switch itself. In determining whether the routing table of a particular switch must be made available, the first question is whether the switching facility itself must be provided. If the answer is yes, a second inquiry takes place to determine whether the routing table must be provided with the switch. If a reasonably efficient competitor could not use the switch without obtaining a routing table from the incumbent LEC (considering, for example, the availability of alternative sources of a routing table), then the second test (the necessary test) is satisfied. If not, the incumbent need not provide the routing table when making the switch available to competitors.

c. The Commission Should Define Proprietary Network Elements, Consistent with DOJ Guidelines, as Intellectual Property, Including Property That can be Protected by Patent, Copyright, and Trade Secret Law.

Although section 251(d)(2)(A) limits the application of the necessary standard only to those "network elements [that] are proprietary in nature," neither that section nor any other section of the Act defines the term "proprietary." Under that circumstance, the most reasonable meaning of the term, and the one that best "tak[es] into account the objectives of the Act," is intellectual property that can be protected by patent, copyright, trade secret, or other laws.[91]

Defining the term "proprietary" to mean protectible under the intellectual property laws is appropriate because those laws share a common purpose with the 1996 Act: like the Act itself, intellectual property laws seek to enhance consumer welfare by promoting innovation. The role

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[91] This definition is consistent with guidelines issued recently by the Department of Justice and the Federal Trade Commission which state federal antitrust policy towards intellectual property. Those guidelines define intellectual property as "property protected by patent, copyright, and trade secret law, and ...know-how." *DOJ Intellectual Property Guidelines* at para. 1, p. 1.

of the intellectual property laws in promoting innovation is described by the U.S. Department of Justice in the *Antitrust Guidelines for the Licensing of Intellectual Property*:

> The intellectual property laws provide incentives for innovation and its dissemination and commercialization by establishing enforceable property rights for the creators of new and useful products, more efficient processes, and original works of expression. In the absence of intellectual property rights, imitators could more rapidly exploit the efforts of innovators and investors without compensation. Rapid imitation would reduce the commercial value of innovation and erode incentives to invest, ultimately to the detriment of consumers.[92]

It has also been recognized in the economic field of Industrial Organization. For example, Carlton and Perloff note that

> [m]ost economists and policy makers believe that without patents or other government incentives, there would be too little research. ...A rational investor engages in costly research up to the point where the expected marginal return from more research equals its marginal cost. If the investor's return is less than society's, the inventor tends to under-invest in research. Patents may permit investors to capture a large share of the benefits (internalize the externality) associated with the production of knowledge by insulating them from competition. ...By providing patent protection to inventors, society obtains two valuable results: greater incentives for additional research and development and an acceleration of innovation through disclosure of inventions.[93]

It is even recognized in the United States Constitution. Article I, Section 8 states that "Congress shall have Power ... To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

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[92] U.S. Department of Justice and Federal Trade Commission, *Antitrust Guidelines for the Licensing of Intellectual Property* para. 1, p. 2 (issued Apr. 6, 1995) (*DOJ Intellectual Property Guidelines*).

[93] Carlton and Perloff, *Modern Industrial Organization* 1990, pp. 656-61.

Because of the primacy of intellectual property, and the importance to our economy and to consumer welfare of encouraging innovation, courts have long been reluctant to require firms to share intellectual property with their competitors. As the Second Circuit explained:

> It is the possibility of success in the marketplace, attributable to superior performance, that provides the incentives on which the proper functioning of our economy rests. If a firm that has engaged in the risks and expenses of research and development were required in all circumstances to share with its rivals the benefits of those endeavors, this incentive would very likely be vitiated. . . . Because . . . a monopolist is permitted, and indeed encouraged, . . . to compete aggressively on the merits, any success that it may achieve through 'the process of invention and innovation' is clearly tolerated by the antitrust laws.[94]

Echoing these views, Robert Pitofsky, Chairman of the Federal Trade Commission, recently asserted that "antitrust enforcers should proceed cautiously in . . . mandating access to [an] existing network, even when that network is dominant . . . particularly . . . when the network derives from intellectual property."[95]

Congress surely did not intend to trample on this long history of protecting intellectual property. The only reasonable interpretation of "proprietary," therefore, is that it refers to property that can be protected by patent, copyright, trade secret, or other laws.

Although the Commission appears to concede that the term proprietary includes "information, software, or technology that can be protected by patents, copyrights or trade secrecy laws,"[96] it nonetheless asks "whether the term 'proprietary' refers solely to proprietary

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[94] *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 281 (2d Cir. 1979) (citations omitted). *See also Data General Corp. v. Grumman Sys. Support Corp.*, 761 F. Supp. 185, 192 (D. Mass. 1991), *aff'd*, 36 F.3d 1147 (1st Cir. 1994) (concluding that a computer manufacturer's design innovations were not essential facilities, in part, because compulsory sharing would undermine the manufacturer's and competitor's incentives to innovate).

[95] Robert Pitofsky, Chairman, Federal Trade Commission, "Antitrust Analysis in High-Tech Industries: A 19th Century Discipline Addresses 21st Century Problems," <http://www.ftc.gov/speeches/pitofsky/hitch.htm> (Feb. 26, 1999).

[96] *Notice* at para. 15.

interests the incumbent LEC may have in the element, or whether it may also refer to proprietary interests of third parties.[97] The answer to this question is easy. To the extent an incumbent LEC has obtained a license to use the intellectual property of a third party, and that license does not authorize the LEC to permit others to use such property, the Commission has no authority to order the LEC to do so. Any such order would interfere with the property rights of third parties, and nothing in section 251 confers such authority on the Commission.[98] The property is thus not "proprietary" for purposes of section 251(d)(2) because it is not subject to mandatory sharing even if access to it is "necessary" under section 251(d)(2)(A).

On the other hand, if the license under which the LEC is using the property permits the LECs to sub-license that property to third parties, then the LEC has a proprietary interest in that property because it has paid for that sub-licensing right. Indeed, to deny the LEC's proprietary interest would ultimately deny the original licensor the fruits of its own investment because no licensee would pay the premium necessary to obtain sub-licensing rights if those rights were not recognized by regulators.

The Commission also asks whether it should consider network elements as proprietary if "the interfaces, functions, features, and capabilities sought by the requesting carrier are defined by recognized industry standard-setting bodies[.]"[99] To the extent an ILEC develops unique or novel applications or methods of implementing industry standards that would fall within one of the foregoing categories of intellectual property, those applications and methods are as

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[97] *Id.*

[98] *See* Ameritech Comments, filed April 15, 1997 at 3-5 in *Petition of MCI for Declaratory Ruling,* CCB Pol 97-4, CC Docket No. 96-98.

[99] *Notice* at para. 15.

proprietary as any other intellectual property. Indeed, a contrary rule would eviscerate the protections accorded to intellectual property because virtually all network features, functions, and capabilities must comply with industry standards.

Finally, the Commission asks whether the status of an element should depend upon whether or not a requesting carrier would obtain access to proprietary information. It should not. Intellectual property laws do not merely protect innovators from disclosure of their innovations; they grant innovators exclusive rights to those innovations. Indeed, in order to obtain that exclusive right under the patent laws, the innovator must disclose its innovation to the world through a public filing at the Patent and Trademark Office. Those filings are made public so that others may build upon patentees' invention and develop new innovations of their own. Thus limiting the necessary standard to unbundling requests that would reveal proprietary information would turn intellectual property law on its head: instead of granting exclusivity in exchange for disclosure, it would withhold exclusivity unless needed to avoid disclosure.

Moreover, under the patent laws, innovators are not only insulated from having to share their innovations, they are given absolute protection from another's use of such innovations, even if that other person develops that innovation on her own. Thus, if anything, the definition of proprietary network elements should encompass more than merely intellectual property that is protectible under the law, not less, as the Commission suggests.

Under the definitions articulated above, most network elements would be deemed non-proprietary. There are, however, network elements that are proprietary.

One example is the routing tables programmed into each of Ameritech's switches. These routing tables are part of the computer software unique to each switch that instructs the switch how to route each call. These tables are developed and constantly updated by traffic engineers

based on a rigorous analysis of traffic patterns and available routing facilities. Insofar as these tables are part of the brains of Ameritech's switches, they are obviously of enormous value to Ameritech, and they are maintained in strict confidence. At a minimum, they constitute trade secrets or know-how, and, as computer software, they may also be subject to copyright protection. Because they are thus protectible under the intellectual property laws, they are proprietary for purposes of section 251(d)(2).

Also proprietary is the combination of network elements utilized to provide Ameritech's "Privacy Manager" service. "Privacy Manager" is an AIN service that screens telemarketing calls and provides certain recorded messages and instructions to telemarketers without interrupting the called party. Ameritech utilizes a number of different network elements to provide this service, and has applied for a patent to protect the underlying technology and combination of elements. Although the elements underlying Privacy Manager may or may not be proprietary, certainly the particular combination of those elements that creates Privacy Manager must be considered proprietary. That combination was uniquely developed by Ameritech engineers and represents the very type of innovation that intellectual property laws were designed to protect.

d. The Necessary and Impair Standards Must be Given Controlling Weight.

