

numbers.⁴⁰¹ PCIA adds that the ability to transfer telephone numbers between wireline and CMRS carriers ameliorates "number exhaustion" concerns.⁴⁰² The Illinois Commerce Commission also considers number portability between wireline and CMRS providers important.⁴⁰³

146. CTIA maintains that the CMRS industry supports the goal of full number portability for all telecommunications providers, including CMRS providers, but claims that the Commission should not delay implementation of service provider portability in the wireline networks while awaiting network solutions for CMRS carriers.⁴⁰⁴ Most of the commenting cellular providers believe that number portability is not as important to CMRS providers as it is to wireline service providers because there is little current demand for CMRS number portability and because of the unique technical problems involved.⁴⁰⁵ AT&T asserts that, while number portability is more important in the wireline market than the CMRS market, the Commission should not preclude such portability for CMRS carriers.⁴⁰⁶ Parties opposing CMRS portability generally argue that the benefits of CMRS portability are diminished by the following factors: (1) substantial competition already exists in the CMRS market since CMRS customers already may choose from multiple competitive carriers;⁴⁰⁷ (2) CMRS customers place less value on their numbers, as indicated by the fact that they do not publish them, do not often make them available through directory assistance, and more frequently change their telephone numbers due to competition and a variety of non-competitive reasons;⁴⁰⁸ (3) number portability would impair the ability of a carrier to identify immediately the validity of a

⁴⁰¹ PCIA Reply Comments at 13. See also Ompipoint Reply Comments at 12 & nn.18, 19.

⁴⁰² PCIA Comments at 5. "Number exhaustion" refers to a situation in which all numbers allotted for a particular function or region have been assigned. For example, in January 1995 there were no more available NPA codes (*i.e.*, area codes) of the N 0/1 X format (*e.g.*, 202 for the Washington, DC area) because all CO codes of the form NNX (*i.e.*, the second three digits of a ten-digit telephone number) within each of those NPA codes had been assigned. See Numbering Plan Order, 11 FCC Rcd at 2593.

⁴⁰³ Illinois Commerce Commission Comments at 3.

⁴⁰⁴ CTIA Comments at 2-5; CTIA Reply Comments at 2; CTIA Further Reply Comments at 6.

⁴⁰⁵ See, e.g., Bell Atlantic NYNEX Mobile Comments at 1; Bell Atlantic NYNEX Mobile Reply Comments at 1; AirTouch/US West New Vector Reply Comments at 3-6.

⁴⁰⁶ AT&T Comments at 9 n. 12.

⁴⁰⁷ See, e.g., AirTouch/US West New Vector Reply Comments at 3; Bell Atlantic NYNEX Mobile Comments at 2.

⁴⁰⁸ AirTouch/US West New Vector Reply Comments at 4; CTIA Comments at 9, 10 & n.15; Bell Atlantic NYNEX Mobile Comments at 2-3.

customer's number and thereby prevent fraudulent use of numbers;⁴⁰⁹ (4) customers will have a disincentive to switch carriers because broadband PCS will require equipment that is not compatible with incumbent cellular equipment;⁴¹⁰ (5) number portability would adversely affect roaming capabilities because cellular carriers rely on the ability to identify a roaming cellular customer's "home carrier" by the NPA/NXX;⁴¹¹ (6) service provider portability would require CMRS carriers to expand significantly the capacity of their roaming databases to provide additional information about each subscriber and his or her current service provider;⁴¹² and (7) CMRS uses different signalling protocols than wireline carriers, which will make implementation of number portability more difficult.⁴¹³

147. Paging providers similarly oppose being required to provide number portability. Arch/AirTouch Paging claims that the recent proliferation of new area codes, the introduction of a variety of competing services, and the availability of 800 and 888 numbers (and possibly of portable 500 and 900 numbers) have reduced in general the importance of number portability for all carriers.⁴¹⁴ Arch/AirTouch Paging further argues against the imposition of number portability on CMRS providers because it believes competition will continue to develop without number portability.⁴¹⁵ It maintains that various factors, such as price, service quality, coverage area, equipment functions, customer service, and enhanced service options can overcome the reluctance of customers to change carriers.⁴¹⁶ PageNet argues that paging and messaging service providers should not be required to provide number portability because these services are already competitive, as no single carrier controls more than 12 percent of any paging market, and that markets, on average, have five competing carriers.⁴¹⁷

⁴⁰⁹ Bell Atlantic NYNEX Mobile Comments at 4.

