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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
Federal Communications Commission
Washington, DC 20554

In the Matters of	)	
Deployment of Wireline Services Offering	)	
Advanced Telecommunications Capability	)	CC Docket No. 98-147
	)	
and	)	
	)	
Implementation of the Local Competition	)	CC Docket No. 96-98
Provisions of the	)	
Telecommunications Act of 1996	)	

REPLY COMMENTS OF WORLDCOM, INC.

Dated: November 14, 2000

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EXECUTIVE SUMMARY

There is no question that collocation of equipment in incumbent local exchange carrier (ILEC) facilities is critical to the facilities-based competition in local telephone service that Congress wished to foster by passing the Telecommunications Act of 1996 ("1996 Act"). Despite that fact, the ILECs have impeded competition by refusing to allow collocation of equipment not "required" or "indispensable" to interconnection or access to unbundled network elements (UNEs), even though that equipment is clearly "necessary" for accomplishing such purposes. Specifically, the ILECs have not permitted CLECs to collocate multifunctional equipment and to cross-connect with other CLECs collocated in the ILECs' facilities. In these reply comments, WorldCom shows that under the 1996 Act, an ILEC must allow collocation of equipment if the inability to use such equipment would seriously impair or obstruct a CLEC's ability to compete on a facilities basis with the ILEC for customers in any geographic area, giving the ILEC an unreasonable competitive advantage that the CLEC cannot otherwise overcome on a timely basis. Such a standard requires ILECs to permit both collocation of multifunctional equipment and cross-connects between collocated CLECs. Furthermore, because cross-connects should be regarded as ancillary easements to collocation and UNEs in their own right, ILECs must allow them.

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REPLY COMMENTS OF WORLDCOM, INC.

WorldCom, Inc. ("WorldCom"), by its attorneys, hereby files its reply in response to comments filed regarding the *Second and Fifth Further Notices of Proposed Rulemaking*.[1]

INTRODUCTION

Congress's primary purpose in passing the Telecommunications Act of 1996 ("the Act") was to promote competition in the local telecommunications industry. Recognizing that collocation is essential to such competition, Congress explicitly provided that incumbent local exchange carriers ("ILECs") have a duty to provide collocation of equipment necessary for interconnection and access to unbundled network elements ("UNEs") on terms that are just, reasonable, and nondiscriminatory.[2] But in the years since the passage of the Act, the ILECs have impeded competition by insisting on unreasonable restrictions on collocation. For example,

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[1] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Order on Reconsideration and Second Further Notice of Proposed Rulemaking and Fifth Further Notice of Proposed Rulemaking*, CC Docket Nos. 98-147, 96-98 (Aug. 10, 2000).

[2] 47 U.S.C. § 251(c)(6).

ILECs have refused to permit collocation of equipment that promotes facilities-based competition on the ground that it is not "indispensable" for interconnection and access to UNEs. In addition, ILECs have failed to permit competitive local exchange carriers ("CLECs") to deploy multifunctional equipment in CLEC-controlled collocation space, even though such equipment provides increased network and space efficiencies while decreasing costs and dependence on ILEC equipment. Moreover, ILECs have prevented CLECs from constructing cross-connects in the central office to establish interconnection with other CLECs.

In their comments, the ILECs argue that the United States Court of Appeals for the District of Columbia Circuit already has decided all of these issues. According to the ILECs, the D.C. Circuit held in *GTE v. FCC*, 205 F.3d 416 (D.C. Cir. 2000), that (1) as used in Section 251(c)(6), the term "necessary" means "required" or "indispensable"; (2) Section 251(c)(6) does not require ILECs to allow collocation of equipment that contains both functions "necessary" for interconnection or access to UNEs and functions that are not "necessary"; and (3) Section 251(c)(6) does not require ILECs to permit cross-connections between collocators. As WorldCom shows below, the ILECs not only mischaracterize the *GTE* decision but fundamentally misunderstand the nature of Section 251(c)(6). The Commission therefore should reject the ILECs' arguments and implement Congress's mandate to open the local market.

ARGUMENT

I. Equipment Is "Necessary" For Interconnection Or Access To Unbundled Network Elements If The Inability To Use Such Equipment Would Seriously Impair Or Obstruct CLECs' Facilities-Based Competition In Any Geographic Area.

