xDSL-based services over that loop. Consistent with the pro-competitive goals of the Act, we tentatively conclude that the incumbent LEC shall bear the burden of demonstrating that it is not technically feasible to provide requesting carriers with xDSL-compatible loops. We seek comment on these tentative conclusions.

168. We note that, to the extent that a competitive LEC cannot obtain nondiscriminatory access to xDSL-compatible loops, competitive LECs can pursue remedies for violations of our requirements before the Commission and the appropriate state commissions.[319] We seek comment on any additional measures we could take to ensure that competitive LECs receive nondiscriminatory access to access to xDSL-compatible loops.[320] We tentatively conclude that if the incumbent chooses to offer xDSL-based services through an advanced services affiliate, whatever loops are provided to the affiliate must also be provided to the other entrants.[321]

169. We ask commenters to address the technical issues that may arise when local loops pass through digital loop carriers or similar remote concentration devices. For example, we ask commenters to address the issues of loop quality, analog-to-digital translation of signals, electronic equipment attached to loops, loop length, and other issues that arise with remote concentration devices. We ask commenters to address the traffic management issues that may arise when local loops pass through digital loop carrier systems or similar remote concentration devices. We ask commenters to identify and evaluate any concerns that they identify with having the traffic on the digital loop carrier systems managed by the incumbent LEC and to identify feasible alternatives.[322] We encourage commenters to identify other technological problems and to propose concrete solutions to those problems. We also ask commenters to address the extent to which next generation digital loop carrier systems and other new technologies will affect the provision of advanced data services over unbundled loops.

170. We ask commenters to propose methods of unbundling loops passing through remote concentration devices that will enable competitive carriers to provide advanced services. We ask commenters to identify and evaluate the benefits and drawbacks of any proposed methods. For example, migrating a DLC-delivered loop to copper plant, although

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[319] *See supra* ¶ 55 (discussing the Commission's expedited complaint process to resolve competitive issues in an accelerated fashion).

[320] *See, e.g.*, CompTel/ALTS July 29 *Ex Parte* at 3; *see also* CIX July 30 *Ex Parte*, Att. at 2 (a competitive Internet industry requires that competitive LECs obtain timely access to conditioned loops and swift and effective enforcement of this requirement).

[321] *See supra* ¶¶ 85-117 (discussing advanced services affiliates); *see also* NorthPoint July 29 *Ex Parte* at 2 (if the incumbent's advanced services affiliate receives digital loops, competitive LECs should be able to obtain unbundled digital loops).

[322] *See, e.g.*, MCI July 30 *Ex Parte* at 21.

generally regarded as the means by which DLC-delivered loops can be made xDSL-compatible,[323] may not always provide an xDSL-compatible loop, because customers served by digital loop carrier may be located far from the central office, and xDSL-based services are distance sensitive. Other methods, such as allowing the competitive LEC to collocate at the remote terminal may pose problems due to space limitations. Other methods may be extraordinarily costly or may require additional research or development before they can be deployed. We ask commenters to evaluate the technical feasibility, legal consequences, and policy ramifications of any proposed unbundling methods. We also ask commenters to consider how any loop requirements we may adopt will affect investment in, and deployment, of advanced services.[324]

171. We tentatively conclude that the competitive LEC may request any "technically feasible" method of unbundling the DLC-delivered loop, and the incumbent LEC is obligated to provide the particular method requested. We base this tentative conclusion on the premise that each competitive LEC may have its own business strategy and unique reasons for obtaining loop access in a particular manner or at a specific interconnection point.[325] We tentatively conclude that, in the event that the incumbent LEC demonstrates that the unbundling method requested by the competitive LEC is not technically feasible, the competitive LEC may request other unbundling methods. In the event that the incumbent LEC demonstrates that none of the requested methods are technically feasible, the incumbent LEC may offer another unbundling method, provided that the method would provide the competitive LEC with a loop of equal quality and functionality as the incumbent's loop.[326] We seek comment on these tentative conclusions.

172. We further tentatively conclude that competitive LECs should not be comparatively disadvantaged by incumbent LECs regarding provisioning of DLC-delivered loops. For example, if the technically feasible solution to provide xDSL-based service to a

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[323] *See, e.g.*, BellSouth *Ex Parte*, CC Docket Nos. 97-208, 97-231, 97-121, 97-131 (filed April 1, 1998).

[324] ESI July 30 *Ex Parte* at 5-6.

[325] There currently appear to be three general types of competitive LECs that may request unbundled DLC-delivered loops. Each type of requesting carrier may want or need the DLC loop to be unbundled in a different way. First, certain competitive LECs may want to enter the market through a combination of unbundled network elements, such as the DLC-delivered loop and the unbundled switch (including all features, functions, and capabilities). Second, other competitive LECs that have their own switch may want only the functionality of a loop between the customer and the incumbent LEC's central office switch. Such competitive LECs may want to provide high-speed data access via xDSL technologies and may prefer a copper pair from the central office to the customer, provided a properly qualified, and sufficiently short, copper pair is available. Third, other competitive LECs, seeking to provide high-speed data access via xDSL technologies, may want to access the unbundled loop at the remote terminal. Access to the remote terminal implicates the sub-loop unbundling issues considered *infra* at ¶¶ 173-176.

[326] *See* 47 C.F.R. §§ 51.307, 51.311, 51.313.

customer presently served by a DLC-delivered loop is bypass by additional copper infrastructure, an incumbent LEC (or its advanced services affiliate) should not be able to avail itself of that option while denying or delaying that option to a competitive LEC. Similarly, if the incumbent LEC (or its advanced services affiliate) provides xDSL-based services through the use of a DSLAM at the remote terminal, the competitive LEC must be able to avail itself of that option, either through the use of the incumbent LEC's DSLAM or its own DSLAM collocated at the remote terminal.[327] Accordingly, we tentatively conclude that incumbent LECs must make available, in a nondiscriminatory manner, to competitive LECs the same methods that the incumbent (or its advanced services affiliate) uses itself to provide advanced telecommunications capability such as xDSL-based services. We further tentatively conclude that deployment intervals for provisioning xDSL-compatible loops should be the same for incumbent LECs and competitive LECs, regardless of whether the loop passes through a remote concentration device.[328] We seek comment on these tentative conclusions. We also ask commenters to address whether we should require incumbent LECs to provision xDSL-compatible loops within a specified interval and, if so, what that interval should be.[329] Again, we tentatively conclude that whatever accommodations are provided to the incumbent's advanced services affiliate must be equally provided to new entrants.[330]

173. Sub-Loop Unbundling and Collocation at the Remote Terminal. We seek comment on whether we need to extend the concept of loop unbundling to sub-loop elements in order to further the pro-competitive goals of the 1996 Act and facilitate deployment of advanced services.[331] We ask commenters to address whether it is technically feasible to require incumbent LECs to unbundle sub-loop elements and provide competitive LECs access to the remote terminal so that competitive LECs can provide advanced services.

