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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	CC Docket No. 01-338
	)	
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	CC Docket No. 96-98
	)	
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	CC Docket No. 98-147
	)	

NOTICE OF PROPOSED RULEMAKING

Adopted: December 12, 2001 **Released: December 20, 2001**

Comment Date: 60 days after Federal Register publication of this Notice
Reply Comment Date: 105 days after Federal Register publication of this Notice

By the Commission: Chairman Powell, Commissioners Copps and Martin issuing separate statements.

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I. INTRODUCTION

1. Today we initiate our first triennial review of the Commission's policies on unbundled network elements (UNEs).[1] This proceeding will consider the circumstances under which incumbent local exchange carriers (LECs) must make parts of their networks available to requesting carriers on an unbundled basis pursuant to sections 251(c)(3) and 251(d)(2) of the Telecommunications Act of 1996 (1996 Act).[2] Recognizing that incumbent LECs control some bottleneck facilities, Congress adopted section 251 of the 1996 Act in order to permit competitors to overcome the obstacles posed by that control. In 1996, the Commission first applied the statute and determined which network elements need to be unbundled to permit requesting carriers to compete.[3] Then, in 1999, the Commission revisited its unbundling analysis, on remand from the Supreme Court.[4] Recognizing that market conditions would change and create a need for commensurate changes to the unbundling rules, the Commission determined to revisit its unbundling rules in three years -- a schedule we adhere to by adopting this Notice of Proposed Rulemaking (NPRM) today. In this review, we undertake a comprehensive evaluation of our unbundling rules. We seek to ensure that our regulatory framework remains current and faithful to the pro-competitive, market-opening provisions of the

[1] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, 3766, para. 151 & n.269 (1999) (*UNE Remand Order*) ("We expect to reexamine our national list of network elements that are subject to the unbundling obligations of the Act every three years. . . . The review may begin after approximately only two years of experience so that it can be completed in three-year intervals.").

[2] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. §§ 251 *et seq*; *see* 47 U.S.C. § 251(c)(3), (d)(2). We refer to the Communications Act of 1934, as amended, as the Act.

[3] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499 (1996) (*Local Competition First Report and Order*), *aff'd in part and vacated in part sub nom., Competitive Telecommunications Ass'n v. FCC*, 117 F.3d 1068 (8th Cir. 1997) and *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997) (*Iowa Utils. Bd.*), *aff'd in part and remanded, AT&T v. Iowa Utils. Bd.*, 525 U.S. 366 (1999), *on remand, Iowa Utils Bd. v. FCC*, 219 F.3d 744 (8th Cir. 2000), *petitions for writ of certiorari granted, Verizon Communications Inc. v. FCC*, 121 S. Ct. 877, 878 (2001); Order on Reconsideration, 11 FCC Rcd 13042 (1996), Second Order on Reconsideration, 11 FCC Rcd 19738 (1996), Third Order on Reconsideration and Further Notice of Proposed Rulemaking, 12 FCC Rcd 12460 (1997), further recons. pending.

[4] *See Iowa Utils. Bd.*, 525 U.S. at 366; *UNE Remand Order*, 15 FCC Rcd at 3696.

1996 Act in light of our experience over the last two years, advances in technology, and other developments in the markets for telecommunications services.

2. Over the last several years, a number of incumbent and competitive carriers have asked us to reconsider, modify, expand, or eliminate various unbundling obligations. While parties have raised these issues in discrete proceedings, resolving any of these issues would essentially require the Commission to reevaluate, on some level, our framework for unbundling. Rather than decide these issues piecemeal, we initiate this triennial review in order to comprehensively consider the appropriate changes, if any, to our unbundling approach. Moreover, we now have the benefit of over five years of experience since the 1996 Act was passed. Throughout this review, we expressly invite comment on the lessons learned from this experience, and further seek to explore what significant changes have taken place in the market since 1996. For example, we seek to fashion a more targeted approach to unbundling that identifies more precisely the impairment facing requesting carriers.

3. In particular, we expressly focus on the facilities used to provide broadband services and explore the role that wireless and cable companies have begun to play and will continue to play both in the market for broadband services and the market for telephony services generally. At the same time, we recognize that the statute contemplates three modes of entry -- through resale of tariffed incumbent LEC services, use of UNEs, and construction of new facilities.[5] We are, therefore, statutorily bound to require incumbents to permit both facilities-based and non-facilities-based entry. With respect to facilities-based entry, we seek to promote entry not only by fully facilities-based carriers but also by those facilities-based carriers that purchase actual UNEs, such as the loop.[6]

4. This proceeding is one of several in which we are initiating a broad review of our competition policies in light of our experience since first implementing the market-opening provisions of the 1996 Act, and the developments in the marketplace such as the birth of broadband. In particular, through the *UNE Measurements and Standards Notice*, we seek comment on a discrete set of national performance measures and standards that could improve enforcement of incumbents' wholesale obligations under section 251.[7] We are also considering how to regulate broadband services provisioned by LECs that the Commission has traditionally treated as dominant in the provision of telephone services.[8] Thus, at the same time as we consider which facilities need to be unbundled in this proceeding, we are also considering the appropriate regulatory treatment for incumbent LECs' provision of broadband services over

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[5] *See UNE Remand Order*, 15 FCC Rcd at 3700, para. 5.

[6] We examine in greater detail below how to define the concept of "facilities-based competition" with regard to the Act and the instant proceeding. *See infra* Section III.B.1.

[7] *See Performance Measurements and Standards for Unbundled Network Elements and Interconnection, et al.*, CC Docket No. 01-318, FCC No. 01-331, Notice of Proposed Rulemaking (rel. Nov. 19, 2001) (*UNE Measurements and Standards Notice*). We also adopted a similar notice regarding incumbent LECs' provisioning of special access services, which also serve as inputs for carriers seeking to provide competitive telephony services. *See Performance Measurements and Standards for Interstate Special Access Services, et al.*, Notice of Proposed Rulemaking, CC Docket No. 01-321, FCC No. 01-339 (rel. Nov. 19, 2001) (*Special Access Measurements and Standards Notice*).

[8] *Development of a Regulatory Framework for Incumbent LEC Broadband Services, Notice of Proposed Rulemaking*, CC Docket No. 01-337, FCC No. 01-360 (adopted Dec. 12, 2001) (*Incumbent LEC Broadband Services*).

those facilities. In addition, we will also initiate in the near future a proceeding to examine how to classify under the Act a wireline carrier's offering of a broadband telecommunications service bundled with an information service.[9] The areas of regulation we consider in each of these notices are different, but our ultimate goal is the same: to implement the provisions of the 1996 Act in order to achieve its goals of bringing the benefits of competition and expanding broadband availability to consumers.

II. BACKGROUND

5. Under section 251(d)(2) of the Act:

> In determining what network elements should be made available for purposes of subsection [251](c)(3), the Commission shall consider, at a minimum, whether --
>
> (A) access to such network elements as are proprietary in nature is necessary; and
>
> (B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.[10]

In 1996, the Commission adopted the *Local Competition First Report and Order*, which implemented the local competition provisions of the 1996 Act.[11] In that order, the Commission interpreted the terms "necessary" and "impair" in section 251(d)(2), which contains standards that must be considered in determining the network elements that must be made available. For network elements that are "proprietary in nature," the Commission must consider whether access to them is "necessary" to competitors.[12] For network elements that are not proprietary, the Commission must consider whether "the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."[13] In the *Local Competition First Report and Order*, the Commission interpreted these terms as standards by which it could limit the general obligation in section 251(c)(3) to provide access to all UNEs where technically feasible.[14]

6. On appeal of the *Local Competition First Report and Order*, the United States Supreme Court affirmed in part, reversed in part, and remanded to the Commission.[15] In

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[9] The question of how to classify "cable modem service" (referring to "high-speed access to the Internet provided to subscribers over cable infrastructure") is the subject of a separate proceeding currently pending. *See Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, GN Docket No. 00-185, 15 FCC Rcd 19287, 19287 & n.1 (2000).

[10] 47 U.S.C. § 251(d)(2).

[11] *Local Competition First Report and Order*, 11 FCC Rcd 15499.

[12] 47 U.S.C. § 251(d)(2)(A).

[13] *Id.* § 251(d)(2)(B).

[14] *See Local Competition First Report and Order*, 11 FCC Rcd at 15640-44, paras. 277-88.

[15] *Iowa Utils. Bd.*, 525 U.S. 366.

particular, the Supreme Court required the Commission to reexamine the "necessary" and "impair" standards of section 251(d)(2) -- the same standards that we review and apply in this proceeding. The Court directed the Commission to give substance to the "necessary" and "impair" standards, and to develop a limiting standard for imposing unbundling obligations that is "rationally related to the goals of the Act."[16] The Court vacated the Commission's list of elements to be unbundled and remanded for consideration of a new interpretation and application of section 251(d)(2) that takes into consideration the availability of elements outside the incumbent's network and does not assume that any increase in cost or decrease in quality imposed by denial of a network element causes the failure to provide that element to impair the entrant's ability to furnish its desired services.[17] In addition, the Court upheld the Commission's determination that competitors do not need to deploy their own facilities to be eligible to purchase UNEs.[18]

7. To respond to the Supreme Court's directives, the Commission adopted the *UNE Remand Order*.[19] In that order, the Commission revised its interpretation of the "necessary" and "impair" standards of section 251(d)(2) in order to identify specifically where requesting carriers are impaired without access to the incumbent's network, rather than making UNEs available wherever it is technically feasible to do so, as the Commission had done in the *Local Competition First Report and Order*.[20] Specifically, the Commission held with regard to proprietary network elements that:

> [A] proprietary network element is "necessary" within the meaning of section 251(d)(2)(A) if, taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element would, as a practical, economic, and operational matter, *preclude* a requesting carrier from providing the services it seeks to offer.[21]

Second, the Commission held with regard to non-proprietary network elements that:

> [T]he failure to provide access to a network element would "impair" the ability of a requesting carrier to provide the services it seeks to offer if, taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element *materially diminishes* a requesting carrier's ability to provide the services it seeks to offer.[22]

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[16] *Id.* at 388.

[17] *Id.* at 389-91.

[18] *Id.* at 392-93 (citing *Local Competition First Report and Order*, 11 FCC Rcd at 15666-71, paras. 328-40).

[19] *UNE Remand Order*, 15 FCC Rcd 3696.

[20] *See Local Competition First Report and Order*, 11 FCC Rcd at 15640-44, paras. 277-88.

[21] *UNE Remand Order*, 15 FCC Rcd at 3721, para. 44 (emphasis in original).

[22] *Id.* at 3725, para. 51 (emphasis added).

