competitors' costs, which in turn discourages local entry to provide voice services. Similarly, the incumbent LECs' practices are stalling competition for advanced services.[158] The failure to prevent these tactics would be inconsistent with the mandate of section 706 of the Act that the Commission "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability."[159] The record here amply demonstrates that "incumbent LECs resort to delay and price-gouging techniques" to delay the provision of xDSL-capable loops.[160] This again demonstrates that competitors cannot compete against incumbent LECs on a level playing field unless they have access to the entire unbundled loop element.

Given the rapid increase in consumer demand for advanced data services -- nearly all of which has been satisfied by the incumbent LECs[161] -- the Commission must act promptly to ensure that incumbent LECs cannot use their unique control over their local loops to solidify their position as the only carriers that can offer consumers attractive packages of voice and advanced services. In order to assure that its decisions are implemented, the Commission also must be assured that incumbent LECs are not allowed to transfer to their data affiliates the loop electronics that provide advanced services. For example, incumbent LECs should not be permitted to transfer line cards or OCDs to an affiliate. Failure to prohibit transactions of this

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[158] *See* Covad at 4-9 (discussing the litany of actions taken by incumbent LECs to stall competition in advanced services); Joint Commenters at 13 ("the ILECs instituted additional roadblocks to prevent the proliferation of new, innovative telecommunications including those known as advanced services"); Rural Independent Competitive Alliance 5-6 (commenting on the number of ways that incumbent LECs "continue impeding competition").

[159] *See Line Sharing Order* ¶ 179 (citing 47 U.S.C. § 157).

[160] Covad at 5 ("[i]n order to prevent competitive xDSL providers from stealing away customers from the incumbents' own retail xDSL services, incumbent LECs take weeks to deliver loops ordered by competitors, charge non-cost-based upfront charges to deter entry, and assess wildly disparate prices for 'voice' and 'data' loops, despite the fact that these are two names for the exact same piece of copper").

type would effectively shut competitors out from the opportunity to access and use the full functionality of the loop, which in turn would allow the incumbents and their affiliates to expand their monopolies into this important new market. One of the most efficient ways from an administrative approach to prevent the incumbents' extension of its monopoly is to assure that competitive LECs have efficient access to the entire loop, regardless of the architecture the incumbent deploys in its outside plant.

E. Assuring That Competitive LECs Are Entitled to Access All of the Features, Functions, and Capabilities of Next-Generation Loops Requires Adjustment of the *UNE Remand Order's* Treatment of DSLAMs.

In the *UNE Remand Order*, the Commission determined that packet-switching is a network element and defined packet switching to include the DSLAM.[162] The Commission further found that failure to require unbundling of packet switching would impair competitive LECs' ability to compete for most customers.[163] Nevertheless, the Commission declined to unbundle packet switching because it did not believe that the unavailability of this element would impair competitors due to the nascent nature of the advanced services market and its belief that the decision would encourage facilities investment for advanced services.[164] The Commission required that, if certain exceptions were met, competitors could have access to unbundled packet-switching, including the DSLAM.[165]

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[161] *See supra* at 57 n.98.

[162] *UNE Remand Order* ¶¶ 302-304.

[163] *Id.* ¶ 306.

[164] *Id.*

[165] *Id.* ¶ 313.

As shown above, AT&T, other carriers and equipment manufacturers, demonstrated that a DSLAM performs *only* transmission-related functions,[166] *not* packet switching. Thus, the current definitions of the local loop and packet switching elements miscategorize the functionality of the DSLAM and -- especially as applied to next-generation loop architecture -- they undermine the procompetitive purpose of the Commission's unbundling rules. AT&T believes that the Commission should correct this mistake of fact across the board. At a minimum, however, in developing unbundling rules that are applicable to next-generation loop architecture, the Commission must closely examine the incumbent LECs' use of DSLAM functionality in a remote terminal. Critically, the Commission must recognize that failure to require unbundled access to DSLAM functionality in next-generation loop plant would make it virtually impossible for competitive LECs to provide packet-based services and entirely undermine the assumptions underlying the Commission's decision not to unbundle packet switching.

In the *UNE Remand Order*, the Commission declined to require unbundling of the packet-switching element (including DSLAMs), despite its conclusion that competitors' ability to serve substantial market segments was impaired without access to this element. Instead, it concluded that packet switching should only be unbundled when specific alternatives to accessing customers' data streams via other access mechanisms were unavailable.[167] However, in view of the evidence presented by AT&T and other commenters and as discussed in Part A above, competitors do not have *any* access to their customers' data streams if they cannot get access to the entire loop. Following the Commission's analysis to its natural conclusion, if

[166] *See supra* Part II A.