⁴¹⁰ CTIA Comments at 9.

⁴¹¹ AirTouch/US West New Vector Reply Comments at 9. See also Bell Atlantic NYNEX Mobile Comments at 3 (imposing wireless number portability is inadvisable because the Commission is considering multiple, related issues, such as interconnection, roaming, and resale, that would directly affect consideration of number portability); SBC Communications Comments at 6, 15, app. F.

⁴¹² Bell Atlantic NYNEX Mobile Comments at 4.

⁴¹³ Bell Atlantic NYNEX Mobile Reply Comments at 4.

⁴¹⁴ Arch/AirTouch Paging Comments at 5-6.

⁴¹⁵ Id. at 5.

⁴¹⁶ Arch/AirTouch Paging Reply Comments at 9-10.

⁴¹⁷ PageNet Reply Comments at 5.

148. Deployment of Long-Term Solutions by CMRS Carriers. The PCS providers generally assert that CMRS providers will face technical burdens comparable to wireline carriers in updating their networks, and argue that there is no reason to treat CMRS providers differently from wireline carriers.⁴¹⁸ Some CMRS parties indicate that it is technically possible to update cellular and PCS networks to accommodate long-term number portability.⁴¹⁹ PCIA acknowledges that implementation of number portability by CMRS providers presents technical difficulties specific to CMRS, but argues that such difficulties can be overcome.⁴²⁰ PCIA asserts that most broadband carriers already plan to deploy the components necessary to implement LRN (i.e., SS7 signaling, AIN/IN to do database queries and responses, and AIN triggers).⁴²¹ Omnipoint contends that implementation deadlines for number portability should apply equally to wireless and wireline carriers, and proposes implementation in the top 100 MSAs between October 1997 and October 1998.⁴²² Competitive Carriers argues that the Commission's number portability rules should be technology-neutral, and favors requiring implementation of number portability within 24 months of the issuance of our Order throughout the top 100 MSAs.⁴²³

149. In contrast, several cellular interests claim that upgrading cellular networks to handle number portability will require greater time and effort than adapting wireline networks, primarily because relatively few cellular networks have IN or AIN capabilities, and because the current six-digit-based screening used to validate customer information and handle billing will have to be adapted to ten-digit-based screening.⁴²⁴ These parties claim that the necessary standards for functions such as ten-digit-based screening have yet to be developed.⁴²⁵

⁴¹⁸ See, e.g., PCS Primeco Comments at 5; Pacific Bell Comments at 9; PCIA Reply Comments at 12.

⁴¹⁹ See, e.g., Competitive Carriers Reply Comments at 7-8; PCIA Ex Parte Presentation at 1-2, CC Docket No. 95-116, filed Feb. 28, 1996 (PCIA February 28, 1996 Ex Parte Filing).

⁴²⁰ PCIA Reply Comments at 12, 14. See also Competitive Carriers Reply Comments at 7-8.

⁴²¹ PCIA Ex Parte Letter at 3, from Mark J. Golden, to William F. Caton, FCC, CC Docket No. 95-116, filed Mar. 12, 1996 (PCIA March 12, 1996 Ex Parte Letter).

⁴²² Omnipoint Reply Comments at 9-11.

⁴²³ Competitive Carriers Comments at 13, 15; Competitive Carriers Reply Comments at 7-9.

⁴²⁴ See AirTouch Cellular Ex Parte Presentation at 10-17, CC Docket No. 95-116, filed May 15, 1996 (AirTouch Cellular May 15, 1996 Ex Parte Filing); CTIA Ex Parte Presentation at 25-29, CC Docket No. 95-116, filed Apr. 18, 1996 (CTIA April 18, 1996 Ex Parte Filing); CTIA Further Comments at 4-6.