In the *Notice*, the Commission observes that Section 251(d)(2) provides that, in determining which network elements must be unbundled under Section 251(c)(3), the Commission "shall consider, at a minimum," whether access to a proprietary element is "necessary" and whether lack of access to any element would "impair" a competitor's ability to

compete.[100] Citing the language quoted above, the Commission seeks comment on "how much weight the Commission must give to [the necessary and impair standards] in order to satisfy section 251(d)(2) and the Supreme Court decision."[101] The Commission also asks what "other factors" it should consider in determining whether a network element should be unbundled.[102] Finally, the Commission asks whether there are other factors that would justify mandatory unbundling, "even if such unbundling did not otherwise meet the 'necessary' or 'impair' standards of sections 251(d)(2)(A) or (B) standing alone."[103] As discussed below, the "necessary and impair" standards constitute minimum limits on the obligation of ILECs to unbundle network elements. The Commission may not ignore these limits, nor may it require unbundling in circumstances in which the section 251(d)(2) test is not met.

In invalidating the Commission's unbundling rules, the Supreme Court determined that the Commission improperly viewed section 251(d)(2) as a grant of discretionary authority to soften by regulatory grace an ILEC's obligation to turn over as much of its network as was technically feasible. Section 251(d)(2), the Court said, "does not authorize the Commission to create isolated exemptions from some underlying duty to make all network elements available."[104] Rather, "the Act *requires* the FCC to apply some limiting standard, rationally related to the goals of the Act."[105]

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[100] *Notice* at para. 29.

[101] *Id.*

[102] *Id* at para. 30.

[103] *Id.*

[104] *AT&T,* 119 S. Ct. at 736.

[105] *Id.* at 734 (emphasis added).

Indeed, the Court found that section 251(d)(2) establishes "*clear limits*" on the obligation of an ILEC to unbundle its network.[106] It characterized the Commission conclusion "that the statute does not require us to interpret the 'impairment' standard in a way that would significantly diminish the obligation imposed by section 251(c)(3)," as "undoubtedly wrong." And it provided guidance to the Commission as to the nature of the limits section 251(d)(2) imposes: "The Commission cannot, consistent with the statute, blind itself to the availability of elements outside the incumbent's network" nor can it assume that "any increase in cost (or decrease in quality) imposed by denial of a network element renders access to that element 'necessary,' and causes the failure to provide that element to 'impair' the entrant's ability to furnish its desired services[.]" In addition, the Court held, the Commission must "tak[e] into account the objectives of the Act."

If there is one message that comes through loud and clear in this decision, it is that section 251(d)(2) does not merely set forth factors for the Commission to consider at its discretion. Rather, it embodies limiting standards which, *inter alia,* are to be construed with reference to the purposes of the Act. In this respect, section 251(d)(2) is completely different from the laundry list of wide-open factors at issue in *Time Warner Entertainment Co. v. FCC.*[107]

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[106] *Id. at* 738 (emphasis added).

[107] 56 F.3d 151 (D.C. Cir. 1995). The statutory provision at issue in *Time Warner* (47 U.S.C. § 543(c)(2)) provides that, in establishing criteria for determining whether rates for cable programming services are unreasonable, the FCC shall consider, among other factors, six enumerated factors. The factors cited in that provision are just that; they are factors, not standards. For example, the FCC is directed to consider "the history of rates for cable programming services of the system; the rates, as a whole, for all the cable programming, cable equipment, and cable services provided by the system, other than programming provided on a per-channel or per program basis; the rates for similarly situated cable systems, etc. The statute does not say what the FCC must do with this information, only that the FCC must consider it. By analogy, it would be as if section 251(d)(2) merely directed the FCC to consider whether, for example, a network element is proprietary *without telling the FCC what to do in that* case. But section 251(d)(2) says more than that; it does not merely list factors for consideration; it gives the FCC direction with respect to those factors – *i.e.,* it establishes standards. It requires the FCC, not merely to consider whether a network element is proprietary, but whether access to proprietary network elements is necessary. Indeed, this is the only standard it sets forth for such network elements – which points to another key difference between section 251(d)(2)

In any event, this issue is a red herring. Given that the Commission must construe section 251(d)(2) so as to promote the core objectives of the Act, Ameritech fails to see any basis upon which the Commission could ever conclude that unbundling should be required even when the "necessary" and/or "impair" tests are not met, even assuming *arguendo* it had authority to do so. If the Commission properly interprets section 251(d)(2) – *i.e,* the Commission interprets that provision in a way that promotes the twin goals of the Act - any deviation from section 251(d)(2) standards would necessarily be contrary to the public interest.

Instead of focusing on whether it can deviate from section 251(d)(2), the Commission should interpret that standard, as the Court required, in a manner that obviates the need for any such deviation. To that end, it should require unbundling to the extent a reasonably efficient competitor could not earn a normal economic profit without access to the ILEC facility in question or could not enter the market on a reasonably timely basis. Otherwise, no unbundling obligation should be imposed. That is the way to further the purposes of the Act and to enhance consumer welfare.

e. State Commission's Are Bound by The Standards in Section 251(d)(2).

In the *Notice* the Commission raises issues about the role of the states in determining ILEC unbundling obligations. Ameritech believes that state arbitrators must play a critical in implementing the unbundling standards the Commission promulgates pursuant to section 251(d)(2). The Commission should make clear, however, that states continue to be bound by the substantive requirements in section 251(d)(2). Although section 251(d)(3) permits states to

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and 47 U.S.C. § 543(c)(2): whereas the latter contains six wide-open factors, some of which point in different directions, section 251(d)(2) contains two specific standards. Obviously, a statute that merely identifies, but accords no specific weight to, six factors that point in different directions is far different from a statute that directs the FCC to consider two specific standards. The *Time Warner* case is thus inapposite.

maintain or establish new network access and interconnection regulations, it expressly limits that authority to regulations that are "consistent with the requirements of . . . section [251]."[108] Section 251(d)(3) therefore incorporates the restrictions on unbundling in section 251(d)(2), and precludes the states from ordering unbundling if the necessary and impair standards, as interpreted by the Commission, are not met.

Indeed, the Commission so held in the *Local Competition Order*.[109] Nothing has changed since then to call that holding into question. To the contrary, the Court confirmed that the 1996 Act was intended to establish a national policy framework. As the Court stated, "the state commissions' participation in the administration of the new federal regime is to be guided by federal-agency regulations."[110]

Nor would a regime in which states were free to depart from the substantive requirements of section 251(d)(2) further the Commission's stated goals of providing financial markets with greater certainty or reducing the likelihood of litigation.[111] Because states are charged with responsibility for arbitrating interconnection agreements, new entrants would have every incentive to hold out for an arbitration in hopes of obtaining access to elements not unbundled under the Commission's rules. Thus, rather than promoting certainty and avoiding litigation, such a regime would have precisely the opposite effect.

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[108] 47 C.F.R. § 251(d)(3) ("In prescribing and enforcing regulations to implement the requirements of this section, the Commission shall not preclude the enforcement of any regulation, order, or policy of a State commission that— . . . (B) is consistent with the requirements of this section").

[109] *Local Competition Order*, 11 FCC Rcd at 15640 ("the states must follow our interpretation of these standards [*i.e.*, the standards in sections 251(c)(3) and 251(d)(2)] to the extent they impose additional unbundling requirements during arbitration proceedings or subsequent rulemaking proceedings"). 47 CFR § 51.317.

[110] *AT&T*, 119 S. Ct. at 730, n.6.

[111] *Notice* at para. 13.

f. Effect of Section 271(c)(2)(B).

In the *Notice,* the Commission seeks comment on what effect, if any, the competitive checklist of section 271(c)(2)(B) should have on its interpretation of section 251(d)(2).[112] The answer is none. These are separate statutory provisions and any suggestion that the items listed in section 271 should be bootsrapped into section 251 is at odds with long-recognized canons of statutory construction.

The competitive checklist in section 271 consists of 14 items. Included among those items is "nondiscriminatory access to network elements in accordance with the requirements of section 251(c)(3) and 252(d)(1).[113] Also included are: (i) unbundling requirements for, *inter alia* loops; switching; transport; directory assistance services; operator call completion services; and databases and associated signaling necessary for call routing and completion,[114] *none of which makes any reference to section 251(c)(3);* and (ii) six other enumerated items, all of which expressly cross-reference other provisions of the Act, including, in many cases, section 251.[115]

Given the statutory language and structure of this provision, it is simply impossible to conclude that the enumerated unbundling requirements in section 271 are necessarily required by section 251(c)(3). First, if Congress had intended that these particular unbundling obligations be required under section 251(c)(3), it would have listed them in that provision, not in the section

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[112] *Id.* at para. 41.

[113] 47 U.S.C. § 271(c)(2)(B)(ii).

[114] 47 U.S.C. § 271(c)(2)(B)(iv-vii and x).

[115] 47 U.S.C. § 271(c)(2)(B)(i, iii, xi-xiv).

271 checklist.[116] The fact that they are instead in section 271, a provision that applies exclusively to the BOCs, demonstrates that they are a prerequisite to long-distance entry by a BOC, rather than a section 251 unbundling obligation that applies to all ILECs.

Second, if it was Congress' intent that these enumerated items necessarily be part of the section 251(c)(3) checklist, its list of these items in section 271 would be wholly redundant; the simple reference in section 271(c)(2)(B)(ii) would have been sufficient. To construe them in that fashion would therefore be at odds with the well-recognized canon of statutory construction that a statute should be construed, where possible, to give meaning to all of its provisions.[117] This canon is, of course, all the more controlling when, as here, the different provisions appear in the same sub-sections of a statute.[118]

Third, the fact that so many of the items in the section 271(c)(2)(B) checklist, including, most importantly, checklist item (ii), expressly cross-reference other statutory provisions, while the enumerated unbundling items do not, suggests that Congress did not view these unbundling items as an inherent part of any section 251 obligation. It also means, of course, that these items need not be provided in accordance with the terms and conditions of section 251(c)(3).

