K-2, Rossignol, Salomon, Tecnica, Skis Dynastar, Marker and The Ski Market: Expert witness in Sports Investment Co. vs. The Ski Market, Ltd., Inc., *et al*, U.S. District Court, District of Rhode Island, C.A. No. 95-097T. Deposition, December 1995.

U.S. Department of Justice, Antitrust Division: (a) Expert witness in U.S. v. AT&T, 1981; (b) Regulation of oil pipelines, August 1983; (c) Expert witness in United States of America v. Engelhard Corporation, Floridin Company, U.S. Borax Inc., U.S. Silica Inc. Case No. 6:96-CV-45 (WLS), Depositions, Trial Testimony August 1995.

City of Los Angeles: Declaration in Air Transport Association of America, *et al.*, v. City of Los Angeles, City of Los Angeles Department of Airports and Los Angeles Board of Airport Commissioners, Docket No. 50176, March 1995, and Supplemental Declaration, April 1995.

The Bon-Ton Stores, Inc.: Declaration in The Bon-Ton Stores, Inc. v. The May Department Stores Company, McCurdy & Company, Inc., and Wilmorite, Inc., Civil Action No. 94-CV-6454L, November 1994.

Cyrix Corporation: Deposition in Cyrix Corporation v. Intel Corporation, December 1993.

Thermadyne Industries: Deposition in Thermadyne Industries, Inc. and Coyne Cylinder Co. v. K.C. Cylinder *et al.*, December 1993.

IBRD (World Bank): (a) Privatization and Regulation in the Restructuring of Electric Utilities in Eastern Europe, September 1993; (b) Implications of the United States Experience with Regulation and Antitrust for Competition Policy in Countries in Transition from Centrally Planned Economies to Market Economies, July 1993.

Credit Card Coalition: "The Economics of Credit Card Interest Rate Caps," 1993, with Laurence H. Meyer.

Coalition to Preserve the Financial Interest and Syndication Rule: (a) Testimony before the Federal Communications Commission, December 7, 1990, in the matter of Evaluation of the Syndication and Financial Interest Rules, MM Docket No. 90-162; (b) Submitted reports: "Economic Analysis and Policy Implications of the Financial Interest and Syndication Rule," June 14, 1990; "Reply Comments," August 1, 1990; "Economic Analysis and Policy Implications of the Financial Interest and Syndication Rule," January 24, 1991, with John Woodbury; (c) Declaration of Frederick R. Warren-Boulton, August 7, 1992, Exhibit 7, Comments of the Coalition to Preserve the Financial Interest and Syndication Rule on Proposed Modification of Network Consent Decrees. In United States of America v. CBS, Inc. Civil No. 74-3599-RJK, United States of America v. American Broadcasting

Companies, Inc. Civil No. 74-3600-RJK, and United States of America v. National Broadcasting Company, Inc. Civil No. 74-3601-RJK.

California Public Utility Commission, Division of Ratepayer Advocacy: Proposed merger of Southern California Edison Company and San Diego Gas and Electric Company, July 1990.

Altai, Inc.: Expert witness in Computer Associates, Inc. v. Altai, Inc., April 1990.

NFL Players Association: Deposition in Marvin Powell v. National Football League, September 1989.

Consolidated Aluminum Corporation: Deposition in Indal, Inc. v. Consolidated Aluminum Corp., April 1983.

Battelle, Pacific Northwest Laboratories. Analyses of bidding for offshore oil leases and of the effects of Building Energy Performance Standards on energy demand, September 1979 - 1981.

U.S. Senate Commerce Committee, Senator Danforth presiding: Testimony on corporate average fuel economy (CAFE) standards, November 15, 1979.

State of Missouri, Office of the Public Counsel: Expert witness on electric utility rate structures, 1978.

Federal Trade Commission: Study on Vertical Distribution Arrangements, January 1, 1977 - August 1, 1978.

April, 1999

SUSAN ELLEN WOODWARD
FINANCIAL ECONOMIST
1682 Oak Avenue, Menlo Park, California 94025
In California: Voice: (650) 322-7456 Fax: (650) 322-3014
In Washington, DC: Voice (202) 387-7749; Fax (202) 462-1222
Email: woodward@NetEcon.com

Education

Ph.D., 1978, UCLA, Management (Financial Economics)

Current Activities

Executive Vice President, Research, and Chief Economist, OffRoad Capital Corp.