[167] *UNE Remand Order* ¶¶ 306, 313.

competitive LECs do not have access to an entire unbundled loop, and thus access to their customers' data streams, the Commission must conclude that all incumbent LEC packet-switching functions must be unbundled. The only way to avoid this result and remain consistent with its approach in the *UNE Remand Order* is for the Commission to require that the entire loop be unbundled in a manner that allows competitors to access all of their customers' telecommunications signals in a place that allows them to provide service.

All of these problems can be solved by curing the factual error the Commission made in the *UNE Remand Order*. There can be no doubt that DSLAM functionality is *not* a "component of the packet-switching functionality."[168] As the Commission defined it, the packet-switching element provides the "function of routing individual data units based on address or other routing information."[169] However, it is *impossible* for a DSLAM to serve as a traffic router, especially in a remote terminal architecture.[170] In the remote configuration, the DSLAM's only functions are to (1) separate low and high frequency transmissions; (2) multiplex (separately, using two different technologies) the low- and high-frequency traffic from many customers (and destined for many carriers) and (3) direct such commingled traffic onto high-capacity facilities that run to the incumbent's central office. Such commingled traffic cannot possibly be "routed" anywhere until *after* it is demultiplexed at the central office by a separate piece of equipment (usually an OCD). Thus, when DSLAM functionality is deployed in a

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[168] *UNE Remand Order* ¶ 303.

[169] *UNE Remand Order* ¶ 302.

[170] Even in a central office environment, a DSLAM operates only as a multiplexer because a DSLAM does not have the ability to choose and establish real-time routing paths for particular communications. *See* Riolo Decl. ¶¶ 55-56; *see also* FCC Appellate Brief at 7 ("[t]he DSLAM routes the voice traffic from the loop to the public, circuit-switched network in the form of 'plain old telephone service,' and sends the data traffic to the *third* component of these xDSL-based services -- a separate packet-switched network that transports the data stream to the Internet").

remote terminal, the DSLAM acts *exclusively* in support of the *transmission* function of establishing a transmission path for telecommunications signals between a customer's premises and the incumbent LEC's central office.[171] This is unquestionably a part of the loop functionality.

Importing the Commission's factually incorrect characterization of the DSLAM into the remote terminal context would undermine the Commission's unbundling analysis in the *UNE Remand Order*. If the Commission were to deny competitive LECs access to the DSLAM functionality here, it would preclude them from accessing an inherent functionality of the loop. Most important, because remote collocation (in any form) is either unavailable or cost-prohibitive,[172] competitors would not be able to access all of their telecommunications signals, which in turn would foreclose them from providing packet-based service at all. As a result, competitive LECs would lose all incentive to invest in other advanced services facilities. Critically, any such exclusion would be directly at odds with the Commission's prior determinations that the loop is essential to the provision of any telecommunications service and must be made available to competitors with all of its underlying attributes, regardless of service type and underlying technology.[173] It would undermine the Commission's decision not to unbundle the packet-switching element.

Finally, it should also be noted that the Commission's prior analysis of the DSLAM weighed heavily the nascent stage of advanced telecommunications services and the

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[171] AT&T at 61-62; Riolo Decl. ¶¶ 55-56, n.34.

[172] *See supra* Part II C.

[173] *Local Competition Order* ¶¶ 378, 380-381, 385; *UNE Remand Order* ¶¶ 167,182.

commercial availability of DSLAMs,[174] which it believed competitors could (at least theoretically) purchase and place in their central office collocations at the terminus of the loop facility provided by the incumbent LEC. However, as subsequent advanced telecommunications services developments have made plain, network element capabilities are becoming ever smaller and thus deployable in more distant, dispersed and inaccessible locations. The simple facts here are that, in order to be able to provide advanced services, competitive LECs need access to all the functionality of next-generation loops just as much as they need access to traditional copper loops to provide traditional voice services.[175]

In this case, as usual, the providers controlling the vital competitive inputs are the incumbent LECs, who are leveraging their long-standing control over the traditional copper infrastructure and are now in a position to control the next-generation loop plant. In such circumstances, it is clear that the unbundled access to the full capability of the loop, including DSLAM functionality and all other transmission-related electronics attached to the loop, is essential if there is to be any hope of widespread competition for packet-based services.