The fact that Congress included in the section 271 checklist certain unbundling requirements that are not necessarily encompassed within section 251 is not surprising. It simply reflects the fact that a BOC could have applied for section 271 relief before the FCC even issued its initial UNE rules. Indeed, Congress expected the BOCs to do so. That does not mean,

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[116] *See Bates v. United States,* 118 S. Ct. 285, 290 (1997) ["where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion." (internal quotes omitted)].

[117] *See Ratzlaf v. United States,* 510 U.S. 135, 140-41 (1994) (readings that render portions of a statute meaningless should be avoided).

[118] *United States v. Granderson,* 511 U.S. 39, 63-64 (1994) (Kennedy, J. concurring).

however, that Congress predetermined that these unbundling requirements would have to be part of any section 251(c)(3) obligations subsequently established by the FCC. Section 271(c)(2)(B) does not relieve the Commission of its independent duty to apply the standards of section 251(d)(2). The Supreme Court made that clear by requiring the FCC to determine "*which* network elements must be made available, taking into account the objectives of the Act and giving some substance to the "necessary" and "impair" requirements."[119] The Court would not have so held if it believed that Congress had already made this determination in the section 271 checklist.

Even if the Commission were to conclude incorrectly that there is *some* linkage between the section 271 checklist and the Act's unbundling provisions, such linkage would not justify reimposing *all* of the loop, transport, switching, and database/signaling requirements from the *Local Competition Order and* the *Shared Transport Order.*[120] In particular:

- Checklist item (vi) addresses only local switching and makes no mention of tandem switching. Thus the checklist provides no possible justification for concluding that tandem switching satisfies section 251(d)(2).

- Checklist item (v) addresses "transport" but says nothing about the differences between various types of transport. Thus even if item (v) could be read to suggest that incumbent LECs must make available *some* unbundled transport under sections 251(c)(3) and 252(d)(1), that would provide no justification for concluding that the most expansive form of local transport – the variant of "shared transport" defined by the *Shared Transport Order* – satisfies the section 251(d)(2) standards. The Commission would still have to conduct a vigorous analysis to determine *which* variants of transport satisfy section 251(d)(2).

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[119] *AT&T*, 119 S. Ct. at 736

[120] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Radio Service Providers,* Third Order on Reconsideration and Further Notice of Proposed Rulemaking, CC Docket Nos. 96-98 and 95-185, 12 FCC Rcd 12460 (1997).

- The four checklist items at issue do not speak to whether the network elements must be provided in a manner consistent with sections 251(c)(3) and 252(d)(1) in *all* areas of a state. Thus, even if there were some linkage between the checklist and the Act's unbundled access provisions, there would be no presumption that loops, transport or switching must be provided at cost-based rates in both low-density and high-density areas.

In short, close scrutiny of the section 271 checklist demonstrates that this provision has no bearing on the unbundling obligations of an ILEC pursuant to sections 251(c)(3) and 251(d)(2). And even assuming the Commission improperly bootstraps the enumerated checklist items into section 251, those items are far narrower than the unbundling rules the Commission initially adopted. Section 271 thus provides no basis for rubber-stamping the old rules.

V. Instead of a Uniform, National "List" of Unbundled Network Elements, the Commission Should Adopt Uniform National Standards Based on Marketplace Facts.

a. A Uniform National List For All Network Elements Would Be Inconsistent With the Court's Decision.

In the *Notice*, the Commission acknowledged the Court's decision required it "to take a *hard* look" at the issue of when an incumbent must share elements of its network with competitors,[121] taking into consideration the availability of alternative facilities outside the incumbent's network.[122] Nevertheless, the Commission tentatively concluded that it once again should establish a uniform, national list of unbundled network elements.[123] The Commission asserted that "nothing in the Supreme Court's decision" would call into question this tentative conclusion.[124]

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[121] *Notice* at para. 4 (emphasis added).

[122] *Id.* at para. 24.

[123] *Id.* at para. 14.

[124] *Id.*

The Commission is wrong. A clear implication of the Court's holding that the Commission consider the availability of alternative facilities outside the incumbent's network is that the Commission do so with reference to relevant geographic markets.[125] Consideration of alternative facilities is simply a supply substitutability analysis - the very type of analysis the Commission routinely undertakes in assessing market power.[126] The Commission would never dream of conducting a market power analysis without first defining relevant markets, and it likewise cannot dispense with appropriate market definitions here.[127] Stated simply, business cases are specific to the business conditions in an area; so should be the application of the necessary and impair standards.[128]

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[125] The Commission must, of course, also define relevant product markets in considering the availability of alternative facilities in the relevant geographic market. Because a uniform national list is not inherently inconsistent with properly defined product markets, Ameritech does not here address product market definitions.

[126] *See e.g. Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Tele-Communications, Inc., Transferor to AT&T Corp., Transferee,* CS Docket No. 98-178, FCC 99-24, Memorandum Opinion and Order, released Feb. 18, 1999 at para. 17; *Applications of NYNEX Corp. and Bell Atlantic Corp. for Consent to Transfer Control of NYNEX Corp. and its Subsidiaries,* File No. NSD-L-96-10, Memorandum Opinion and Order, 12 FCC Rcd 19985, 19988 (1997); *Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area and Policy and Rules Concerning the Interstate, Interexchange Marketplace,* 12 FCC Rcd 15756, 15792-800 (1997) (*LEC In-Region Interexchange Order*).

[127] In defining relevant markets, the Commission relies on the 1992 Merger Guidelines, *1992 Department of Justice/Federal Trade Commission Merger Guidelines,* 4 Trade Reg. Rep. (CCH) ¶13,104 at 20,569. Under those guidelines, the relevant geographic market is the "region such that a hypothetical monopolist that was the only present or future producer of the relevant product at locations in that region would profitably impose at least a 'small but significant and nontransitory' increase in price, holding constant the terms of sale for all products produced elsewhere. *Id.* at pp. 20,573 – 20,573-3. Thus, if purchasers in one area can turn to a supplier in a second area to offset a price increase in the first area, then both areas are in the same geographic market.

[128] The Commission has recognized in many other proceedings that competitive conditions vary across geographic markets. *See Local Competition Order* 11 FCC Rcd at 15882-83 (establishing three cost-related density zones); *Applications of NYNEX Corp., Transferor, and Bell Atlantic Corp. Transferee, For Consent to Transfer Control of NYNEX Corp and Its Subsidiaries,* 12 FCC Rcd 19985, 20014-19 (1997). The 1996 Act also recognizes that competition will develop differently in different geographic areas. That is why it establishes two separate tracks for Bell operating company long-distance relief – one for where there is actual facilities-based competition, and one for where there is not.

That is not to say that there can be no national rules for *any* network elements. If the relevant geographic market for a particular network element is the nation as a whole, then a single national rule with respect to that element may be warranted. As discussed *infra,* that is, in fact, the case with respect to operator services and directory assistance, since a single operator services and directory assistance platform, located anywhere – including outside the country - can serve end users throughout the country. Likewise, if the Commission concludes that, even though there are multiple relevant geographic markets for a particular network element, there is no material difference among these markets in the availability of alternative facilities, a national rule would be appropriate (for at least so long as that uniformity among markets continues).[129] That is the case, for example, with respect to advanced technology, since that technology is new technology that is equally, if not more accessible, to CLECs than ILECs. It is also true with respect to AIN services for similar reasons.

For other network elements, however, uniform national requirements are untenable. At least at this time, the relevant geographic market for switching, interoffice transport, and loops is far narrower than the nation as a whole.[130] Moreover, for these elements, significant differences

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[129] *See LEC In-Region Interexchange Order,* 12 FCC Rcd at 15794:

> when a group of point-to-point markets exhibit sufficiently similar competitive characteristics (*i.e.* market structure), we will examine that group of markets using aggregate data that encompasses all point-to-point markets in the relevant area, rather than examine each inidvidual point-to-point market separately. Therefore, if we conclude that the competitive conditions for a particular service in any point-to-point market are sufficiently representative of the competitive conditions for that service in all other domestic point-to-point markets, then we will examine aggregate data, rather than data particular to each domestic point-to-point market.

[130] For example, the relevant geographic market for a loop is a point to point market because facilities that do not connect a particular end user to its serving wire center would be of no help in offsetting an increase in the cost of that end user's loop. *See LEC In-Region Interexchange Order* at 15793 (defining the relevant geographic market for interstate, domestic, long distance services as "all possible routes that allow for a connection from one particular location to another location (*i.e.*, a point-to-point market)."

exist among these markets in the feasibility of using alternatives to ILEC facilities. These differences arise from, *inter alia*, variations in population, population density, customer type (*e.g.* business versus residential), and even topography. In addition, as Commissioner Powell recognizes, in some geographic markets, but not others, CLECs may offer an alternative source of facilities to a new entrant.[131]

Of course, the fact that there are significant regional differences in the relative costs of deploying facilities is not news to the Commission. For years, the Commission has overseen a complex series of universal service subsidies that were put into place precisely because of the dramatically different costs of providing telephone exchange service in different parts of the country. While these subsidies reflected, in particular, geographic differences in loop costs per subscriber, it is not just loop costs that vary from region to region. The feasibility of deploying other types of network facilities also vary from one geographic area to the next.[132]

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[131] *See Notice,* Powell Statement at 4:

> The availability of elements outside the incumbent's network could potentially turn on many factors, such as the existence of vendors and distribution channels, the presence of competing facilities-based LECs and the price of non-incumbent elements relative to the requesting competitors' ability to pay. These factors are likely to vary significantly from one market to the next. It is beyond question, for example, that given the presence of facilities-based competitors in the more lucrative urban markets, a new entrant to an urban market will be faced with many more potential sellers of leased switching capacity than a new entrant to less dense and rural areas where competition has not yet taken hold. Further, to the extent other facilities-based competitors do *not* use elements of the incumbent's network, the presence of those competitors in a particular market should be probative in evaluating whether other firms would be "impaired" in their ability to provide service in that market absent mandated access to the incumbent's elements. It follows directly, then, that assessments of whether an element is necessary to provide service or whether failing to mandate access to that element would impair a new entrant's ability to provide service will vary significantly among different markets, states, and regions.