Lecturer, Stanford Law School

Board member, National Association of Securities Dealers, Market Regulation

Federal Government Positions, 1985-1995

Chief Economist
U.S. Securities and Exchange Commission
Washington, D.C.

February, 1992–July, 1995

Responsible for analysis of all policy issues; including payment for order flow, changes in mutual fund disclosure, the NASD Small Order Execution System, and for supervising a staff providing analytical and statistical support on all enforcement matters; and for leadership of a research staff. Designed and oversaw execution of the SEC survey of investor ownership and understanding of mutual funds. Staff size: 30 people.

Chief Economist and Deputy Assistant Secretary
U.S. Department of Housing and Urban Development
Washington, D.C.
1987–1992

Responsible for policy analysis on all housing finance and tax policy issues. Major projects included building a simulation model used to price new mortgage instruments, including reverse mortgages, to evaluate existing insurance programs, notably FHA, and to do annual evaluations of the financial status of FNMA and FHLMC; design of the GNMA REMIC; building an improved index of national and regional home values; analysis of FIRREA; of the new regulation on RESPA and Escrow Accounts. Staff size: 50 people.

Senior Staff Economist
Financial Market and Institutions
Council of Economic Advisors
Washington, D.C.
1985-1987

Responsible for analysis of all financial market issues, including bank and thrift regulations, thrift

solvency, Federal credit programs, corporate governance (greenmail, poison pills, one-share-one-vote, dual class recapitalizations, junk bonds), pension plans (notably asset reversions and tax and funding issues), and debt levels in the economy.

Teaching Positions,

Stanford Law School
Stanford University
1998-

Department of Economics
University of California, Los Angeles
1979-1985

Simon School of Business
University of Rochester
1983-1984

Department of Economics
University of California, Santa Barbara
1977-1979

Faculty of Management Studies
University of Toronto
1975-1977

Consulting

1995-present: Securities litigation (Rule 10b-5 and insider trading issues), regulation of public utilities (electricity, natural gas, oil pipelines, and telephones), mergers, financial services, mortgage insurance, and securities trading. Gave four days of deposition in the antitrust suits against the Nasdaq security traders, despite *not* being retained by either side. Large clients include Freddie Mac, Mortgage Insurance Companies of America, Security Traders Association, MCI Communications. Provides continuing consulting for the Security Traders Assn and attends their quarterly board meetings. Member of the NASD Regulatory board which reviews the penalty and sanction decisions of the NASDR staff.

1972-1985: Primarily securities issues, litigation support on issues involving Rule 10b-5 and Sections 13 and 14. Primary clients were O'Melveny and Meyers, Los Angeles; Sidley and Austin, Los Angeles; Attorney General of California; and the Internal Revenue Service, Western Division, testified in tax court.

Publications:

"Will Microsoft Capture the Value of the Internet?", with Robert Hall and Chris Hall, working paper, available at www.NetEcon.com

"Regulatory Capture at the US Securities and Exchange Commission", Milken Institute, March 1998

"Price Fixing at Nasdaq? A Re-evaluation of the Evidence", prepared for the Congressional Budget Office, July 1997.

"Proposition 211" *Regulation: The Cato Review of Business and Government*, 1996, No.3

"Overview of the U.S. Economy", with Robert E. Hall, Korea Development Institution, Hoover Institution, Stanford University, Stanford, California, January, 1997

"Why Residential Housing Won't Have a Twenty-year Crash: an Economist's Prejudices," *Journal of Regional Science and Urban Economics,* 1991.

"Takeover Premiums, Appraisal Rights, and the Price-Elasticity of a Firm's Publicly Traded Stock," (with J. Gregory Sidak), *Georgia Law Review,* Volume 31:1, Autumn 1991.

"Corporate Takeovers, the Commerce Clause, the Efficient Anonymity of Shareholders," (with J. Gregory Sidak), *Northwestern Law Review,* Summer 1990.

"A Defense of the Mortgage Interest Deduction," *Wall Street Journal,* August 24, 1989.

"Goring the Wrong Ox: The Economics of the Mortgage Interest Deduction," (with John C. Weicher), *National Tax Journal,* September 1989.

"A Power-Packed Mortgage," (with David A. Crowe), *Secondary Mortgage Markets,* May 5, 1988.