III. AT A MINIMUM, THE COMMISSION SHOULD ESTABLISH A "NG LOOP" UNE.

As an alternative analytical approach, the Commission can reach this same pro-competitive result by applying its unbundling standards to establish a next-generation loop UNE

[174] *UNE Remand Order* ¶¶ 306-308.

[175] Moreover, given the significantly different transmission capabilities of the two types of loop plant, solutions that may work for one type of plant do not necessarily work for the other. Thus, although the provision of spare copper loops may be an acceptable substitute for loops provisioned over integrated digital loop carrier for voice-only services, spare copper is *not* an adequate (or equivalent) substitute for NGDLC loops (*see surpa* Part II C).

– the "NG Loop."[176] This NG Loop would include the copper subloop from the customer premises to the remote terminal, all of the capabilities inherent in electronics deployed in the remote terminal (including the splitting, multiplexing and opto-electronic conversion functionalities), the fiber pathway to the central office, and the demultiplexing functionalities at the central office.

There is no question that the facts presented by AT&T and the other commenters in this proceeding demonstrate that competitors will be impaired without access to the NG Loop. As discussed above, the NG Loop is the only means by which competitors can access end users served by the new architecture, as neither spare copper nor collocation provides a viable mass-market alternative. Contrary to the claims of incumbent LECs, the critical need for the loop, and resulting impairment without it, is not changed by the presence of competing providers of advanced services. As the Commission has made clear, the ability of one or more competitors to serve customers in a particular market "is not dispositive of whether competitive LECs without unbundled access to the incumbent LEC's facilities are able to compete" or whether a competitive LEC would be impaired.[177] As long as the incumbent LECs control this critical input to the provision of advanced services, the "nascent" stage of the market does not affect the incumbents' bottleneck control over the local network, or the fact that such control, if unchecked through the imposition of the statutory unbundling requirement, assures them a dominant

[176] The Commission has already clearly indicated that, as technology changes, it will revisit the list of elements that incumbent LECs must make available to ensure that the unbundling rules were consistent with technological development. *UNE Remand Order* ¶ 149.

[177] *UNE Remand Order* ¶¶ 53-54.

position in the advanced services market, as the recent rapid growth in the incumbents' DSL subscribership demonstrates.[178]

The only possible unresolved issue in evaluating the NG Loop is whether competitors access to a UNE Loop should include all of the attached electronics and capabilities that incumbent LECs have now housed inside the remote terminal. The answer is clear. As shown in Part II A, these electronics are inherently critical to the transmission function of the loop. Further, the ability of competitors to purchase such equipment in the commercial market does not negate the need for unbundled access. Looking, as the Commission requires, at the totality of the circumstances relating to the use of such elements and whether competitors can "realistically be expected to actually provide [a] service" by deploying such elements themselves, it is certain that, even with the commercial availability of electronics, competitors cannot be realistically expected to offer services in that manner.[179] As shown in Part II C, competitors are effectively unable to deploy that equipment remotely and it is prohibitively costly for competitive LECs to do so. Even attempting such a feat would require sacrificing ubiquity and timely service deployment. Finally, the purported alternative to remote terminal collocation – spare copper – relegates competitors to offering inferior services.[180] Thus, if anything, competitive LECs are more "impaired" by the lack of access to NG Loops than by lack of access to ordinary loops for voice services.

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[178] AT&T at 58-59.

[179] *UNE Remand Order* ¶ 62.

[180] In requiring incumbent LECs to unbundle the NG Loop, the Commission must also be certain to delineate the full extent of competitors' rights to access all of the functionalities of the equipment and facilities in such loops, because incumbent LECs will inevitably attempt to narrow the scope of competitors' rights in future proceedings.

IV. COMMENTERS RAISE OTHER NG LOOP ARCHITECTURE ISSUES THAT SHOULD BE RESOLVED IN THIS PROCEEDING.

The Commission has previously stated that its goal is to maximize competitors' options and opportunities, particularly with respect to the loop plant.[181] In keeping with this goal, the Commission should ensure competitors' continued ability to access spare copper and remote terminal collocation in the limited circumstances where it is practically and economically reasonable to do so. Specifically, the Commission should require incumbents: to retain unused copper for a reasonable period of time; to provide advance notice of plans to retire or replace copper; to identify the availability of spare copper; and to consider the availability of spare copper when competitors request a UNE loop. In addition, the Commission should modify its existing collocation rules to require neutral space usage and reservation practices, encourage industry-wide resolution of OSS concerns, ensure that collocation rates are consistent with the Commission's pricing policies, and ensure that collocation disputes can be resolved promptly. Finally, the Commission must ensure that incumbent LECs engage in nondiscriminatory network planning for future network changes, and that such changes accommodate the competitors' unique needs in a nondiscriminatory manner.

