,000 ILEC collocations would require more than 3 times the route miles to be installed. Again, a project of such massive scale, even with sufficient capital resources, would be physically limited by the need to perform necessary functions that even infinite financial resources cannot avoid.

Ubiquitous Collocation

9. Acquiring the necessary collocation spaces from ILEC's and installing equipment in those collocations is likely to also require multiple years. Establishing a single collocation area currently requires on the order of five months. This includes approximately two weeks to gather all the required engineering, insurance documents and other supporting documentation to satisfy ILEC application requirements. Assuming the application meets the ILEC requirements, ILECs respond to the applications with a quoted rate for the project typically within 30 days. (An additional 5-10 days per quote is typically added when MCI WorldCom submits more than 6 applications within the same city.) Upon acceptance of such quote and the payment to the ILEC for its non-recurring charges, the ILEC begins the engineering and construction of the collocation area which requires, on average, 120 days. At the end of such time, a site "walk through" is conducted. Once the site is accepted, the ILEC provides provisioning information needed for the CLEC to use the site.

10. The above process describes the five-month period required to obtain a (caged) collocation area from an ILEC. To submit the required number of applications for ubiquitous deployment (about 20,000 collocations) at the rate of approximately 100 applications a week (based on 5 people completing 20 applications per

week) would require about 4 years just to complete and process the applications. It would then take the ILECs a number of years to build out the sites.

11. Once a collocation site is built by an ILEC and accepted by a CLEC, the CLEC then installs its collocated equipment in the collocation cage. Completing the installation of CLEC equipment in the collocation areas is likely to require ten to twenty years, the bulk of it currently in the time it takes for the ILEC to construct the collocation. (Again, assuming a CLEC has access to unlimited amounts of capital, there would likely be an expansion in the productive capacity of the equipment manufacturers for the collocated equipment.) In addition, there are limited numbers of qualified installation teams (and existing certification and qualification standards established by the ILECs for such installers). Initially, the limited number of available installers would severely restrict the ability of a CLEC to quickly provide service from its collocation areas.

Cost of Ubiquitous Deployment

12. Included in the declaration of Mark Bryant, see Bryant Decl., based on the HAI model, the investment required for ubiquitous deployment of switching and transport facilities is over $27 billion. ($27.3 billion, comprised of $20.5 billion in switching investment and $6.8 billion in transport investment.) The required investment for collocation is about $5 billion, based on a rough estimate of $250,000 per collocation and 20,000 central offices. Thus, the total switching, transport, and collocation investment needed by a CLEC for ubiquitous service would be $32 billion. While the switching and transport figures are based on the results of a forward-looking cost model, the collocation figures are based on our experience, which is generally a result of being

forced to pay ILEC embedded costs. Even if all states adopted forward-looking collocation costs, however, that would still require a $3 billion investment and a total investment of $30 billion, far beyond the reach of any single CLEC. A key assumption repeated above is the infinite amount of available financial resources. A project of the scope described would be sufficient to impact the capabilities of manufacturers as well as providers of equipment installers. As a consequence, the prices charged a CLEC for equipment as well as the installation labor would certainly increase, perhaps substantially. These higher prices have not been included in the figures above.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on May 26, 1999.

(Dennis Herold)

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on May 25, 1999.

(JOSEPH M. STOCKHAUSEN)

I declare, under penalty of perjury, that the foregoing is true and correct.

Executed on May 24, 1999.

Roy Christopher Lathrop

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DECLARATION OF BERNARD KU
On Behalf of MCI WorldCom, Inc.

Based on my personal knowledge and on information learned in the course of my business duties, I, Bernard Ku, declare as follows:

1. My name is Bernard Ku. In my current as a Senior Manager II of MCI WORLDCOM, Inc. ("MCI WorldCom"), I have responsibility over the Intelligent Network, Signaling, Switching Standards and Patent Engineering Group. I also serve as a delegate to the ITU-T Study Group 11 (IN/IP requirements) and also the U.S. Standards Committee T1S1. I received a Bachelor of Science degree from the University of Hong Kong, a Masters in Business Administration from the University of Texas, a Masters degree in Computer Science from the University of North Texas, and a Ph.D. from Southern Methodist University. Since 1994, I have served as an Adjunct Associate Professor of the Electrical Engineering Department at SMU.

2. To route and bill calls that do not travel end-to-end on its own network, a CLEC must have access to the specific call-related information provided by

the ILEC's SS7 signaling networks[1] and call-related databases, including the Advanced Intelligent Network ("AIN") architecture and service management systems; there are currently no alternative means of obtaining this information.

3. Signaling links are dedicated bi-directional transmission paths carrying messages between switches and signaling networks. Signaling Link Transport is a set of two or four dedicated 56 kbps transmission paths between CLEC-designated Signaling Points of Interconnection and ILEC Signal Transfer Points ("STPs"). STPs are signaling message switches that interconnect Signaling Links to route signaling messages between switches and call-related databases. STPs also provide access to other network elements connected to the Signaling System 7 ("SS7") network, including: (1) ILEC local or tandem switches, (2) Service Control Points (these are databases, as described below), (3) third party local or tandem switches, and (4) third party-provided Service Control Points/Databases.