"A Transaction Cost Analysis of Banking Activity and Deposit Insurance," *The Cato Journal,* Winter 1988.

"A Review of the Theory of the Firm and O. Williamson's Economic Institutions of Capitalism," (with Armen Alchian), *Journal of Economic Literature,* March 1988. Publications *(continued)*

"Policy Issues in the Privatization of FNMA and FHLMC," *Expanded Competitive Markets and the Thrift Industry,* December 1987.

"Reflections on the Theory of the Firm," (with Armen Alchian) *Journal of Institutional and Theoretical Economics,* March 1987.

"The Federal Role in Credit Markets," *The Economic Report of the President,* Chapter 6, 1986.

"Limited Liability in the Theory of the Firm," *Journal of Institutional and Theoretical Economics,* December 1985. (Reprinted in Roberta Romano's "The Genius of American Corporate Law," 1994.)

"The Liquidity Premium and the Solidity Premium," *American Economic Review,* June 1983.

"Business Fluctuations, Sales Elasticity, and Systematic Risk," (with Jerome Baesel), *Journal of Economics and Business,* Volume 28, No. 2, 1980.

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**

REPLY DECLARATION OF JOHN M. WIMMER
On Behalf of MCI WORLDCOM, Inc.

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

1. My name is John M. Wimmer. I am Vice President, Network Technology & Planning for MCI WORLDCOM, Inc. ("MCI WorldCom"). I am responsible for network architecture, development of new technology for MCI WorldCom and its integration into the network. I joined MCI in 1973, and, since that time, I have held a wide variety of engineering and management positions with the company.

2. I have reviewed the comments of the several incumbent local exchange carriers ("ILECs") related to loop, switching and transport. The purpose of my declaration is to respond to the ILEC assertions about loops, switching, and transport unbundled network elements ("UNEs"), and to explain why MCI WorldCom and other competitive local exchange carriers ("CLECs") would be impaired in offering local exchange services if they were denied access to these UNEs.

Loops

3. The practical inaccessibility of loops remains the greatest impediment to MCI WorldCom's competitive provision of local telecommunications services. Except for a few large business situations, MCI WorldCom has no alternative but to lease loops from ILECs in order to provide voice and advanced services to its customers.

4. The ILEC commenters are correct when they note that there are a number of locations where MCI WorldCom uses its fiber rings to reach large business customers directly. MCI WorldCom builds out its fiber rings to connect as many of its large business customers as possible and extends its rings to add new business customers it has won. But this network expansion of necessity must be on a case-by-case basis as MCI WorldCom does not have the financial wherewithal, nor would it be financially viable, to extend its network to the premises of all businesses and residents in a serving wire center area. There may be a few exceptions in the densest areas,[1/] but for the vast majority of locations, even if MCI WorldCom is self-provisioning loops to a few large business customers within a serving wire center area, it would not be viable to self-provision loops for all customers (or even all business customers) it wins in that area.

5. Indeed, market forces today do not allow MCI WorldCom to deploy ubiquitous networks that extend to the premises of all customers in a geographic area. MCI WorldCom may choose to build out its network to a single large business customer but the incremental cost of extending the network to nearby customers often will far exceed the incremental revenues that would be generated, even if one or more of those additional customers

---

1/ Even in these uniquely dense locations building entry restrictions imposed by landlords regularly require MCI WorldCom to use ILEC loops.

sought high-capacity fiber loops.[2/] Moreover, the fact that a single CLEC has demand sufficient to support loop deployment in a specific area does not mean that other CLECs will have such demand.

6. I am familiar with the ILECs' proposed exceptions for restricting CLECs' access to unbundled loops. These exceptions make no sense. For example, SBC proposes restricting access in wire centers serving 40,000 customers and GTE proposes denying CLEC access to loops used to serve business customers with 20 or more access lines or multiple dwelling unit complexes. Real-life deployment decisions, however, are not based only on the size of the customer or of the serving wire center but also on dynamic market factors such as customer distance from the CLEC's rings, the availability of rights of way, the possibility and costs of gaining building entry, and myriad other factors.