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[327] For a discussion of competitive LEC access to remote terminals, *see infra* ¶¶ 173-176.

[328] *See* NorthPoint July 7 *Ex Parte* at 7.

[329] *See id.*

[330] *See supra* ¶¶ 85-117 (discussing advanced services affiliates); *see also* NorthPoint July 29 *Ex Parte* at 2 (if the incumbent's advanced services affiliate is permitted to place its DSLAM in remote terminals, competitive LECs should be permitted to do so as well).

[331] *See* ALTS Petition at 41-44; MCI July 30 *Ex Parte* at 23 (incumbent LECs must provide access to all network elements encompassing distribution plant, remote terminals, and feeder plant; incumbent LECs must provide collocation options in remote terminals); CIX July 30 *Ex Parte*, Att. at 2 (a competitive Internet industry requires interconnection at points of aggregation, including remote terminal units of digital loop carrier systems); NAS Comments (CC Docket No. 98-78) at 3-4 (Commission should require incumbent LECs to permit a competitor's xDSL line cards in the incumbent LEC's remote terminals as part of the existing requirement for incumbent LECs to permit carrier collocation at any technically feasible point. This would allow customers served by loops provisioned through remote terminals to have a choice of any carrier, and would also expand consumer choice, if the competitor's xDSL line card has a potentially wider array of xDSL offerings than the incumbent LEC's); WorldCom Comments (CC Docket No. 98-78) at 16 (competitive LEC must have choice of either putting its own electronics in the remote terminal or utilizing incumbent's electronics).

174. We tentatively conclude that incumbent LECs must provide sub-loop unbundling and permit competitive LECs to collocate at remote terminals, unless the incumbent LEC can demonstrate one of the following with respect to the particular remote terminal requested by the competitive LEC: (1) sub-loop unbundling is not "technically feasible;" or (2) there is insufficient space at the remote terminal to accommodate the requesting carrier. We make this tentative conclusion because the use of sub-loop elements and access to the remote terminal may be the only means by which competitive LECs can provide xDSL-based services for those end-users whose connection to the central office is currently provided via digital loop carrier systems. If an incumbent deploys digital loop carriers extensively and refuses to allow competitive LECs access at the remote terminal, the incumbent can effectively deny market entry by such competitive LECs and discourage the deployment of advanced telecommunications capability. We further tentatively conclude that it would be an unreasonable practice for an incumbent LEC to deny competitive LECs collocation at the remote terminal on either of these grounds, while allowing its own affiliate to collocate at the remote terminal. We seek comment on these tentative conclusions. In particular, we seek comment on whether such sub-loop unbundling and remote terminal access are, in fact, necessary in order for competitive LECs to provide high bandwidth services, such as xDSL-based services. We ask commenters to consider whether new technologies, such as next generation digital loop carrier systems, might reduce or eliminate the need for competitive LEC access to sub-loop elements. As an alternative to requiring sub-loop unbundling, or if sub-loop unbundling proves to be technically infeasible or there is insufficient space at the remote terminal, we seek comment on whether the incumbent LEC should be obligated to provide an alternative unbundling method at no greater cost to the competitive LEC. Should the incumbent LEC be obligated to demonstrate that such unbundling method will provide the competitive LEC with a loop of the same quality and functionality as the loop that the competitive LEC would have obtained through access to the sub-loop element(s)?

175. We also ask commenters to address the use to which competitive LECs would put sub-loop elements and what specific sub-loop elements, if any, should be unbundled. We also ask commenters to address the technical issues involved with loops that pass through remote concentration devices, including the ability of competitive providers of advanced services to access the necessary elements of the incumbent LEC networks. Commenters should address the extent to which the incumbent LEC's control over the remote terminal and electronics therein might limit the ability of end users to access a full range of competitive services.[332] We seek comment on the technical issues of customer premises equipment and central office or remote terminal equipment compatibility, and we ask commenters that perceive problems to propose solutions that would ensure that end users have the widest

[332] For example, the xDSL customer premises equipment must have an electronic match at the carrier's remote terminal or other xDSL termination point. An incumbent LEC's installation of a particular manufacturer's DSLAM at a remote terminal might limit the ability of customers using the xDSL customer premises equipment of another manufacturer to utilize the remote terminal DSLAM.

possible access to competitive services. We also ask commenters to address what should be done if more competitive LECs request access to a remote terminal than the remote terminal can accommodate. What would be a fair means of allocating limited space? Should there be a lottery system? Should the space be auctioned? Should the space be made available on a "first come, first served" basis? If we conclude that "first come, first served" is the most appropriate method, how can we ensure that incumbent LECs do not fill up all the available space before competitive LECs have the opportunity to collocate their equipment? We tentatively conclude that an incumbent LEC may not take all the available space in a remote terminal, and then transfer ownership of that equipment in the remote terminal to an advanced services affiliate. We seek comment on this tentative conclusion.