4. Signaling Links, Signaling Transport, and STPs are essential elements of the SS7 network that are used to control the call processing flow of many different types of calls. The SS7 network is a global standard for telecommunications defined by the International Telecommunications Union ("ITU") and modified by the American National Standards Institute ("ANSI") standards process. The standard defines the procedures and protocol by which network elements in the public switched telephone network ("PSTN") exchange information over a digital signaling network to effect

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[1] A few very small ILECs still use in-band signaling systems, but that system is an outdated technology that is not a reasonable substitute for SS7.

wireline and wireless call setup, routing, and control. CLECs must have the same access to these elements as the ILECs have in order to provide end-to-end service comparable to the ILECs. Interexchange carriers and third parties use these same elements to interconnect their networks.

5. CLECs, especially those that use the ILEC's switch to provide local service, have no option but to obtain these signaling elements from the ILEC. This is because the ILECs' switches are directly interconnected only with the ILECs' own signaling networks and cannot interoperate with multiple signaling networks except through their own signaling networks' mediation. Thus, CLECs could not use a substitute signaling capability even if they wanted to. It would be both discriminatory and inefficient to require CLECs to obtain interconnection and access to the call-completion databases through a third party provider, since that third party would have to interconnect in the same fashion as the CLEC.

6. Service Control Points ("SCPs") are intelligent databases containing customer and/or carrier-specific routing, billing, or service instructions. SCPs are the network elements that provide the functionality for storage of, access to, and manipulation of information required to offer a particular service or capability. These include the following databases:

> The Line Information Database ("LIDB") is a transaction-oriented database accessible through the SS7 network that contains records and billing instructions associated with subscriber line numbers and special billing numbers. LIDB accepts and responds to queries originating on ILEC, CLEC, and third party networks.

The Toll Free Number Database provides the functionality necessary for toll free (800 and 888) number services. The Toll Free Number Database translates dialed numbers into POTS numbers or other network routing information, thereby providing routing instructions to the originating network.

The Customer Name ("CNAM") Database contains the customer name associated with a particular telephone number. This database and other databases that store customer information and associate that information with the customer's telephone number are used to provide Caller ID and related services.

The Number Portability Database contains network routing instructions for all numbers that have ported from one service provider's network to another service provider's network. Access to this information permits any network that queries a Local Number Portability Database to process and deliver a call to the terminating network on which the ported number resides.

7. These databases are updated either through an ILEC proprietary interface or through a nationally standardized interface, as described in the Commission's Local Competition Order:

> From the perspective of a switch in a LEC network, the databases discussed above merely supply information or instructions. Updating or populating the information in such databases, however, takes place through a separate process involving different equipment. Carriers input information directly in a service management system (SMS), which in turn downloads such information into the individual databases.
>
> The Advanced Intelligent Network (AIN) is a network architecture that uses distributed intelligence in centralized databases to control call processing and manage network information, rather than performing those functions at every switch. An AIN-capable switch halts call progress when a resident software "trigger" is activated, and uses the SS7 network to access intelligent databases, known as Service Control Points (SCPs) that contain service software and subscriber information, for instruction on how to route, monitor, or terminate the

> call. AIN is being used in the deployment of number portability, wireless roaming, and such advanced services as same number service (i.e., 500 number service) and voice recognition dialing. AIN services are designed and tested in an off-line computer known as a Service Creation Environment (SCE). Once a service is successfully tested, the software is transferred to an SMS that administers and supports SCP databases in the network. The SMS then regularly downloads software and information to an SCP where interaction with the voice network takes place via the signaling links and STPs . . . .

Local Competition Order ¶¶ 458, 59 (footnotes omitted).

8. CLEC access to the AIN databases, ILEC Service Creation Environment, and Service Management System is critical if the CLECs are to develop and deploy new and innovative services. These services require extensive testing to ensure network interoperability; and one critical aspect of this testing, field deployment testing, cannot be duplicated outside the ILEC AIN environment.

I declare, under penalty of perjury, that the foregoing is true and correct.

Executed on May 21st, 1999.

Dr. Bernard S. Ku

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DECLARATION OF JOHN SIVORI
On Behalf of MCI WorldCom, Inc.

Based on my personal knowledge and on information learned in the course of my business duties, I, John Sivori, declare as follows:

1. My name is John Sivori. I am Senior Manager in MCI WORLDCOM, Inc.'s ("MCI WorldCom") Information Technology Organization. My duties include the planning and implementation of electronic interfaces for pre-ordering and ordering operations in support of MCI WorldCom's entry into local telecommunications market in the region served by Bell Atlantic. From 1986 through 1996, I was a member of the Telecommunications Industry Forum ("TCIF") Executive Board, and served as chairman of the TCIF Electronic Data Interchange ("EDI") Committee and the TCIF Electronic Commerce Committee.