1. Spare Copper. Despite the limitations of spare copper, as incumbent LECs migrate their customers to NGDLC loops, spare copper will be an important interim option for some competitive LECs in certain circumstances, particularly those that seek to provide non-

[181] *UNE Remand Order* ¶ 200 ("[w]e conclude that access to the full capabilities of incumbent LECs' loop plant nationwide will further the goals of the Act. . . . We are convinced that greater, not fewer, options for procuring loops will facilitate entry by competitors, and that Congress intended for competitors to have these options available").

ADSL based services.[182] Some incumbent LECs erroneously maintain that they have no legal obligation to retain and maintain spare copper for use by competitive LECs as they deploy next-generation architecture.[183] However, existing federal law provides that competitive LECs are entitled to use spare copper where technically feasible,[184] and that use should be for a commercially reliable period of time, consistent with incumbent LECs' obligations to provide nondiscriminatory access to their loop plant.[185] As the Commission has recognized, incumbent LECs have a natural incentive to ignore competitive LECs' need to access spare copper as the incumbents upgrade their networks.[186] Accordingly, the Commission's rules should ensure that

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[182] *See, e.g.*, Conectiv at 42-46; Joint Commenters at 94; NorthPoint at 24-27; RCN at 24-25; Sprint at 38-39.

[183] SBC at 73-74; BellSouth 5th NPRM Comments at 24; Qwest at 39-40.

[184] Under the *UNE Remand Order*, competitors are entitled to access subloops on a nationwide basis in all instances where such access is technically feasible. *UNE Remand Order* ¶ 205. Moreover, the obligation to provide spare copper loops on an unbundled basis applies with full force to loops provided through DLC arrangements. *Local Competition Order* ¶ 383; *UNE Remand Order* ¶ 218.

[185] The *UNE Remand Order* unquestionably found that spare copper qualifies as the incumbent LEC's loop plant and is accordingly subject to the loop unbundling obligations of the Act. *UNE Remand Order* ¶ 174. In that *Order*, the Commission reiterated that incumbent LECs have an obligation to provide competitors with access to local loops nationwide. *Id.* ¶ 165. In delineating the scope of this access right, the Commission held that the definition of loop plant includes dark or unactivated fiber, just as the definition of the loop plant includes unused or vacant loop capacity. *Id.* ¶174. Indeed, the Commission analogized dark fiber to spare copper, which the Commission and at least one other incumbent already considered to be loop plant. "Because it is in place and easily called into service, we find that dark fiber is analogous to 'dead count' or 'vacant' copper wire that carriers keep dormant but ready for service. Thus, we disagree with GTE's argument that unlike vacant copper, dark fiber does not qualify as loop plant." *Id.* Finally, the Commission concluded "dark fiber and *extra copper* both fall within the loop network element's 'facilities, functions, and capabilities.'" *Id.* (emphasis added).

[186] "After moving its customers onto new fiber-served NGDLC systems, however, SBC incumbent LECs will not have as great an incentive to work with competitors to preserve their access to existing copper transmission facilities between the central office and remote terminal." *Ameritech Corp., Transferor and SBC Communications, Inc., Transferee For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(s) of the Communications Act and Parts 5,22,24,25,63,90,95, and 101 of the*

incumbent LECs cannot use their control over their loop plant to deny competitors the ability to transition their customers to other facilities seamlessly.

In particular, AT&T agrees with the commenters that incumbent LEC must retain and maintain existing copper for a specified period of time in order to ensure that competitive LECs' existing investment is not stranded.[187] The Commission should also:

- ensure transparency, impartiality, and fairness in the copper retirement process by requiring incumbent LECs to provide full and timely disclosure of plans to replace or retire spare copper;[188] and
- require incumbent LECs to identify whether and where they have spare copper facilities available and to consider the availability of these facilities when a competitive LEC requests a local loop UNE.[189]

Commission's Rules, CC Docket No. 98-141, ASD File No. 99-49, *Second Memorandum Opinion and Order*, FCC 00-336, ¶ 38 (rel. Sept. 8, 2000) ("*SBC Waiver Order*").