8. The Commission considered several factors in deciding whether a requesting carrier's ability to provide services would be "materially diminished" if it were not able to use the incumbent's network. Specifically, the Commission considered: (1) the costs incurred using alternatives to the incumbent's network;[23] (2) delays caused by use of alternative facilities;[24] (3) material degradation in service quality;[25] (4) the ability of a requesting carrier to serve customers ubiquitously using its own facilities or those acquired from third-party suppliers;[26] and (5) the impact that self-provisioning a network element or obtaining it from a third-party supplier may have on network operations.[27]

9. Section 251(d)(2) requires the Commission to consider the "necessary" and "impair" standards "at a minimum."[28] Recognizing that it can and should consider other factors that promote the goals of the Act in its unbundling analysis, the Commission also considered (1) whether an unbundling obligation is likely to promote the rapid introduction of competition in all markets; (2) whether the obligation will promote facilities-based competition, investment, and innovation; (3) the extent to which the Commission can reduce regulatory obligations as alternatives to the incumbent's network become available; (4) whether the unbundling requirements will provide uniformity and predictability to new entrants and market certainty in general; and (5) whether the unbundling obligations are administratively practical.[29] In addition, the Commission emphasized that "unbundling rules that are based on a preference for development of facilities-based competition in the long run will provide incentives for both incumbents and competitors to invest and innovate, and should allow the Commission to reduce regulation once true facilities-based competition develops."[30]

10. Applying this section 251(d)(2) analysis to incumbents' networks, the Commission identified seven network elements without which requesting carriers were impaired: (1) loops, including high-capacity lines, dark fiber, line conditioning, and some inside wire; (2) subloops; (3) network interface devices; (4) local circuit switching (but not most packet switching); (5) interoffice transmission facilities, including dedicated transport from DS1 to OC96 capacity levels and such higher capacities as evolve over time, dark fiber, and shared transport; (6) signaling networks and call-related databases; and (7) operations support systems (OSS).[31] In a separate order released shortly after the *UNE Remand Order*, the Commission

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[23] The Commission especially considered "the difference between the cost to the requesting carrier of obtaining the unbundled element from the incumbent LEC at forward-looking costs and the cost of an alternative element." *Id.* at 3734-40, paras. 72-88. The Commission was careful to analyze the costs -- not the profitability -- of using alternatives, because profitability depends on the individual circumstances of both requesting carriers and incumbents. *Id.* at 3734, para. 73.

[24] *Id.* at 3740-43, paras. 89-95.

[25] *Id.* at 3743, para. 96.

[26] *Id.* at 3744-45, paras. 97-98.

[27] *Id.* at 3744, para. 99.

[28] *Id.* at 3745, para. 101 (quoting 47 U.S.C. § 251(d)(2)).

[29] *Id.* at 3747-50, paras. 107-16.

[30] *Id.* at 3704, para. 14.

[31] *Id.* at 3771-3890, paras. 162-437.

added the high frequency portion of the loop to the list of elements that must be unbundled on a national basis.[32]

11. We intend in this proceeding to draw on our experience with both the 1996 Act and the rules adopted in the *UNE Remand Order* in order to inform our unbundling analysis. Since the *UNE Remand Order* was adopted, many interrelated issues have surfaced through petitions, requests for waivers, and *ex parte* communications. We describe below the relationship between these proceedings and this NPRM, and we hereby incorporate the comments and *ex parte* presentations of these proceedings into this docket. In particular, and as described below, we incorporate the records of pending proceedings as they apply to: (1) availability of loops, transport, and combinations thereof (also known as enhanced extended links, or EELs);[33] (2) high-capacity loops and dedicated transport;[34] (3) local switching;[35] and (4) next-generation networks.[36] Commenters need not resubmit material previously filed in these proceedings.

12. We first incorporate the record amassed when the Commission, on several occasions, sought comment on the availability of UNE loops, transport, or combinations thereof. In the *Shared Transport Order*, the Commission sought comment on whether requesting carriers may use unbundled dedicated transport or shared transport to carry interstate toll traffic for end users to whom the requesting carrier does not provide local exchange service.[37] In the *Fourth Further Notice of Proposed Rulemaking*, the Commission asked whether the Act or the Commission's rules would support making entrance facilities (a form of transport) unavailable on an unbundled basis, or whether these facilities could be available only for use in providing local exchange service.[38] In the *Supplemental Order*, the Commission expanded this inquiry to ask about support in the Act for limiting the availability of EELs to local exchange service, and

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[32] *Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98, 14 FCC Rcd 20912 (1999) (*Line Sharing Order*). The Commission addressed line sharing issues in a separate proceeding so that it could more fully develop a record on specific technical and operational issues relating to such unbundling. *See UNE Remand Order*, 15 FCC Rcd at 3787, para. 201.

[33] *See, e.g.*, Public Notice, *Comments Sought on the Use of Unbundled Network Elements To Provide Exchange Access Service*, CC Docket No. 96-98, DA 01-169 (rel. Jan. 24, 2001) (*January 24, 2001 Public Notice*).

[34] *See, e.g.*, Public Notice, *Pleading Cycle Established for Comments on Joint Petition of BellSouth, SBC and Verizon*, CC Docket No. 96-98, DA 01-911 (rel. Apr. 10, 2001) (*Joint Petition Public Notice*).

[35] *See, e.g.*, Petition for Partial Reconsideration of Birch Telecom, Inc., in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Feb. 17, 2000).

[36] *See Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147, and Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, 16 FCC Rcd 2101 (2001) (*Third Further Notice of Proposed Rulemaking and Sixth Further Notice of Proposed Rulemaking*).

[37] *See Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Order on Reconsideration and Further Notice of Proposed Rulemaking, 12 FCC Rcd 12460, 12494-96, paras. 60-61 (1997) (*Shared Transport Order*).

[38] *See UNE Remand Order*, 15 FCC Rcd at 3914-15, paras. 492-96.

to ask about the policy ramifications of permitting the use of EELs for solely exchange access service.[39] In regard to the various temporary restrictions on EELs, the Commission had sought comment on petitions for waiver of the co-mingling prohibition that WorldCom and ITC^DeltaCom filed.[40] Most recently, two commercial mobile radio service (CMRS) carriers filed a petition for declaratory ruling asking the Commission to confirm that CMRS carriers may purchase dedicated transport on an unbundled basis.[41] The issues raised therein are suitable for resolution in this proceeding. We also incorporate the Joint Petition of SBC, BellSouth, and Verizon asking the Commission to find that requesting carriers are no longer impaired without access to high-capacity loops and dedicated transport,[42] and the comments and *ex parte* communications filed in response.

13. We also incorporate the record generated by the petitions for reconsideration of the *UNE Remand Order*. Among other challenges to that decision, parties have questioned how the Commission determined where and under what circumstances local switching need not be unbundled (the "switching carve-out").[43] We incorporate those petitions and all related *ex parte* communications for both the information they contain about switching and other issues, and for what they can teach us about ways to refine the impairment analysis.[44] Further, we incorporate the petition recently filed by competitors seeking to establish certain procedures and standards for this triennial review.[45]

14. Finally, we incorporate the record on several issues relating to next-generation network architectures. In the *Fifth Further Notice of Proposed Rulemaking*, the Commission sought comment generally on whether the deployment of next-generation network architectures requires any change to the Commission's unbundling rules.[46] More recently, in the *Third*

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[39] *See Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Supplemental Order, 15 FCC Rcd 1760 (1999) (*Supplemental Order*). The Commission asked even more detailed questions about EEL availability in the *January 24, 2001 Public Notice*.

[40] *See* Public Notice, Comments Requested on WorldCom Petition for Waiver of the Supplemental Order Clarification Regarding UNE Combinations, CC Docket No. 96-98, DA 00-2131 (rel. Sept. 18, 2000); Public Notice, *Common Carrier Bureau Seeks Comment on Petition of ITC^DeltaCom Communications, Inc. for Waiver of Supplemental Order Clarification*, CC Docket No. 96-98, DA 01-2030 (rel. Aug. 28, 2001).

[41] Petition for Declaratory Ruling of AT&T and VoiceStream, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Nov. 19, 2001) (ATTWS & VoiceStream Petition for Declaratory Ruling).

[42] *See Joint Petition Public Notice*.

[43] *See, e.g.*, Petition for Reconsideration and Clarification of Sprint Corporation, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 at 7-14 (filed Feb. 17, 2000).

[44] The switching carve-out is the subject of litigation pending at the D.C. Circuit as part of the appeal of the *UNE Remand Order*. *See United States Telecom Ass'n, et al. v. FCC*, D.C. Circuit Nos. 00-1015 *et al.* (filed Jan. 19, 2000).

[45] *See* Petition of the Competitive Telecommunications Association, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Nov. 26, 2001) (CompTel Joint Conference Petition). We address certain issues raised in this pleading, including a request for Federal-State Joint Conference on UNEs, in Section III.E, *infra*.

[46] *See 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 in CC Docket No. 98-147 and Fifth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, 15 FCC Rcd 17806 (2000) (*Fifth Further Notice of Proposed Rulemaking*). We will

(continued....)

Further Notice of Proposed Rulemaking and Sixth Further Notice of Proposed Rulemaking, the Commission specifically sought comment on the impact of the deployment of next-generation network architectures on the Commission's line sharing rules.[47]

III. FRAMEWORK FOR UNBUNDLING

15. The *UNE Remand Order* set forth definitions of "necessary" and "impair," and also clarified the application of the "at a minimum" language of section 251(d)(2). That decision, and the many subsequent filings from different parties addressing related issues, serve as the building blocks of this proceeding. As we move past that initial phase of our implementation of the statute, we look to those records and seek comment on establishing a framework to reflect comprehensively the technological advances and marketplace changes that have taken place during the interim.

16. We seek comment generally on how to apply the section 251(d)(2) analysis in a manner that is faithful to the Act and promotes its goals, as further discussed below. First, in Section III.A, we ask about the weight we should assign the factors in our "impair" standard, and whether we should first identify network elements or impairments.[48] In Section III.B, we seek comment on weighing the many important goals of the Act as we consider whether and how to refine our unbundling analysis in interpreting, among other things, the "at a minimum" language of the statute. Then, in Section III.C, we ask whether both the "necessary" and "impair" standards as well as other statutory language support an unbundling analysis that is more targeted, and seek comment on various approaches to unbundling that take into consideration specific services, facilities, and customer and business considerations. In Section III.D, we seek comment on applying the unbundling analysis to define the network elements and to resolve specific implementation issues. We request comment on the appropriate role of state commissions in Section III.E, and ask in Section III.F whether we should retain or modify a periodic review cycle for UNE reevaluation.

17. In responding to this NPRM, parties are strongly encouraged to submit evidence regarding actual marketplace conditions, which will inform our understanding of how the Commission's unbundling rules have shaped the market to date. In particular, we encourage parties to submit evidence detailing what alternatives to the incumbents' networks are available, and where they are available. Based on our experience from prior proceedings, we anticipate that we will find evidence of actual marketplace conditions to be more probative than other kinds of evidence, such as cost studies or hypothetical modeling. We invite parties to suggest what

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(...continued from previous page)
address in a separate proceeding the remaining collocation issues, including remote terminal issues, that were the subject of the companion Further Notice of Proposed Rulemaking.

[47] *See Third Further Notice of Proposed Rulemaking and Sixth Further Notice of Proposed Rulemaking*, 16 FCC Rcd at 2101.