176. We seek comment from those with evidence demonstrating or challenging the proposition that sub-loop unbundling and competitive LEC access to remote terminals may impair network reliability or pose significant technical problems. We seek comment on whether accountability for the network would be lost or compromised if competitive LECs are allowed access to the incumbent LEC's remote terminals or other plant in the field. We seek comment on whether there is a need for operational, administrative, and maintenance procedures for allowing access to the incumbent LEC's plant in the field in order to ensure network quality and reliability. We seek comment on how best to allow such access and ask commenters to propose operational, administrative and maintenance procedures to ensure network quality and reliability in the event that we permit competitive LECs access to incumbent LEC plant in the field. We also seek comment on ways to minimize the cost of providing such access.

i. Effects of Additional Requirements for Local Loops

177. We seek comment on whether (and if so, to what extent) any of our tentative conclusions or proposals might affect existing negotiated or arbitrated interconnection agreements, existing state requirements, or pending state proceedings.[333]

D. Unbundling Obligations Under Section 251(c)(3)

1. Background

178. In the Order, we grant the ALTS petition to the extent that ALTS requests a declaratory ruling that (1) advanced services are telecommunications services, and that the facilities and equipment used to provide advanced services are network elements subject to

[333] *See* ALTS Petition at 38; CIX (CC Docket No. 98-78) at 10-11; e.spire Comments (CC Docket No. 98-78) at 10; Intermedia Comments (CC Docket No. 98-78) at 7; TRA Comments (CC Docket No. 98-78) at 9.

the obligations in section 251(c),[334] and (2) incumbent LECs are required to unbundle loops capable of transporting high speed digital signals.[335]

179. Sections 251(c)(3) and 251(d)(2) of the Act set forth the standards that the Commission must consider in identifying unbundled network elements that incumbent LECs must make available to competitors. Section 251(c)(3) requires incumbent LECs to provide requesting carriers with "nondiscriminatory access to network elements on an unbundled basis at any technically feasible point . . . ."[336] The Commission noted in the *Local Competition Order*, however, that section 251(d)(2) gave it authority "to refrain from requiring incumbent LECs to provide all network elements for which it is technically feasible to provide access."[337] The Commission further concluded that, to identify unbundled elements, the Commission "shall 'consider, at a minimum,' whether access to proprietary elements is necessary (the 'proprietary standard'), and whether requesting carriers' ability to provide services would be impaired if the desired elements were not provided by an incumbent LEC (the 'impairment standard.')."[338] Although section 251(d)(2) provides that the "proprietary standard" and the "impairment standard" serve as "minimum" criteria that the Commission must weigh, the Commission declined, at the time, to adopt any additional criteria under section 251(d)(2) that might affect incumbent LEC unbundling requirements.[339]

2. Discussion

180. We now seek comment on the specific unbundling requirements we should impose on network elements used by incumbent LECs in the provision of advanced services. Parties should address the specific network elements that incumbent LECs should be required to unbundle pursuant to section 251(c)(3). In particular, parties should address the applicability of section 251(d)(2), namely: (1) the extent to which particular network elements are "proprietary" as that term is used in section 251(d)(2)(a), and (2) the extent to which a carrier would be "impair[ed]," as that term is used in section 251(d)(2)(b), in its ability to offer advanced services without unbundled access to a particular network element.

181. We also seek comment on whether there are any additional criteria under section 251(d)(2) that the Commission should consider when identifying those network

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[334] *See supra* ¶ 29.

[335] *See supra* ¶ 27.

[336] 47 U.S.C. § 251(c)(3); *see Local Competition Order*, 11 FCC Rcd at 15640, ¶ 278.

[337] *Local Competition Order*, 11 FCC Rcd at 15641, ¶ 279.

[338] 47 U.S.C. § 251(d)(2) (emphasis added).

[339] *Local Competition Order*, 11 FCC Rcd at 15644, ¶ 288.

elements used to provide advanced services that must be made available pursuant to section 251(c)(3). Parties suggesting additional criteria should address the extent to which consideration of those criteria could lead the Commission to remove certain facilities used to provide advanced services from the unbundling obligations of section 251(c)(3). Parties should also address the extent to which consideration of each criterion will promote the deployment of advanced services.

182. In addition, we seek comment on the attributes of particular network elements that may make unbundling of those elements technically infeasible. For example, we note that it may not be technically feasible to offer unbundled access to individual packet switches. If the functionality offered by a single packet switch in the incumbent's network is not available to a competitor using packet switches of a different manufacturer, we seek comment on whether the unbundling of that packet switch would be "technically infeasible." In addition, we ask commenters how an incumbent LEC's claim of technical infeasibility should be verified, such as whether the lack of a standard network interface, for example, should support such a claim.

183. We also seek comment on NTIA's proposal that we find section 251(c) to be fully implemented on a service-by-service basis.[340] For example, NTIA suggests that the Commission should determine that section 251(c) is fully implemented with respect to xDSL services only after incumbent LECs "give competitors access to . . . loop facilities capable of supporting DSL services and collocation space on [incumbent] LEC premises."[341] Parties commenting on this proposal should address whether it provides an appropriate framework for ensuring compliance with section 251(c) by incumbent LECs.

184. In addition, given our objective in this proceeding to encourage deployment of wireline advanced services by all telecommunications carriers, including incumbent LECs, we seek comment in this section on any other specific measures that the Commission should take to provide regulatory relief from the obligations of section 251(c) for incumbent LECs that choose to offer advanced services on an integrated basis. Parties should address the extent to which any measures they propose will give incumbent LECs greater incentive to offer advanced services, promote competition in the advanced services market, and encourage widespread deployment of such services. Parties should also address whether such relief would justify the loss of significant pro-competitive benefits that we expect would accompany a separate affiliate approach.

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[340] NTIA July 17 *Ex Parte* at 8, n.23.

[341] *Id.* at 8.

E. Resale Obligations Under Section 251(c)(4)

a. Background

185. Section 251(c)(4) imposes on incumbent LECs the obligation to offer for resale "any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers."[342] In the *Local Competition Order*, the Commission explained that "an incumbent LEC must establish a wholesale rate for each retail service that: (1) meets the statutory definition of a 'telecommunications service'; and (2) is provided at retail to subscribers who are not 'telecommunications carriers.'"[343] The Commission emphasized that the resale obligation extends to *all* such telecommunications services.[344]

186. The Commission went on to state, though, that "exchange access services are not subject to the resale requirements of section 251(c)(4)."[345] Although "end users do occasionally purchase some access services" such as special access, it reasoned, the "vast majority" of purchases of interstate access service are telecommunications carriers.[346] The Commission drew a distinction between telecommunications services "targeted to end-user subscribers," which Congress "clearly intended" to be subject to the resale requirement, and those "predominantly offered to, and taken by " interexchange carriers which are not subject to the resale requirement.[347] The Commission concluded that exchange access services, as a class, fell in the latter category, and thus, the Commission concluded, outside the bounds of section 251(c)(4).[348]

b. Discussion

187. In the Order, we conclude that an incumbent LEC has the obligation to offer for resale the advanced services that it generally offers to subscribers who are not

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[342] 47 U.S.C. § 251(c)(4).