[187] *See* NorthPoint at 26 (proposing that incumbent LECs retain and maintain existing copper for five years after it commences service from a remote terminal, subject to a waiver procedures initiated by the incumbent LECs); BellSouth claims that any requirement to retain spare copper will delay deployment of its fiber infrastructure. BellSouth 5th NPRM Comments at 23-26. However, SBC's voluntary copper retirement commitments in the *SBC Waiver Order* appear to undermine the veracity of BellSouth's statements. In any event, the Commission can certainly craft waiver procedures -- such as those proposed by NorthPoint -- to ensure that incumbent LECs do not have to unnecessarily retain and maintain existing spare copper.

[188] NorthPoint's copper retirement proposal (at 26-27) appears to incorporate these characteristics in a fair and balanced manner. Despite some ILECs' statements to the contrary, both the Act and the Commission's rules clearly contemplate such an orderly retirement process. Section 251(c)(5) requires ILECs to "provide reasonable public notice of changes in the information necessary for the transmission and routing of services using that local exchange carrier's facilities and networks, as well as of any other changes that would affect the interoperability of those facilities or networks." 47 U.S.C. § 251(c)(5). The Commission has also determined that the network disclosure requirement must be a "broad standard" that includes changes to network configurations. *Implementation of Local Competition Order*, *Second Report and Order and Memorandum Opinion and Order*, CC Docket No. 96-98 (Aug. 8, 1996) ¶ 182. An incumbent LEC's decision to migrate customers from copper facilities to NGDLC facilities, and to subsequently retire or remove those copper facilities from service, should obviously trigger the same advance notice requirements.

2. Physical Collocation at Remote Terminal. The Commission has determined that competitors have a right to collocate "at any technically feasible point, from the largest central office to the most compact FDI [feeder distribution interface]"[190] and, in particular, to collocate DSLAM functionality at the incumbent LEC's premises (*i.e.*, in or adjacent to the central office or remote terminal) where the customer's unbundled loop or subloop terminates.[191] As a practical matter, in order to effect these collocation rights, the Commission should modify its existing collocation rules. In particular, AT&T agrees with commenters that have requested the Commission to:

- Encourage the deployment of remote terminal equipment that accommodates multiple competitive providers on the incumbent LECs' architecture to the maximum extent possible;[192]
- Require incumbent LECs to allow competitive LECs to place their equipment within the same racks or bays used by the incumbent LECs or their affiliates in remote terminals;[193]
- Support industry-wide development of workable OSS solutions for securely accessing, monitoring and reconfiguring shared equipment deployed in remote terminals;[194]

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[189] The Commission's loop qualification rules require incumbent LECs to provide access to *any* information about the loop that is available to the incumbent in its engineering records, plant records, and other back office systems. *UNE Remand Order* ¶ 428. Moreover, an "incumbent LEC must provide the requesting carrier with nondiscriminatory access to the same detailed information about the loop that is available to the incumbent, so that the requesting carrier can make an independent judgement about whether the loop is capable of supporting the advanced services equipment the requesting carrier intends to install." *UNE Remand Order* ¶ 427.

[190] *UNE Remand Order* ¶ 221; 47 C.F.R. §§ 51.321-323. The FCC notes that it is amending its collocation rules to make clear its intent to require collocation in either controlled environment huts or vaults, as well as other remote terminals. *FNPRM* ¶ 104 n.226.

[191] *UNE Remand Order* ¶ 313.

[192] Rhythms at 55-56.

[193] Sprint at 18.

[194] Sprint at 37-38.

- Require that the incumbent LECs submit space plans upon request and establish procedures and criteria for determining space exhaustion in remote terminals;[195]

- Require competitively neutral space reservation practices;[196]

- Ensure that incumbent LECs work with competitive LECs as closely as they do with data affiliates,[197] because competitive LECs should not be put in a position where, due to decisions by the incumbent LECs, they are always faced with catching up to the technology and service deployment of the incumbent LECs' data affiliates;[198]

- Make collocation available at rates consistent with the pricing for interconnection and unbundled network elements;[199] and

- Require that the Commission's accelerated complaint process be available for resolving remote collocation disputes.[200]

3. Network Planning. The 1996 Act clearly mandates parity between competitive and incumbent LECs.[201] As the Commission well knows, openness and process visibility are significant tools in protecting against discriminatory tactics. In support of these principles, the Act requires openness in the network upgrade process and specifically directs the incumbent LECs to keep other industry participants abreast of their plans to make any changes.[202] Implicit in this requirement is the expectation that, once those changes occur, market

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[195] Corecomm at 39-40; *see* Sprint at 18-19.