[48] Several parties have appealed the *UNE Remand Order* to the D.C. Circuit in litigation that is not yet resolved. Among other issues, the parties have asked the court to find that the Commission's interpretation of "impair" does not "impose[] a meaningful limiting standard on the availability of unbundled elements," as the Supreme Court directed. Brief of Petitioners and Supporting Intervenors at 19, in *United States Telecom Ass'n v. FCC*, Nos. 00-1015 & 00-1025 (D.C. Cir. filed June 1, 2001). In raising issues of statutory interpretation, we emphasize that we are not suggesting that any of the analysis in our prior decisions is incorrect. Rather, the purpose of asking these questions is to seek comment on how to read the Act on a prospective basis only.

data would be useful to our consideration in this proceeding,[49] including how any of the information the Commission routinely collects could be of use.[50]

A. Threshold Statutory Analysis

18. Throughout this NPRM, we ask specific questions about the manner in which we should apply the section 251(d)(2) "necessary"[51] and "impair" standards. Section 251(d)(2)(A) states that "[i]n determining what network elements should be made available for purposes of subsection (c)(3), the Commission shall consider, at a minimum, whether . . . access to such network elements as are proprietary in nature is necessary."[52] In the *UNE Remand Order*, the Commission adopted a limited definition of "proprietary in nature,"[53] and interpreted the "necessary" standard to mean "taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element would, as a practical, economic, and operational matter, *preclude* a requesting carrier from providing the services it seeks to offer."[54]

19. For elements that are not proprietary, the Act provides that the Commission "shall consider, at a minimum, whether . . . the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer."[55] As explained above, the Commission interpreted this standard in the *UNE Remand Order* as requiring the Commission to consider whether, "taking into consideration the availability of alternative elements outside the incumbent's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier,

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[49] To assess impairment of loops and transport, one party has proposed that the Commission acquire specific data by location regarding customer demand concentration for different circuit capacities, and the extent to which competing carriers can and do self-provision different circuit types. *See* Letter from Henry G. Hultquist, Associate Counsel, WorldCom, to Magalie Roman Salas, Secretary, Federal Communications Commission, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, *Joint Petition of BellSouth, SBC, and Verizon*, CC Docket No. 96-98 (filed Nov. 9, 2001) (WorldCom November 9, 2001 *Ex Parte*).

[50] *See, e.g.*, Local Telephone Competition: Status as of December 31, 2000, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission at 1-3 (May 2001).

[51] The Commission recently interpreted the term "necessary" as it appears in section 251(c)(6) very similarly to the way the Commission interpreted the term as it appears in section 251(d)(2)(A). *Compare Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Fourth Report and Order, 16 FCC Rcd 15435, 15446-47, at paras. 19-21 (2001) (*Collocation Order*) *with UNE Remand Order*, 15 FCC Rcd at 3720-23, paras. 41-47. The Commission found in the *Collocation Order* that the statutory contexts in which the term arises justify largely similar (but slightly differing) interpretations. Commenters are free, however, to suggest that the Commission's interpretation in section 251(d)(2)(A) should now be altered. We note that several parties have appealed the *Collocation Order* to the D.C. Circuit, and litigation of those appeals is not yet resolved. *See* Petition for Review, *Verizon California, Inc. v. FCC*, No. 01-1371 (D.C. Cir. filed August 23, 2001).

[52] 47 U.S.C. § 251(d)(2)(A).

[53] "We find that if an incumbent LEC can demonstrate that it has invested resources (time, material, or personnel) to develop proprietary information or network elements that are protected by patent, copyright, or trade secret law, the product of such an investment is 'proprietary in nature' within the meaning of section 251(d)(2)(A)." *UNE Remand Order*, 15 FCC Rcd at 3717, para. 35.

[54] *Id.* at 3721, para. 44 (emphasis in original).

[55] 47 U.S.C. § 251(d)(2).

lack of access to that element materially diminishes a requesting carrier's ability to provide the services it seeks to offer."[56] The Commission considered the factors of cost, timeliness, quality, ubiquity, and operational issues in making this "materially diminish" determination.[57] We seek comment on whether we should assign more or less weight to any of the factors of the standard. For example, should cost be afforded less weight than other factors?[58]

20. In prior orders, the Commission has generally set forth network element definitions and then made a determination as to whether requesting carriers were impaired without access to those elements. We seek comment on whether we should continue this approach, or whether we should first identify impairments to requesting carriers' ability to provide service, and then define network elements that specifically address such impairments.

B. "At a Minimum" Statutory Analysis

21. In the *UNE Remand Order*, the Commission determined that section 251(d)(2) contemplates that factors advancing the goals of the Act are relevant to an unbundling analysis. That is, an initial finding that a network element satisfies the "necessary" or "impair" standard does not automatically lead to the designation of a UNE, because "[i]n determining what network elements should be made available for purposes of subsection [251](c)(3), the Commission shall consider, *at a minimum*," the "necessary" and "impair" standards.[59] Applying this interpretation in the *UNE Remand Order*, the Commission identified five factors that further the goals of the Act for consideration in its unbundling determination: the rapid introduction of competition in all markets; promotion of facilities-based competition, investment, and innovation; reduced regulation; market certainty; and administrative practicality.[60] We seek comment on the considerations that should come into play in our unbundling analysis. As we review our experience with the factors identified in the *UNE Remand Order* and application of them, we seek comment on whether the list is complete, and on the relative weight to assign different factors. In particular, and as discussed below, we seek input on whether and how to carry out the advanced services mandate contained in section 706 of the 1996 Act as an explicit factor in our unbundling analysis, as some parties have suggested.[61] We also ask whether our section 251(d)(2) determination should explicitly take into account other goals of the Act.

1. Encouraging Facilities Investment and Broadband Deployment

22. We seek comment on whether and to what extent our unbundling analysis should expressly consider the Act's goal of encouraging the deployment of advanced telecommunications capability. More specifically, Congress declared that encouraging the

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[56] *UNE Remand Order*, 15 FCC Rcd at 3725, para. 51; *see supra* para. 7.

[57] *See supra* para. 8.

[58] *Iowa Utils. Bd.*, 525 U.S. at 389-90.

[59] 47 U.S.C. § 251(d)(2) (emphasis added).

[60] *UNE Remand Order*, 15 FCC Rcd at 3747-50, paras. 107-16.

[61] *See, e.g.*, Comments of Intel Corporation at 15, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 98-146 (filed Sept. 24, 2001).

provision of new services and technologies to the public is a policy of the United States,[62] and in section 706 of the 1996 Act provided specific direction to the Commission to:

> encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms) by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.[63]

"Advanced telecommunications capability" is defined "without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[64] Although "broadband" is not defined by statute, the Commission has used this term to mean sufficient capacity to transport large amounts of information, and recognized that under its evolving nature the Commission "may consider today's 'broadband' services to be 'narrowband' services when tomorrow's technologies appear."[65]

23. We seek comment on whether we can balance the goals of sections 251 and 706 by encouraging broadband deployment through the promotion of local competition and investment in infrastructure. Some parties have argued that imposing unbundling requirements on incumbent LECs, particularly with respect to innovative, new facilities, may deter investment by both incumbent LECs and others.[66] That is, requiring incumbents to unbundle new or upgraded facilities may discourage them from investing in those facilities in the first place.[67] Moreover, the availability of incumbent facilities at cost-based rates may discourage competitive carriers and others from investing in or using alternatives to the incumbent's network. In its past unbundling orders, the Commission noted these policy concerns and formulated rules that limited incumbents' obligation to unbundle transport to existing facilities.[68] Others have argued, alternatively, that facilities investment can be made possible only through first establishing a

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[62] 47 U.S.C. § 157(a).

[63] Section 706 of the Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996), reproduced in the notes under 47 U.S.C. § 157 (47 U.S.C. § 157 nt).

[64] *Id.* § 157 nt (c).

[65] *Line Sharing Order*, 14 FCC Rcd at 20914, para. 1, n.2.

[66] *E.g.*, Comments of SBC and Verizon at 25-28, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001).

[67] Letter from Thomas J. Tauke, Senior Vice President, Verizon Communications, to Michael Powell, Chairman, Federal Communications Commission, at 4 (filed Nov. 6, 2001) (Verizon November 6, 2001 *Ex Parte*).

[68] In the *Local Competition First Report and Order*, the Commission considered the economic impact of its transport rules on small incumbent LECs, and expressly limited the provision of unbundled interoffice facilities to *existing* incumbent LEC facilities. *Local Competition First Report and Order*, 11 FCC Rcd at 15722, para. 451 (emphasis in original). While the *UNE Remand Order* concluded that an incumbent LEC must unbundle its "ubiquitous transport network, including ring transport architectures," it did not require construction of new transport facilities that the incumbent LEC has not deployed for its own use. *UNE Remand Order*, 15 FCC Rcd at 3843, para. 324.

competitive presence in a market, through the purchase of UNEs. Thus, they argue, unbundling obligations are necessary for sustainable competition.[69]

24. We seek comment on whether we should modify or limit incumbents' unbundling obligations going forward so as to encourage incumbents and others to invest in new construction.[70] For example, should we exempt from an unbundling obligation any facilities that an incumbent LEC constructs after a set point in time? If so, should those facilities be exempt in perpetuity or for a limited duration in time? Commenting parties should also address whether we should exempt from unbundling obligations only certain types of new facilities, such as those intended to provide advanced telecommunications capabilities. In particular, should fiber loops be categorically de-listed, while copper loops remain UNEs? Or, as one party has suggested, should we exempt from unbundling all fiber-based broadband facilities deployed by incumbents "in new build and total rehab situations?"[71] Would such policies bias investment and maintenance decisions? Are there other proposals that more effectively advance the goals of the Act? In seeking comment on how newly-installed facilities should be treated, we ask whether new facilities should automatically trigger new unbundling obligations, and how we should consider overlays of existing facilities with upgraded new facilities in defining unbundling obligations. In addition, we ask how, if at all, we should distinguish between overlay construction and new facilities in new residential developments. Commenters should explain the statutory support for any such distinction, and the appropriate legal framework for the balance of the statutory goals.[72] In particular, we seek comment on whether the "at a minimum" language in section 251(d)(2) can support a distinction between unbundling facilities used for analog voice telephony, and those used for advanced technologies. Additionally, we seek comment on whether, in lieu of limiting incumbents' unbundling obligations to encourage investment in new facilities, we might clarify or modify our pricing rules to allow incumbent LECs to recover for any unique costs and risks associated with such investment. Would such an approach adequately encourage new construction?

25. Moreover, to gauge the means of achieving meaningful, innovative competition in the future, we ask commenters to discuss the role that investment in new facilities has played over the last half decade. As we move into the second phase of statutory implementation and seek lasting competition, we ask for comment on the benefits of facilities-based competition compared to those of other forms. Does actual marketplace experience demonstrate that decreased dependence on the incumbents' networks correlates to more sustainable competition? Over the last five years, where and how has investment by carriers – including incumbents – led to technological and service innovations that ultimately benefited consumers? What are the

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[69] *See, e.g.*, Comments of WorldCom at 30, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001). In the *UNE Remand Order*, the Commission agreed with competitive LECs that access to UNEs would lead to initial acceleration of alternative facilities build-out because acquisition of sufficient customers and necessary market information would justify new construction. *UNE Remand Order*, at 3749, para. 112.

[70] We ask similar questions in more detail in paragraphs 50 and 73, *infra*.

[71] Letter from Wendell P. Weeks, President, Corning Communications, to Michael Powell, Chairman, Federal Communications Commission, CC Docket Nos. 96-98, 98-147 (filed Dec. 3, 2001).

[72] Commenters should be aware that the Commission has already sought comment on certain aspects of overlay construction, spare copper, and other related issues. *See Fifth Further Notice of Proposed Rulemaking*, 15 FCC Rcd at 17856-62, paras. 118-31.

primary causes of the observed behavior? Is a five-year period sufficient to draw any relevant definitive conclusions? In addition, we seek comment on experience relating increased investment in the nation's telecommunications infrastructure with increased redundancy and reliability necessary to ensure the continuous delivery of all services to the public.