[343] *Local Competition Order*, 11 FCC Rcd at 15934, ¶ 871.

[344] *Id.* at 15930, 15931, 15934, ¶¶ 863, 865-66, 871; *see, e.g.*, AT&T Reply Comments (CC Docket Nos. 98-11, 98-26, 98-32) at 11.

[345] *Local Competition Order*, 11 FCC Rcd at 15934, ¶ 873.

[346] *Id.*

[347] *Id.* at 15935, ¶ 874.

[348] *Id.*

telecommunications carriers.[349] We further conclude above that, to the extent advanced services are telephone exchange services, incumbent LECs must offer such services for resale.

188. We now seek comment on the applicability of section 251(c)(4) to advanced services to the extent that such services are exchange access services. We tentatively conclude that such advanced services are fundamentally different from the exchange access services that the Commission referenced in the *Local Competition Order* and concluded were not subject to section 251(c)(4). We expect that advanced services will be offered predominantly to ordinary residential or business users or to Internet service providers. None of these purchasers are telecommunications carriers.[350]

189. By its terms, section 251(c)(4) applies to "any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers." Advanced services generally offered by incumbent LECs to subscribers who are not telecommunications carriers meet this statutory test.[351] We thus tentatively conclude that these services fall within the core category of retail services that both Congress and the Commission deemed subject to the resale obligation, and the reasoning that led the Commission in the *Local Competition Order* to exclude exchange access from the section 251(c)(4) resale obligation does not apply. We tentatively conclude, therefore, that advanced services marketed by incumbent LECs generally to residential or business users or to Internet service providers should be deemed subject to the section 251(c)(4) resale obligation, without regard to their classification as telephone exchange service or exchange access.[352] We seek comment on these tentative conclusions.

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[349] *See supra* ¶ 30.

[350] *See Report to Congress on Universal Service* at ¶¶ 73-82 (Internet service providers are not telecommunications carriers).

[351] As noted above, advanced services are telecommunications services. *See supra* ¶¶ 35-36.

[352] 47 U.S.C. § 251(c)(4). To the extent that specific advanced services are marketed primarily to telecommunications carriers, however, they would remain outside the scope of the resale obligation.

F. Limited InterLATA Relief

1. Background

190. In this section, we seek comment on the scope of section 271(b)(3) of the Act, which permits the BOCs and their affiliates to provide certain "incidental interLATA services."[353] In addition, section 3(25)(B) of the Act permits the BOCs to modify LATA boundaries provided that the Commission approves such modifications.[354] Since the 1996 Act became law, both the Commission and the Common Carrier Bureau (acting on delegated authority) have approved a significant number of LATA boundary modifications.[355] As a general matter, the Commission, within the discretion granted to it under the Act, weighs the need for the proposed modification against the potential harm from anticompetitive BOC activity, and considers whether the proposed modification will have a significant effect on the BOC's incentive to open its local market pursuant to section 271.[356] In the Order above, we deny Ameritech's, Bell Atlantic's, and U S WEST's requests for large-scale changes in LATA boundaries for packet-switched services, because such changes could effectively eviscerate section 271 for those services and circumvent the procompetitive incentives for opening the local market to competition.[357] In this section, we seek comment on the criteria we should use in evaluating requests for more targeted LATA boundary changes. We also seek comment on whether there are any other forms of interLATA relief that we should consider.

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[353] 47 U.S.C. § 271(b)(3).

[354] 47 U.S.C. § 3(25)(B).

[355] *See, e.g., Petitions for Limited Modifications of LATA Boundaries to Provide Expanded Local Calling Service (ELCS) at Various Locations*, CC Docket No. 96-159, Memorandum Opinion and Order, 12 FCC Rcd 10646 (1997) (*ELCS MO&O*) (granting 23 requests for boundary modifications to permit calls within certain extended local calling service areas that straddle LATA boundaries to be treated as intraLATA); *see also Petitions for LATA Association Changes by Independent Telephone Companies*, Memorandum Opinion and Order, CC Docket No. 96-158, 12 FCC Rcd 11769 (1997) (*Association Order*) (granting requests to modify LATA boundaries to switch three independent telephone company exchanges in Texas from one SBC LATA to another); *Guadalupe Valley Telephone Cooperative Request for LATA Relief Between the Waelder Exchange and Corpus Christi LATA*, Memorandum Opinion and Order, 13 FCC Rcd 4560 (Network Services Div., Com. Car. Bur., 1998).

[356] *ELECs MO&O* at 12 FCC Rcd at 10657-57, ¶ 23; *see also Petition for Declaratory Ruling Regarding US West Petitions to Consolidate LATAs in Minnesota and Arizona*, Order, 12 FCC Rcd 4738 (Com. Car. Bur. 1997) (*LATA Modification Order*), *petition for recon. and application for review or stay pending* (determining, in regard to U S WEST requests to create single LATAs within each of Arizona and Minnesota, that the Commission could not have, and did not, delegate its authority over LATA boundary changes to the states).

[357] *See supra* ¶¶ 39-82.

2 Discussion

191. Incidental InterLATA Services. Section 271(b)(3) permits the BOCs and their affiliates to provide "incidental interLATA services," as defined in section 271(g).[358] We seek comment on the scope of this authority as it relates to BOC provision of advanced services. Section 271(g)(2), for example, permits the BOCs to provide "two-way interactive video services or Internet services over dedicated facilities to or for elementary and secondary schools."[359] This authority clearly allows the BOCs to provide certain advanced services to or for elementary and secondary schools. We seek comment on whether the ability to provide the other incidental interLATA services defined in section 271(g) affects the BOCs' ability to deploy advanced services on a reasonable and timely basis.