2. Operations Support Systems ("OSS") consist of all the manual, computerized, and automated systems, together with associated business processes, needed to pre-order, order, provision, maintain and repair, and bill retail or wholesale telecommunications services or unbundled network elements. These systems, and the up-to-date data maintained in

them, are needed by ILECs and CLECs alike to serve customers in a timely, efficient, and accurate fashion.

3. For years the ILECs have utilized highly complex automated OSS systems to successfully manage their own internal processes and customer interactions, minimizing the need to undertake manual activities, and thereby substantially reducing both labor costs and the time required to perform a function. These well-tested systems ensure, for example, that ILEC 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 ILEC retail customer orders are correctly processed and that bills are timely, complete, and accurate.

4. CLECs need access to the ILECs' OSS, whether they are reselling ILEC products, leasing unbundled elements from the ILECs' network, or simply interconnecting to the ILECs' network. But while existing ILEC systems are complete and adequate to serve ILEC retail customers, the ILECs have been slow to develop the interfaces and downstream processes necessary for CLECs to access the ILEC systems to obtain unbundled network elements or resold services in a timely, reliable, and accurate fashion in volumes adequate to satisfy demand. In addition, the ILECs have often refused to implement the industry standards developed under the auspices of the Alliance for Telecommunications Industry Solutions ("ATIS"), choosing instead to deploy proprietary systems and, thereby, imposing millions of dollars in up-front costs in each region on national CLECs who are forced to develop unique interfaces for each ILEC-specific system rather than a single standardized interface.

5. For CLECs requiring ILEC unbundled network elements or resold retail services to provide local services, there is no substitute for the ILECs' information on their own

unbundled network elements and retail services. Access to that information can only occur through the ILECs' own OSS. ILECs must have appropriate OSS interfaces, back-end systems, and business processes in place and fully operational. They also must provide accurate and reliable documentation for their OSS so that CLECs can actually build and use the interfaces. In addition, ILECs must conduct comprehensive carrier-to-carrier testing of the interfaces before they are put into production and adhere to reasonable change control procedures that maintain the reliability of the OSS interfaces while enhancing their capabilities. End-to-end production OSS interoperability testing must use test transactions comprising use case scenarios that represent the full range of business functionalities required by CLECs to conduct business competitively. Finally, ILECs must provide adequate training to its employees and sufficient support for CLECs attempting to implement and use the interfaces. Overall, the ILECs' OSS must be operationally ready to support commercial volumes of traffic.

6. To offer nondiscriminatory access to OSS, ILECs must provide CLECs *parity* relative to their own access, for pre-ordering, ordering, provisioning, maintenance and repair, and billing across five dimensions: scope of information available; accuracy of information supplied; timeliness of communication; reliability of access; and uniform, standards-based interfaces.

7. If CLECs fail to receive parity on just one of these dimensions, their ability to provide telecommunications services in competition with the ILEC will be seriously impaired. If their customer service representatives do not have access to the full scope of information under ILEC control that is needed to provide one or more of the key functions needed to serve customers — pre-ordering, ordering, provisioning, repairs and maintenance, or billing — their ability to provide service comparable to that of the ILEC will be severely compromised. The

same is true if the CLEC customer service representatives do not have access to equally accurate information or timely status notices or usage information needed for billing. Also, if the access is less reliable, the CLECs will be placed at a severe marketing disadvantage. Finally, if CLECs are forced to create OSS interfaces to ILEC systems that are not based on the industry standards and are not uniform from one region to another, they will face artificially inflated up-front development costs and be denied economies of scale.

8. These measures of parity have little relevance in the abstract. Performance measures must be developed to provide a concrete process for determining whether an ILEC is meeting its statutory responsibilities. At a minimum, performance standards must address quantitative measurements of parity (such as time per transaction, transaction error rates, disruption of service rates) and qualitative measurements of parity (such as customer support and satisfaction, ease of use, cause and mitigation of errors, cause and mitigation of disruptions). These performance standards must be applied to actual market situations, at commercial levels of demand on the systems, not just to third party tests. There also must be an automatic process in place for an ILEC to rectify the situation if it is not meeting a performance standard in an actual market situation.

9. Outlined below are the specific requirements for each of the discrete business functions.

Pre-Ordering

10. The pre-ordering process involves gathering the information necessary to complete a customer's order and reserving certain aspects of that service prior to placing the order. Pre-ordering consists of a number of key sub-functions, each of which provides information needed by the provider (whether ILEC or CLEC) to proceed with the ordering

function. These sub-functions are: (1) address validation; (2) feature and service availability; (3) Primary Interexchange Carrier ("PIC") availability; (4) directory listings information; (5) telephone number availability, reservation, and cancellation; (6) appointment availability, reservation, and cancellation; (7) customer service information, including the customer service record ("CSR"), and PIC information; (8) loop qualification; and (9) unbundled network elements providers inquiry. Where the customer's service configuration demands it, CLECs also will need (10) direct inward dial ("DID") number availability, reservation, and cancellation; and (11) DID trunk inquiry.

11. The ILECs themselves use their OSS to perform each of these information gathering and service reservation pre-ordering sub-functions in order to provide services to their customers, and CLECs cannot provide local service to their customers unless they have the same access to the ILEC OSS.