26. While we examine more broadly whether and how to draw lines on the basis of service-specific or facilities considerations in Section III.C below, interpreting section 251(d)(2) to take into account the broadband goals embodied in section 706 raises some threshold questions about the meaning of "advanced telecommunications capability." For example, in order to ensure that our unbundling analysis adequately considers the goal of encouraging deployment of advanced telecommunications capability, do we need to consider whether this capability corresponds to a facility, a service, a market, or something different? We also ask for comment on whether drawing lines to account for this capability is only necessary with respect to loops and other "last-mile" facilities, or whether it also has implications for other network elements. For example, could alternative unbundling rules for switching or transport encourage deployment by incumbent LECs of this capability?

27. The task set out by the statute -- to implement a competition policy that provides incentives for the "deployment" of advanced telecommunications capability without regard to transmission technology -- requires a special focus on questions of intermodal and intramodal competition as they relate to broadband technology.[73] First, we seek data both on how widely intermodal alternatives are deployed, and for what purposes they can be used. For example, how widely is upgraded cable plant deployed, and how much of it can support telephony, broadband, or both applications? Can satellites, fixed wireless, or mobile telephones provide an alternative to incumbent facilities, and if so, where? To what extent do intermodal competitors share common ownership with incumbent LECs, and how should we address this in our analysis? Should we consider only the actual capabilities of deployed platforms, or weigh their potential as well? If we are to weigh their potential, precisely how should we do so? Is this deployment significant for our impairment analysis, regardless of whether there is currently a wholesale market?

28. We next ask parties to comment on whether we should consider these intermodal providers as competitive alternatives to the incumbent's network. Although section 251(d)(2)(B) does not require technological neutrality explicitly, it contains no reference to the types of technology that the Commission must consider in unbundling the network. In the *UNE Remand Order*, the Commission did consider alternative technologies as part of the ubiquity and quality factors in its impairment analysis, but found that mobile telephones and fixed wireless were "not yet viable alternatives to the incumbent's wireline loop facilities."[74] The Commission made a similar finding with regard to cable television plant as an alternative to the incumbent's loop.[75] We seek comment on whether these conclusions are still valid in light of deployment over the last two years. We also seek comment on how should we weigh the competing interests in

[73] In this context, we refer to "intramodal competition" as the competing provision of services over platforms using the same or similar technology. In addition, we refer to "intermodal competition" as the competing provision of services over alternative technological platforms.

[74] *UNE Remand Order*, 15 FCC Rcd at 3782, para. 188.

[75] *Id.* at 3782, para. 189.

having broadband-capable facilities deployed in the first place, and encouraging competition and consumer choice in the broadband services market. That is, deployment of telephone facilities, wireless technologies, and cable plant that are all capable of carrying broadband services may provide a choice of service provider to end users served by more than one provider. But if none of these service providers has unbundling obligations, consumer choice may be limited to those two or three enterprises. We seek comment on how to balance the interests in broadband deployment and competition in our unbundling analysis.

29. We seek comment on what the Commission should consider to be "facilities-based" competition for the purposes of the Act and this proceeding.[76] Should we encourage investment in particular kinds of facilities in order to promote the goals of innovation, competition, and reliability that we describe above? For example, is it equally beneficial to encourage investment in transmission facilities as in switching facilities?

30. We also recognize that reduced dependence on incumbent facilities does not necessarily mean that competitors must own all of their own facilities. For example, they could obtain the use of non-incumbent facilities from third parties on a wholesale basis. We seek comment on whether unbundling obligations should operate as a competitive stimulus and encourage the development of a wholesale market in some kinds of facilities. Would it be more practical and economical for a single "wholesaler" to construct new facilities within an area and lease them to other carriers, rather than having multiple entities obtaining rights of way and permits and engaging in disruptive and duplicative construction? Would this "wholesaling" be more effective for some kinds of facilities, such as those that are more fungible from carrier to carrier like transmission, than for switching or other "intelligent" components? In particular, we also seek comment on the viability of an intermodal and third-party intramodal wholesale facilities market, particularly for high-capacity loops. For instance, could an unbundling policy be revised to encourage fixed wireless providers to build out to office buildings or multi-dwelling units, and then sell loop facilities or services to other carriers? Is the development of such a wholesale market for different technologies feasible? What barriers currently exist to the

[76] For example, in the SBC/Ameritech merger the Commission defined an out-of-region "facilities-based service" to mean a service provided by SBC/Ameritech "utilizing its own switch or utilizing switching capability from a party other than the incumbent LEC" or affiliate. *Applications of Ameritech Corp., Transferor, and SBC Communication Inc., Transferee*, 14 FCC Rcd 14712, 15027, at Appendix C, para. XXI.c(3) (1999). In contrast, for the purpose of permitting Bell operating company (BOC) entry into interLATA services, section 271 of the Act defines "facilities-based competitors" as those that offer telephone exchange service "either exclusively over their own telephone exchange service facilities or predominantly over their own telephone exchange service facilities in combination with the resale of the telecommunications services of another carrier." 47 U.S.C. § 271(c)(1)(A). More broadly, in other areas the Commission has looked to indicia such as ownership in transmission facilities, the property interest in bare capacity or the existence of two wireline service providers. *See, e.g., Independent Data Communications Mfrs. Ass'n, Inc., Petition for Declaratory Ruling and American Tel. & Tel. Co., Petition for Declaratory Ruling*, Memorandum Opinion and Order, 10 FCC Rcd 13717, 13718 (Comm. Carr. Bur. 1995) (defining common carriers owning transmission facilities as facilities-based carriers for the purposes of requiring them to unbundle their basic frame relay services from their enhanced service offerings); 47 C.F.R. § 63.18 n.2 (defining an international facilities-based carrier as the holder of "an ownership, indefeasible-right-of-user, or leasehold interest in bare capacity in an international facility"); *Implementation of Section 302 of the Telecommunications Act of 1996, Open Video Systems*, Second Report and Order, CS Docket No. 96-46, 11 FCC Rcd 18223, 18258, para. 52, n.143 (defining "facilities-based competition" for video programming as competition "between at least two wireline service providers").

development of a third-party wholesale market, and what steps should we take to reduce such barriers?

2. Other Statutory Considerations

31. In the *UNE Remand Order*, we also listed several factors for consideration in our unbundling analysis that advance statutory goals.[77] We seek comment on whether there are other goals that the Commission should take into account in its unbundling analysis. For example, as the Commission has recognized, unfettered availability of UNEs can implicate universal service funding and damage the system of access charges.[78] In response to this concern, the Commission imposed restrictions on the use of certain UNEs and initiated ongoing proceedings in response to these issues. More specifically, shortly after issuing the *UNE Remand Order*, in order to preserve the status quo with regard to incumbent LEC special access revenues pending a resolution of the issues contained in the *Fourth Further Notice of Proposed Rulemaking*, the Commission determined that competitive LECs must provide a "significant amount of local exchange service" to a particular customer in order to obtain UNE pricing for the EEL used to serve that customer.[79] In the subsequent *Supplemental Order Clarification*, the Commission reasoned on the record before it that the related co-mingling restrictions in the safe harbors ensured that interexchange carriers did not use UNEs solely or primarily to bypass special access services.[80]

32. We seek comment on whether and to what extent universal service and access charge issues should be considered in the unbundling analysis. Some carriers assert that the *CALLS Order* removed all implicit subsidies from interstate access charges, and therefore universal service considerations should not implicate unbundling policy.[81] Others have argued

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[77] *UNE Remand Order*, 15 FCC Rcd at 3747-50, paras. 107-16.

[78] The *UNE Remand Order* barred the conversion of the entrance facility portion of special access service to UNE pricing to address the bypass of access charges and undermining of universal service. *Id.* at 3912, para. 485 (citing Letter from William B. Barfield, Associate General Counsel, BellSouth Corporation, to Lawrence E. Strickling, Chief, Common Carrier Bureau, Federal Communications Commission, CC Docket No. 96-98, at 1 (filed Aug. 9, 1999) (BellSouth August 9, 1999 *Ex Parte*). This prohibition on conversion remains in effect, even though the entrance facility is available for ordering as a new UNE. *Id.* at 3852, 3913, paras. 348, 488.

[79] *Supplemental Order*, 15 FCC Rcd at 1762, para. 5 (1999). The Commission intended for this temporary usage constraint to address concerns that universal service could be harmed if interexchange carriers were permitted to use the incumbent LECs' networks solely to originate and terminate long distance calls without paying their assigned share of the incumbents' costs recovered normally through access charges.

[80] *See Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Supplemental Order Clarification, CC Docket No. 96-98, 15 FCC Rcd 9587, 9598-600, 9602, paras. 22, 28 (2000) (*Supplemental Order Clarification*). The three safe harbors for providing a "significant amount of local exchange service" to a particular customer are met if the requesting carrier certifies that it is the exclusive provider of local exchange service, or if it certifies that it meets certain traffic thresholds and other conditions.

[81] *E.g.*, Comments of AT&T Corp. at 4, 14, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001) (citing Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, CC Docket Nos. 96-262 and 94-1, Sixth Report and Order, Low-Volume Long-Distance Users, CC Docket No. 99-249, Report and Order, Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Eleventh Report and Order, 15 FCC Rcd 12962 (*CALLS Order*)), *aff'd in part, rev'd in part, and remanded in part, Texas Office of Public Util. Counsel, et al. v. FCC*, 265 F.3d 313 (5th Cir. 2001).

that the threat to the entire interstate access regime is massive,[82] that universal service issues arising from intrastate access charges still remain,[83] and that section 251(g) protects incumbent LECs' receipt of compensation and the entire access charge regime until the Commission modifies it.[84] We seek comment on how, if at all, to factor universal service considerations into our unbundling analysis. Interested parties in particular should comment on whether the court decision in the *CALLS Order*[85] and, more recently, our issuance of the *MAG Order*,[86] or any other development since we issued the *January 24, 2001 Public Notice* should inform our analysis. Is there still a risk to universal service if interexchange carriers migrate from switched access to UNEs?

33. More broadly, we also ask commenters to identify any additional factors not raised previously for consideration in our unbundling analysis that would further statutory goals. For example, should issues of public safety, national security, or network integrity be explicitly considered in our implementation of section 251?

C. More Granular Statutory Analysis

34. In contrast to the *Local Competition First Report and Order* where the Commission required very broad unbundling when "technically feasible," the Commission sought to tailor the unbundling rules to address actual impairment in the *UNE Remand Order*. For example, the Commission declined to require unbundling of the operator services/directory assistance element after finding that alternatives to the incumbent are available to competitors.[87] The Commission also constructed switching rules that did not require unbundling in dense urban areas,[88] and the Commission declined to require the unbundling of packet switching, in most circumstances.[89] Since the *UNE Remand Order*, parties have suggested other ways to apply the unbundling analysis in a more granular way.[90] As discussed more fully below, in this proceeding

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[82] *E.g.*, Joint Comments of the National Exchange Carrier Ass'n, Inc., *et al.* at 4, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001).

[83] *E.g.*, Comments of BellSouth at 32, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001).

[84] *E.g.*, Comments of SBC and Verizon at 24, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001).

[85] *See* Public Notice, *Common Carrier Bureau Seeks Comment on Remand of $650 Million Support Amount Under Interstate Access Support Mechanism for Price Cap Carriers*, CC Docket Nos. 96-262, 94-1, 99-249, and 95-45 (rel. Dec. 4, 2001).