[132] *See Local Competition*, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission at 2 (Dec. 1998).

In some cases, such as with loops, the geographic differences are such that alternative facilities currently may be deployed only in densely populated areas. In other cases, as with switches and transport, alternative facilities can and have been deployed in more sparsely populated areas. Indeed, in the Ameritech region, CLECs have deployed their own switching equipment in such secondary markets as Decatur, Illinois; Bloomington, Indiana; Traverse City and Marquette, Michigan; and OshKosh, Wisconsin. Thus, not only does the feasibility of deploying alternative facilities vary, for most elements, among geographic markets, but the extent to which they do varies from element to element.

There is simply no way to coalesce these differences into a single, uniform set of national unbundling requirements for all network elements. The Commission cannot comply with the Court's mandate to consider the availability of alternative sources of supply without considering geographic differences in that availability. As Chairman Kennard recently stated: "The telecom market is a diverse one. It has different players in different places operating in different environments. We cannot have a one-size-fits-all solution to a multi-faceted problem."[133] At the most fundamental level, therefore, the Commission's tentative conclusion is inconsistent with the Court's decision.[134]

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[133] *"A Networked Future for all Americans,"* Address of FCC Chairman William E. Kennard at National Telephone Cooperative Association Annual Meeting, Feb. 10, 1999, at 3.

[134] Commissioner Powell recognizes this. In his Separate Statement, he notes: "[t]he substance and spirit of the Court's command that [the Commission] assess the availability of non-incumbent elements and the strong likelihood that such availability will vary with geography convince me that any interpretations of the 'necessary' and 'impair' standards we adopt must somehow address (or, at the very least, methodically discount, these geographic variations. The tentative conclusion in favor of unbundling the same elements nationwide does neither." *Notice,* Powell Statement at 5.

b. A Uniform National List Would be Contrary to Sound Policy

The Commission's desire to avoid consideration of geographic distinctions in the availability of alternative facilities might at least be understandable if that desire were compelled by sound public policy considerations. A uniform national list of unbundled network elements, however, would be contrary to sound policy.

To begin with, any such list of network elements would impose significant social costs. By cutting an overly broad swath, ignoring geographic and other differences, such a list would of necessity be under-inclusive, over-inclusive, or both. To the extent such a list was under-inclusive, competitors would be forced to rely entirely on resale in areas in which they might otherwise choose to combine their own facilities with ILEC facilities. Consumers would thus be denied the benefits of at least some facility diversification in those areas. To the extent such a list was over-inclusive, the Commission's unbundling requirements would have decided anticompetitive effects, as discussed above. Either way, a uniform national list would impose social welfare costs that must be balanced against any benefits offered by such a list, even assuming *arguendo* that such a list could be reconciled with the Supreme Court's decision. In tentatively concluding it should adopt a national list, the Commission attempted no such balance; in fact, it ignored the social costs of its proposal altogether.

Compounding its error, the Commission improperly analyzed the ostensible benefits of uniform national rules. According to the Commission, a single list of network elements that must be unbundled in all states and territories would "further the 'national policy framework' in four respects. Specifically, the Commission claims that such a list would: (1) permit requesting carriers, including small entities, to take advantage of economies of scale; (2) provide financial

markets with greater certainty in assessing requesting carriers' business plans; (3) facilitate the states' ability to conduct arbitrations; and (4) reduce the likelihood of litigation regarding the requirements of section 251(c)(3).[135] Every one of these purported benefits, however, can be obtained without a uniform national list of unbundled elements, and without the overbroad and/or underbroad unbundling requirements that necessarily would attend such a list.

1. A Uniform National List of Elements Cannot be Required to Obtain for New Entrants Scale Economies.

One of the benefits the Commission attributes to a national list is that such a list would better enable CLECs to take advantage of economies of scale. The *Notice* does not explain exactly how and why this is the case. It simply cites the *Local Competition Order*, which states only that "[n]ational requirements for unbundled elements will allow new entrants, including small entities, seeking to enter local markets on a national or regional scale to take advantage of economies of scale in network design."[136] This justification is inadequate.

First, the Commission is wrong in its wholly unsupported assumption that CLECs require a single, uniform national list of network elements in order to avail themselves of scale economies. If the Commission foregoes an all-encompassing national list, as it should, and instead recognizes relevant distinctions among geographic markets, a new entrant would be denied access to an element only in those markets in which, by definition, alternative sources of those facilities are reasonably and practicably available. To the extent a new entrant seeks to

[135] *Notice* at para. 13, citing *Local Competition Order*, 11 FCC Rcd at 15616-27.

[136] *Local Competition Order*, 11 FCC Rcd at 15624.

serve those areas in order to take advantage of scale economies, it thus would have every ability to do so without relying on ILEC network elements.[137]

Second, even if geographic variations in the availability of unbundled elements would make wide-scale market entry impossible – a notion that is implausible at best – that, in itself, is no basis for a single national list of available elements. While scale economies may *reduce* CLEC cost structures, the Supreme Court has made clear that a cost savings, in and of itself, is not a sufficient basis for requiring unbundling. If the new entrant can earn a normal economic profit without access to the incumbent's network, the fact that it is denied a "handsomer [profit]" is irrelevant.[138]

It is undeniable that CLECs can earn a competitive return on capital by pursuing a narrow entry strategy. Some of the most successful CLECs are the smallest ones. As noted in a recent report by the Council of Economic Advisers: "market data show that many of the fastest growing and most successful firms in the [local exchange] industry are unrelated to AT&T, its Regional Bell Operating Company progeny, or any of their subsequent spin-offs."[139]

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[137] Indeed, it should be required to do so. If alternative facilities are available in those areas, consumer welfare is harmed if new entrants rely on the incumbent's facilities instead of deploying their own. In particular, consumers are denied the potential efficiencies, product differentiation, and other benefits that only true facilities-based competition can offer. In this respect, the Commission's assumption that a national list is necessary for new entrants to take advantage of scale economies is not only wrong, but incompatible with the pro-competitive goals of the Act.

[138] Of course, the notion that regulatory policies should be designed to enable new entrants to offer service immediately on a national scale is wholly unrealistic. In the real world, businesses do not pursue "big bang" entry strategies, simultaneously entering multiple markets in one fell swoop. On the contrary, they enter the marketplace incrementally, initially targeting the most profitable customers or areas, and then expanding over time into other areas. That, in fact, is precisely the entry strategy that has been pursued by CLECs, large and small, facilities-based and non-facilities-based. Because the purpose of regulation is to mimic market forces where competition does not yet exist, the Commission ought not adopt regulatory policies that are completely divorced from customary business and market practices, particularly when, as is the case here, those policies impose social costs.

[139] *Progress Report, Council of Economic Advisers,* at 8. Of course, on a broader level, the notion that scale economies are essential to viable competition is facially absurd. If that were the case, then no entry in any market inhabited by a large incumbent would ever be possible.

The reason these CLECs can succeed despite their size is that scale economies are but one of many components in a company's overall cost structure. While an incumbent in any marketplace often has scale advantages, new entrants typically enjoy other, offsetting advantages. In local telephony, new entrants may achieve substantial cost savings over incumbents by deploying more efficient networks that utilize state-of-the-art technology. Indeed, these are the very types of advantages that new entrants have trumpeted in touting their ability to compete head-to-head with incumbents. For example, James Hurley, Midwest regional president of MGC Communications, Inc., a facilities-based CLEC offering service to residential and small business customers in Ameritech's region, recently stated that MGC can compete effectively because "it has state-of-the-art equipment that is more efficient," and "that makes a big difference."[140] Similarly, in a 1996 Securities and Exchange Commission filing, MFS states its belief that "it has significant advantages over its competitors as a result of [its] ... expertise in developing highly reliable, advanced digital fiber optic networks which offer substantial transmission capacity."[141] TCG likewise touts the advantages it derives from using "the latest technologies and network architectures" in a prospectus issued that same year.[142]

Ameritech's point here is not to engage in a tit-for-tat as to whether CLECs are more efficient than ILECs. Its point is to note that CLECs and ILECs each bring certain advantages to the market. In establishing unbundling requirements, the Commission must look at the whole picture, and it must do so with reference to the Court's holding that section 251(d)(2) does not

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[140] Jon Van, *Not the Only Game in Town*, Chicago Tribune, March 9, 1999, at 1.

[141] MFS Communications Co., 1995 SEC Form 10-K at 1 (1996).

[142] Teleport Communications Group, Inc., Prospectus for 23,500,000 Shares of Class A Common Stock 50 (June 3, 1996).

permit the Commission to require unbundling simply to increase the profitability of CLECs by enabling them to add scale economies to the other efficiencies they bring to the marketplace.