12. Because the pre-ordering process occurs while the customer is on the line with a CLEC customer service representative, all of the queries must be processed in real-time or very close to real-time. Any failure or delay in communications between the ILEC and CLEC at this critical juncture has an immediate negative impact on the CLEC's ability to provide quality service in a timely and efficient manner. Moreover, the pre-ordering phase is a CLEC's first interaction with a customer, so it is crucial that the CLEC demonstrate its ability to work quickly and efficiently. Any delays or problems during the pre-ordering process adversely affect the customer's perception of the CLEC, which can be devastating to the CLEC's ability to compete.

13. While the requirement of real-time access holds for every sub-function, there are two acceptable modes of handling the transactions. For sub-functions involving dynamic information, on-line access is critical. CLECs' systems must be connected directly with the

appropriate ILEC systems. For other sub-functions that involve relatively stable information, immediate on-line access is not usually necessary, and an ILEC should simply transfer the data in bulk to the CLEC to be loaded into the CLEC's system. Even where a CLEC receives the data in bulk, however, it must also have the capacity to access the information directly from the ILEC's systems. This is so because there will be instances in which the information provided in the bulk transfer is dated, incomplete, or inaccurate. When this occurs, ILEC systems will reject the CLEC's orders, and the CLEC must have the ability to remedy the errors and resubmit the orders without waiting for the corrections or updates to be made to the main database. Thus, nondiscriminatory access requires that the CLEC have on-line, direct access to all sub-functions, with additional access to downloaded data for a subset of sub-functions.

14. Recognizing these basic pre-ordering needs, the ATIS industry fora have established EDI as an industry standard interface for pre-ordering. Moreover, ATIS has published TCIF 98-006 as its recommended specification for secured transport of local pre-order EDI transactions, which uses Transport Control Protocol/Internet Protocol ("TCP/IP") with Secure Socket Layer 3 ("SSL3") to provide a secure near-real-time method for exchange of local pre-order EDI transactions.

15. To support the commercial volumes generated during a product launch, CLEC must have access to a working "near-real-time," application-to-application, EDI interface for pre-ordering. MCI WorldCom's experience in its mass market launch in New York, for example, shows that the Graphical User Interface ("GUI") for pre-ordering is simply too cumbersome and too slow to support commercial volumes of transactions. What's more, because the GUI is not an application-to-application interface, all of the information acquired during the pre-ordering process via the GUI must be re-entered during the ordering process, further delaying

the process and inviting errors that have resulted in an unacceptably high number of rejected orders.

Ordering

16. When automated, ordering is an extremely low-cost function; when performed manually, it is extremely expensive and subject to delays and errors. Without nondiscriminatory access to OSS systems that provide efficient and seamless flow-through of UNE and resale orders akin to the flow-through capability of the ILEC's retail systems, CLECs will need more frequent manual intervention than the ILEC, and their ability to provide services competitively using UNEs or resale will be severely impaired. ILEC automated systems, both the interface and its back-end systems, must be technically capable of processing the full array of order types, at commercial volume levels, with a minimal degree of manual intervention, in parity with the functionality provided for the ILEC's own retail services. In order to foster a meaningful opportunity to compete, ILEC ordering systems must have standards-based application-to-application EDI interfaces that accurately process the CLECs' full range of unbundled element orders on a flow-through basis, in commercial volumes and in a timely manner.

Provisioning

17. The provisioning function has two elements: the accurate and timely issuance of status notices, and the actual installation of service by the ILEC in a timely fashion.

18. Status Notices. Status notifications allow the CLEC to track the progress of an order and to take proactive steps with their customers or the ILEC (in its role as the vendor) in the event the order is in trouble. Status notices include acknowledgment of receipt of orders, rejects or clarifications, firm order confirmations, service and missed appointment jeopardies, and completion notifications. CLEC customer service representatives must be able to discuss

intelligently the status of a customer's order, conveying such information as when the service will be installed or why and until when service will be delayed. A CLEC that cannot provide its customers timely and accurate status notification will be placed at a significant competitive disadvantage vis-à-vis the ILEC.

19. Therefore, ILECs must process and return status notices electronically for all service delivery methods, whether or not the orders are transmitted and processed electronically. ILECs must have a fully automated system for returning status notices over the same interface that is used for ordering.

20. Installation. Each ILEC must work with the CLECs to develop ways of provisioning services electronically at commercially reasonable intervals. The most significant interval for OSS purposes is the interval from an ILEC's receipt of an order to its completion, that is, the time it takes to actually install service. Therefore, ILECs must provide reasonable due dates for provisioning services and must meet those dates consistently. Parity requires that it take no longer for a customer to receive service from a CLEC than it does for the customer to receive the same service from the ILEC.

Maintenance and Repair

21. The ability to troubleshoot and to respond to customer service problems quickly and effectively is every bit as important to a CLEC's success in the marketplace as the ability to obtain a customer in the first instance. Customer retention may be even more important than initial customer acquisition because the cost to retain a customer is significantly less than the cost to acquire the same customer. Customer satisfaction and therefore customer retention is significantly impaired by poor maintenance and repair systems and processes.