[86] *Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers*, Second Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 00-256, *Federal-State Joint Board on Universal Service,* Fifteenth Report and Order in CC Docket No. 96-45, *Access Charge Reform for Incumbent Local Exchange Carriers Subject to Rate-of-Return Regulation, Prescribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers*, Report and Order in CC Docket Nos. 98-177 and 98-166 (rel. Nov. 8, 2001).

[87] *See UNE Remand Order*, 15 FCC Rcd at 3891-92, paras. 441-42.

[88] *See id.* at 3822-32, paras. 276-99.

[89] *See id.* at 3835-40, paras. 306-17.

[90] *See, e.g.*, WorldCom November 9, 2001 *Ex Parte*.

we probe whether and to what extent we should adopt a more sophisticated, refined unbundling analysis.

35. Specifically, we first seek comment on applying the unbundling analysis to specific services and specific geographic locations. Second, we seek comment on applying the unbundling analysis to differing facilities, in order to take into account competitors' abilities to self-provision different kinds of facilities, and also specifically to encourage the deployment of facilities with broadband capabilities. Third, we seek comment on crafting unbundling rules that take into account customer and business considerations. That is, should unbundling rules differ based on the type of customer the carrier seeks to serve, or what kind of carrier the requesting carrier is? Finally, we seek comment on different mechanisms for transitioning to a more competitive marketplace.

1. Service- and Location-Specific Considerations

36. We seek comment on applying the unbundling analysis to specific services, and in a manner that takes into account geographic variations in the availability of alternatives to the incumbent's network. In the *Supplemental Order Clarification*, the Commission noted section 251(d)(2)'s "services" language as it limited the conversion of special access circuits to combinations of loop and transport UNEs:

> [Section 251(d)(2)] asks whether denial of access to network elements "would impair the ability of the telecommunications carrier seeking access to provide *the services that it seeks to offer*." Although ambiguous, that language is reasonably construed to mean that we may consider the markets in which a competitor "seeks to offer" services and, at an appropriate level of generality, ground the unbundling obligation on the competitor's entry into those markets in which denial of the requested elements would in fact impair the competitor's ability to offer services.[91]

In a Public Notice following the *Supplemental Order Clarification*, the Commission solicited comment on whether it should undertake to conduct its impairment analysis on a service-by-service or market-by-market basis, and if so, how.[92] Here, we seek to refine this line of inquiry

[91] *Supplemental Order Clarification*, 15 FCC Rcd at 9595, para. 15 (footnotes omitted) (emphasis in original). Several parties have petitioned the D.C. Circuit to review the *Supplemental Order Clarification*. *See* Statement of Issues of Petitioner, in *Competitive Telecommunications Ass'n v. FCC*, Case No. 00-1272 (D.C. Cir. filed Jul. 31, 2001).

[92] The record of that inquiry is incorporated herein as explained *supra* Section II. Some carriers have argued that the Commission *must* take into account individual services when it makes its determination whether to unbundle a network element. They argue that the reference in section 251(d)(2)(B) to "the *services*" the requesting carrier seeks to offer means that the Commission *must* conduct an impairment analysis for each separate service that requesting carriers might offer. *See, e.g.*, Reply Comments of SBC and Verizon at 9, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 30, 2001). On the other hand, others argue that the Commission has no authority to conduct an impairment analysis that is specific to individual services. They focus on the language of section 251(d)(2)(B) that explains that the Commission applies its impairment analysis in order to determine "what network elements should be made available." And because a "network element," they argue, is a "facility or equipment," the impairment analysis results in unbundled facilities over which any number of services may be provided. *See, e.g.*, Comments of CompTel at 23, in *Implementation of*

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in two ways. First, we seek comment on applying the service-specific approach beyond just impairment to all aspects of the section 251(d)(2) analysis. Second, we seek to broaden the inquiry to include a geographic component.

37. We seek comment on whether section 251(d)(2) requires us to take into account the particular "service" the requesting carrier seeks to offer. Alternatively, does section 251(c)(3) suggest the opposite, and limit in part or in whole our ability to define "network elements" in terms of "services"? Interested parties should expressly comment on whether and how to take services into account in our unbundling analysis. If we take a service-specific approach, should our identification of services for this purpose be governed by the Act's categories and definitions of services (*e.g.*, telephone exchange service, exchange access, CMRS), or is there some other principle we can use to categorize services at a level of generality that makes analysis practical? Is it useful to conduct unbundling analyses for individual services? Or would such an analysis stifle innovation and creativity as carriers decline to expand the services they offer for fear of losing access to UNEs?

38. In addition, how should we consider the level of competition for a particular service? For example, should the particular characteristics of the CMRS market affect the availability of UNEs to CMRS carriers?[93] What effect, if any, would CMRS carrier access to UNEs have on the goal of encouraging the development of intermodal alternatives to the incumbents' networks? If an element is unbundled for one service, should we limit its availability to that service, or should we permit it to be used for any service? We note that the competitive checklist of section 271(c)(2)(B) requires BOCs to "provide[] or generally offer[]" local loops, local transport, and local switching.[94] What, if anything, should we infer for purposes of the unbundling analysis from Congress' descriptions of these items as "local" in the section 271 competitive checklist? Does the fact that the Act described these items as "local" have any bearing on our unbundling analysis under section 251?

39. We also seek comment on whether and how to take geography into account in the unbundling analysis. In the *UNE Remand Order*, the Commission took geographic considerations into account in formulating rules for determining under what circumstances

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the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98 (filed Apr. 5, 2001); Comments of AT&T at 9, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001). They also argue that any service-specific "elements" would be contrary to the requirements of section 251(c)(3) that elements be made available on a "nondiscriminatory basis." *See* Comments of WorldCom at 8-9, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001); Comments of AT&T at 12, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 5, 2001).

[93] *See, e.g.*, Letter from W. Scott Randolph, Director -- Regulatory Affairs, Verizon Communications, to Magalie Roman Salas, Secretary, Federal Communications Commission, at 2, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Aug. 22, 2001). Some parties have suggested that CMRS providers should not have access to UNEs. *Compare* Letter from John W. Kure, Executive Director -- Federal Law and Policy, Qwest, to Magalie Roman Salas, Secretary, Federal Communications Commission, in *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Sept. 26, 2001) *with* ATTWS & VoiceStream Petition for Declaratory Ruling.

[94] 47 U.S.C. § 271(c)(2)(B).

incumbent LECs did not have to unbundle switching.[95] Here, we seek comment on targeting the unbundling analysis by expanding the geographic-specific approach to all elements. What precisely are the considerations that could justify unbundling rules that vary from location to location? Is geographic location a better indicator of impairment for some elements, like loops, than for others, like switching and OSS? What kinds of geographic delineations would be useful to our unbundling analysis: political boundaries, metropolitan statistical areas (MSAs), density zones, or other delineations? We also ask parties to comment on how or whether a service- or location-specific unbundling analysis intersects with any "market-specific" dominance analysis we undertake in the *Incumbent LEC Broadband Services* proceeding.

40. We ask parties to comment on the competing interests involved in conducting a service- or location-specific unbundling analysis. On the one hand, such an analysis may more accurately pinpoint the circumstances under which unbundling is necessary to promote the goals we have identified. On the other hand, a service- or location-specific analysis will be administratively more difficult, because it will involve more data and more review, and appropriate classifications may vary over time. In addition, the resulting rules could be more administratively burdensome on carriers because it would be more difficult to keep track of where and under what circumstances certain elements must be unbundled.[96] How should the Commission weigh the benefits of more refined unbundling rules against the administrative burden of conducting the more detailed analysis and applying more complicated rules?

2. Facility and Capacity Considerations

41. We also seek comment on whether UNEs should be differentiated by facility type in order to account for differing availability of alternatives outside the incumbents' network. More specifically, in the past, the Commission has required incumbents to unbundle facilities largely without regard to those facilities' capacities or capabilities. For example, the Commission required the unbundling of "all technically feasible capacity-related services such as DS1-DS3 and OC3-OC96 dedicated transport services."[97] We seek comment on whether our unbundling analysis should take facilities' characteristics into account. Specifically, should UNEs be defined by capacity level of transmission facilities? Generally, higher-capacity transmission facilities have the potential to generate more revenue for the carrier than lower-capacity transmission facilities, and therefore could be more economical to self-provision.

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[95] The Commission recognized that competitive carriers had more opportunities to deploy their own switches or use the switches of non-incumbents in density zone 1 of the top 50 metropolitan statistical areas (MSAs). *UNE Remand Order*, 15 FCC Rcd at 3823, para. 278. Evidence in the *UNE Remand* proceeding demonstrated that approximately 61% of the 700 switches deployed by competitors had been deployed in the top 50 MSAs, and that in 48 of those MSAs there were four or more competitive switches. *See id.* at 3824, para. 280. Looking even more granularly, the Commission found that most of these competitive switches had been deployed in density zone 1 of each of the top 50 MSAs. The Commission thus determined that requesting carriers were impaired only outside of density zone 1 of the top 50 MSAs, and it limited the incumbents' unbundling obligation to that geographic area. *See id.* at 3826, para. 285. The Commission only permitted the incumbents not to unbundle local circuit switching in this geographic area if the incumbent provided EELs within that area. The Commission also maintained the unbundling obligation in this same geographic area for end users with three or fewer lines. *See id.* at 3828-31, paras. 288-98.

[96] Parties addressing this concern of geographic differentiation should also take into account the role of the states, as discussed in Section III.D, *infra*.

[97] *UNE Remand Order*, 15 FCC Rcd at 3842, para. 322.

Is there any reason to consider whether a facility is freestanding or whether it is merely part of a larger facility? For example, should the unbundling rules be different for a freestanding DS1 as opposed to a DS1 channel that rides on a larger facility, such as a DS3? Should we distinguish between facilities that are used exclusively for "local" services and those that are used exclusively to provide toll services, such as intercity transmission?[98] For transmission or switching facilities, can we or should we distinguish between facilities using circuit-switched versus packet-switched technologies? Are there other distinctions we can or should make regarding transmission or switching facilities?

3. Customer and Business Considerations

42. In the *UNE Remand Order*, the Commission found that "the type of customers that a competitive LEC seeks to serve is relevant to our analysis of whether the cost of self-provisioning or acquiring an element from a third-party supplier impairs the ability of a requesting carrier to provide the services it seeks to offer."[99] The Commission applied this approach as it analyzed whether requesting carriers are impaired without access to local circuit switching.[100]

43. We ask parties to comment on whether we should consider the type of customer that a requesting carrier seeks to serve as we implement the unbundling provisions of the Act. The Commission cannot, as a practical matter, consider the characteristics of each customer individually. Are there categories of customers contemplated by the Act? For example, should the availability of UNEs differ depending on whether the requesting carrier is using them to serve residential customers as opposed to business customers? Should the number of lines a customer takes, or other customer-specific characteristics, be considered in the analysis? Some parties may assert that alternate facilities are more widely available for larger business customers as a group. Should our unbundling rules differ for facilities serving larger business customers, or should those facilities be distinguished geographically or otherwise? We ask commenters to address the interplay of customer and business considerations with section 251(c)(3)'s requirement that elements be made available on a nondiscriminatory basis.

44. We also ask for commenters' input on whether the Commission should consider any characteristics of the requesting carrier in the unbundling analysis. For example, some incumbents have argued that it is unreasonable to require them to provide unbundled elements to wireless carriers, because those carriers have already assembled their networks using incumbents' tariffed special access services.[101] Should access to UNEs differ depending on whether a particular requesting carrier is impaired without them, as opposed to whether

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[98] *See* 47 U.S.C. § 271(c)(2)(B) (requiring BOCs to demonstrate that they make available "local" loops, transport, and switching in order to obtain section 271 authority).