Indeed, a myopic focus on scale economies would be at odds with both sound economics and legal precedent. Economists uniformly reject the notion that scale economies, in and of themselves, should give rise to an obligation to share. They recognize that an analysis that is singularly focused on ILEC economies of scale and scope, and that fails to consider the larger issue of whether new entrants can achieve their own efficiencies that permit viable competition, would inevitably lead to the sharing of all assets of all incumbent firms. As Areeda and Hovenkamp argue:

> [A] monopolist may enjoy economies of scale in its plant, advertising, or distribution network. If scale economies are substantial, then any new rival faces higher costs than does the monopolist. Nevertheless, we would not regard the monopolist's large plant as an essential facility that must be shared with others. ... [P]roving essentiality ... requires the critical showing that unless the facility is shared, the market is unlikely to become more competitive.[143]

Indeed, the Commission itself has repeatedly rejected the singular significance of scale economies to a competitive analysis. For example, in the *AT&T Streamlining Order*, the Commission concluded that the interexchange marketplace was substantially competitive notwithstanding AT&T's size, resources, financial strength and technical prowess. Noting that AT&T may also, in certain respects, be disadvantaged by its size, the Commission stated:

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[143] *Areeda* at ¶¶ 773b2-b3, p. 206. *See also Areeda* at ¶772, p. 191: ("[a]ntitrust law does not wish to discourage firms from building optimal size plants or warehouses by threatening their builders with any duty to share what might be regarded as excess.") Mirroring this view, courts also have refused to view an incumbent's scale economies as a basis for requiring sharing. *See MCI Communications Corp. v. AT&T,* 708 F.2d 1081 (7th Cir. 1983); *Twin Labs v. Wieder Health and Fitness,* 900 F.2d 566 (2d Cir. 1990); *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536 (9th Cir. 1991), *cert. denied,* 112 S. Ct. 1603 (1992).

> The issue is not whether AT&T has advantages, but, if so, why, and whether any such advantages are so great as to preclude the effective functioning of a competitive market. An incumbent firm in virtually any market will have certain advantages – including, perhaps, resource advantages, scale economies, established relationships with suppliers, ready access to capital, etc. Such advantages do not, however, mean that these markets are not competitive, nor do they mean that it is appropriate for government regulators to deny the incumbent the efficiencies its size confers in order to make it easier for others to compete. Indeed, the competitive process itself is largely about trying to develop one's own advantages, and all firms need not be equal in all respects for this process to work.[144]

History, of course, has proven the Commission correct. Despite the dire warnings of AT&T's competitors that AT&T's size and scale would enable it to snuff out competition, AT&T has continued to lose market share, not only under streamlined regulation, but as a non-dominant carrier. It has done so because AT&T's competitors were able to develop advantages of their own to counter AT&T's unique scale economies. This is how the competitive process is supposed to work. And this is what would be lost, as Justice Breyer and Commissioner Powell recognized, if the Commission were to establish one-size-fits-all unbundling rules that afforded new entrants access to incumbent facilities in areas where such access is not necessary to compete effectively in the market.[145]

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[144] *Competition in the Interstate Interexchange Marketplace,* Report and Order, 6 FCC Rcd 5880 (1991), para. 60. *See also Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier,* Order, FCC 95-427, released Oct. 23, 1995, at para. 73: ("It is not surprising that an incumbent would enjoy certain advantages, including resource advantages, scale economies, long-term relationships with suppliers (including collocation agreements), and ready access to capital. Such advantages, however, do not *a fortiori* indicate that AT&T has a lower cost structure that can give it an unfair competitive advantage over its competitors.")

[145] As Justice Breyer observed, "[i]t is in the unshared, not in the shared, portions of the enterprise that meaningful competition would likely emerge." *AT&T.* 119 S. Ct. at 754. A rule requiring sharing without regard to the availability or cost of alternative facilities would undermine real, facilities-based competition by eliminating incentives to invest in such facilities. Such a rule, as Justice Breyer aptly put it, would "create, not competition, but pervasive regulation," and "a world in which competitors would have little, if anything to compete about." *Id. See also* Powell Statement at 2 ("Making . . . access [to incumbent's facilities] too easy or attractive will only ensure that the entrant's relationship to the incumbent is characterized more by one-sided dependence than true rivalry.").

2. None of the Other Factors Cited by the Commission Justifies a Uniform National List.

In addition to claiming that a uniform national list of available unbundled network elements would better enable new entrants to take advantage of scale economies, the Commission cited three other purported benefits of such a list. It claimed, first, that this list would provide financial markets with greater certainty in assessing CLEC business plans. It claimed, second, that a uniform list would facilitate the conduct of state arbitrations. And it claimed, third, that a uniform list would reduce the likelihood of litigation. None of these justifications are convincing. To the contrary, the Commission confuses certainty with uniformity.

A uniform national list is not necessary, for example, to provide certainty to financial markets. So long as the Commission adopts clear and objective national unbundling standards, as recommended below, financial markets will have all the certainty they need in assessing CLEC prospects, even if those standards do not result in a single national list. Indeed, contrary to the Commission's assumption, a uniform national list would inject *uncertainty* into financial markets. As noted above, a uniform list would inevitably be under-inclusive, over-inclusive, or both. Thus any such list would undoubtedly be appealed, perhaps by ILECs and CLECs alike. Thus, far from settling matters, once and for all, a uniform national list would perpetuate uncertainty in capital markets.

Nor is a uniform national list of unbundling requirements necessary to facilitate state arbitrations. In a whole range of contexts, state arbitrators must apply national standards, and there is no reason why they are incapable of doing so here. To the extent the Commission's

standards are clear and objective, like the brightline tests Ameritech proposes below, state commissions should be able to arbitrate disputes relating to network unbundling quickly and efficiently.

Finally, adopting a uniform national list of unbundled elements would not reduce the risk of litigation regarding the requirements of section 251(c)(3). To the contrary, as noted above, such a list would all but *guarantee* litigation by ILECs, CLECs, or both. Only by hewing to the letter and spirit of the Court's order will the Commission avoid further litigation and provide the certainty and finality that everyone in this marketplace seeks.

c. The Commission Should Limit the Use of Network Elements to the Service of Residential Customers in Appropriate Circumstances.

Not only must the Commission consider geographic differences in applying section 252(d)(1), it should also consider other factors that may materially affect an entrant's need for access to unbundled network elements. For example, it might consider the different revenue generating potential of residential customers versus business customers.[146] As the Commission is well aware, business customers offer much higher profit margins than do residential customers. Of course, in many cases, facilities that are deployed to service business customers, in the first instance, can be used at little or no incremental cost to serve residential customers. Nevertheless, in some cases, the different revenue generating potential of business and residential customers may spell the difference between an economic return and the lack of an

[146] The Commission has defined residential and small business customers (the mass market) and large business customers (the larger business market) as separate product markets in a number of merger proceedings. *See, e.g., Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Tele-Communications, Inc., Transferor to AT&T Corp., Transferee,* CS Docket No. 98-178, FCC 99-24, released Feb. 18, 1999 at paras. 44-50; *Applications of Southern New England Telecommunications Corp. and SBC Communications, Inc. for Consent to Transfer of Control of Licenses and Section 214 Authorizations,* 13 FCC Rcd 21292, 21300 (1998).

economic return using alternative facilities. If that is the case, use of the relevant network elements should be limited to residential services.

Surely, there is nothing in the Act to prohibit such a limitation. To the contrary, the Act expressly contemplates this type of limitation insofar as section 251(d)(2)(B) speaks of "the failure to provide access to ...network elements would impair the ability of the telecommunications carrier seeking access to provide *the services* it seeks to offer." Moreover, by carefully crafting unbundling requirements and limiting those requirements to contexts in which unbundling is actually needed, the Commission would further the pro-competitive policies of the Act by spurring facilities-based competition.[147]

d. The Commission Should Adopt Uniform National Standards Based on Market Facts.

Instead of a uniform national list, the Commission should adopt uniform national *standards* for determining an ILEC's unbundling obligations. Clear and objective national standards would offer a number of benefits.

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[147] Although the *Local Competition Order* prohibits limitations on the use of network elements, that limitation was based on the Commission's misunderstanding of section 251(c)(3). In that order, the Commission concluded that the language in section 251(c)(3) requiring ILECs "to provide access to 'unbundled network elements in a manner that allows requesting carriers to combine such elements to provide' a telecommunications service," barred ILECs from placing any limitation on the use of network elements. *Local Competition Order*, 11 FCC Rcd at 15646 (citing 47 U.S.C. § 251(c)(3)). Although the Commission did not explain its reasoning, it seemed to proceed from the assumption that section 251(c)(3) established a broad unbundling standard that required ILECs to make elements available to provide any telecommunications service. Apart from the fact that the language of section 251(c)(3) does not expressly or implicitly support such a prohibition, section 251(c)(3) does not establish a network unbundling standard. Consequently, it does not indicate which network elements must be unbundled, or for what purpose they must be made available to requesting carriers. Indeed, the Supreme Court specifically rejected that notion, holding that: "Section 251(c)(3) indicates 'where unbundled access must occur, not which [network] elements must be unbundled.'" *AT&T*, 119 S. Ct. at 736 (quoting *Iowa Utils Bd.*, 120 F.3d at 810). Section 251(c)(3) therefore does not have the prohibitory effect the Commission ascribes to it. Consequently, the Commission is free to sanction certain types of use limitations.

First, if easy to administer, they can offer all of the benefits of certainty that the FCC seeks from a uniform national list. In fact, the standards Ameritech proposes are designed to this end.

Second, these standards could be applied by state commissions on a market specific basis, which would be most consistent with the Court's mandate. As noted above, it is impossible to give legitimate meaning to the Supreme Court's directive and, indeed to the language of the Act itself, without recognizing that the feasibility of using alternatives to ILEC facilities varies from market to market. A national standard would permit elements to be made available precisely where they are needed. In this respect, clear national standards would best promote the Act's goals of promoting competition, innovation, and investment.