7. Meanwhile, U S West proposes that the Commission adopt a presumption that unbundling is not required for ILEC high-capacity transmission facilities that connect to end user premises and that operate at DS-1 or higher transmission levels. This rule is also nonsensical. While CLECs are busily deploying their own fiber transmission facilities, there is no way they can do so to every location where a customer seeks a DS-1 trunk. If ILECs had the discretion to deny CLECs access to fiber loops with DS-1 capacity, they could play havoc with CLEC business plans by strategically refusing to provide DS-1s in those locations the CLECs are least likely to be able to self-provision.

8. Loops are as essential for CLEC provision of advanced services as they are for voice services. A fundamental loop component is the electronics, such as various multiplexing

---

2/ Also, landlords may block CLEC access at any price, thus requiring access to the ILEC loops to gain access to the building and customer.

devices, that affect the capability of the loop and allow provision of advanced services.[3/] Loop electronics include all variation of Digital Subscriber Line (DSL) on copper, all variations of Digital Line Carrier (DLC), and DS-1, DS-3, OC3, etc. on fiber. The electronics may be located on the customer premises, at a remote terminal, or in the central office.

9. There are many configurations in which technical or space considerations (or ILEC recalcitrance) will preclude CLECs from placing their electronic equipment at the most efficient location along the loop, but the ILECs are able to provide such electronics. If CLECs are not able to access those ILEC electronics, they will be denied use of electronics needed to provide end-user service. In all circumstances where a carrier provided advanced services using loop electronics, the loops must be conditioned (i.e., bridge taps must be minimized and load coils must be removed).

10. In the increasingly frequent situation in which loops are provisioned over IDLC,[4/] the ILEC DSLAM is located at the remote terminal to which customer loops lead. At these remote terminals, there are significant space constraints. Typically, at most one or two DSLAMs can be collocated there. Thus, if CLECs do not have access to the ILEC DSLAM, they will not be able to serve those customers whose loops are provisioned over IDLC. Requiring those customers to replace their loops with copper would not only be costly and likely create

---

3/ Two loop components define the transmission media that connect the end user to the service wire center. Today, the dominant medium is a copper loop. About 70 percent of all customers are connected via unloaded copper pairs. The remaining customers are connected with substandard loaded copper loops or with newer technologies such as digital loop carrier or other multiplex over copper or fiber facilities. As forward-looking technologies are deployed, MCI WorldCom expects about half of all loops will be served wholly or in part over multiplexed copper or fiber facilities.

4/ Currently 20 percent of all loops are provisioned over DLC, and that proportion is projected to increase ultimately to 50 percent of urban loops and 80 percent of rural loops. Almost all of these will be IDLC.

delays, it also would reduce the capability of the loop. Although the Commission's recent collocation order will reduce this problem, when customers are served by homerun copper loops, CLECs still can have difficulty providing DSL services using their own DSLAMs at small or overcrowded ILEC central offices that lack collocation space. The greater problem has to do with the provision of ubiquitous DSL service.

11. More than half the wire centers in the United States (10,967 out of 20,637) serve under 2,000 lines.[5/] In these rural areas, about half the loops are provisioned over DLC (since they exceed 12,000 feet in length), and currently cannot use DSL technology. Assume, optimistically, that 60 percent of the 1,000 copper-served loops in such a wire center are in households with personal computers (600), half of which have modems (300), 25 percent of those are willing to pay for DSL (75), and a CLEC such as MCI WorldCom can expect a "win rate" of 25 percent of the potential customers (19). Then, in a 2,000 line wire center, MCI WorldCom can project to win 19 DSL customers, but only if it deploys both a DSLAM (including collocation costs) and transport.

12. For the other half of lines in small wire centers (those served by IDLC), the DSLAMs cannot be placed in the wire center; they must be collocated at remote terminals, where there is unlikely to be any space for collocation and even if there were space, given the small number of customers served, the projected customers "won" would be only two or three. Therefore, without shared DSLAMs (and shared high cap loop transport), MCI WorldCom and other CLECs would simply be shut out of rural markets. Given the limited total number of customers likely to seek DSL service in rural wire centers, the ILEC itself might not have the

---

5/ HAI Model, release 5.0, Ex Parte Presentation - Proxy Cost Models, CC Docket No. 96-45, Letter from Richard N. Clarke to Magalie Roman Salas (December 16, 1997).

incentive to deploy DSLAMs unless it had other parties working as DSL marketing agents. Leasing the DSLAMs to CLECs is the most likely way to expand the marketing effort needed to support DSLAMs in rural markets.