⁴²⁵ See AirTouch Cellular May 15, 1996 Ex Parte Filing at 15-17; CTIA April 18, 1996 Ex Parte Filing at 28-29; CTIA Further Comments at 4-6.

150. Several parties caution that implementing number portability for CMRS providers will require more time than for wireline service providers because to date, industry efforts aimed at developing number portability have focused on wireline carriers. For example, CMRS carriers did not participate in the Illinois number portability workshop and CMRS carriers generally have not participated in technical trials of number portability.⁴²⁶ PCIA estimates that it will be four to five years before CMRS networks are capable of implementing long-term number portability.⁴²⁷ Similarly, AT&T Wireless argues that CMRS carriers must follow a different implementation schedule than wireline.⁴²⁸

151. Interim Number Portability Measures. Many of the CMRS carriers oppose requiring CMRS carriers to provide measures such as RCF and DID.⁴²⁹ PCIA and Arch/AirTouch Paging claim that requiring interim measures would divert resources from, and thus delay implementation of, a long-term method.⁴³⁰ The paging service providers, in particular, oppose interim measures as not cost-justified and unnecessary for the already competitive paging industry.⁴³¹ According to PCIA, RCF and DID currently cannot be provided by mobile telephone switching offices and would be more problematic and expensive to deploy in a CMRS network than in a wireline network.⁴³² For example, PCIA claims that RCF requires carriers to maintain a point of interconnection within each NPA in which it intends to provide such service, and that, currently, many broadband CMRS carriers' switches do not interconnect at all such points.⁴³³ In addition, PCIA asserts that most new broadband carriers are already planning to deploy the components necessary to implement a long-term database method as part of their initial network

⁴²⁶ See Ameritech May 15, 1996 Ex Parte Filing at 14 (noting that wireless industry participation in Illinois Commerce Commission number portability workshop is not scheduled to begin until July 1996); PCIA March 12, 1996 Ex Parte Letter at 2.

⁴²⁷ PCIA May 23, 1996 Ex Parte Filing.

⁴²⁸ AT&T Wireless May 24, 1996 Ex Parte Filing at 11.

⁴²⁹ See, e.g., Arch/AirTouch Paging Comments at 12; Bell Atlantic NYNEX Mobile Reply Comments at 5; Nextel Comments at 5.

⁴³⁰ See PCIA March 12, 1996 Ex Parte Letter at 2; Arch/AirTouch Paging Comments at 14-15.

⁴³¹ Arch/AirTouch Paging Comments at 14-15; PageNet Comments at 8-9; PageNet Reply Comments at 6; see also PCIA Ex Parte Letter at 1-2, from Mark J. Golden, to William F. Caton, FCC, CC Docket No. 95-116, filed Mar. 28, 1996 (PCIA March 28, 1996 Ex Parte Letter).

⁴³² PCIA March 12, 1996 Ex Parte Letter at 2-3.

⁴³³ See id. at 3.

designs.⁴³⁴ Consequently, those new broadband carriers might have to spend as much or more to upgrade their networks to support interim measures as they would to upgrade to support a long-term database method. Because substantial resources would have to be devoted to modifying CMRS networks to support interim measures, and thus diverted away from modifying CMRS networks to support long-term number portability, requiring implementation of interim measures now might delay future implementation of the long-term method.⁴³⁵ Other CMRS carriers make claims of technical inefficiencies, but acknowledge that RCF and DID are technically possible for CMRS providers today.⁴³⁶

3. Discussion

152. Authority to Require CMRS Providers to Provide Number Portability. Section 251(b) requires local exchange carriers to provide number portability to all telecommunications carriers, and thus to CMRS providers as well as wireline service providers. The statute, however, explicitly excludes commercial mobile service providers from the definition of local exchange carrier, and therefore from the section 251(b) obligation to provide number portability, unless the Commission concludes that they should be included in the definition of local exchange carrier.⁴³⁷ Our recent NPRM on interconnection issues raised by the 1996 Act seeks comment on whether, and to what extent, CMRS providers should be classified as LECs.⁴³⁸ Because we conclude that we have independent bases of jurisdiction over commercial mobile service providers, we need not decide here whether CMRS providers must provide number portability as local exchange carriers under section 251(b).