Third, national standards would reducee the need for further proceedings to determine whether access to network elements continues to be necessary in light of changes in the market. Facilities that today must be obtained from the ILEC may well be readily available from alternative sources in the future. A uniform national list, therefore, would have to be revisited continually as technology and the economics of deploying alternative facilities changes. In contrast, national standards can be structured so as automatically to adapt unbundling requirements to reflect technological and other changes that affect the feasibility of deploying specific types of alternative facilities in specific areas. For example, Ameritech proposes below that unbundled switching not be required in rate centers in which (i) at least one CLEC has deployed its own switch and (ii) collocation is available. The Commission not only can apply this standard today to determine where unbundled local switching should be made available, it can also use this standard as a self-executing sunset provision that automatically eliminates

unbundled switching location switching requirements in areas in which it is demonstrated by competitive activity that such requirements are unnecessary.

The importance of reducing the need for follow-up regulatory proceedings cannot be overstated. Because, even under the best of circumstances, the regulatory process is cumbersome in order to protect parties' due process rights, changes in government regulation typically lag far behind market developments that necessitate those changes. This lag is a well-recognized cost of regulation and one that can be avoided by standards that are designed to accommodate changes in market conditions.

The problem of regulatory lag is particularly acute in the context of regulations that are designed to prop up a particular constituency. The Commission should be well aware that once a regulatory crutch is offered, it is extremely difficult to take that crutch away. The information service provider access charge exemption is but one example. Originally adopted to protect what was a fledgling industry from access charges that were at the time in excess of ten cents per minute, that exemption survives sixteen years later, even as access charges drop to a fraction of what they were and as the information service industry changes from, what was truly a marginal industry, to an industry populated by such giants as AOL, AT&T, Time Warner and others. Another example is the equal charge per unit of traffic rule. Originally adopted in the Modification of Final Judgment for a limited transitional period, it took the Commission years to phase out that requirement, despite the toll it exacted on the functioning of an efficient market.

Thus, the Commission should not fool itself into thinking that it can adopt overly generous unbundling requirements simply to enable multiple CLECs to get a toe in the door and then scale back those requirements before they do too much harm. History has proven that any such requirements will remain in place, distorting the marketplace, and harming competition and

consumers long after they have outlived their intended purpose. Therefore, the Commission must put into place a regime that promotes efficiency and enhances consumer welfare from the outset.

In the sections that follow, Ameritech proposes easy bright-line tests for determining whether each network element meets the necessary and impair standards. In some cases, the Commission can adopt a national rule with respect to element in question. In others, the test proposed by Ameritech will have to be applied by state arbitrators.

The important point is that these tests are all derived from actual market data. Ameritech proceeded under the theory that "actions speak louder than words" – that if firms are already in the marketplace offering service without ILEC network elements, they necessarily have decided that they can earn at least a normal economic profit without access to the ILEC network elements in question. There is no reason for the Commission to question these decisions. The role of any government regulator, after all, is to imitate the market, not second-guess it. Because the element-specific standards proposed by Ameritech are based on the business decisions of new entrants, those standards are inherently superior to any alternative standard. The fact that they are easy to administer makes them all the more compelling.

VI. Application of Standards to Specific Network Elements

a. Local Switching.

In the *Local Competition Order*, the Commission required ILECs to provide local switching as an unbundled element because it found that denying such access would substantially impair the ability of competing carriers to provide switched telecommunications services.[148] The Commission found that competition would not develop quickly if, prior to

[148] *Local Competition Order*, 11 FCC Rcd at 15705.

entering the market, new entrants had to replicate even a small percentage of the 23,000 central office switches then deployed by ILECs.[149] In reaching this conclusion, the Commission specifically refused to consider whether switching was available from alternative sources, or could reasonably and practicably be self-provided. Indeed, in response to arguments by MFS and SBC that access to unbundled local switching was not essential because competitors were likely to deploy their own switches,[150] the Commission stated simply that MFS and SBC had "present[ed] no evidence that competitors could provide service using another element in the LEC's network at the same cost and at the same level of quality."[151] The Commission went on to conclude that "a requesting carrier's ability to offer local exchange service would be impaired, if not thwarted, without access to an unbundled local switching element."[152]

History has proven the Commission wrong. Since the Commission adopted the *Local Competition Order*, the number of switches deployed by CLECs has grown from fewer than 100 to 724 as of March 1999.[153] These switches were not deployed only by large CLECs in major metropolitan areas. To the contrary, they were deployed by 167 different CLECs in 320 cities.[154] Included among those 167 CLECs were many smaller CLECs serving niche markets. For

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[149] *Id.* The Commission based this conclusion on evidence that it would take CLECs up to two years to purchase and install a switch. *Id.* at 15705-06 (citing Supplemental Rebuttal Testimony of Jake Jennings, Office of Policy and Planning, Illinois Commerce Commission, ICC Staff Ex. 1.04, Docket No. 95-0458, at 11-12 (Mar. 11, 1996)). CLECs, however, can deploy switches far more quickly. As discussed below, equipment manufacturers have worked reduced the time to deploy a switch to between 40 days and 28 weeks. *UNE Fact Report* at I-30.

[150] *Local Competition Order*, 11 FCC Rcd at 15711.

[151] *Id.*

[152] *Id.*

[153] Bellcore's Local Exchange Routing Guide (LERG) database listed 724 CLEC switches as of March 1999. UNE Fact Report at I-1. *See also* Council of Economic Advisers, *Progress Report: Growth and Competition in U.S. Telecommunications 1993-1998* at 17 (Feb. 8, 1999) (reporting that the number of CLEC switches had grown to almost 700 as of the end of last year).

example, XIT Communications and RIO Communications have both deployed switches even though they serve limited geographic areas.[155] Similarly, Waller Creek and Otter Tail have deployed switches even though their reported 1998 revenues were $600,000 and $610,000 respectively.[156]

In Ameritech's region alone, 28 different CLECs have deployed a total of 112 switches. Moreover, they have deployed those switches, not only in large urban centers, but in secondary markets as well. Consequently, as shown below, competitive switches now serve more than 47 percent of Ameritech's rate centers.

While CLECs have been busy installing their own switches, not a single one has ordered unbundled local switching from Ameritech – this, despite the fact that CLECs are currently providing service using more than 122,000 unbundled local loops, and an estimated 746,000 of their own access lines.[157] For all these loops, CLECs are providing their own switching. These data show that deploying competitive switches is not only feasible, but also the preferred option for CLECs. Certainly, based on these facts, the Commission's conclusion that the lack of unbundled local switching would impair the ability of CLECs to provide switched telecommunications services is demonstrably wrong.

In light of the Supreme Court's decision, the Commission cannot order ILECs to unbundle local switching in those markets in which CLECs can reasonably and practicably offer local exchange service using their own switches. The easiest way to identify such markets is to

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[154] *UNE Fact Report* at I-1 (citing the LERG database).

[155] XIT serves Dalhart and Stratford, Texas with one Lucent 5ESS Switch, and RIO serves three Oregon cities with a Class 5 switch. *Id.* (citations omitted).

[156] *Id.* (citations omitted).

[157] *UNE Fact Report* at III-15.

examine marketplace facts to identify those markets in which at least one CLEC is offering local exchange service using its own switch.[158] In such markets, CLECs have, by their own actions, established that a reasonably efficient competitor could compete without access to the incumbent's switch. Thus, an ILEC cannot be required to provide unbundled local switching in any market being served by at least one CLEC voice switch.

1. The Commission Must Identify the Markets (i.e., Rate Centers) in Which CLECs have Deployed Alternative Local Switching.

In its December 1998 *Local Competition Report*, the Commission identified the rate center as the appropriate starting point for assessing competition in the provision of switching services.[159] As the UNE Fact Report explains, "the basic building block for the local switching services provided by incumbent carriers is the 'rate exchange area,'" which is a "circle of defined radius drawn around a single point on a map – that point being the 'rate center.'"[160] Industry guidelines, established at the direction of the Commission, generally require every CLEC to obtain a separate numbering code (NXX) from the North American Numbering Plan for each

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[158] As discussed below, the appropriate starting place to assess the availability of competitive local switching is the "rate exchange area" or "rate center." Although the relevant geographic market of a switch is substantially larger than the rate exchange area because CLEC switches are typically assigned to serve multiple (on average 14) rate exchange areas, the Commission need not identify the precise geographic market of competitive switches. That is because competitive switching is plainly available in any rate center to which a CLEC switch has been assigned.

[159] FCC, Industry Analysis Division, *Local Competition* at 41 (December 1998) (*Local Competition Report*).

[160] *UNE Fact Report* at I-3 (citations omitted). "Rate exchange areas are geographically defined areas within which calls that originate and terminate (i.e., remain within the area) are considered local calls." *Local Competition Report* at 41. In many cases, the rate exchange area coincides with the area of the incumbent's serving wire center (that is, the building in which one or more local switching systems are installed). In more densely populated areas (such as urban centers), however, a single rate exchange area may include several wire centers, although the "rate center" coincides with the location of one of the ILEC's central office switches. *UNE Fact Report* at I-4.

rate center in which it provides service using its own switch.[161] Such codes are essential to properly route traffic.[162]

Information concerning the assignment of NXX codes to CLECs is available in the Commission's own reports and in the LERG database.[163] By referring to that information, it is possible to determine precisely which CLECs are using their own switches to serve which rate exchange areas by determining where CLECs have obtained NXX codes.[164]

The UNE Fact Report analyzes this information, and concludes that over one third of all BOC and GTE rate centers were served by at least one CLEC voice switch as of March 1999.[165] Eighteen percent were served by at least two CLEC switches; 12 were served by at least three; and nearly eight were served by four or more.[166]

These numbers are very conservative. As the UNE Fact Report points out, they count only CLEC switches that are up and running, and only conventional circuit switches.[167] They ignore, for example, that CLECs could readily extend the geographic reach of existing switches or deploy more switches.[168] In addition, they do not include packet switches, which handle a

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[161] *UNE Fact Report* at I-9 (citing ATIS, Central Office Code (NXX) Assignment Guidelines, INC 95-0407-008, Reissued Jan. 27, 1999 at 1, 6-7 (*CO Assignment Guidelines*)).