In its initial comments, WorldCom proposed that the Commission adopt the following definition of "necessary":

> The physical collocation of equipment is "necessary" for interconnection or access to unbundled network elements if the inability to use such equipment would seriously impair or obstruct CLECs' ability to compete on a facilities basis with the ILEC for customers in any geographic area, giving the ILECs an unreasonable competitive advantage that CLECs cannot otherwise overcome on a timely basis.

WorldCom pointed out that this definition is fully within the limits of "the ordinary and fair meaning" of the statute's terms and is consistent with the statutory purpose. In their comments, the ILECs argue that the D.C. Circuit held in *GTE* that the term "necessary" should be interpreted more narrowly.[3]

A. The D.C. Circuit Did Not Adopt A Narrow Interpretation Of The Term "Necessary."

Contrary to the ILECs' contentions, *GTE* did not impose one narrow definition of "necessary" but merely required the Commission to explain its definition in light of the Act's language and purposes. While the D.C. Circuit vacated the Commission's *Advanced Services*

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[3]For example, Verizon argues that the D.C. Circuit "defined 'necessary' as synonymous with 'required' or 'indispensable,' rejecting the argument that it means simply 'used or useful.'" Verizon Comments 3. Likewise, BellSouth contends that the D.C. Circuit held that "necessary" must be construed "so as to limit 'necessary' to that which is required to achieve a desirable goal." BellSouth Comments 3. BellSouth also emphasizes that the Commission's policy concern that the Court's definition would "restrict collocators to deployment of equipment that can only be used for interconnection or access to UNEs even if that equipment is not the most efficient for providing telecommunications services" is not an acceptable rationale for expanding the statutory definition of "necessary." *Id.* Similarly, SBC Communications maintains that "the D.C. Circuit's decision makes clear that the overarching consideration in the Commission's analysis must be whether the equipment in question serves the limited objective of Section 251(c)(6). It is not legally supportable for the Commission to expand the clear parameters of Section 251(c)(6) by referring to the broader goals of the Telecommunications Act to promote greater competition and how the Commission believes those goals are met." SBC Comments 9.

First Report and Order[4] except "to the extent that it merely requires LECs to provide collocation of competitors' equipment that is directly related to and thus necessary, required, or indispensable to interconnection or access to unbundled network elements," it in no way suggested that "necessary" *must* be so defined.[5] Rather, the Court acknowledged that the "disputed terms in § 251(c)(6) are ambiguous in their meanings,"[6] and explicitly left open the possibility of a broader interpretation: "Anything beyond this . . . demands a better explanation from the FCC, for the current rules under the Collocation Order make no sense in light of what the statute itself says."[7] Thus, *GTE* mandates that the Commission focus, not on the narrow semantics of the word "necessary," as the ILECs argue, but on the meaning of that term in light of the purposes of the Act as a whole. Indeed, the Court's quarrel with the Commission's original interpretation of "necessary" as meaning "used or useful for either interconnection or access to unbundled network elements" was that it "seem[ed] overly broad and *disconnected from the statutory purpose enunciated in § 251(c)(6).*"[8]

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[4]*Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, First Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 4761 (1999) ("*Advanced Services First Report and Order*"), *aff'd in part and remanded in part sub nom. GTE Service Corp. v. FCC*, 205 F.3d 416 (D.C. Cir. 2000).

[5]*GTE*, 205 F.3d at 424.

[6]*Id.* at 421.

[7]*Id.* at 424.

[8]*Id.* at 422 (emphasis added).

B. The Term "Necessary" Is Not Limited To A Single Interpretation.

As several commenters show, the term "necessary" is not limited to a single interpretation. In its initial comments, for example, WorldCom pointed out that in *M'Culloch v. Maryland*, 17 U.S. 316 (1819), the Supreme Court stated that "necessary" does not always denote "an absolute physical necessity," but frequently imports no more than that one thing "is convenient, or useful, or essential to another."[9] Similarly, a group of CLEC commenters[10] (collectively "Joint Commenters") note that in *National RR. Passenger Corp. v. Boston & Maine Corp.*, 112 S. Ct. 1394, 1402 (1992), the Supreme Court held that the term "necessary" must yield to an agency's alternative definition of "useful or appropriate."[11] From these examples, it is obvious that the term cannot be constrained to a single, narrowly-drawn interpretation.

C. The Commission Should Interpret The Term "Necessary" Broadly So As To Further The Competitive Purposes of The 1996 Act.