[99] *UNE Remand Order*, 15 FCC Rcd at 3737, para. 81.

[100] *Id.* at 3829, paras. 291-94.

[101] *See, e.g.*, Letter from John W. Kure, Executive Director - Federal Policy and Law, Qwest, to Magalie Roman Salas, Secretary, Federal Communications Commission, attach. at 2, in *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Sept. 26, 2001); Letter from W. Scott Randolph, Director - Regulatory Affairs, Verizon, to Magalie Roman Salas, Secretary, Federal Communications Commission, at 3-4, in *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Aug. 22, 2001).

requesting carriers as a whole are impaired? Should the availability of tariffed offerings play a role in the Commission's unbundling analysis?

4. Triggers for Changes in UNE Availability

45. We recognize that, as alternative facilities become more available and the market for telecommunications in general grows more competitive, our unbundling rules will need to change in order to maintain the proper balance between requiring incumbent LECs to unbundle their facilities and encouraging other carriers to invest in alternatives. Some parties have suggested that the UNEs, particularly switching, could be phased out over time. Specifically, one party has suggested that, if certain conditions are met, competitive LECs could commit to serving no more than 75 percent of their customers' access lines using UNE-P[102] after 12 months of adopting such a rule, with a goal of serving no more than 50 percent of their customers' access lines with UNE-P.[103] We seek comment on whether, consistent with the statute, we can or should impose absolute temporal boundaries on UNE availability, including approaches in which the requirements that incumbents unbundle specific network elements would sunset as of a date certain. We also seek comment on whether any of the metrics we adopt pursuant to the *UNE Measurements and Standards Notice* or the *Special Access Measurements and Standards Notice* could be used as triggers for phasing out certain UNEs.[104]

46. More broadly, we seek comment on other, non-temporal triggers that might signal that requesting carriers no longer need access to particular UNEs. For example, one carrier has suggested that requesting carriers may not be impaired in their ability to serve business customers without access to unbundled switching if four or more competitive LECs have deployed switches in an MSA where the incumbent makes EELs available.[105] As another example, could a competitive LEC purchasing the UNE-P be required to migrate customers to its own facilities once it begins providing service to a sufficient number of customers served by a single central office? To what extent is the availability of collocation a relevant factor for a requesting carrier's access to UNEs? Alternatively, are there triggers that could result from the incumbent's own improvements? For example, could we limit the availability of the UNE-P to circumstances where an incumbent continues to use manual cutovers to provision unbundled loops, as opposed to those circumstances where the incumbent has automated the cutover process, such as by deploying digital cross-connects? We encourage parties to suggest other triggers that might signal when requesting carriers no longer need access to a particular element.

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[102] We refer to the combination of unbundled loops, switches, and transport elements as "UNE-P" or "UNE-platform."

[103] Conditions for such a transition would include incumbents' making unbundled loops available consistent with their provisioning requirements. *See* Letter from Steven C. Andreassi, Managing Director - Regulatory Affairs, Broadview Networks, Inc., to Magalie Roman Salas, Secretary, Federal Communications Commission, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Jul. 5, 2001).

[104] *See UNE Measurements and Standards Notice; Special Access Measurements and Standards Notice.*

[105] *See* Letter from Thomas Jones, Counsel for Allegiance Telecom, to Magalie Roman Salas, Secretary, Federal Communications Commission, at 1, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Jan. 30, 2001).

D. Specific Network Elements

47. In the prior parts of this NPRM, we requested comment on the most appropriate way to interpret sections 251(d)(2) and 251(c)(3) in accordance with the intent of the Act. In this section, we seek to apply these sections and develop specific requirements concerning incumbent LECs' obligations to unbundle and provide access to network elements. We intend to build on the experience of all participants in the telecommunications industry with our existing rules. Accordingly, we seek comment on our existing unbundling rules and how we should apply the more granular analytical approach to the statute discussed above in deciding whether to retain, modify or eliminate these rules. We also seek comment on a number of outstanding issues regarding incumbent LEC obligations to provide access to network elements under these existing rules. In addition to the specific issues we identify below, we encourage commenters to address any other areas of uncertainty stemming from our existing network element rules.

1. Loop, Subloop and Network Interface Devices

48. In the *UNE Remand Order*, we required incumbent LECs to provide access to loops, subloops, and network interface devices (NIDs) in order for requesting carriers to provide telecommunications services.[106] We defined the loop (and subloop) as "a transmission facility" and all of its features, functions and capabilities.[107] We found that requesting carriers were impaired without access to all available loop capacities (*e.g.*, DS1, DS3, OC3) and dark fiber.[108] We defined the NID as "any means of interconnection of end-user customer premises wiring to the incumbent LEC's distribution plant."[109] We seek comment on whether, in light of changed circumstances, we should retain these unbundling requirements and if so, whether we should modify these requirements or the existing definitions for these network elements.[110] We also seek comment on the benefits and burdens resulting from continuing these unbundling requirements and whether there are alternative, less burdensome options available to achieve the goals of the Act.

49. The loop, subloop and NID as currently defined enable requesting carriers to connect end user customers to the carriers' equipment.[111] We seek comment as to whether these network elements essentially provide similar functionality differing primarily only in the point of

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[106] *UNE Remand Order*, 15 FCC Rcd at 3772, 3789, 3801, paras. 165, 205, 232; *see* 47 C.F.R. §§ 51.319(a)-(b).

[107] 47 C.F.R. § 51.319(a)(1). The subloop is defined as "any portion of the loop that is technically feasible to access at terminals in the incumbent LEC's outside plant." 47 C.F.R. § 51.319(a)(2).

[108] *UNE Remand Order*, 15 FCC Rcd at 3776-77, paras. 174, 176.

[109] 47 C.F.R. § 51.319(b).

[110] To the extent necessary, we seek comment on whether we need to clarify under our existing rules whether the NID is part of the unbundled loop when a competitor requests access to the loop or subloop. In the *UNE Remand Order* we stated that the loop network element may terminate at the NID, before the NID or beyond the NID. *Id.* at 3801, para. 233 n.457. We also stated, however, that we declined to adopt parties' proposals to include the NID in the definition of the loop. *Id.* at 3802, para. 235; *see also Line Sharing Order*, 14 FCC Rcd at 20923, para. 17 n.29 ("In the [*UNE Remand Order*], however we identify subloops and [NIDs] as separate network elements, even though the loop network element includes subloops and NIDs, because a competitor's subloop or NID access is not contingent upon its access of the entire loop.").

[111] In addition, network element combinations including the loop, such as the UNE-platform and the EEL, enable carriers to connect end user customers to the carriers' equipment.

access they provide to the incumbent LEC's network. If so, should we consider the replacement of these existing network elements with a single "unified" loop network element? Would doing so require that we explicitly incorporate the functionality of additional equipment, such as packet switching, splitters or other passive devices into the definition of the loop?[112] Alternatively, should we define such a "unified" loop as a particular level of bandwidth between a point in the incumbent LEC's network and a specific end user? Should our loop definition take into consideration and distinguish between various levels of bandwidth and quality of service (*e.g.*, constant bit rate, variable bit rate[113])? How would any such changes to the loop definition impact the Act's goal of ensuring the deployment of broadband capabilities and encouraging investment in facilities?

50. As discussed above, we also seek comment on how we should treat deployment of new facilities by incumbent LECs for the purposes of our loop unbundling requirements.[114] Should we apply the same requirements to all transmission facilities or should we distinguish between copper, fiber and wireless facilities? Should we adopt unbundling requirements specific to the unique characteristics of the underlying facilities? For example, the transmission capacity of fiber optic facilities is significantly larger than a standard copper loop. Should our rules treat different local exchange network architectures differently? For example, should we distinguish between the deployment of fiber optic facilities directly to the home (*i.e.*, "fiber to the curb") and fiber optic facilities only to remote terminals? Should we treat all loop facilities the same or should we distinguish between existing facilities and new construction? Should we adopt different rules for new "overlay" facilities that duplicate existing facilities than for new deployment that completely replaces old facilities? In other words, should we consider whether the incumbent LEC has multiple alternative facilities in place to serve a specific customer in determining what, if any, facilities the incumbent must provide on an unbundled basis? To what extent can requesting carriers use older facilities, such as spare copper plant, after an incumbent LEC has deployed "overlay" network facilities? What operational issues are created by such overlapping facilities? For example, are there additional spectrum management or interference problems (*i.e.*, "cross-talk") associated with the simultaneous deployment of packet-switched services over older copper facilities and new fiber optic facilities?

51. We also seek comment generally on how we should apply the more granular unbundling analysis we seek to develop in this proceeding. Should we, as described above, apply service, geographic, capacity or other distinctions to the unbundled loop? If we were to limit access to unbundled loops to specific geographic areas what type of data should we review to make such a determination? Should we distinguish unbundling obligations by the services

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[112] The Commission has previously requested comment on whether attached electronics used for both voice and data services, such as the splitter, should be included in the definition of the loop. *Fifth Further Notice of Proposed Rulemaking*, 15 FCC Rcd. at 17858, para. 122. The Commission has also indicated that the splitter might be considered part of the packet switching network element discussed below. *See Application by SBC Communications Inc., Southwestern Bell Tel. Co. and Southwestern Bell Communications Servs., Inc. d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region, InterLATA Services In Texas*, Memorandum Opinion and Order, 15 FCC Rcd 18354, 18517, para. 328 (2000).

[113] Constant Bit Rate (CBR) refers to a service where information (*i.e.*, data) is conveyed regularly in time and at a constant rate. Variable Bit Rate (VBR) refers a service in which information is allowed to vary within defined limits. Harry Newton, Newton's Telecom Dictionary 210, 918 (16th ed. 2000).

[114] *See supra* para. 24.

(*e.g.*, circuit-switched analog voice, packet-switched digital data) that the requesting carrier seeks to provide with access to the loop? Can we, and if so, should we make meaningful distinctions between those loops capable of providing basic services versus those capable of advanced or broadband services?

52. In the *UNE Remand Order*, we found that requesting carriers were impaired without access to all high-capacity loops and dark fiber loops.[115] Some commenters have suggested that loops of DS1 or greater capacity should not be unbundled because requesting carriers can self-provision or obtain such capacity from third parties.[116] Others have suggested that marketplace conditions still pose an impairment, even for high-capacity loops.[117] We seek comment on whether application of a more refined impairment analysis would result in a continued requirement of access to all capacity levels for unbundled loops. To the extent that we continue to require unbundling of high-capacity loops (DS1s and above), do we have the authority to require incumbent LECs to engage in the activities necessary to activate such loops that are not currently activated in the network, such as attaching any necessary electronics to the loop facility? If we do have this authority, should we impose such a requirement? From both a legal and policy perspective, what should be the limits of any such requirement?[118] For example, although it may be unreasonable to expect an incumbent to engage in construction of new outside plant as part of an unbundling obligation, it may not be unreasonable to make use of spare port capacity on an existing multiplexer. Taking account of the goals of the Act to encourage broadband deployment and facilities investment, we ask parties to specify the appropriate contours of the incumbent LECs' unbundling obligations in this context.