192. LATA Boundary Modifications for Elementary and Secondary Schools and Classrooms. We seek comment on whether additional relief beyond the incidental interLATA authority set forth in section 271(g)(2) would help ensure that elementary and secondary schools and classrooms have adequate access to advanced services.[360] We tentatively conclude, for example, that it would be reasonable to approve LATA boundary modifications that allow BOCs to provide advanced services to entire elementary or secondary school districts on an intraLATA basis, when the school districts straddle LATA boundaries. We ask commenters to suggest other types of LATA boundary modifications that would encourage deployment of advanced telecommunications capability to elementary and secondary schools and classrooms. Parties should address, with particularity, the criteria that we should use to evaluate these requests. We seek comment, for example, on whether we should adopt the same criteria used in the expanded local calling service proceedings.[361] Parties should also address whether we should take such actions only to the extent that advanced services are provided by BOC advanced services affiliates, rather than by the BOCs.

193. Network Access Points. We seek comment on the criteria that we should use to evaluate LATA boundary modification requests that would allow BOCs to carry packet-switched traffic across current LATA boundaries for the purpose of providing their subscribers with high-speed connections to nearby network access points, which are points of access to the Internet.[362] U S WEST contends that many rural areas do not have high-

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[358] 47 U.S.C. § 271(b)(3).

[359] 47 U.S.C. § 271(g)(2).

[360] We note that section 706(a) directs us "to encourage the deployment . . . of advanced telecommunications capability to . . . elementary and secondary schools and classrooms . . . ." 47 U.S.C. § 157 note.

[361] *See, e.g., ELCS MO&O*, 12 FCC Rcd 10646.

[362] Harry Newton, Newton's Telecom Dictionary at 477 (14th ed. 1998).

capacity network access points.[363] We seek comment on the criteria we should use to determine whether a LATA has high-speed access to the Internet. Commenters should provide empirical data on the number and location of LATAs that do not contain high-speed network access points.

194. We tentatively conclude that some modification of LATA boundaries may be necessary to provide subscribers in rural areas with the same type of access to the Internet that other subscribers throughout the nation enjoy. We also tentatively conclude that modification of those boundaries for the purpose of facilitating high-speed access to the Internet would further Congress' goal of ensuring that advanced services are deployed to all Americans.[364] Furthermore, we tentatively conclude that such boundary modifications would be consistent with the Common Carrier Bureau's decision that, under certain circumstances, a limited LATA boundary modification for integrated services digital network (ISDN) services is appropriate where such a modification is necessary to accommodate a demonstrated need and would have only a small impact on competition.[365] We seek comment on these tentative conclusions. We also seek comment on whether LATA modifications to facilitate high-speed access to the Internet for rural subscribers would be consistent with the requirement under section 10(d) of the Act that the Commission must ensure that the requirements of section 271 are fully implemented before a BOC may offer interLATA services.[366]

195. In addition, we seek comment on the type of documentation that BOCs should submit in order to qualify for such a LATA boundary modification. We note that in a July 23, 1998 petition, Bell Atlantic asks that we modify LATA boundaries for the limited purpose of allowing Bell Atlantic to provide high-speed connections between West Virginia's two LATAs and between West Virginia and the nearest Internet access points located in other states.[367] We ask parties to address whether the information in Bell Atlantic's petition is the appropriate type of documentation that a BOC should submit. We also seek comment on

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[363] U S WEST Petition at 8-24.

[364] 47 U.S.C. § 157 note.

[365] *Southwestern Bell Telephone Company Petition for Limited Modification of LATA Boundaries to Provide ISDN at Hearne, Texas*, Memorandum Opinion and Order, NSD No. NSD-LM-97-26, DA 98-923 (Com. Car. Bur. rel. May 18, 1998) (granting SBC's request for a limited LATA boundary modification for the purpose of providing ISDN services in one LATA through facilities in a different LATA).

[366] *See supra* ¶¶ 80-82; *LATA Modification Order*, 12 FCC Rcd at 4751, ¶ 25 (concluding that section 10(d) limits the manner in which the Commission may exercise its sole and exclusive authority to approve the modification of LATA boundaries).

[367] Emergency Request of Bell Atlantic-West Virginia for Authorization to End West Virginia's Bandwidth Crisis, CC Docket No. 98-11 (filed July 23, 1998). *See Request by Bell Atlantic-West Virginia for Interim Relief Under Section 706, or, in the Alternative, a LATA Boundary Modification - Pleading Cycle Established*, DA-98-1506, Public Notice (rel. July 28, 1998). We do not act upon this petition at this time.

whether the LATA boundary modification should be withdrawn if a high-speed network access point is established in the LATA or whether it should expire at a certain date. We further seek comment on the competitive impact of permitting LATA boundary modifications in this limited context. Parties should address whether the BOCs are the only carriers likely to serve areas that do not currently contain high-speed network access points.[368] Parties should also address whether we should take such action only to the extent that advanced services are provided by BOC advanced services affiliates, rather than by the BOCs.

196. Additional Targeted InterLATA Relief. We seek comment on whether we have authority to take other actions to facilitate deployment of advanced services and, if so, the criteria we should use in evaluating such requests. For example, we seek comment on the criteria we should use in evaluating requests to permit BOCs and/or BOC affiliates to provide corporate intranet and extranet services or to serve institutions such as universities or health care facilities. Parties should address any safeguards that we should adopt to ensure that these services are provided in a pro-competitive manner and that any targeted interLATA relief does not undermine the incentives for opening the local market to competition. Such safeguards may include, but not be limited to, taking such actions only to the extent they are provided by BOC advanced services affiliates, rather than by the BOCs.

VII. PROCEDURAL MATTERS

A. Ex Parte Presentations

197. The matter in Docket No. 98-147, initiated by the NPRM portion of this item, shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[369] Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented is generally required.[370] Other rules pertaining to oral and written presentations are set forth in Section 1.1206(b) as well.