22. To provide maintenance of its wholesale services and UNEs at parity with what it provides for its retail services, the ILEC maintenance interface must be a standards-based application-to-application interface. The current standard for maintenance and repair is Electronic Bonding, based on the ANSI T1.227, T1.227A, and T1.228 standards.

23. The electronic bonding solution must support all trouble handling sub-functions across the service delivery methods, including resale and UNEs. It must be available on a 7x24x365 basis, and it must provide response times identical to those enjoyed by the ILEC. It also must be able to support hundreds of users and process thousands of tickets concurrently.

Billing

24. Accurate and timely billing, like responsive maintenance and repairs, is essential for maintaining customers. There are three discrete billing sub-functions. First, the ILEC must provide the CLEC with records of the daily usage of CLEC customers over UNEs provided by the ILEC. These daily usage files must provide the customer call detail required for the CLEC to bill its end users for local service. Customers expect to receive bills from a CLEC that are at least as timely, accurate, and informative as the bills they had received from the ILEC. If, however, the CLEC does not receive accurate and timely bills from its primary supplier (the ILEC), it will not be able to prepare and send out accurate and timely bills to its customers. CLECs therefore require parity with the ILEC in access to accurate and timely billing information. To be at parity with the ILEC, this information should be sent by bulk data transfer via Network Data Mover ("NDM") in the industry standard Bellcore EMI format, using the most current Bellcore standard practice guidelines.

25. Second, the ILEC must provide the CLEC with monthly wholesale billing records detailing the CLEC's use of the ILEC's network, including UNEs and collocation, and

the resulting charges. These bills must charge the proper interconnection (not access) rates and must contain sufficient detail for auditing, including quantities and descriptions of each service as well as the relevant USOC codes. The industry has defined in detail the complete development process from the specifications through testing for transmission via NDM in Carrier Access Billing System/Billing Output Specification ("CABS/BOS"), CABS Auxiliary Report Specification ("CARS"), Multiple Exchange Carrier Access Billing ("MECAB"), and Small Exchange Carrier Access Billing ("SECAB") specification.

26. Third, as part of its meet point billing arrangement with the CLEC, the ILEC must provide the CLEC with the meet point billing data necessary for the CLEC to bill and collect access charges from interexchange carriers for using the CLEC's local network to originate or terminate access calls. These records must be transmitted to the CLEC via NDM, and the ILEC must follow the industry standards for exchanging meet point billing data documented in the MECAB guidelines.

Business Processes

27. In addition to the specific OSS interfaces, the ILECs must implement business processes that provide CLECs with the same access to the ILEC's OSS that the ILEC enjoys, including proper change management procedures, carrier-to-carrier testing processes, and help desk support.

28. Establishing a working interface between two companies is necessarily a collaborative process, so having proper change management procedures in place is crucial. Unilateral OSS development is inappropriate for at least two reasons. First, there will always be errors, inaccuracies, gaps, and unclear points in any set of interface specifications and business rules. Without collaboration, these gaps will result in two systems that are not interoperable and

that cannot provide the necessary flow-through processing so critical for OSS transactions. Second, in the absence of an established change management process, the ILEC could inflict substantial costs on CLECs by making changes to the interface after the CLEC has begun coding its software and constructing the interface.

29. A suitable change management control process must follow the appropriate ATIS guidelines and must require, at a minimum, the following: the implementation of a fully-tested and operational interface, including complete and final documentation, to serve as the baseline from which changes are made; proper notice and documentation of issues under consideration for change to the ILEC and all CLECs; a collaborative decision with CLECs having equal authority to the ILEC to prioritize changes; sufficient time for review, comment, and collaboration between the ILEC and all affected CLECs regarding proposed changes; issuance of specifications for changes with enough time for all parties to develop, implement, and test the changes, including regression testing to ensure that no previously working functions were unintentionally disrupted and testing of the changes themselves; sufficient time for the ILEC and all CLECs to migrate to the changes and retire the previous version of the interface; and complete, updated documentation to reflect the new interface specifications.

30. The ILEC must have processes and procedures for carrier-to-carrier testing based on ATIS guidelines that adequately resembles the production environment for pre-ordering, ordering, provisioning, repair and maintenance, and billing in a commercial product launch. The ILEC must provide accurate and complete documentation of the OSS interface for the CLECs to be as able to construct their side of the interface. Also, the ILEC also must provide CLECs an adequate help desk in parity with what it provides itself. Without these business processes, CLECs will not be able to make full use of the ILECs' OSS at parity with the ILECs.

I declare, under penalty of perjury, that the foregoing is true and correct.

Executed on May 21, 1999.

John Sivori

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
Implementation of the Local Competition Provisions in the Telecommunications Act of 1996	)	**CC Docket No. 96-98**
	)	
Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers	)	**CC Docket No. 95-185**

DECLARATION OF STUART H. MILLER
On Behalf of MCI WorldCom, Inc.