Switching

13. In their comments, the ILECs present a catalogue of non-ILEC switches in the United States. The ILECs claim that the existence of these switches demonstrates that there are alternative sources of switching available to CLECs, and therefore CLECs would not be impaired in their ability to offer local telecommunications services if they did not have access to ILEC switching. While the ILEC catalogue of switches demonstrates that CLECs seek to invest in their networks, it does not address the central question — are alternative sources of switching functionality practically available that can be efficiently connected to unbundled ILEC loops to allow CLECs to competitively offer local telecommunications services?

14. Since CLECs will need to use unbundled ILEC loops to reach the vast majority of their customers for the foreseeable future, alternate sources of switching are of use only if ILEC loops can be efficiently provisioned and connected to them. The existence of stand-alone switches is meaningless if they cannot be practically connected to ILEC loops. The two relevant issues relating to practical reality are: Are the costs associated with using the switch in the range that allows the CLEC to compete against the ILEC in the local service market and can the switch reliably be used in conjunction with ILEC loops to commercially offer local service?

15. As a threshold matter, self-provisioning switching on a stand-alone basis while possible in theory is limited by real constraints. First, there are the physical space limitations. Providing competitive switching requires CLECs to collocate transmission equipment at the ILEC central office. As the FCC has recognized, ILECs often claim that they

have run out of space in their central offices to collocate CLEC equipment. Whether or not such claims are true today, it will be inevitably true that collocation space will eventually become scarce. The ILECs concede that the ability of CLECs to self-provision switching is limited to the number of collocations that ILECs allow in their central offices. This will place a physical limitation on the number of competitors in local switching.

16. Although the Commission's recent collocation order partially addresses this problem, it cannot be totally eliminated. Many ILECs summarily deny access to collocation space based on their claims that collocation spaces in their facilities have reached capacity. If this assertion is contested by the CLEC, resolving disputes over collocation space availability take time and additional costs; in some cases, disputes have to be arbitrated by state commissions. Even under the Commission's collocation rules, which expedite the resolution of collocation disputes, it still may take several months to have a final decision. In MCI WorldCom's experience, it takes between six months to a year from the date of a collocation request until the time a collocation is delivered, depending on the length and extent of collocation disputes. See also Herold/Stockhausen/Lathrop Decl. ¶ 5 (attached to MCI WorldCom Comments as Tab 5).

17. A CLEC that is required to self-provision its own switching may be effectively barred from doing so because of the lack of available collocation space. In these situations, CLECs have no alternative except to have unbundled access to the ILECs' switches.

18. In addition to the physical limitations on offering competitive switching, there are substantial cost issues that impair the ability of CLECs to obtain switching from alternative sources. Even where collocation is available, CLECs will have to bear additional recurring and nonrecurring costs which the ILECs will not have to bear. These costs associated with collocation and other activities must be undertaken because the public switched network was

not configured to handle interconnection by other carriers. Those additional costs can result in it not being profitable for a CLEC to offer local services to customers using its own switch. For example, self-provisioning of switching requires CLECs to install equipment and incur other costs that ILECs do not have to incur to provide switching. Under current Commission collocation rules, CLECs are prohibited from collocating a switch in the ILEC central office. This means that CLECs have to install equipment at the collocation to transport its customer traffic to its switch at another location. This usually requires the collocation of a remote switching module, a digital loop carrier, or other transmission equipment at the ILEC central office. In addition, CLECs have to self-provide the transport back to its switch. These are all additional costs which ILECs do not have to incur to provide switching. Again, in these cases CLECs will need access to ILEC switching to be able to offer local service unimpaired.

19. In rural areas and in some suburban areas, the cost disadvantages that CLECs face for collocation and nonrecurring charges, in addition to lost economies of scale relative to those the ILECs enjoy as dominant providers with very high market penetration, entirely rule out CLEC self-provisioning of switches.

20. In addition to the physical collocation and cost limitations on self-provisioned switching, CLECs like MCI WorldCom must also address whether the provisioning of ILEC loops with CLEC switches can be done reliably enough to support a commercial launch of service. In order to serve the mass (residential and small business) markets, a CLEC must be able to respond quickly and reliably to demand created by its marketing campaign. To do this, it must be able to shift thousands of customers each day from the ILEC service to its service. Experience has proven, however, that ILECs are not able to provision loops in a sufficient number

and manner when CLECs self-provision their own switches. ILECs can only do so if CLECs use the ILEC's entire UNE platform.