[162] *Id.* (explaining that, in order to offer a switching service, CLECs must be assigned an NXX code because the NXX code tells other switches in the network where to route traffic).

[163] *Local Competition Report* at 41-111 (reporting such information by state and LATA). Bellcore's LERG database compiles the same information, but updates it more frequently. *UNE Fact Report* at I-9.

[164] *UNE Fact Report* at I-9, I-10.

[165] *UNE Fact Report* at I-7.

[166] *Id.*

[167] *Id.* at I-9.

[168] *Id.*

growing volume of voice traffic.[169] Nor do they include rate exchange areas that are served by CLEC switches through ILEC ported numbers, rather than NXXs assigned to them.[170]

In Ameritech's region, 47 percent of Ameritech's rate centers are served by one or more CLEC voice switches.[171] Thirty-six percent are served by two or more, 26 by three or more, and 21 by four or more.[172] In sum, 28 different CLECs have deployed 112 switches in Ameritech's region.[173]

As one might expect, CLECs have deployed a large number of switches – twenty-eight – in the Chicago MSA. One or more competitive switches are assigned to each of Chicago's rate centers, and therefore could serve 100 percent of Ameritech's access lines in Chicago.[174] One or more CLECs also have obtained collocation in 76 percent of Chicago's rate centers, covering 89 percent of Ameritech's access lines.[175]

Likewise, in the Detroit MSA, there are nine CLECs operating 12 different switches.[176] Ninety-four percent of the rate exchange areas in Detroit are currently served by at least one CLEC switch; 91 percent are served by two or more; 58 percent by three or more; and 41 percent by four or more.[177] AT&T operates a DMS 500 switch that serves 111 rate exchange areas, and

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[169] *Id.*

[170] *Id.* As discussed below, CLECs do not need an NXX to can provide service in a particular rate exchange area; instead, they can obtain ported numbers from an ILEC.

[171] *Id.* at I-7, Table 1.

[172] *Id.*

[173] Aron/Harris Affidavit at 57.

[174] Aron/Harris Affidavit at 62.

[175] *Id.*

[176] The Detroit MSA consists of 85 different rate centers. Ameritech is the incumbent LEC in the entire MSA.

[177] *See UNE Fact Report*, Section I, Map 6.

a Lucent 5ESS switch that serves 117 rate exchange areas. MCI WorldCom operates a Siemens DE4 EWSD RCU Switching System that serves 31 rate exchange areas, and Ericcson AXE-10 that serves 17, and a DMS 100 that serves eight. Phone Michigan, Coast to Coast, Focal, WinStar, Teligent, MediaOne and KMC Telecom each currently operates one switch.

CLECs are not limiting deployment of competitive switches only to large metropolitan areas. CLECs are also deploying switches to serve the vast majority of customers in smaller cities. In Indianapolis, for example, CLECs have deployed switches in eight of sixteen rate centers, addressing 93 percent of Ameritech's lines in that market.[178] One or more competitors also have obtained collocation in 25 percent of the Indianapolis rate centers, covering 87 percent of Ameritech's lines.[179] Similarly, CLECs have assigned one or more switches to 92 percent of the rate centers in Columbus, covering 99 percent of the lines in that market. CLECs have also obtained collocation in fifty-four percent of the rate centers in Columbus, covering 89 percent of the lines.[180]

The examples are not atypical – CLECs are operating switches in 26 of the top 27 MSAs served by Ameritech.[181] CLECs, however, have not focused exclusively on the largest MSAs in Ameritech's region. They are also operating switches in secondary markets (that is, MSAs

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[178] Aron/Harris Affidavit at 63.

[179] *Id.*

[180] *Id.*

[181] Internal Ameritech Data (based on LERG data). In 24 of these MSAs, CLECs have physically deployed a switch, while two others (Canton, Ohio, and Peoria, Illinois) are served by switches located in an adjacent MSA. *Id.*

below the top 200), such as Decatur, IL, Bloomington, IN, and Traverse City and Marquette, MI.[182]

Many of these switches have been deployed by small CLECs. Indeed, small CLECs have now deployed 67 (or 58 percent) of the competitive switches in Ameritech's region.[183] And many of these CLECs have deployed more than one switch.[184] Small CLECs are also deploying switches at a much faster rate than the "Big Three" interexchange carriers – between 1998 and 1999, the number of switches deployed by small CLEC's increased 140 percent, versus 29 percent for the "Big Three" interexchange carriers.[185]

2. Competitive Local Switching is More Robust and Extensive than the Number of CLEC Switch Assignments Would Suggest.

To assess the extent of competitive local switching, one cannot simply look at the number of rate centers to which CLEC switches have already been assigned. The percentage of ILEC loops that can be served by CLEC switches is significantly higher than the percentage of rate centers to which such switches have been assigned because many CLECs have initially focused switch deployment on densely populated urban areas. In addition, CLECs can obtain telephone numbers by porting them from ILEC switches, and thus can serve rate centers without actually obtaining additional NXX code assignments. Moreover, many CLECs could easily extend the reach of their existing switches to serve additional rate centers.

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[182] *Id.*

[183] *Id.* The "Big Three" long distance carriers have deployed 49 switches, or 42 percent of the competitive switches in Ameritech's region. *Id.* (based on LERG data).

[184] For example, US Xchange has deployed 10 switches in Ameritech's region; Intermedia Communications has deployed 7, ICG Telecom has deployed 6; McLeod/Consolidated, Phone Michigan, and Winstar have each have deployed 5; Frontier, Teligent, and Netlink each have deployed 4; and Time Warner and Focal have each deployed 3.

[185] Ameritech Internal Data (based on LERG data).

By examining where CLECs have obtained collocation and deployed switches, one can calculate how many of the incumbent's lines CLECs can serve currently using their own switches. In Ameritech's region, for example, one or more CLECs have assigned switches and obtained collocation in Ameritech rate centers that serve 14,389,498 lines, or 70 percent of Ameritech's lines.[186] CLECs have assigned switches, but not yet obtained collocation, in Ameritech rate centers that serve an additional 3,035,790 lines, or 15 percent of Ameritech's lines. Because, as discussed below, physical and virtual collocation space is available in all of Ameritech's central offices, CLECs could quickly and easily serve these additional lines using their own switches. Thus, although one or more CLECs have assigned switches to only 47 percent of Ameritech's rate exchange areas, they can currently (or could soon) serve 85 percent of Ameritech's lines using their own switches.

CLECs can also serve rate exchange areas other than those to which their switches have been assigned by obtaining ported numbers from ILEC switches. Section 251(b)(2) of the 1996 Act requires all LECs to provide number portability in accordance with the Commission's rules.[187] Once an ILEC has implemented number portability (LNP) on a switch, CLECs can port numbers from that switch to CLEC switches located anywhere, as long as the customer's number being ported remains in the same rate center.

Under the Commission's rules, ILECs are required to implement LNP upon request in switches designated by CLECs as competitive targets.[188] In order to ensure that carriers

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[186] Aron/Harris Affidavit at 61.

[187] 47 U.S.C. § 251(b)(2).

[188] *Telephone Number Portability*, First Reconsideration Order, 12 FCC Rcd 7336, 7272-77 (1997) (*First Reconsideration Order*).

deployed LNP in areas where competitors planned to enter, the Commission directed industry and state commissions to focus deployment on those switches in the top 100 MSAs targeted by CLECs.[189] CLECs were therefore required to designate which ILEC switches they intended to compete against. By December 1998, the BOCs and GTE implemented LNP in those switches.

Based on LERG data, CLEC switches can currently obtain ported numbers from 53 percent of Ameritech's switches. These switches serve 43 percent of Ameritech's rate exchange areas.[190]

Many CLECs also could quickly and easily extend the reach of their existing switches to serve additional ILEC central offices. As the Commission itself has acknowledged, CLEC switches typically serve a much larger geographic area than ILEC switches do.[191]

AT&T asserts that, when used with a digital loop carrier, a single switch can readily serve customers within a 125-mile radius.[192] In fact, AT&T is using switches to serve customers over much greater distances. For example, it uses a switch in Grand Rapids, MI to serve Perkins, MI (217 miles), and a switch in Waukesha, IL to serve Eau Clair, MI (159 miles).[193] MCI uses switches in Seattle to serve suburbs in Tacoma, WA (27 miles), in Baltimore to serve Rockville,

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[189] *Telephone Number Portability*, Third Memorandum Opinion and Order on Reconsideration, 13 FCC Rcd 16090, para. 5 (1998).

[190] *UNE Fact Report* at I-21.

[191] *See e.g. Telephone Number Portability*, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 8352, 8449 n.539 (1996); Report of the Texas Number Conservation Task Force, posted Jan. 15, 1997 http://www..npac.com/regions/southwest/swdocs/texas/txNumberConservation.htm.