The purposes of the statute clearly indicate that the Commission should interpret § 251(c)(6) such that physical collocation is "necessary" if the inability to use such equipment would seriously impair or obstruct CLECs' ability to compete on a facilities basis with the ILEC for customers in any geographic area. As WorldCom argued above and in its initial comments, Congress sought in passing the 1996 Act to increase facilities-based competition. Accordingly,

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[9]WorldCom Comments 7-8.

[10]Arbros Communications, Inc., the Association for Local Telecommunications Services ("ALTS") , the Competitive Telecommunications Association ("CompTel"), e.spire Communications, Inc., FairPoint Communications Solutions, Inc., Intermedia Communications, Inc., Jato Communications Corp., Metromedia Fiber Network, Inc., KMC Telecom, Inc., NewSouth Communications, Inc., and Pathnet Communications.

[11]Joint Comments 18.

§ 251(c)(2) requires ILECs to provide interconnection with their networks by other carriers' networks for purposes of transmitting or routing telephone exchange service or exchange access, and § 251(c)(3) obligates ILECs to provide requesting carriers access to UNEs on just, reasonable, and nondiscriminatory terms. Similarly, as the D.C. Circuit recognized in *GTE*, the statutory purpose of § 251(c)(6) is "promoting competition."[12] But if § 251(c)(6) requires ILECs to permit collocation only of equipment that is physically indispensable to interconnection or access to UNEs, that critical purpose will be frustrated.

Collocation under § 251(c)(6) is a primary means of implementing interconnection under § 251(c)(2) and access to UNEs under § 251(c)(3). As the Commission stated in the *Local Competition First Report and Order*: "[B]oth the interconnection and unbundling sections of the Act, in combination with the collocation obligations imposed by Section 251(c)(6), allow competing carriers to choose technically feasible methods of achieving interconnection or access to unbundled network elements."[13] The ILECs' proposed reading of § 251(c)(6) would limit collocation by CLECs to only those instances where it was indispensable for interconnection or access to UNEs. But in many cases, even where collocation is not indispensable, in its absence, new entrants' costs of providing service will be much higher than those of the ILECs. As a result, CLECs will not be able to compete with the ILECs in the local telecommunications market, as Congress intended.

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[12]*GTE*, 205 F.3d at 425; *see id.* at 424 (stating that § 251(c)(6)'s statutory purpose is "to ensure competition in areas of advanced technology in telecommunications").

[13]*Implementation of the Local Telecommunications Provisions in the 1996 Act*, CC Docket No. 96-98, *First Report and Order*, 11 FCC Rcd 15449, 15719-15720, ¶ 444 (1996) ("*Local Competition First Report and Order*").

If the ILECs' definitions were taken seriously, it would be hard to imagine what equipment would be allowed in collocation cages. For example, it could be argued, even the most basic transmission facilities, such as multiplexers, could be seen as not strictly "necessary" for interconnection or access to UNEs. Yet empirical data shows how the collocation of certain equipment is so critical to CLECs' ability to compete with the ILECs that it must be considered "necessary" to interconnection or access to UNEs.

For example, as Robert John Frontera and Thomas W. Hill, Jr. state in their affidavit, attached to AT&T Corporation's initial comments, the inability to collocate equipment such as multiplexers that provides transmission and related functionality effectively would preclude most facilities-based competition. Were CLECs denied the ability to deploy transmission functions in collocation, they would in all practicality be limited to using copper pairs for interoffice facilities, a situation that would cause such logistical problems involving, for example, exhaustion of conduit space, as to be fatal to competition.[14] Extending copper lines out of the central office to the CLEC network quickly would consume available space in conduits, entrance facilities, and central office cable trays. For example, as AT&T points out, a bundle of 1000 loops would be approximately 3.5 inches in diameter. This diameter is important because typical urban and suburban ILEC entrance facilities generally will run conduits a minimum of 1000 feet before emerging to aerial cable. As a general matter, the underground conduit will be between 3.5 to four inches in diameter. Thus, a mere 1100 pair cable would consume the entire capacity of one conduit. Fiber cables, on the other hand, are approximately one inch in diameter,

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[14]Declaration of Robert John Frontera and Thomas W. Hill, Jr. ¶ 24.

and three to four optical cables can be placed within each conduit. The copper lines would present other logistical problems: The previously mentioned cable would weigh approximately 5.7 pounds per foot, forty times the weight per foot of fiber optic cable that can carry many orders of magnitude more communications. The greater weight and space consumption presents an enormous problem in risers, entrance facilities, and central office trays.