21. The ILECs' inability to provision unbundled loops when CLECs use their own switches has been documented by the third-party testing currently being performed in New York State by KPMG, under the auspices of the New York Public Service Commission. As described more fully in the declaration of Sherry Lichtenberg, (see MCI WorldCom Reply Comment, Tab 11), the KPMG report documents myriad deficiencies in timing, quality, and reliability associated with hot cuts, manual processes, and coordination when an unbundled ILEC loop is being provisioned for use with a CLEC switch. These same problems were absent when the ILEC loop is provisioned in combination with the ILEC's own switch. Therefore, MCI WorldCom has reached the business decision that the only way for it to be able to provide reliable, high quality service in a timely fashion to mass market customers is to lease from the ILEC both the switching and the loops in combination.

22. While some ILECs argue that switching should not be unbundled nationwide, see, e.g., USTA, others argue that regional rules or office-by-office determinations should be made. Beyond the fact that such regional or office-by-office determinations would be administratively unwieldly and enormously expensive for a nationwide CLEC, such rules would have the effect of cutting off millions of customers from having access to competitive providers. For example, one of the proposed ILEC exceptions is that a single collocation in a central office, would excuse an ILEC from unbundling the switching functionality of that office. However, a single collocation in a central office is a poor indicator of whether switching is competitive at that central office. A CLEC may be collocated at a central office in order to provide data services from that location. A collocated CLEC may have a business strategy which excludes residential

customers. By the ILEC proposal, the existence of the single collocated CLEC would place all other CLECs at the mercy of the business strategy of that particular CLEC at that location. If the single collocated CLEC, for whatever business reason, did not offer switched voice and data services, the ILEC would have effectively no competition at that central office.

Transport

23. In their comments, the ILECs propose restricting CLEC access to ILEC transport. While some concede that such access would reduce CLEC costs, and improve CLEC network efficiency and access to loops, they argue such cost savings and efficiency benefits are not relevant.[6/] The ILEC transport exceptions to nationwide rules are unworkable because they would deny CLECs access to ILEC transport when such transport is needed by CLECs to provide local services efficiently.

Shared Transport

24. Alone among all the ILECs, Ameritech and U S West argue that shared transport cannot meet the impair test because that test must be applied to stand-alone elements, and it is indisputable that having access to shared transport is impossible without also having access to ILEC switching. See Ameritech Comments at 94-97; U S West Comments at 53.

25. These arguments are circular. No element by itself suffices to provide local telecommunications service — not a loop, not switching, not transport. Moreover, the exact location of certain functionality in the network will change over time as new technologies are deployed that move intelligence to different elements. The bottom line is whether CLECs need

---

6/ For example, Ameritech states that the fact that competitors can reduce costs with shared transport is irrelevant. Ameritech Comments at 97-98. Ameritech also argues that whether access to ILEC interoffice facilities would improve CLECs' ability to design efficient networks or combine their own switching functionality with unbundled loops is irrelevant. Id. at 87.

access to an element to be able to provide local service. The answer is that there is no practical way for CLECs to provide ubiquitous service without access to shared transport, as explained in our initial comments. See MCI WorldCom Comments at 62-63. The ILECs have presented no analysis that undermines that conclusion. MCI WorldCom disputes Ameritech's claim that the routing tables in the ILEC switches are proprietary (a claim that no other ILEC makes) and therefore the necessary standard should be used to determine whether the CLECs should gain access to them. But even if the necessary standard does apply, such access is necessary for CLECs to be able to provide ubiquitous service because in the absence of such access CLECs would face the insuperable burden of deploying a ubiquitous switching, signaling, and transport network.

26. Ameritech also states that an efficient CLEC might be able to replicate the functionality provided by ILEC shared transport within two years. This statement, however, demonstrates that it does not appreciate the sort of rapid competition Congress intended to unleash through implementation of the Act. Moreover, it is not realistic to expect that CLECs, individually or collectively, could replicate the functionality provided by ILEC shared transport for thousands of end offices within two years, and Ameritech offers no credible evidence to support its contrary claim. Moreover, denying CLECs access to shared transport also places them at an artificial disadvantage with respect to ILECs when constructing their own dedicated transport facilities.