Based on my personal knowledge and on information learned in the course of my business duties, I, Stuart H. Miller, declare as follows:

1. My name is Stuart H. Miller. In my current position as Senior Manager of Directory Assistance and Operator Services for MCI WORLDCOM, Inc. ("MCI WorldCom"), I am responsible for product development, marketing, and certain operational tasks for MCI WorldCom's service offerings in directory assistance and operator services. I have been in my current position for more than four years. I have worked for MCI WorldCom and predecessor companies since 1984 and have served in several capacities.

2. Customers of basic local telecommunications service require access to operator services ("OS") and to complete and accurate directory assistance ("DA") regardless of their choice of service provider. These services are critical to consumer perceptions and customer satisfaction. If a customer does not have access to an operator or to directory assistance, if the operator is unable to complete a call, or if the DA operator is unable to provide a listed number or

provides an incorrect telephone number, the customer will immediately know of the failure and will have an immediate negative impression of its service provider.[1/]

3. In MCI WorldCom's experience, and as is detailed below, the failure of incumbent local exchange carriers ("ILECs") to provide nondiscriminatory access to OS and DA does cause negative consumer perceptions of MCI WorldCom and impairs MCI WorldCom's ability to offer local services competitively.

4. MCI WorldCom prefers to provide directory assistance and operator services itself, with minimal reliance on the ILEC, wherever it is feasible to do so. Initially, as with other network elements, the first consideration is whether a CLEC can attain minimum threshold traffic levels for it to be economically viable to provide operator and DA services from CLEC facilities. Even when economically viable, however, current conditions of interconnection and access make provision of OS/DA impossible in today's market. First, restrictions on access to the ILECs' DA data have limited the ability of CLECs to provide DA services, and have forced MCI WorldCom to rely on the ILECs' services. Second, MCI WorldCom's inability (and the inability of all other CLECs but AT&T) to interconnect OS/DA platforms with the ILECs' switching through customized routing often makes it impossible for MCI WorldCom to use its own platforms, even when it has nondiscriminatory access to the ILECs' DA data.

5. To provide the necessary OS and DA services to its customers free of impairment by ILECs, three terms and conditions on access to OS and DA network elements are essential: ILECs must provide, at least for the time-being, access to their OS and DA platforms on

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1/ Because customers are charged for most DA calls, if a customer is provided an incorrect number through directory assistance this may trigger a customer service call to request credit for the DA charge. The necessity for a second call exacerbates the negative impression of the initial error and adds to the service provider's customer service costs.

an unbundled basis, including call provisioning databases such as LIDB; ILECs must provide nondiscriminatory access to their DA data in bulk rather than by database dip; and, finally, ILECs must provide customized routing that enables CLECs to route their customers' calls to their own OS and DA platforms.

DA Data

6. A CLEC that has deployed its own switch also can deploy its own DA platform to provide directory assistance to its customers served by that switch, but it can provide the complete and accurate directory assistance its customers demand *only if* it has access to the ILEC's DA database. MCI WorldCom provides its own DA service wherever it has deployed its own switch and has access to ILEC DA databases. To date, MCI WorldCom provides its own facilities-based DA local service in three places -- Tampa, FL, Atlanta, GA, and Los Angeles, CA -- with plans for an additional 15 cities being served by the end of the year. It is critical to MCI WorldCom's plans to have access to these databases, and for those databases to be consistently available around the country.

7. CLECs must have access to ILECs' DA data in bulk, as opposed to on a query-by-query basis, if they are to provide competitive directory assistance services. Many ILECs, including Bell Atlantic, SBC, and SNET, have attempted to provide DA data through a process that requires CLECs to query the ILEC database each time a customer requests a listing. That option impairs the ability of MCI WorldCom and many other CLECs to offer competitive DA services. It requires the CLEC to develop or purchase a directory assistance system that is compatible with each of the ILEC systems. If an ILEC decides to change its system, the CLEC would be forced to acquire a new system or upgrade its existing system. Moreover, any innovation on the part of the CLEC would be stifled: if the CLEC created new search strategies

or services based on its existing DA platform, it would be held hostage to the ILEC developing the same functionality. If the CLEC were forced to share its plans for new services with the ILEC, any competitive advantage would be lost. In addition, the query-by-query approach allows the ILEC to easily gather competitively sensitive information about a CLEC's DA services, e.g., the precise number of DA requests received by the CLEC.

8. The cost of implementing a single new DA platform can be $10 million or more. If there are three or four different ILEC systems, a national CLEC like MCI WorldCom would be forced to spend tens of millions of dollars to integrate those systems. In addition, training operators and maintaining multiple systems can cost several hundred thousand dollars each month. These expenses are far greater than the costs associated with access to bulk DA data. For these reasons, it is essential that CLECs obtain unbundled access to ILECs' DA databases in bulk, not on a query-by-query basis.

9. Up-to-date data on customer name, address, telephone number, and whether the customer wants the number to be unlisted are collected by each local service provider in the normal course of business. No other party could continually collect and update that data as efficiently. In a market with multiple service providers, consumer welfare will be harmed if all providers do not pool their information, because such pooling is the only way to construct a complete and accurate database for DA operators. All CLECs, recognizing the need for a complete and accurate database, have provided their customer information to the ILECs at no cost. The cost of collecting and maintaining bulk listings in a medium that can be updated daily is very small. MCI WorldCom has worked out arrangements to do this with many ILECs.