Furthermore, as Frontera and Hill demonstrate, extending the copper loop length from an ILEC's central office also would impair a CLEC's ability to offer traditional voice services on some loops. Voice service requires the use of load coils when loops longer than 18,000 feet are employed. Thus, most loops would require loading if it was necessary to extend them to a different location outside of the ILEC central office. But loading precludes offering some services, such as ISDN. In addition, beyond 1300 to 1500 ohms, switches cannot accurately manage signaling, so gain devices would be required. These devices, known as VG repeaters, have not been employed in loops since the 1950s. In addition, the maximum loop length is approximately thirty-two miles, which would represent a significant limit on the use of a CLEC's switch.

Additionally, in order to support its remote-terminal-based operations, a CLEC must be able to monitor its equipment to detect degradation and performance failures so that proactive and sometimes reactive steps may be taken to repair or replace elements. Frontera and Hill demonstrate that without the ability to collocate remote surveillance and telemetry equipment, a CLEC could not assure the integrity or the proper operation of its collocated facilities and therefore could not compete with the ILEC. In a matter of a few seconds, failure of collocated equipment could cause the loss of immense amounts of information. Without such

remote diagnostic and repair capability, the CLEC would have to staff each site on an around-the-clock basis. As Frontera and Hill aver, no competitive carrier could afford to do that.

CLECs also must have the right to collocate switching equipment, or multifunctional equipment that incorporates the switching functionality, because it is technically advantageous to do so. As Anthony L. Culmone and Stephen L. Holmgren demonstrate in their affidavit, attached to AT&T's initial comments, the inability to collocate switching equipment would severely impair CLECs' ability to compete with the ILECs. Specifically, Culmone and Holmgren show that if a CLEC could not collocate remote switching modules (RSMs), it would be at a severe competitive disadvantage.[15] An RSM deployed by a CLEC and collocated at an ILEC central office would allow calls to be completed directly between two of the CLEC's customers served by the local loops connected to that RSM.[16] Such a call would travel from the originating customer's telephone, over the unbundled loop the CLEC leases from the ILEC to serve the originating customer, to the CLEC's RSM collocated in the ILEC office where the loop terminates.[17] Then, because the call is to another of the CLEC's customers served from the same office, the RSM would switch the call to the unbundled loop serving the called customer.[18] But if a CLEC could not collocate RSMs, then in the same call scenario, it would incur substantial additional costs: Once the originating call reached the ILEC central office, the CLEC would have to pass the call through multiple layers of multiplexing and electrical-to-optical signal conversion

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[15]Declaration of Anthony L. Culmone & Stephen L. Holmgren ¶ 23.

[16]*Id.*

[17]*Id.*

[18]*Id.*

and route it out of the ILEC's central office on an interoffice transport facility to the CLEC's own stand-alone switch.[19] The switch would connect the call to a facility returning to the same ILEC central office.[20] As Culmone and Holmgren point out, non-collocation of RSMs would increase CLECs' costs to the point of "ultimately impeding competition on the merits."[21]

II. Multifunctional Equipment Is "Necessary" For Interconnection Or Access To Unbundled Network Elements.

The Commission asks whether the term "necessary" should be read as "permitting physical collocation of equipment having additional capabilities, such as the multifunctional equipment incumbent LECs deploy in central offices and remote offices."[22] The answer is clearly yes. In its initial comments, WorldCom pointed out that without multifunctional equipment, it would not be economically feasible for smaller CLECs to enter facilities-based competition.[23] The additional costs associated with purchasing separate, single-function equipment would prevent small entrants to enter the residential market. Therefore, WorldCom explained, multifunctional equipment that aids in the transmission and routing of telephone exchange service or exchange access in interconnection or access to UNEs should be permitted

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[19] *Id.*

[20] *Id.*

[21] *Id.* ¶ 24.

[22] *Collocation Order* ¶ 74.

[23] WorldCom Comments 11-13.

for collocation purposes.[24] The ILECs maintain that the D.C. Circuit's *GTE* decision forecloses a contrary interpretation.[25] That argument lacks merit.