B. Initial Paperwork Reduction Act Analysis

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[368] We note that several parties support the BOCs' Petitions for LATA boundary relief on the ground that the BOCs are in the best position to provide the advanced telecommunications capabilities needed by their communities. *See, e.g.*, Cheyenne Leads Comments (CC Docket No. 98-26) at 1; Laramie Economic Development Corporation Comments (CC Docket No. 98-26) at 1; St. George Area Chamber of Commerce Comments (CC Docket No. 98-26) at 1; Washington County, Utah, Economic Development Council Comments (CC Docket No. 98-26) at 1.

[369] *See Amendment of 47 C.F.R. § 1.1200 et seq. Concerning Ex Parte Presentations in Commission Proceedings*, GC Docket No. 95-21, Report and Order, 12 FCC Rcd 7348, 7356-57, ¶ 27 citing 47 C.F.R. § 1.1204(b)(1) (1997).

[370] *See* 47 C.F.R. § 1.1206(b)(2), as revised.

198. The NPRM contains either a proposed or modified information collection. As part of its continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this Notice, as required by the Paperwork Reduction Act of 1995, Public Law No. 104-13. Public and agency comments are due at the same time as other comments on this Notice; OMB comments are due 60 days from date of publication of this Notice in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

C. Initial Regulatory Flexibility Analysis

199. As required by the Regulatory Flexibility Act, *see* 5 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible impact on small entities of the proposals suggested in this document. The IRFA is set forth as Appendix D. Written public comments are requested with respect to the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the rest of the NPRM, but they must have a separate and distinct heading, designating the comments as responses to the IRFA. The Office of Public Affairs, Reference Operations Division, will send a copy of this NPRM , including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act.

D. Comment Filing Procedures

200. The proceeding, Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, is initiated by the NPRM portion of this item. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on or before September 21, 1998 and reply comments on or before October 13, 1998. All filings should refer only to Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed. Reg. 24,121 (1998). Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rulemaking number, which in this instance is CC Docket No. 98-147. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the

following words in the body of the message, "get form <your e-mail address." A sample form and directions will be sent in reply.

201. Parties who choose to file by paper must file an original and four copies of each filing. All filings must be sent to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 1919 M St. N.W., Room 222, Washington, D.C. 20554.

202. Parties who choose to file by paper should also submit their comments on diskette. These diskettes should be submitted to Janice Myles, Common Carrier Bureau, Policy and Program Planning Division, 1919 M Street, N.W., Room 544, Washington, D.C. 20554. Such a submission should be on a 3.5 inch diskette formatted in an IBM compatible format using WordPerfect 5.1 for Windows or compatible software. The diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labelled with the commenter's name, proceeding (including the docket number, in this case, CC Docket No. 98-147), type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy - Not an Original." Each diskette should contain only one party's pleadings, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission's copy contractor, International Transcription Service, Inc., 1231 20th Street, N.W., Washington, D.C. 20037.

203. Regardless of whether parties choose to file electronically or by paper, parties should also file one copy of any documents filed in this docket with the Commission's copy contractor, International Transcription Services, Inc., 1231 20th Street, N.W., Washington, D.C., 20036. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center, 1919 M Street, N.W., Room 239, Washington, D.C., 20554.

204. Comments and reply comments must include a short and concise summary of the substantive arguments raised in the pleading. Comments and reply comments must also comply with section 1.49 and all other applicable sections of the Commission's rules.[371] We also direct all interested parties to include the name of the filing party and the date of the filing on each page of their comments and reply comments. All parties are encouraged to utilize a table of contents, regardless of the length of their submission. We also strongly encourage that parties track the organization set forth in this NPRM in order to facilitate our internal review process.

205. Written comments by the public on the proposed and/or modified information collections are due on or before September 21, 1998 and reply comments on or before October 13, 1998. Written comments must be submitted by the OMB on the proposed and/or

[371] *See* 47 C.F.R. § 1.49.

modified information collections on or before 60 days after date of publication in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Judy Boley, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, DC 20554, or via the Internet to jboley@fcc.gov and to Timothy Fain, OMB Desk Officer, 10236 NEOB, 725 - 17th Street, N.W., Washington, DC 20503 or via the Internet to fain_t@al.eop.gov.

E. Further Information

206. For further information regarding this proceeding, contact Linda Kinney, Assistant Division Chief, Policy and Program Planning Division, Common Carrier Bureau, at 202-418-1580 or lkinney@fcc.gov or Jordan Goldstein, Attorney, Policy and Program Planning Division, Common Carrier Bureau, at 202-418-1580 or jgoldste@fcc.gov. Further information may also be obtained by calling the Common Carrier Bureau's TTY number: 202-418-0484.

VIII. ORDERING CLAUSES

207. Accordingly, IT IS ORDERED that, pursuant to sections 1-4, 10, 201, 202, 251-254, 271, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 160, 201, 202, 251-254, 271, and 303(r), the ORDER is hereby ADOPTED. The requirements adopted in this Order shall be effective 30 days after publication of a summary thereof in the Federal Register.

208. IT IS FURTHER ORDERED that, pursuant to sections 1-4, 10, 201, 202, 251-254, 271, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 160, 201, 202, 251-254, 271, and 303(r), the NOTICE OF PROPOSED RULEMAKING is hereby ADOPTED.

209. IT IS FURTHER ORDERED that the Commission's Office of Public Affairs, Reference Operations Division, SHALL SEND a copy of this NOTICE OF PROPOSED RULEMAKING, including the Initial Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act, *see* 5 U.S.C. § 605(b).

210. IT IS FURTHER ORDERED that, pursuant to sections 1-4, 10, 201, 202, 251-254, 271, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 160, 201, 202, 251-254, 271, 272, and 303(r), the Petitions filed by ALTS, Ameritech, SBC, U S WEST, and Bell Atlantic are GRANTED to the extent described herein and otherwise DENIED.