2. High Frequency Portion of the Loop

53. In the *Line Sharing Order*, we required incumbent LECs to provide access to the high frequency portion of the loop necessary for the provisioning of line sharing arrangements between incumbent LECs and competitive LECs.[119] More specifically, access to this network element allows competitive LECs to provide an advanced service, such as assymetric digital subscriber line (ADSL), over the same loop facility that the incumbent LEC uses to provide the customer with voice service. We have also found that competitors are impaired without access to line splitting arrangements supported by incumbent LECs that allow for competitive LECs voluntarily to cooperate in the provision of advanced and basic services to a single customer over a single unbundled loop.[120] We seek comment on whether, in light of changed circumstances, we

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[115] *UNE Remand Order*, 15 FCC Rcd at 3776-77, paras. 174-77.

[116] *See, e.g.*, Comments of United States Telecom Ass'n, at 9-11, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed June 11, 2001).

[117] *See, e.g.*, Comments of Cbeyond *et al.*, at 21, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed June 11, 2001).

[118] By asking these questions, we are not seeking comment on the legality of unbundling dark fiber. Rather, we are seeking comment on whether, and to what extent, incumbents should be obligated to complete orders for high-capacity loops when spare facilities and/or capacity on those facilities is unavailable. *See, e.g.*, *Application of Verizon Pennsylvania Inc., et al., To Provide In-Region, InterLATA Services in Pennsylvania*, 16 FCC Rcd 17419, 17468-69, paras. 91-92 (2001) (*Pennsylvania Section 271 Order*).

[119] *Line Sharing Order*, 14 FCC Rcd at 20926, para. 25.

[120] *Deployment of Wireline Services Offering Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order on Reconsideration in

(continued....)

should retain this unbundling requirement and if so, whether we should modify this requirement or the existing definition for this network element. We also seek comment on the benefits and burdens resulting from continuing these unbundling requirements and whether there are alternative, less burdensome options available to achieve the goals of the Act.

54. At least one party has urged us to require incumbent LECs to provide access to a low-frequency network element in order to facilitate the provisioning of basic services, with or without the provisioning by another party of an advanced service on the same facility.[121] We seek comment generally on parties' experience with our current rules concerning access to the high frequency portion of the loop and the proposals for further sub-frequency unbundling put forth and incorporated by reference in this proceeding.

3. Switching

55. In the *UNE Remand Order*, the Commission required incumbent LECs, with some restrictions, to provide access to "local switching capability" and "tandem switching capability" for the provision of a telecommunications service.[122] The Commission defined "local circuit switching capability" to include "line-side facilities," "trunk-side facilities," and all the features, functions and capabilities of the switch.[123] We seek comment on whether, in light of changed circumstances, we should retain these unbundling requirements and if so, whether we should modify these requirements or the existing definitions for these network elements. We also seek comment on the benefits and burdens resulting from continuing these unbundling requirements and whether there are alternative, less burdensome options available to achieve the goals of the Act.

56. In the *UNE Remand Order*, the Commission recognized that under certain circumstances, lack of access to unbundled local circuit switching would not impair requesting carriers and that our unbundling rules should take such circumstances into account.[124] Specifically, in density zone one of the top fifty MSAs, incumbent LECs that make the EEL combination available are not obligated to provide unbundled circuit switching to requesting

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CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, 16 FCC Rcd 2101 (2001) (*Line Sharing Recon. Order*). We note that under our current rules, incumbent LECs do not have any obligation to provide the splitter as part of line splitting and that at least one party has requested the Commission to impose such a requirement on incumbents. *See, e.g.*, Letter from Frank S. Simone, Government Affairs Director, AT&T, to Magalie Roman Salas, Secretary, Federal Communications Commission, at 2, in *Deployment of Wireline Services Offering Telecommunications Capability*, CC Docket No. 98-147, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Jan. 16, 2001).

[121] *See* Petition for Reconsideration and Clarification of the Competitive Telecommunications Association, *Deployment of Wireline Services Offering Telecommunications Capability*, CC Docket No. 98-147, *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Mar. 8, 2001) (CompTel Recon. Petition) (seeking reconsideration of the *Line Sharing Recon. Order*). We note that the specific issues raised by CompTel in its petition are pending and our request for comment does not prejudice our decision in that proceeding.

[122] *UNE Remand Order*, 15 FCC Rcd at 3808-09, 3822, paras. 253, 275; *see* 47 C.F.R. § 51.319(c).

[123] 47 C.F.R. § 51.319(c)(1). "Local tandem switching capability" is defined as "trunk-connect facilities" and other functions centralized in tandem switches. 47 C.F.R. § 51.319(c)(3).

[124] 47 C.F.R. § 51.319(c)(2).

carriers for serving customers with four or more lines.[125] We seek comment on the how well this "carve-out" to unbundled switching has worked in practice; whether the elements of the carve-out should be altered or refined; or whether, based on the experience of the past three years, a substantially revised approach is called for.[126]

57. First, we seek comment on the geographic component of the switch carve-out. In the *UNE Remand Order*, the Commission selected the top fifty MSAs because switch deployment appeared to be concentrated in these MSAs, and in all but two of the top fifty MSAs, competitors had deployed at least three switches.[127] Parties seeking reconsideration of the *UNE Remand Order* question whether switch deployment as recorded in the Local Exchange Routing Guide (LERG) is a reliable indication of whether competitors can serve the mass market using their own switches. These parties suggest that competing carriers may have deployed switches primarily to serve business customers using digital lines, and not to serve residences and smaller businesses using voice grade analog lines, and therefore, overall switch deployment is a poor proxy for gauging competition in the mass market.[128] On the other hand, incumbent LECs generally support use of switch deployment as a proxy for impairment, but argue that the number of switches deployed warrants a substantially larger geographic switch carve-out than created by our current rules.[129] We seek comment, in light of our experience since the *UNE Remand Order*, on whether a geographic limit is most appropriate for a switch carve-out, or whether other factors such as customer size or the capacity level of the transmission facilities may be better suited to matching availability of the incumbent carrier's switch to impairment of the requesting carrier. We also solicit information regarding the precise nature of the LERG data. In particular, we ask commenters to discuss whether some facilities designated by the LERG as switches may not be suitable for providing local exchange service to mass market customers, and whether the methodology used by the LERG could lead to over- or under-counting of switches.

58. Second, we seek comment on the customer-size component of the switch carve-out. In the *UNE Remand Order*, the Commission determined that, without access to unbundled

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[125] *UNE Remand Order*, 15 FCC Rcd at 3822-31, paras. 276-298; 47 C.F.R. § 69.123 (defining the parameters for the establishment of density pricing zones with density zone one as the geographic area with the highest access line density and amount of traffic volume).

[126] For example, AT&T has proposed an approach wherein the Commission would set forth "basic considerations" for state commissions to apply in making specific determinations as to whether or not unbundled switching must be made available. Letter from Robert W. Quinn, Jr., Vice President Federal Government Affairs, AT&T, to Magalie Roman Salas, Secretary, Federal Communications Commission, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Apr. 2, 2001) (AT&T April 2, 2001 *Ex Parte*).

[127] *UNE Remand Order*, 15 FCC Rcd at 3824, para. 280 & n.555.

[128] *See, e.g.*, Petition of AT&T Corp. for Reconsideration and Clarification of the Third Report and Order at 16, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Feb. 17, 2000); Petition of MCI WorldCom Inc. for Reconsideration at 22, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed Feb. 17, 2000); Letter from Genevieve Morelli, Counsel for the PACE Coalition, to Magalie R. Salas, Secretary, Federal Communications Commission, CC Docket No. 96-98 at 2 (filed May 19, 2000).

[129] *See, e.g.*, Letter from Gary L. Phillips, General Attorney, SBC Telecommunications, Inc., to Magalie R. Salas, Secretary, Federal Communications Commission, CC Docket No. 96-98 at 1 (filed June 13, 2000) (stating that competitive LECs have obtained collocation and deployed switches not only throughout the 100 largest MSAs, but even in some MSAs that are smaller than the largest 150).

local switching, requesting carriers were impaired in their ability to serve the mass market.[130] Noting that commenters had not identified the characteristics that distinguish the mass market from medium and large business customers, the Commission found that a significant portion of the mass market could be captured by a four-line limit because that limit would include nearly all residential users and those business users that, because they took fewer than four access lines, were more akin to residential users than they were to large businesses.[131] We seek comment on how best to determine the mass market. For example, commenters might discuss whether the mass market is best understood as those customers that are courted by mass media and marketing campaigns, or as those customers obtaining service by means of a certain technology, a specific capacity level of the transmission facilities (*e.g.*, analog loop market), or that are served by no more than a certain number of lines.

59. We also seek comment whether, for purposes of the switch carve-out, a more suitable division might lie between residences and businesses.[132] If we again adopt a line-count limit to target the mass market, we ask commenters to discuss how such an approach should treat specific end users, such as a growing or seasonal businesses, that originally qualify under the limit, but later exceed it on a temporary or permanent basis. We also ask commenters to consider whether, for serving the mass market, requesting carriers may view the incumbent's switch less as an independent network element than as a dependable method of obtaining access to the incumbents' loops.[133] If so, we seek comment whether incumbents that adopt a mechanized method of transferring loops to a competitive carrier's switch should be excused from the obligation to provide unbundled switching to mass market customers. In particular, we seek comment regarding possible gating factors such as cost, reliability, and scalability that would determine the feasibility of transferring loops on a mechanized basis. Finally, we ask commenters to discuss any other technological developments that we should consider in determining the extent and duration of the switch carve-out.

60. Third, in the *UNE Remand Order*, the Commission required incumbent LECs to make the EEL combination available as a precondition to taking advantage of the switch carve-out. We now ask commenters to discuss whether that precondition is appropriate and whether the availability of the EEL combination serves to address impairment that would otherwise exist in the absence of unbundled switching in these geographic areas.

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[130] *UNE Remand Order*, 15 FCC Rcd at 3829, para. 291.

[131] *Id.* at 3829, para. 293.

[132] Letter from Thomas J. Tauke, Senior Vice President Public Policy & External Affairs, and Michael E. Glover, Senior Vice President and Deputy General Counsel, Verizon Communications, to Michael Powell, Chairman, Federal Communications Commission, CC Docket No. 96-98 (filed Oct. 19, 2001).

[133] Letter from Robert A. Curtis, Senior Vice President, Strategic Planning and Thomas M. Koutsky, Vice President, Law and Public Policy, Z-Tel, to Chairman Michael K. Powell, Federal Communications Commission, at 4-5, CC Docket No. 96-98 (filed Dec. 5, 2001); AT&T April 2, 2001 *Ex Parte* at 2 ("The manual nature of the 'hot cut' processes required to access the incumbent's loop infrastructure has resulted in unacceptably poor service quality during the provisioning process, including significant service outages, which cause higher costs, gated volumes, and customer dissatisfaction. In an effort to combat (or at least more effectively control) these service quality and economic impairments, AT&T has implemented processes designed to acquire business customers via UNE-P and then subsequently convert large volumes of those customers in a single central office from a UNE-P product to a UNE-loop product on a project basis.").

61. Finally, in the *UNE Remand Order*, the Commission defined "packet switching capability" as "routing or forwarding packets, frames, cells or other data units based on address or other routing information contained in the packets, frames, cells or other data units" as well as the functions performed by Digital Subscriber Line Access Multiplexers (DSLAMs).[134] The Commission required incumbent LECs, in limited circumstances, to provide access to "packet switching capability."[135] We seek comment on whether, in light of changed circumstances, we should retain this unbundling requirement and, if so, whether we should modify this requirement or the existing definition for this network element. Specifically, some parties have asserted that the term "forwarding" in our current definition sweeps in fiber optic facilities in the loop used in the transmission (*i.e.*, "forwarding") of packets. We seek comment on whether our current definition is correct as a technical matter. Should we alter our definition of packet switching to explicitly include or exclude the fiber optic facilities used in the transmission of packets to a central office termination point?