First, the ILECs have incorrectly interpreted *GTE*. That case simply noted that, at oral argument, "counsel was asked whether, under the Collocation Order, a LEC would be required to afford collocation of a competitor's equipment that included unnecessary multi-purpose features, such as enhancements that might facilitate payroll or data features."[26] According to the Court, the Commission's justification for requiring ILECs to permit collocation of multifunctional equipment was that "competitive telecommunications providers must be permitted to collocate integrated equipment that lowers costs and increases the services they can offer their customers."[27] The Court rejected this rationale as impermissibly "based on presumed cost savings," but acknowledged that a non-cost-based justification, such as promoting the

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[24]*Id.* at 12.

[25]In its comments, Verizon argues that the D.C. Circuit "made clear that requiring collocation of 'a competitor's equipment that included *unnecessary* multi-purpose features . . . would not really square with the terms of § 251(c)(6).'" Verizon Comments 6 (quoting *GTE*, 205 F.3d at 424) (emphasis in Court's opinion). Similarly, SBC Communications maintains that the D.C. Circuit considered in *GTE* whether ILECs must permit collocation of multifunctional equipment, concluding that the Commission cannot mandate collocation of multifunctional equipment that does "more than what is required to achieve interconnection or access." SBC Comments 11 (quoting *GTE*, 205 F.3d at 422). BellSouth contends that the D.C. Circuit already has rejected the view that CLECs may collocate multifunctional equipment where that equipment is efficient for providing telecommunications services. BellSouth Comments 3.

[26]*GTE*, 205 F.3d at 424.

[27]*Id.*

statutory purpose of furthering competition, could justify a rule requiring ILECs to permit collocation of multifunctional equipment.[28]

Second, multifunctional equipment is "necessary" because CLECs simply could not compete effectively with the ILECs if they were prohibited from collocating multifunctional equipment. Thus, Martin Garrity, David Reilly, Tom Stumbaugh, and Rob Williams state in their affidavit, attached to the comments of Rhythms Netconnections, Inc., that "[b]ecause certain equipment may have functions, which do not directly involve interconnection or provide access to unbundled network elements ("UNEs"), does not mean that this equipment becomes any less integral to the competitor's network."[29] As Allegiance Telecom, Inc. points out, a ban on collocating multifunctional equipment would force a CLEC to run lines from the ILEC central office to its own switch site and procure space for its multifunctional equipment. The additional costs associated with such procedures would prevent CLECs from competing effectively with the ILECs.[30] Moreover, as WorldCom demonstrated in its initial comments, purchasing separate, single-function equipment costs more than purchasing multifunctional equipment, and single-function equipment incurs greater provisioning costs and consumes increased amounts of space.[31] Therefore, permitting CLECs to collocate only single-function equipment would raise their costs to such a degree that they would be unable to compete with the ILECs. Accordingly, the

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[28]*Id.*

[29]Joint Declaration of Martin Garrity, David Reilly, Tom Stumbaugh, and Rob Williams on Behalf of Rhythms Netconnections, Inc. and Rhythms Links, Inc. ¶ 11.

[30]Allegiance Comments 62.

[31]WorldCom Comments 12.

Commission must require ILECs to permit collocation of multifunctional equipment in order to further the statutory purposes of the 1996 Act.

III. Cross-Connects Are "Necessary" For Interconnection Or Access To Unbundled Network Elements.

The Commission seeks comment on "whether Section 251(c)(6) encompasses cross-connects between collocators." In particular, it asks whether it may "permissibly interpret" § 251(c)(6) to require ILECs to permit the interconnection of two collocators' equipment or networks, rather than the interconnection of a collocator's equipment or network to the ILEC's network. The answer is a resounding yes. In its initial comments, WorldCom pointed out that in order for CLECs to be able to provide services to consumers in the same manner, time frame, and quality as ILECs and their advanced services affiliates, the ILECs must provide cross-connects.[32]

Once again, the ILECs misinterpret *GTE*.[33] While the D.C. Circuit stated that the Collocation Order's "cross-connects requirement imposes an obligation on LECs that has no apparent basis in the statute," the Court recognized that the Commission could show that the rule

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[32]WorldCom Comments 14-15.