211. IT IS FURTHER ORDERED that, pursuant to sections 1-4, 10, 201, 202, 251-254, 271, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154,

160, 201, 202, 251-254, 271, and 303(r), the Petition filed by the Alliance for Public Technology IS GRANTED to the extent described herein.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

APPENDIX A

CC Docket Nos. 98-11, 98-26, 98-32

Comments

Alliance for Public Technology
America Online, Inc.
American Communications Services, Inc. (ACSI)
Ameritech
APK Net, Ltd.; Cyber Warrior, Inc.; Helicon On-Line, L.P.; InfoRamp; Internet Connect Company; MTP, LLC, dba JavaNet; and ProAxis Communications, Inc.
Association for Local Telecommunications Services (ALTS)
AT&T Corp.
Aurora Chamber of Commerce
BellSouth Corporation
Bismarck/Mandan Development Association
Cablevision Lightpath, Inc.
Cedar City/Iron County Economic Development
Cheyenne Leads
Commercial Internet Exchange Association
Compaq Computer Corporation
Competition Policy Institute
Competitive Telecommunications Association (CompTel)
Computer & Communications Industry Association
Council of Chief State School Officers
Covad Communications Company
Division of the Ratepayer Advocate, State of New Jersey
DSL Access Telecommunications Alliance
Economic Strategy Institute
Electric Lightwave, Inc.
Excel Telecommunications, Inc.
Focal Communications Corporation; Hyperion Telecommunications, Inc.; KMC Telecom Inc.; and McLeodUSA Incorporated
Global NAPs, Inc.
GTE Service Corporation
ICG Telecom Group, Inc.
Information Technology Association of America
Intermedia Communications Inc.
Internet Access Coalition
Laramie Economic Development Corporation
LCI International Telecom Corp.
Level 3 Communications, Inc.
MCI Telecommunications Corporation

Minnesota Department of Public Service
Montana Rural Development Partners
National Association of the Deaf
National Association of Development Organizations
National Association of Regulatory Utility Commissioners
National Black Chamber of Commerce, et al.
Network Access Solutions, Inc.
Next Level Communications
Omnipoint Communications Inc.
Organizations Concerned About Rural Education, American Association of School Administrators, National Association of Secondary School Principals, and National Association of Partners in Education, Inc.
Pennsylvania Public Utility Commission
Public Service Commission of Wisconsin and the Indiana Utility Regulatory Commission
St. George Area Chamber of Commerce
SBC Communications Inc.
Sprint Corporation
State of Utah House of Representatives
Sun Microsystems, Inc.
Telecommunications Resellers Association
Teleport Communications Group Inc.
Transwire Communications, L.L.C.
United Homeowners Association, et al.
United States Telephone Association
University of North Dakota
U S WEST, Inc.
Utah Rural Development Council
Washington County, Utah Economic Development Council
WorldCom, Inc.
Wyoming State Legislature
XCOM Technologies, Inc.

Reply Comments

AT&T Corp.
Bell Atlantic
CAI Wireless Systems, Inc.
Cisco Systems, Inc.
Commercial Internet Exchange Association
Comcast Corporation
DSL Access Telecommunications Alliance
Economic Strategy Institute
Focal Communications Corporation; Hyperion Telecommunications, Inc.; KMC Telecom Inc.; and McLeodUSA Incorporated

Intermedia Communications Inc.
Issue Dynamics, Inc.
LCI International Telecom Corp.
Level 3 Communications, Inc.
MCI Telecommunications Corporation
New York Department of Public Service
NEXTLINK Communications, Inc.
NYSERNet
Pennsylvania Public Utility Commission
PSINet, Inc.
SBC Communications Inc.
Sprint Corporation
United States Telephone Association
U S WEST Communications, Inc.
WorldCom, Inc.

CC Docket No. 98-78

Comments

AT&T Corp.
Bell Atlantic
BellSouth Corporation
Commercial Internet Exchange Association
Competitive Telecommunications Association (CompTel)
e.spire Communications, Inc.
GTE Service Corporation
Hyperion Telecommunications, Inc.
Independent Telephone & Telecommunications Alliance
Intermedia Communications Inc.
KMC Telecom Inc.
LCI International Telecom Corp.
Level 3 Communications, Inc.
MCI Telecommunications Corporation
Network Access Solutions, Inc.
New York Department of Public Service
NEXTLINK Communications, Inc.
SBC Communications Inc.
Sprint Corporation
Telecommunications Resellers Association
Teleport Communications Group Inc.
United States Telephone Association
U S WEST, Inc.
WorldCom, Inc.

Reply Comments

Association for Local Telecommunications Services (ALTS)
AT&T Corp.
GTE Service Corporation
KMC Telecom Inc.
LCI International Telecom Corp.
Level 3 Communications, Inc.
MCI Telecommunications Corporation
NEXTLINK Communications, Inc.
SBC Communications Inc.
Teleport Communications Group Inc.
United States Telephone Association

CC Docket No. 98-91

Comments

Allegiance Telecom, Inc.
AT&T Corp. and Teleport Communications Group Inc.
BellSouth Corporation
Campaign for Telecommunications Access
Coalition Representing Internet Service Providers
Commercial Internet Exchange Association
Competitive Telecommunications Association (CompTel)
Covad Communications Company
DSL Access Telecommunications Alliance
e.spire Communications, Inc.
GTE Service Corporation
Hyperion Telecommunications, Inc.
ICG Telecom Group, Inc.
Intermedia Communications Inc.
KMC Telecom Inc.
LCI International Telecom Corp.
McCollough and Associates, P. C.
MCI Telecommunications Corporation
Sprint Corporation
Telecommunications Resellers Association
United States Telephone Association
WorldCom, Inc.

Reply Comments

Allegiance Telecom, Inc.
AT&T Corp. and Teleport Communications Group Inc.
Comcast Corporation
KMC Telecom Inc.
MCI Telecommunications Corporation
New York Department of Public Service
SBC Communications Inc.