62. Similarly, we also seek comment on whether we should retain or modify our current definition of DSLAM functionality. Specifically, as a technical matter, should our definition include the "ability to forward voice channels, if present, to a circuit switch?"[136] Does this forwarding of voice channels encompass the fiber optic facilities in the loop used in such transmission? We seek comment on the benefits and burdens resulting from the packet switching unbundling requirement and seek comment on whether there are alternative, less burdensome options available to achieve the goals of the Act. In particular, we seek comment on whether we should alter the Commission's standard for those circumstances in which incumbent LECs must unbundle packet switching. Is this standard still tailored to the actual impairment facing competitors seeking to access next-generation architecture? We seek comment on the level of competitive LEC demand for and use of unbundled packet switching under our existing standard and the impact of that standard on incumbent LEC investment in packet switching capability at remote terminal facilities.

4. Interoffice Transmission Facilities

61. In the *UNE Remand Order*, the Commission found that requesting carriers are impaired without access to entrance facilities and interoffice facilities on a shared or dedicated basis.[137] We defined dedicated transport as "incumbent LEC transmission facilities . . . 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."[138] The Commission defined shared transport as "transmission facilities shared by more than one carrier, including the incumbent

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[134] *UNE Remand Order*, 15 FCC Rcd at 3833-34, paras. 302-04; *see* 47 C.F.R. § 51.319(c)(4).

[135] 47 C.F.R. § 51.319(c)(5). An incumbent LEC must provide access to unbundled packet switching only where the incumbent LEC has deployed digital loop carrier systems or otherwise deployed fiber optic facilities in the distribution part of the loop; has no spare copper loops capable of providing the xDSL service the requesting carrier seeks to offer; has not permitted the requesting carrier to collocate its own DSLAM at an appropriate subloop point; and has deployed packet switching for its own use. *See id.*

[136] 47 C.F.R. § 51.319(c)(4)(iii).

[137] *UNE Remand Order*, 15 FCC Rcd at 3842, para. 321; *see* 47 C.F.R. § 51.319.

[138] 47 C.F.R. § 51.319(d)(1)(i).

LEC, between end office switches, between end office switches and tandem switches, and between tandem switches, in the incumbent LEC network."[139] The Commission also found that requesting carriers were impaired without access to all available transport capacities (*e.g.*, DS1, DS3, OC3) and dark fiber. We seek comment on whether, in light of changed circumstances, we should retain these unbundling requirements and if so, whether we should modify these requirements or the existing definitions for these network elements. For example, some CMRS carriers assert that incumbent LECs have refused to provide unbundled transport on the basis that a CMRS cell site (*i.e.*, base station) is not a switch or wire center and therefore, transport to such location does not meet the definition for unbundled transport.[140] We seek comment on whether the facilities requested by CMRS carriers fit within our current definition for unbundled transport and if not, whether we should modify our definition of transport to include the unbundling of these facilities.[141] We also seek comment on the benefits and burdens resulting from continuing these unbundling requirements and whether there are alternative, less burdensome options available to achieve the goals of the Act.

62. We seek comment on whether we should apply to transport the more granular unbundling analysis we seek to develop in this proceeding. For example, given the prevalence of competitive transport providers, should we apply service, geographic, capacity or other distinctions to the availability of unbundled transport? Given the point-to-point nature of most transport facilities, how would we apply geographic disaggregation to this network element? Could we consider all potential routes originating and terminating in a specific geographic area, such as a MSA? For example, should we limit access to unbundled transport in geographic areas where sufficient levels of alternative transport facilities exist? Should we limit the availability of transport to certain capacity levels? Some parties assert that dedicated transport of a DS1 or greater capacity can be self-provisioned or acquired from third parties.[142] Others state that marketplace conditions still pose an impairment to requesting carriers.[143] In the *UNE Remand Order*, we required incumbent LECs to provide access to all technically feasible capacity levels of unbundled transport (*i.e.*, DS1, DS3, OC3). We seek comment on whether application of a more refined impairment analysis would lead to different requirements for different levels of capacity. Should we distinguish by the services that the requesting carrier seeks to provide with access to unbundled transport? Are there distinctions we can and should make between classes of requesting carriers? For example, are there fewer transport alternatives available to CMRS

[139] 47 C.F.R. § 51.319(d)(1)(iii).

[140] *See* ATTWS & VoiceStream Petition for Declaratory Ruling.

[141] At least one incumbent LEC argues that section 51.319(d)(1)(i) of the Commission's rules only requires incumbent LECs to provide unbundled transport if both the mobile switching center (MSC) and the cell site are switches or wire centers owned by the requesting CMRS carriers, which Verizon asserts they are not. *See* Letter from W. Scott Randolph, Director – Regulatory Affairs, Verizon Communications, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 96-98, at 1-2 (filed Aug. 22, 2001). CMRS carriers, however, argue that channel terminations to base stations qualify as dedicated transport because base stations are switches and are the functional equivalent of a wire center. These issues, among others, are addressed in AT&T Wireless, Inc.'s and VoiceStream's petition for a declaratory ruling. *See* ATTWS & VoiceStream Petition for Declaratory Ruling at 23-24.

[142] *See, e.g.*, Comments of United States Telecom Ass'n, at 12, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed June 11, 2001).

[143] *See, e.g.*, Joint Comments of Cbeyond, *et al.*, at 30, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98 (filed June 11, 2001).

carriers than to other types of requesting carriers?[144] Some CMRS carriers assert that they obtain almost all of their high-capacity special access circuits from incumbent LEC tariffs.[145] What other alternatives are available to a CMRS carrier seeking to transport traffic between its MSC and base stations, and between base stations?

63. We also seek comment on the extent to which incumbent LECs have an obligation to modify their existing networks in order to provide access to network elements as required under rules prescribed by the Commission. The Commission previously concluded that because the incumbent LECs' networks were not initially constructed in a manner that provides for access to network elements, incumbent LECs have an obligation to modify those networks in order to comply with their unbundling requirements under the Act.[146] The Commission has also recognized that in at least some circumstances, incumbent LECs are not required to build new facilities in order to fulfill competitors' requests for network elements. For example, our current rules exempt incumbent LECs from any obligation "to construct new transport facilities to meet specific competitive LEC point-to-point demand requirements for facilities that the incumbent LEC has not deployed for its own use."[147] In the *UNE Remand Order*, the Commission also prohibited the conversion of the entrance facility portion of a tariffed special access service to network element pricing to limit the ability of carriers to bypass access charges.[148] Should these policies be limited to interoffice transmission facilities, or are they equally applicable to loops and other network elements? Do special construction provisions of special access tariffs, such as non-recurring charges and term guarantees with termination liabilities, protect the incumbent LECs from uncompensated UNE conversions?[149] We seek comment on the extent of incumbent LECs' obligations to take reasonable steps to comply with their unbundling obligations and invite proposals for guidelines or bright line rules that would provide sufficient guidance all parties involved to minimize disputes arising from implementation of unbundling requirements adopted in this proceeding.[150]

63. In the *UNE Remand Order*, the Commission concluded that ring architecture transport was included within the definition of unbundled transport and that incumbent LECs

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[144] *See* ATTWS & VoiceStream Petition for Declaratory Ruling at 30.

[145] *See id.* at 10.

[146] *Local Competition First Report and Order*, 11 FCC Rcd at 15602-03, 15605, paras. 198, 202. The Commission has given further shape to this obligation in certain circumstances by more clearly delineating the activities necessary to fulfill this obligation. *See, e.g.*, *UNE Remand Order*, 15 FCC Rcd at 3775, paras. 172-73.

[147] *UNE Remand Order*, 15 FCC Rcd at 3843, para. 324.

[148] *Id.* at 3912, para. 485 (citing BellSouth August 9, 1999 *Ex Parte* at 1).

[149] For example, incumbent LECs state that when requesting carriers order a special access circuit, the incumbent will build high-capacity circuits at the request of competitive carriers. *See, e.g.*, Letter from John W. Kure, Executive Director -- Federal Policy and Law, Qwest, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 96-98 (filed Sept. 26, 2001).

[150] *See* Letter from W. Scott Randolph, Director -- Regulatory Affairs, Verizon Communications, to Magalie Roman Salas, Secretary, Federal Communications Commission, at 1, in *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 01-138 (Aug. 21, 2001) (stating that where Verizon does not presently have facilities, but identifies new construction that would lead to its being able to fulfill a request, Verizon will provide the requested network element upon completion of that new construction).

must provide it on an unbundled basis.[151] The Commission also noted that incumbent LECs did not have to provide SONET capabilities to requesting carriers where the incumbent LEC did not already have SONET capabilities in place.[152] Some parties have interpreted language in the *UNE Remand Order* to mean that incumbent LECs have no obligation to provide SONET capabilities to requesting carriers, regardless of whether or not the facilities existed at the time of the request. We seek comment on the extent to which incumbent LECs should not have to provide ring architecture transport, particularly those facilities supporting SONET capabilities. Are there specific considerations about SONET technology or ring architectures that warrant exemption from unbundling?

5. Other Network Elements

64. In the *UNE Remand Order*, the Commission found requesting carriers were impaired without access to incumbent LECs' OSS functions, signaling networks and call-related databases.[153] The Commission defined OSS functions as consisting of "pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by an incumbent LEC's databases and information.[154] The Commission defined signaling networks to include "signaling links and signaling transfer points"[155] and call-related databases as "databases, other than operations support systems, that are used in signaling networks for billing and collection, or the transmission, routing, or other provision of a telecommunications service."[156] We seek comment on whether, in light of changed circumstances, we should retain these unbundling requirements and if so, whether we should modify these requirements or the existing definitions for these network elements. We also seek comment on the benefits and burdens resulting from continuing these unbundling requirements and whether there are alternative, less burdensome options available to achieve the goals of the Act.

65. In the *UNE Remand Order*, the Commission noted that there were signaling alternatives available, but found that they were not sufficient to address the impairment to requesting carriers created by lack of access to the incumbent LEC's signaling system.[157] In particular, we seek comment on the deployment of signaling services that provide competitors with an alternative to the incumbent LEC's signaling system whether those services are obtained on a wholesale basis or as the result of self-deployment of facilities. What type of data should we consider to determine whether requesting carriers continue to be impaired without access to incumbent LECs' signaling systems?

66. In the *UNE Remand Order*, the Commission found that requesting carriers were impaired without access to incumbent LECs' call-related databases, "including, but not limited

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[151] *UNE Remand Order*, 15 FCC Rcd at 3843, para. 324.

[152] *Id.* ("Notwithstanding the fact that we require incumbents to unbundle high-capacity transmission facilities, we reject Sprint's proposal to require incumbent LECs to provide unbundled access to SONET rings.").

[153] *Id.* at 3867, 3875, 3887, paras. 383, 402, 433; *see* 47 C.F.R. §§ 51.319(e), (g).

[154] 47 C.F.R. § 51.319(g).

[155] *Id.* § 51.319(e)(1).

[156] *Id.* § 51.319(e)(2).

[157] *UNE Remand Order*, 15 FCC Rcd at 3869-70, paras. 389-90.