Dedicated Transport

27. MCI WorldCom agrees that in limited locations alternative sources of dedicated transport are available to CLECs. As I stated in my first declaration, we can reach approximately 1,600 end offices using non-ILEC transport. MCI WorldCom at 64. But no such

alternatives exist for more than 10 times that many end offices, and even for those for which an alternative exists, the alternative cannot always fully meet our needs.

28. Dedicated transport has unique characteristics that make an especially strong case under the impairment test. Providing transport has large, up-front costs and requires long lead times before the capacity becomes available. Constructing transport facilities begins with the long process of applying for rights-of-way from the municipal or local government where a CLEC wants to place its facilities. In some instances, buying or leasing rights-of-way from a third party is feasible, but in most cases is not. After a right-of-way is leased or purchased, the actual installation of fiber can begin. That requires digging up road surfaces in order to install conduit underground. In some cases, conduit is already installed, in which case MCI WorldCom has had to "pull" fiber through the conduit. These processes require large construction crews and several weeks or months of work. When the fiber is installed in the ground, CLECs have to then establish collocations with ILECs so that traffic can be passed from the ILEC network onto CLEC transmission facilities. Because of the long lead times and the large up-front expenses, transport has to be planned and placed into the ground long before the time a new entrant is able to figure out whether it has sufficient demand to justify constructing the transport.

29. In the same vein, transport is not scalable. That is, CLECs cannot invest in transport in increments to test whether sufficient demand will justify further investment. The combination of these factors lead CLECs to face a prohibitive risk that demand may never justify the large expenditure of time and resources to install transport. In most such cases, CLECs will opt not to provide services unless transport is available on an unbundled basis.

30. The ILECs have proposed various exceptions that are intended to identify where transport alternatives exist and where they therefore would not be required to provide

dedicated transport at TELRIC rates.[7] The problem is that these exceptions do not fully reflect market realities, and therefore the ILEC proposals would leave CLECs without access to ILEC dedicated transport in some situations in which they do not have practical alternatives. This would be especially difficult for CLECs who planned market launches in a market and then found themselves without the capability of transporting traffic in a portion of the launch area.

31. These varying thresholds proposed by the ILECs demonstrate the difficulty in setting a threshold, especially since actual CLEC deployment decisions will be based on many factors in addition to the size of the serving wire center, such as the physical distribution of each CLEC's network facilities and demand and access to rights of way. It is noteworthy that SBC admits in its comments that it is not clear where to draw the line. SBC Comments at 49. The fact is, if the line is drawn too stringently, competition will be harmed because some CLECs who do not have access to practical alternatives to dedicated ILEC transport will be impaired in their ability to provide service. By contrast, the benefits of a uniform, administrable rule far exceed any conceivable costs. In particular ILECs facing effective competition from alternative transport providers will only be too willing to provide transport on a common carrier basis to any customer at TELRIC rates. To understand why this is so, one need only consider all the "competitive

---

7/ These exceptions include the following: Ameritech would deny access (1) in any wire center serving 40,000 or more lines with existing collocation, or (2) in any central office with collocation if competitive interoffice transmission facilities have actually been deployed to the wire center. See Ameritech Comments at 6, 88. Bell Atlantic would deny access of interoffice transport facilities anywhere at least one carrier has deployed its own network and collocated its own transmission equipment in the ILEC's wire center. See Bell Atlantic Comments at 31. BellSouth would deny access in Zones 1 or 2 (urban and suburban areas). See BellSouth Comments at 53. U S West would establish the presumption that interoffice transmission unbundling is not mandatory in wire centers that have more than 20,000 (or 40,000) loops and at least one collocated CLEC. See U S West Comments at 51. GTE would deny access in wire centers that exceed 15,000 lines. See GTE Comments at 62-63. SBC would deny access in wire centers serving more than 40,000 loops where one or more CLEC have collocated. See SBC Comments at 49-50.

services" proceedings that have been held in state commissions around the country over the past decade or more at the instigation of the ILECs. In these proceedings, the ILECs have alleged that one or more of their services have been threatened by competition (for example, that Centrex faced competition from PBXs), and that they therefore needed flexibility to set rates as low as long run incremental cost or marginal cost, which are substantially lower than TELRIC, in order to be maintain customers and avoid "stranded investment." It is only where the ILEC believes that there is no real competition capable of driving rates down that the ILEC will oppose having to offer dedicated transport at TELRIC rates.[8/]

32. As a result, it is far better public policy and far more consistent with the intent of the Act to place no artificial restrictions on CLEC access to unbundled dedicated transport.