10. By virtue of their dominant share of the market for local telephone service, ILECs control nearly all of the customer listing data. Accurate and complete databases are not

available from sources other than the ILECs. MCI WorldCom has implemented a DA service accessed by a 1010-xxxx number which has provided it with some experience in providing DA services on a nationwide basis. Because of the unavailability of DA data obtained directly from certain ILECs, MCI WorldCom has resorted to purchasing DA data from independent providers of DA data. MCI WorldCom has experienced several problems with the independently gathered DA data. First, by its nature, the independent DA data is not as current as ILEC DA data. The DA data that MCI WorldCom was able to purchase from an independent provider was downloaded and updated on a monthly basis. In contrast, where MCI WorldCom has been able to obtain DA data directly from ILECs, the data is downloaded and updated on a daily basis.

11. Second, the independent DA data is not as accurate as ILEC DA data. MCI WorldCom has found that the independent DA data often has missing information about existing residential or business customers. MCI WorldCom has also found that independent DA data contains listings of many subscribers who have terminated service at one location and whom have not been removed from the independent provider's DA data. Such errors are understandable given the fact independent data gatherers work from sources that do not have sufficient information to distinguish which particular customer terminated services and at what location. For example, independent DA data providers can easily pick up the addition of a new listing for "Robert Jones" in Washington, D.C., however, there is no way to determine from the available data whether Robert Jones had terminated service at another location in Washington, had moved from California, or was a new first time customer altogether. Therefore the independent DA data providers retain all the existing Robert Joneses in the database even though they may be retaining data on terminated listings. These erroneous listings are especially costly to consumers because

the error causes the consumer to make a telephone call to a wrong number for which they may be charged.

12. Third, MCI WorldCom has found that independent DA data sometimes may contain data on non-published listings. This occurs because independent providers are not notified when subscribers switch their listing from published to non-published, or because, in some cases, independent DA data providers may derive their data from publicly available governmental records which contain non-published listings. When a DA operator improperly provides an unlisted telephone number, the requester may not have a complaint, however, the party with the unlisted number may be harmed (and has the right to complain to its local service provider who gave out the unlisted information).

13. MCI WorldCom has also commissioned its own studies for marketing and business planning purposes that show that data from non-ILEC sources tend to have twice as many inaccuracies, and tend to be far less complete. Based on wide sampling, these studies showed that there were significantly greater error rates in listings derived from independent DA data providers than from data obtained directly from ILECs. These error rate differences held true for both business and residential listings. One MCI WorldCom-commissioned study found, for example, that in cases where businesses had terminated their service, listings provided by independent DA data for that business were erroneous (i.e., they showed the telephone number still in service) more than two out three times. Also, these studies found a significant number of instances where DA data from independent providers would list data for non-published numbers.[2/] Based on these studies and despite its strong preference for providing customers served on its

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2/ For obvious privacy reasons, the study's investigators did not attempt to determine whether the listings were the actual numbers of non-published listings or whether they were simply incorrect numbers. In either event, the listing was erroneous.

own switches with its own DA service, MCI WorldCom has decided not to provide DA services to subscribers unless it has access to complete bulk ILEC DA data at cost-based rates.

Customized Routing

14. Unbundled access to DA databases is not enough to keep CLECs from being impaired in their ability to offer local services. Even in cases where MCI WorldCom has adequate access to ILEC data, technical limitations imposed by ILECs often make providing OS/DA impossible. CLECs are thereby forced to continue to rely on ILEC OS/DA platforms when, absent the arbitrary limitations imposed by ILECs, it makes little sense to do so. In its direct experiences, MCI WorldCom has found being forced to rely on ILECs to provide OS services to MCI WorldCom customers damages MCI WorldCom's reputation among consumers and impairs its ability to provide local services. For example, during work stoppages by Bell Atlantic and U S West employees in the past year, MCI WorldCom's customers were not able to access OS and DA services in a timely manner. In many cases, MCI WorldCom's customers directed complaints to MCI WorldCom as their service provider, even though MCI WorldCom had no control over the delivery of OS from ILECs.

15. When a CLEC provides local service using an ILEC switch, an operator or directory assistance call must be routed to the OS or DA platform from the ILEC switch. Problems arise from the fact that ILECs have refused to provide efficient, customized routing which would allow MCI WorldCom to direct its subscribers' traffic to its own OS/DA platform. Without customized routing MCI WorldCom does not have the means to provide OS/DA to its customers, and their customers are captive to the performance or non-performance of ILEC OS/DA.