[33]For example, Verizon argues that the D.C. Circuit explained that Section 251(c)(6) refers only to interconnection "at the premises of the local exchange carrier" which is "necessary for interconnection or access to unbundled network elements." Verizon Comments 13. Arguing that the D.C. Circuit has recognized that "the Supreme Court has rejected the position that cost savings or higher quality can be relied on as a basis for meeting the statutory standard of 'necessary,'" Verizon also contends that requiring cross-connects between collocators within a central office cannot be justified on the grounds that they would be cheaper, more convenient, or of higher quality than cross-connects outside of the central office. SBC maintains that the D.C. Circuit held that the "obvious problem" with the cross-connect rule was that it "imposes an obligation on LECs that has no apparent basis in the statute." SBC Comments 23.

was necessary for interconnection or access to UNEs.[34] In fact, cross-connects are critical if CLECs are to compete effectively with the ILECs. First, cross-connects between two collocated CLECs directly provide for interconnection between those two CLECs' networks -- indeed, that is their very purpose. In the absence of cross-connects, CLECs would have to ask the ILECs to cable the traffic outside of the ILEC facility to a CLEC fiber feed, which would have to be connected to the other collocator at a physical location nearby, or brought back to the CLEC's point of presence. If it is brought back to a point of presence, then the traffic intended for the collocating partner is sent over the network until it reaches the partner's point of presence, where the traffic is handed off. Such a procedure places the collocators at a distinct competitive disadvantage.

Additionally, as AT&T points out in its initial comments, the Commission has correctly understood cross-connects to be a "reasonable and nondiscriminatory" term or condition of collocation -- just like access rules or other requirements that are needed to make collocation practicable.[35] Collocation necessarily carries with it ancillary rights to occupy the ILEC's property, such as an easement for CLEC workers to enter the central office to maintain their equipment. Cross-connects are a similar ancillary easement. If ILECs were permitted to deny CLECs the right to cross-connect, the ILECs could allow only themselves to interconnect with other local exchange carriers in the central office. Under such circumstances, collocation

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[34] *GTE*, 205 F.3d at 423.

[35] *Local Competition Order* ¶ 594; *cf. Collocation Order* ¶ 34.

would not be just, reasonable, or nondiscriminatory, as it would be more beneficial for ILECs than for CLECs.

Furthermore, like Allegiance Telecom,[36] WorldCom requests that the Commission issue an interpretive ruling as part of this proceeding that transmission facilities between collocated CLECs in ILEC central offices are interoffice transmission UNEs. The Commission's current rules define interoffice transmission facility UNEs as including:

> [d]edicated transport, defined as incumbent LEC transmission facilities, including all technically feasible capacity-related services including, but not limited to, DS1, DS3 and OCn levels, dedicated to a particular customer or carrier, that provide telecommunications between wire centers owned by incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers.[37]

While the rule does not explicitly apply to cross-connects, these are functionally identical to interoffice transmission facilities between CLEC wire centers. Moreover, cross-connects would meet the "impair" test for the same reasons that interoffice transport meets that test: It is not practically or economically feasible for CLECs to construct or obtain interoffice transmission facilities from sources other than the ILEC with the same price, quality, and ubiquity. If cross-connects were UNEs, they would not be subject to § 251(c)(6)'s "necessary" standard at all.

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[36]Allegiance Comments 65-67.

[37]47 C.F.R. § 51.319(d)(1)(A).

IV. The New Network Architectures Require The Commission's Strengthening Of Collocation Requirements, And Merit Reconsideration In The Context Of The Local Competition Order.

It is without question that the FCC needs to take any and all steps to ensure that CLECs are able to access and interconnect, with ILECs and with other CLECs, in next generation network architecture deployments. Project Pronto is simply the first of the ILECs' coming migrations to fiber-fed networks and remotely provisioned services. It is only a matter of time before the remaining ILECs follow SBC's lead and announce similar initiatives. Accordingly, the FCC must take appropriate action now to preserve, protect, and promote CLECs' abilities to provide facilities-based services to consumers. Already, reports are highlighting the disparate treatment that CLECs receive in the context of Project Pronto.[38] The FCC must ensure that an environment is not created that fosters ILEC market domination and continues to limit competitive options available for consumers.

The importance of fiber in new network architecture is without question. ILECs are taking steps to push fiber out to neighborhoods, and using Remote Terminals (RT), SAIs or SACs to provide services to consumers, and then aggregate and multiplex the traffic generated by consumers for transport over fiber back to the central office, or to perform the converse when receiving traffic from the central office.