RM-9244
Comments

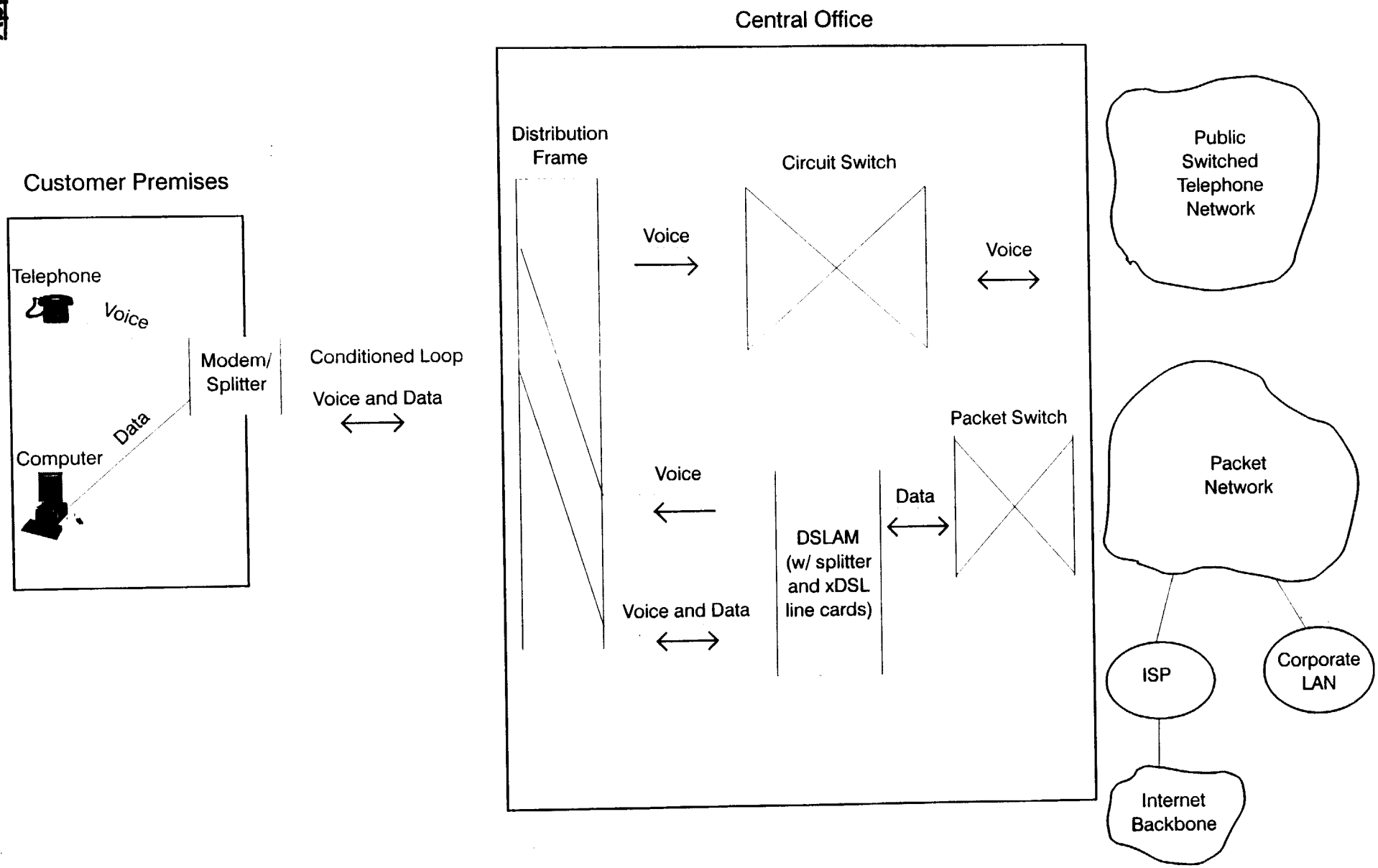
Alliance for Public Technology
Association for Local Telecommunications Services (ALTS)
AT&T Corp.
Commercial Internet Exchange Association
Janet Poley, et al.
Keep America Connected!
LCI International Telecom Corp.
MCI Telecommunications Corporation
National Association of the Deaf
Sprint Corporation

Reply Comments

Alliance for Public Technology
AT&T Corp.
BellSouth Corporation
Competitive Telecommunications Association (CompTel)
MCI Telecommunications Corporation
National Association of Community Action Agencies
Next Level Communications
SBC Communications Inc.
Sprint Corporation
TransWire Communications, L.L.C.
United States Telephone Association
Worldcom, Inc.

Appendix B

xDSL: General Configuration



APPENDIX C

Digital Loop Carrier Systems

212. Digital loop carriers (DLCs) digitally encode and multiplex subscriber loop channels into DS1[372] signals (or higher) for more efficient transmission or extended range than traditionally allowed for by copper loops. With DLC, analog signals, carried from the customer's premises to a remote terminal, are converted to digital signals, multiplexed with other signals and transported, generally over fiber, to the LEC central office. The two traditional digital loop carrier systems are universal digital loop carrier (UDLC) and integrated digital loop carrier (IDLC). UDLC, the older version of DLC technology is not directly integrated into the switch, and the digital signals must be routed through a central office terminal and converted back to analog signals before reaching the central office switch. Accordingly, UDLC technology is capable of interfacing with any analog or digital central office switch. In contrast, IDLC eliminates the need to perform this digital-to-analog signal conversion and the demultiplexing of loop circuits before the signals reach the switch, because IDLC technology establishes a direct, digital interface to a digital central office switch. IDLC technology can operate only with a digital switch.

213. DLC technology provides significant economies. By concentrating loops in the field and sending digitized signals to the central office over fiber strands, incumbent LECs reduce loop costs and improve the performance and quality of the loop. Terminating loops at the DLC remote terminal reduces the effective length of the copper line, generally improving the quality and reliability of the service. Another benefit of DLC is that individual signals can be multiplexed into a higher speed DS1 format for transmission to a central office over a single fiber optic or 4-wire circuit. While the remote terminal architecture solves many problems for POTS, it makes provisioning of xDSL-based services more complicated. For example, xDSL-based services require that a clean copper pair connect the customer premises to the DSLAM. The transmission facility between the remote terminal and the central office in a DLC environment, however, is typically fiber. As a result, xDSL-based services generally cannot be deployed unless the remote terminal is equipped with a DSLAM or the loop is migrated to copper.

[372] A DS1 is the 1.544 Mbps first-level signal in the digital transmission hierarchy. Traditionally, 24 64-kbps DS0 channels have been multiplexed up to the 1.544 Mbps DS1 rate, with each DS0 channel carrying the digital representation of an analog voice channel.