[192] Petition of AT&T Corp. to Deny Application of GTE Corp. Tranferor, and Bell Atlantic Corp. Transferee, For Consent to Transfer of Control, CC Docket 98-184, at 24 (filed Nov. 23, 1998).

[193] AT&T also uses a switch in Peoria, IL to serve Rockford, IL (110 miles), a switch in South Bend, IN to serve Palmer, IN (54 miles) and Muncie, IN (112 miles), a switch in Waukesha, WI to serve Glenview, IL (64 miles), a switch in Peoria, IL to serve Norway, IL (72 miles), and a switch in Akron, OH to serve Columbus, OH (109 miles). AT&T also has switches located in Kentucky and Iowa that have points of interconnection within Ameritech's region.

MD (32 miles), and in New York City to serve Queens (12 miles), lower Westchester Country (15 miles) and Nassau County (16 miles).[194] ITC Deltacom serves much broader areas with its switches; it uses a switch in Birmingham, AL to serve Huntsville (90 miles) and Montgomery (84 miles), and a switch in Columbia, SC to serve Greenville (100 miles), Charleston and Charlotte, NC (85 miles), and Atlanta, GA (190 miles).[195] Focal also serves broad areas with its switches; it uses a switch in Chicago to serve Utica, IL (80 miles) and Morocco, IN (66 miles).[196] And McLeod uses a switch in Taylorville, IL to serve Chicago (182 miles).[197] According to the LERG database, the average CLEC switch in BOC/GTE territory has obtained NXX codes to serve 14 rate exchange areas.[198]

Switch manufacturers, taking into account the special needs of CLECs, have specifically designed their equipment to serve large geographic areas. Nortel, for example, has designed its remote switching center so that it can extend host switch features to subscribers up to 650 miles away from the host switch.[199] Similarly, Lucent's 5ESS switch permits a CLEC to locate a remote switching module in a different LATA and up to 600 miles away from the host switch,

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[194] *UNE Fact Report* at I-23 (citing D. Braun, *Carrier Adds to Network, Broadens Offerings – MCI Goes After Local Phone Market*, Internet Week, Mar. 2, 1997).

[195] *Id.* (citing ITC Deltacom, Inc., Form 10-K, Mar. 30, 1998; Rand McNally, *Commercial Atlas and Marketing Guide* (1999).

[196] *Id.* (citing Focal Communications website, http://www.focal.com/about/af_service_areas.html

[197] Distance in airline miles calculated based on vertical and horizontal coordinates of McLeod's switch, using formula derived from National Exchange Carrier Association, Inc., Tariff F.C.C. No. 4, Section 11, pp. 1-3, issued April 16, 1999.

[198] *Id.*

[199] *Id.* (citation omitted).

allowing CLECs "to expand networks and service offerings cost-effectively."[200] Thus, many CLECs could readily extend service to new rate centers using their existing switches.

3. CLECs Could Also Extend Their Service Territory by Deploying New Switches.

One of the reasons competitive local switching has been so widely deployed is that switches are relatively inexpensive, fully scalable, and can be quickly and easily installed. As a consequence, CLECs can readily expand their service territories by deploying new switches.

Numerous equipment manufacturers are supplying central office switches.[201] It is impossible to determine precisely what these manufacturers are charging CLECs for switches because switch prices are negotiated, and therefore not only vary, but also are confidential. What is clear, however, is that the cost of switching has fallen dramatically due to advances in switch technology.[202] On a per-line basis, prices declined over 60 percent from 1986 to 1996, and were projected to fall another 12 percent by 2000.[203] As a consequence, manufacturers charge new purchasers of switching equipment (including CLECs) far less than they charged purchasers like Ameritech.

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[200] *Id.* at I-23, I-24 (quoting Lucent, *The 5ESS 2000 Switch Product Family*, <http://www.lucent.com/netsys/5ESS/family/sm_switch.html>). Other switch manufacturers too are making switches to accommodate the special needs of CLECs. Castle, for example, asserts that, using its switching platform, "a CLEC serving Chicago can cost-effectively expand to support the Milwaukee area." *Id.* at I-24 (quoting J. Caron, *Switches Get Personal*, tele.com, Jan. 25, 1999).

[201] As noted in the UNE Fact Report, CLECs have purchased switching equipment from at least 10 different manufacturers: Alcatel/DSC, Ericsson, Excel, Harris, Lucent, Mitel, Nortel, Northern Electric, Siemens, and Stromberg-Carlson. *Id.* at I-28.

[202] *UNE Fact Report* at I-28 (citing Deutsche, Morgan, Grenfell, Inc., *Telecom Equipment*, March 27, 1998, at 69).

[203] *Id.* (citing Northern Business Information, *U.S. Central Office Equipment Market: 1996 Database*, Version 1.0, at 27 (Jan. 1997). The cost of switching is typically measured on a per-line basis because switch capacity varies significantly.

These manufacturers are targeting CLECs as a key growth market, and are aggressively seeking to identify and cater to their specific needs by developing modular switches that are fully scalable, offering generous financing arrangements, and providing full technical support. The large, traditional switch manufacturers, like Lucent and Nortel, for example, have developed modular switches that are fully scalable to meet a CLEC's needs as it grows. Because of their modular design, these switches provide CLECs affordable, flexible and full service network capabilities, which can be expanded with minimal investment.[204] Many new, smaller switch manufacturers are also targeting the CLEC market, offering CLECs scalable, cost-effective switching solutions.[205]

Manufacturers have dramatically reduced switch deployment times. Lucent, for example, has developed "prefab central offices" specifically to reduce installation times for CLECs.[206] According to Lucent, the entire process, "from prefab to the deployment of service takes 40 days."[207] E.Spire states that its typical switch installation takes no longer than 28 weeks from the time an order is placed until the time the switch is turned up.[208]

Equipment vendors also offer a variety of support services to facilitate CLEC entry and operations. Among other things, they provide operations support systems and software, technical support and maintenance, and marketing support and billing. Some provide switching

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[204] *UNE Fact Report* at I-28, I-29. These switches support a full range of services, including local and long distance, ISDN, Internet access, wireless PCS, AIN, interactive video and multimedia services.

[205] *UNE Fact Report* at I-29 (citing L. Wirbel, *Startups to Storm Switch Market*, tele.com, Jan. 15, 1999). Sattel, for example, manufactures switches that can be expanded as a CLEC's business grows, and which can be purchased at a relatively low initial cost. *Id.* (citing The Diana Corporation, 1997 Annual Report at 8 (1997)).

[206] *Id.* at I-30 (citing Breakaway Strategies, *Prefab COs Speed Market Entry*, Insight, Fall-Winter 1998, at 9).

[207] *Id.*

[208] *Id.* (citation omitted).

systems on a "turnkey" basis, supplying CLECs with everything they need, including technical support, to get their switches up and running.[209]

In addition, many manufacturers are offering a wide range of financing options for CLEC switch purchases.[210] Lucent, Nortel, and Siemens have all provided, or committed to provide, financing to CLECs for the purchase of switching and other equipment.[211] Even smaller vendors, like Coyote, offer financing to CLECs.[212]

In addition to traditional voice switches, CLECs can and do use a variety of switching options to compete with ILECs. As the UNE Fact Report explains in detail, CLECs can substitute long-distance switches, packet switches, and PBXs for class 5 central office switches.

The Commission's new collocation requirements also facilitate CLEC switch deployment by expanding the number of collocation options available to them.[213] Under the Commission's new rules, ILECs must make available to requesting CLECs shared cage and cageless collocation arrangements.[214] When collocation is exhausted in one location, ILECs must permit collocation in adjacent controlled environmental vaults or similar structures.[215] ILECs also must remove

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[209] *UNE Fact Report* at I-30.

[210] *Id.* at I-30 (citing P. Brown, *Telecom Act Turns Three*, tele.com).

[211] *Id.* at I-30, I-31.

[212] Coyote offers $20 million in lease financing to customers for the purchase of switching and related equipment and services. http://www.cyoe.com/pressrel/pr19990224.asp.

[213] *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, First Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 98-147 at paras. 19-60 (rel. Mar. 31, 1999) (*Advanced Services Order*).

[214] *Id.* at para. 8.

[215] *Id.*

obsolete, unused equipment to make room for additional collocated CLEC equipment.[216] In addition, CLECs still have the option of virtual collocation if physical collocation space is exhausted.

Irrespective of the new collocation rules, collocation space exhaustion generally has not been a problem in Ameritech's central offices. Even before the Commission adopted its rules, all of Ameritech's central offices had space available for either physical or virtual collocation. And Ameritech has long offered flexible collocation options. More importantly, Ameritech's central offices will remain open to collocation in the future. As a consequence, the availability of collocation space imposes no impediment to the deployment of new switches.

Dr. Fitzsimmons's analysis confirms that a reasonably efficient competitor could viably and profitably provide competitive local service using self-provisioned switching.[217] For his analysis, Dr. Fitzsimmons developed an economic model, the LECG Entry Model, that simulates the financial performance of reasonably efficient competitive entrants in selected geographic areas in Ameritech's region, assuming that unbundled loops are available from Ameritech, and that new entrants self-supply their own switches, and build and lease their own local transport. The results from the LECG Entry Model show that reasonably efficient CLECs could enjoy significant financial benefits through entry or expansion of competitive local service using self-supplied switching in large and small metropolitan areas, and in wire centers far from existing CLEC switches.[218]

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[216] *Id.*

[217] Affidavit of William L. Fitsimmons, Ph.D., Attachment B, at 2, May 26, 1999 (*Fitzsimmons Affidavit*).

[218] *Id.*