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[38]*See* Letter from Cristin Flynn, Associate Policy Counsel, WorldCom to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket Nos. 98-147, 96-98, and 98-146 (Aug. 18, 2000) (annexing status reports to California Public Utilities Commission showing Pacific Bell's ability to provision 22,000 DSL lines in a six week period, while Covad, Rhythms, and NorthPoint could not provision a single line).

Generally, WorldCom supports any and all efforts that can be taken by the Commission to ensure that competition, in a non-discriminatory and ubiquitous manner, is permitted to occur when services are provided to consumers outside of a central office. The Commission correctly recognizes that, since the release of the *UNE Remand Order*, ILECs are deploying network architectures that will provide services to consumers that are operated outside of central offices. In the *Local Competition Order*, the Commission determined that ILEC premises were broadly interpreted as "central offices, serving wire centers and tandem offices, as well as all buildings and similar structures owned or leased by the incumbent LEC that house LEC network facilities. We also treat as incumbent LEC premises any structures that house LEC network facilities on public rights-of-way, such as vaults containing loop concentrators or similar structures."[39] The Commission needs to impose the same market-opening requirements that apply to CO-based services to those provided outside of the CO, including remote terminals, controlled environmental vaults or huts, SAIs or SACs.

As more ILECs move towards providing telecommunications services outside of the central office, the Commission should anticipate, as the FCC recognized in the *Local Competition Order*, ILECs "have an economic incentive to interpret regulatory ambiguities to delay entry by new competitors."[40] In order to prevent this ILEC intransigence in providing non-discriminatory access to CLECs in new network architectures, the *Local Competition Order*

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[39]*Local Competition Order* ¶ 573.

[40]*Local Competition Order* ¶ 558.

should reflect the FCC's commitment to providing services with next generation systems in a non-discriminatory manner.

A. Loops and Interoffice Transport

The FCC asks whether "an individual optical wavelength generated by DWDM equipment is itself a loop or is it a feature, function, or capability of the fiber loop."[41] The underlying technology exists to support the dedication of individual channels within a fiber via DWDM. Commercial arrangements exist to support the application of this technology as well, and WorldCom encourages the development of DWDM in its use in networks. Thus, to any extent possible, the Commission should support the integration of DWDM into fiber-fed loops and IDLC systems. The Commission should not support Qwest's position that DWDM should be treated as an "additional capability of the loop, and not as additional capacity of the loop."[42] DWDM creates additional capacity by fracturing light into channels, which can provide additional capabilities to customers over those channels. The Commission should hold that optical wavelengths created by DWDM are a part of the subloop itself, and subject to the unbundling provisions of the 1996 Act.

The Commission also seeks comment on the nature and type of electronics that can be attached to the loop itself, with the understanding that "attached equipment" is a part of the loop itself, and subject to unbundling requirements.[43] WorldCom has argued in the past, and

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[41] *Collocation Order* ¶ 121.

[42] Qwest Comments 33.

[43] *Collocation Order* ¶ 122.

continues to argue, that the digital subscriber line access multiplexer (DSLAM) is a part of the loop. Advanced services cannot be provided to consumers without being attached to a DSLAM. For example, multifunctional equipment that should be considered part of the loop includes DSLAMs that incorporates the splitter functionality. Every ADSL line requires a splitter in order to separate the voice traffic from the data traffic. The splitter itself is simply a passive device that divides the transmitted signal on a loop into high and low frequency bands. The DSLAM aggregates or disaggregates traffic for transport. A customer cannot have ADSL service without the use of a DSLAM. Thus, the FCC should consider the multi-functional DSLAM with splitter capabilities as a part of the loop. In the alternative, the FCC should deem each piece of equipment as a part of the loop.

B. Subloops

The Commission's rules must be adapted to state expressly that ILECs must be required to permit collocation and interconnection in remote terminals or locations served by fiber feeder plants, copper distribution plant, or any combination of the two. The FCC defines the subloop as including, "among other possible portions, the portion of the loop between the remote terminal and the customers' premises, as well as the portion of the loop between the central office and the remote terminal (i.e., the feeder portion of the loop), as distinct unbundled network elements."[44]

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[44] *Collocation Order* ¶ 123.