153. We possess independent authority under sections 1, 2, 4(i), and 332 of the Communications Act of 1934, as amended, to require CMRS providers to provide number portability as we deem appropriate. Ensuring that the portability of telephone numbers within the United States is handled efficiently and fairly is within our jurisdiction under these other provisions of the Communications Act.⁴³⁹ Sections 2 and 332(c)(1) of the Act give the Commission authority to regulate commercial mobile service providers as common carriers, except for the provisions of Title II that we specify are

⁴³⁴ Id.

⁴³⁵ See id. at 2-3.

⁴³⁶ See, e.g., Nextel Comments at 5; PageNet Reply Comments at 6.

⁴³⁷ See 47 U.S.C. § 153(26)

⁴³⁸ Interconnection NPRM at ¶ 195.

⁴³⁹ 47 U.S.C. § 151.

inapplicable.⁴⁴⁰ Section 1 of the Act requires the Commission to make available to all people of the United States "a rapid, efficient, Nation-wide, and world-wide wire and radio communication service."⁴⁴¹ The Commission's interest in number portability is bolstered by the potential deployment of different number portability solutions across the country, which would significantly impact the provision of interstate telecommunications services.⁴⁴² Section 1 also creates a significant federal interest in the efficient and uniform treatment of numbering because such a system is essential to the efficient delivery of interstate and international telecommunications.⁴⁴³ Implementation of long-term service provider portability by CMRS carriers will have an impact on the efficient use and uniform administration of the numbering resource. Section 4(i) grants the Commission authority to "perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with [the Communications Act of 1934, as amended], as may be necessary in the execution of its functions."⁴⁴⁴ We conclude that the public interest is served by requiring the provision of number portability by CMRS providers because number portability will promote competition between providers of local telephone services and thereby promote competition between providers of interstate access services.⁴⁴⁵

154. Bell Atlantic NYNEX Mobile cites the CT DPUC Petition in support of its argument that the Commission can only regulate CMRS providers under section 332 to the extent clearly necessary, and that regulation of number portability is not clearly necessary in the CMRS market.⁴⁴⁶ We conclude, however, that the CT DPUC Petition does not limit our authority to require CMRS providers to provide number portability to other CMRS or wireline carriers because that proceeding did not address the Commission's authority to require CMRS providers to provide number portability. That

⁴⁴⁰ 47 U.S.C. §§ 152, 332. Section 332 provides that "[a] person engaged in the provision of a service that is a commercial mobile service shall, insofar as such person is so engaged, be treated as a common carrier for purposes of this Act, except for such provisions of title II as the Commission may specify by regulation as inapplicable to that service or person." 47 U.S.C. § 332(c)(1)(A).

⁴⁴¹ 47 U.S.C. § 151.

⁴⁴² See, e.g., ACTA Comments at 6-7; Florida PSC Comments at 6; Omnipoint Comments at 5.

⁴⁴³ See Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech - Illinois, Declaratory Ruling and Order, 10 FCC Rcd 4596, 4602 (1995).

⁴⁴⁴ 47 U.S.C. § 154(i).

⁴⁴⁵ See Notice, 10 FCC Rcd at 12362; Expanded Interconnection with Local Telephone Company Facilities, Memorandum Opinion and Order, 9 FCC Rcd 5154, 5158-59 (1994).

⁴⁴⁶ Bell Atlantic NYNEX Mobile Further Comments at 3 n.3 (citing Petition of CT DPUC, Order, 10 FCC Rcd at 7031).

proceeding related solely to state authority to regulate rates of CMRS providers.⁴⁴⁷ We believe that imposing number portability obligations on CMRS providers will foster increased competition in the CMRS marketplace, and furthers our CMRS regulatory policy of establishing moderate, symmetrical regulation of all services, and a preference for curing market imperfections by lowering barriers to entry in order to encourage competition.⁴⁴⁸