8/ In this vein, it is ludicrous for GTE and U S West (see GTE Comments at 61-62; U S West Comments at 52-53) to suggest that transport is available to CLECs out of the access tariff and, even though that tariffed rate far exceeds ILEC costs, CLECs would not be impaired in their ability to provide service if they had to pay that rate. The objective of the Act is to foster competition that will drive rates down. If new entrants must pay inflated rates for a key input, that will create an artificially high ceiling below which end-user rates will not be able to fall, thus defeating the Act's objective. See MCI WorldCom Comments at 65, n.43.

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

Executed on June 10, 1999.

JOHN M. WIMMER

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**

REPLY 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 position 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 in the Electrical Engineering Department at SMU.

2. I have reviewed the comments in this proceeding related to signaling networks and call-related databases. The purpose of my declaration is to explain why competitive local exchange carriers' ("CLECs") ability to compete effectively in local

telecommunications markets would be imparied unless they have unbundled access to the incumbent local exchange carriers' ("ILECs") signaling networks and call-related databases, including the Advanced Intelligent Network ("AIN") architecture and service management systems.

3. The need for unbundled access to an ILEC's signaling network and databases, including the ILEC's AIN triggers, is most pressing where a CLEC utilizes the ILEC's switch. An ILEC's switching element works in tandem with the ILEC's signaling network and databases. Thus, as many of the ILECs conceded in their initial comments,[1/] unbundled ILEC switching is simply inoperable without access to the ILEC's corresponding signaling networks and databases. It is impossible for CLECs to use their own signaling in connection with the ILECs' switching elements because the ILECs' switches cannot inter-operate with multiple signaling networks except through their own signaling networks' mediation.

4. Even where CLECs provide their own switches, it is imperative that ILECs unbundle their SS7 signaling networks and call-related databases. At present, ILECs have the benefit of ubiquitous signaling networks throughout their regions. If a CLEC wishes to offer ubiquitous, high-quality local service, it must, as a practical matter, tap into the ILECs' signaling networks and databases.

5. Notwithstanding the ILECs' assertions, third party signaling networks are wholly inadequate substitutes for the ILECs' networks. No third party vendor owns a signaling network in every Local Access Transport Area ("LATA"), nor do they provide direct connectivity with the ILECs' switches. Consequently, if a CLEC is forced to obtain signaling

---

1/ See Ameritech Comments at 114; SBC at Comments 43; U S West Comments at 47; BellSouth Comments at 76.

from a third party -- rather than from the ILEC-- the CLEC will suffer diminished performance because the third party will have to reroute the traffic to a distant Signal Transfer Point ("STP"), rather than using the ILEC's nearby STP. This might generate, for example, longer call set-up time for the CLEC's customers, thereby impairing the CLEC's ability to compete effectively. Because at this time third party vendors only have geographically dispersed (i.e., not local) STPs typically used by smaller long distance networks, they cannot provide CLECs with signaling comparable to those of the ILECs.

6. Likewise, it is not competitively viable for CLECs to self-provision call-related databases or to obtain them from third party vendors, even where the CLEC uses its own switch. Some of the information contained in the ILEC databases to which CLECs need access simply is not independently replicable by a CLEC or third party vendor. The ILECs' Toll Free Number Database, for example, contains joint and common information about terminating customers in a given local switched environment, although it is the originating customers that dial numbers which must be translated in toll free (800 and 888) calls. The CLECs, therefore, cannot perform the number translations without obtaining the required translation information for the 800/888 customers of every other carrier. Without access to an ILEC's Toll Free Number Database, then, a CLEC's or third party's Toll Free Database will be useless. Similarly, an ILEC's Line Information Database ("LIDB") contains line and billing information for all lines belonging to a group of LECs, and so a CLEC or third party vendor cannot develop its own LIDB without access to the ILECs' LIDB. Furthermore, if a self-provided or third party database comprises information that is controlled and updated by the ILEC, the database will be more difficult and more costly to maintain. If the updates are not performed in a timely manner, the CLEC's call-related database will be more prone to error in the completion of certain services (e.g., Caller ID).