As next generation technology moves closer and closer to consumers, the path between the remote terminal and the central office is critical to both ILECs and CLECs. The fiber subloop that connects the RT and the CO provides faster, more stable, and higher capacity trunking, and allows customers who were otherwise too far from a central office to be able to enjoy xDSL. This is the precise reason that the FCC has already deemed the subloop itself a UNE and opened for competitive use.[45] SBC claims that the FCC need not modify current subloop unbundling requirements because CLECs have access to subloops "whenever the feeder or distribution portion of the loop is vacant or spare."[46] However, as WorldCom stated in its initial comments, SBC has indicated that it will not make adequate fiber available for CLECs, and will instead make only 2 of its 12 strands of fiber available for use by CLECs.[47] The ability to access customers and provide both basic and advanced services out of remote terminals is rendered useless if SBC has occupied all of the fiber.

WorldCom argues that the features and functions of the loop includes "access to all technically feasible transmission speeds and quality of service classes."[48] The ILECs and their advanced service affiliates will want to provide optimal transmission rates and quality of service classes to customers, and the CLECs must have access to the same suite of services made available over the ILEC's next generation (NG) platform. BellSouth states that it is able to provide constant bit rate (CBR) and variable bit rate (VBR) service from the remote terminal to

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[45] *UNE Remand Order* ¶ 214-219.

[46] SBC Comments 64.

[47] WorldCom Comments 18.

[48] *Collocation Order* ¶ 125.

the optical concentration device (OCD) located in the CO.[49] SBC claims that if CLECs are able to provide various transmission speeds and quality of service classes to customers, that it would "degrade service quality to end users."[50] However, the traffic buffering that SBC claims will result in losses of user traffic is negated by allowing for sufficient capacity to accommodate the traffic needs of customers served out of a particular remote terminal.[51] Moreover, compliance with the spectrum compatibility standards for xDSL service at issue in the FCC's Network Reliability and Interoperability Council (NRIC) and in T1E1, as well as any other standards-setting boards, will eliminate this issue.

Thus, and as requested by the Joint Commenters, "the Commission should adopt the same presumption of acceptability for deployment and standards regarding degradation of signals in this proceeding as it did in the *Line Sharing Order*."[52]

C. Cross-Connects

The FCC seeks comment on the location of the "technically feasible" points for "accessing the copper distribution portion of the loop, and the fiber feeder portion of the loop at remote terminal locations."[53] The FCC should apply the same interconnection and access requirements applied to central offices towards remote terminals. The obligation to provide

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[49]BellSouth Comments 35.

[50]SBC Comments 66.

[51]*Id.* at 67.

[52]Joint Commenters 72 (citations omitted).

[53]*Collocation Order* ¶ 133.

cross-connects was originally stated in the *Local Competition Order*.[54] The *UNE Remand Order* confirmed this, and required cost-based charges apply under § 252(d)(1).[55] The purposes of the 1996 Act can only be forwarded by decisive Commission action in support of competition. As networks migrate from central offices out towards customers' homes, consumers need to have access to more than one provider for those services, either basic or advanced.

As the Joint Commenters also request, the FCC should permit cross connects at any remote premises, and that those cross connects are contained within the remote premises itself, or "internal."[56] Moreover, to the extent that adjacent collocation is required, "the Commission's rules should mandate that such adjacent arrangements be provided in such a way that cross-connections to UNEs at a remote terminal from adjacent locations are possible. Furthermore. . . remote terminal cross-connections must be priced the same way as central office connections, that is, in compliance with section 251(d)(1)."[57] WorldCom supports the position of the Joint Commenters with respect to cross connects, and requests that the FCC take appropriate action in the *Collocation Order* to ensure that cross connects are permitted at remote premises.

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[54]*Local Competition Order* ¶ 386.

[55]*UNE Remand Order* ¶ 179.

[56]Joint Comments 85.

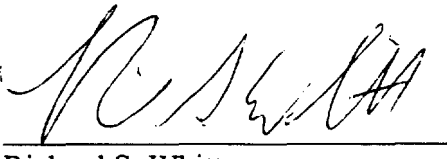
[57]*Id.*

V. CONCLUSION

In accordance with the initial and reply comments submitted by WorldCom in this proceeding, the Commission should interpret § 251(c)(6) as granting CLECs the same competitive opportunities as are available to the ILECs. Under the definition of "necessary" proposed by WorldCom, both multi-function and single-function equipment must be collocated, and cross-connects must be provided. Moreover, CLECs should be allowed to provide services out of remote terminals, or controlled environment vaults or huts, including collocation of (or unbundled access to) line-cards, DSLAMs, dark fiber, excess copper, and multiplexing equipment.

Dated November 14, 2000

Respectfully submitted,



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