16. The ILECs do not provide customized routing using a protocol that CLEC networks (with the exception of AT&T's) are equipped to handle. Rather, the ILECs have insisted on using an outdated protocol that is inconsistent with new technology and that would require the CLECs to construct interfaces to the outdated protocol. As a result, MCI WorldCom and other CLECs are forced to use the ILECs' operator and DA services despite the existence of their own OS/DA platforms. It is extremely costly for a CLEC to modify its existing operator platform to accommodate an outdated customized routing protocol, and that expense is unnecessary when there is another protocol available that can meet the CLEC's needs and that already is being used to route traffic between the ILEC switch and other carriers. CLECs currently use the equal access Feature Group D ("FGD") signaling protocol to route long distance calls to interexchange carrier networks.[3/] Particularly for those CLECs that also have long distance networks, use of FGD to route the CLEC customers' OS and DA calls from the ILEC switch to the CLEC's OS/DA platforms would eliminate the large and unnecessary upfront costs associated with deploying a new customized operator platform.

17. With the use of FGD routing, MCI WorldCom could use its OS/DA platforms to provide these services to customers currently served by the ILEC switch. But the ILECs refuse to program their switches to allow FGD routing to CLEC OS and DA platforms. Because of this, CLECs that are not using their own switch (other than AT&T) are unable to provide their own operator and directory assistance services.

3/ In this discussion, MCI WorldCom refers to Feature Group D, recognizing that it is a tariff concept more than a technical one. Technically, the signaling capability under discussion is GR-317-Core.

Nondiscriminatory Access to ILEC OS and DA platforms

18. Although MCI WorldCom intends to provide its own OS/DA services to all its customers, current conditions of access and other factors force MCI WorldCom to lease the ILECs' OS/DA platforms as unbundled network elements. Continued access to ILECs' OS/DA platforms will therefore be necessary for the foreseeable future. This is particularly true because CLECs wishing to offer mass markets service will need to use ILEC switches for some time, given the impossibility of deploying new switches on a ubiquitous basis. Further, so long as CLECs have very small market penetrations, the costs of constructing OS/DA platforms and of transporting small levels of traffic back to those platforms will render use of ILECs' platforms necessary even after it is possible to route OS and DA calls from the ILEC switch to a CLEC platform.

19. When a CLEC uses an ILEC's OS/DA platform, it is critical that the ILEC brand calls with the CLEC's name. Customers choose a service provider and, once having done so, are confused if part of that service is identified by the brand of another service provider. But the provision of branding must not be predicated on a requirement (imposed by some ILECs, including BellSouth) that the CLEC provide dedicated end office trunking, which unnecessarily raises CLEC costs substantially. The existing ILEC trunks can be utilized, with call information such as the customers' "ANI" (i.e., the end user's telephone number) used to determine the CLEC that serves the customer and, therefore, the brand that should attached to the call.

I declare, under penalty of perjury, that the foregoing is true and correct.

Executed on May 24, 1999.

SH Mk

Stuart H. Miller

§ 51.317 Standards for identifying network elements to be made available.

(a) In determining what network elements should be made available for purposes of section 251(c)(3) of the Act beyond those identified in § 51.319, a state commission shall consider:

(1) whether, taking into account the availability or unavailability of the network element outside the incumbent's network, the failure of the incumbent LEC to provide access to the network element would materially diminish the ability of any requesting carrier to provide the services it seeks to offer by interfering with the ability of CLECs promptly to provide existing or new services to any class of customers in any geographic area, or by providing a significant competitive advantage to the ILEC. In making this determination, the state commission shall take into account, at a minimum, the following factors:

(i) whether the network element is currently available in commercially reasonable and sufficient quantity from at least one other source;

(ii) whether any requesting carrier could achieve reasonable economies of scale, connectivity, or density if it does not obtain the network element from the incumbent LEC, taking into account the total cost of constructing and operating a network;

(iii) whether any requesting carrier can provide service efficiently and profitably if it does not obtain the network element from the incumbent LEC;

(iv) whether unavailability of the network element from the incumbent LEC would affect the ability of any requesting carrier to provide any feature or capability in a way that materially diminishes its ability to offer service in the local market; and

(v) whether unavailability of the network element from the incumbent LEC would materially delay any requesting carrier's ability to provide any local service to any class of customers or geographic area;

(2) (i) whether the network element is proprietary, or contains proprietary information that will be revealed if the network element is provided on an unbundled basis; and

(ii) if the network element is proprietary or contains proprietary information that will be revealed if the network element is provided on an unbundled basis, whether the failure of the incumbent LEC to provide access to the network element would significantly impair or obstruct the ability of the requesting carrier, taking into account the availability or unavailability of the element outside the incumbent's network, to compete for any group of customers in any geographic area by giving the incumbent

LEC a competitive advantage that requesting carrier cannot otherwise overcome on a timely basis; and

(3) whether the availability of the network element on an unbundled basis would further the interest of consumers in the prompt introduction of ubiquitous and efficient competition, and the interest in efficient implementation of section 251(c)(3) that avoids intrusive, costly, and protracted regulatory proceedings and administrative burdens.

(b) If a state commission determines pursuant to subsection (a) that a network element should be made available for purposes of section 251(c)(3) of the Act, the incumbent LEC shall provide access to the element on an unbundled basis, except that if the incumbent LEC demonstrates that it is technically infeasible to provide unbundled access to the network element at a particular point then the incumbent LEC need not provide access to the element on an unbundled basis at that point.