[196] Corecomm at 61; Network Access Solutions at 22-24; NorthPoint at 23-24; Rhythms at 34-35, 60; Sprint at 33.

[197] *See, e.g.*, *SBC Waiver Order* ¶ 36.

[198] Rhythms at 71-72.

[199] GSA at 12.

[200] NorthPoint at 28-29.

[201] The parity mandate stems from section 251, which – as interpreted by the Commission – requires incumbent LECs to provide access to competitors in a manner no less efficient than an incumbent LEC provides to itself. *See Local Competition Order* ¶ 208. Moreover, the Commission has repeatedly indicated that the type of services that carriers are able to provide vis-à-vis incumbent LECs' services is not the measure of parity. *See Local Competition Order* ¶ 184; *Advanced Services Order* ¶¶ 46-47.

[202] 47 U.S.C. § 251(c)(5).

participants will continue to have the ability to interact with the incumbent's network in a nondiscriminatory manner. This cannot occur unless: (1) competitive LECs have the opportunity to modify their own networks to accommodate such changes; and (2) the incumbent LECs' network changes are made in a manner that is minimally disruptive to their competitors' services.

The manner in which the incumbent LECs have undertaken the deployment of the next-generation network -- and the subsequent months of regulatory wrangling -- provide a clear example of the pitfalls that result when the incumbent LECs' network planning does not account reasonably for, and fails to meet the needs of, competitive LECs. Precluding competitive LECs from participating in such changes is inefficient, sets back competition, and is simply discriminatory.

The Commission should thus act now to ensure that future network changes are not implemented in such a discriminatory manner.[203] Specifically, the Commission should ensure that competitors' network needs are addressed in the network planning stage on par with those of the incumbent LECs and their affiliates. This means that network plans should not presuppose to limit competitors exclusively to functionalities that have been requested by, and made available to, the incumbent LEC affiliates (or specifically designed to be uniquely

[203] The Commission has already recognized that the nondiscrimination requirement obligates SBC to consider competitors' needs as it develops new network standards and services. *SBC Waiver Order* ¶ 43. Toward that end, the Commission also indicated that collaborative sessions would provide a forum for considering competitors' unique needs. *Id.* However, the existence of a forum for competitors to engage in the network standards and development process, standing alone, is not sufficient to ensure nondiscriminatory behavior in network planning. Forum discussions are not binding and are only as productive as the intentions of the participants. Thus, the Commission must require the incumbent LECs not only to participate in such a collective forum, but also to incorporate competitors' needs into their network plans.

beneficial to the incumbent LEC affiliates). Further, nondiscrimination in network planning also means that competitive LECs are entitled to have their own unique needs met on an equivalent basis.

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November 14, 2000

CERTIFICATE OF SERVICE

I hereby certify that on this 14h day of November, 2000, I caused true and correct copies of the forgoing Reply Comments of AT&T Corp. to be served on all parties by mailing, postage prepaid to their addresses listed on the attached service list.

Dated: November 14, 2000
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Attachment 1

Commenter	Abbreviation
Advanced Telecom Group	ATG
Arbros Communications Co., Association for Local Telecommunications Services, Competitive Telecommunications Association, E.Spire Communications, Inc., FairPointe Communications Solutions, Intermedia Communications, Inc.	Joint Commenters
AT&T Corp.	AT&T
Cisco	Cisco
Competitive Telecommunications Association	CompTel
Conectiv Communications, Inc.	Conectiv
Corecomm, Inc., Vitts Networks and Logix, Inc.	Corecomm
Covad Communications Company	Covad
CTSI, Inc. and Waller Creek Communications, Inc. d/b/a/ Pontio Communications Corporation	CTSI
Fiber Technologies, LLC	Fiber
Focal Communications Corporation	Focal
General Services Administration	GSA
Intraspan Communications, Inc.	Intraspan
Lightbonding.Com, Inc.	Lightbonding
McLeodUSA Telecommunications Services, Inc.	McLeod
Nortel Networks, Inc.	Nortel
Northpoint Communications, Inc.	Northpoint
Qwest Communications International, Inc.	Qwest
RCN Telecom Services	RCN
Rhythms Netconnections, Inc.	Rhythms
SBC Communications, Inc.	SBC
Sprint Corporation	Sprint
Supra Telecommunications & Informationsystems, Inc.	Supra
Tachion Networks, Inc.	Tachion
United States Telecom Association	USTA
Verizon Telephone Companies	Verizon
WorldCom, Inc.	WorldCom