155. Importance of Number Portability to CMRS Providers. We require cellular, broadband PCS, and covered specialized mobile radio (SMR) providers (as defined in the First Report and Order in CC Docket 94-54),⁴⁴⁹ which are the CMRS providers that are expected to compete in the local exchange market, to offer number portability. This mandate is in the public interest because it will promote competition among cellular, broadband PCS, and covered SMR carriers, as well as among CMRS and wireline providers. We therefore include those carriers in our mandate to provide long-term service provider portability, under the Commission-mandated performance criteria set forth above, pursuant to our authority under sections 1, 2, 4(i), and 332 of the Communications Act of 1934.⁴⁵⁰ This mandate applies when switching among wireline service providers and broadband CMRS providers, as well as among broadband CMRS providers, even if the broadband CMRS and wireline service providers or the two broadband CMRS providers are affiliated. We base this conclusion on our view, as discussed in the following paragraphs, that cellular, broadband PCS, and covered SMR providers will compete directly with one another, and potentially will compete in the future with wireline carriers.

156. We specifically exclude at this time paging and other messaging services,⁴⁵¹ and the following CMRS providers as listed in Part 20 of our rules: Private Paging, Business Radio Services, Land Mobile Systems on 220-222 MHz, Public Coast Stations, Public Land Mobile Service, 800 MHz Air-Ground Radio-Telephone Service, Offshore

⁴⁴⁷ Petition of CT DPUC, Order, 10 FCC Rcd at 7025, 7032-33.

⁴⁴⁸ See Petition of CT DPUC, Order, 10 FCC Rcd at 7033-34 (concluding that Omnibus Budget Reconciliation Act of 1993 validates the Commission's CMRS regulatory approach).

⁴⁴⁹ Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, First Report and Order, CC Docket 94-54, FCC 96-263 (adopted June 12, 1996).

⁴⁵⁰ For performance criteria, see supra ¶ 48.

⁴⁵¹ Because of the technical hurdles faced by paging and other messaging service providers, the minimal impact that paging and other messaging services have on local exchange competition, and the competitive nature of paging and within the paging industry, we conclude that the costs to paging companies to upgrade their networks to accommodate either interim or long-term number portability solutions, estimated at \$30 million by one carrier, outweigh the competitive benefits derived from service provider portability. See, e.g., PCIA Comments at 5 n.17; PCIA Comments at 5; PCIA Reply Comments at 15-16; Arch/Airtouch Paging Comments at 14.

Radio Service, Mobile Satellite Services, Narrowband PCS Services.⁴⁵² We do so because such services currently will have little competitive impact on competition between providers of wireless telephony service or between wireless and wireline carriers. Because local SMR licensees offering mainly dispatch services to specialized customers in a non-cellular system configuration do not compete substantially with cellular and broadband PCS providers, we also exclude them from the number portability requirements we adopt today. For similar reasons, we also specifically exclude at this time Local Multipoint Distribution Service (LMDS). If, however, any of these services begins to compete in the local exchange market, or if there are other public interest reasons to require them to provide number portability, we will reassess the exclusion of these services from the requirement to provide number portability.

157. Service provider portability between cellular, broadband PCS, and covered SMR providers is important because customers of those carriers, like customers of wireline providers, cannot now change carriers without also changing their telephone numbers. While we recognize that customers may need to purchase new equipment when switching among such CMRS providers,⁴⁵³ the inability of customers to keep their telephone numbers when switching carriers also hinders the successful entrance of new service providers into the cellular, broadband PCS, and SMR markets.⁴⁵⁴ We believe, therefore, that service provider portability, by eliminating one major disincentive to switch carriers, will ameliorate customers' disincentive to switch carriers if they must purchase new equipment. We believe service provider portability will promote competition between existing cellular carriers, as well as facilitate the viable entry of new providers of innovative service offerings, such as PCS and covered SMR providers.⁴⁵⁵

⁴⁵² See 47 C.F.R. § 20.9.

⁴⁵³ See CTIA Comments at 9.

⁴⁵⁴ See, e.g., Nextel Comments at 3-4; Omnipoint Comments at 3-4.

⁴⁵⁵ As of 1995, CMRS encompassed approximately 25 million cellular subscribers, 25 million pagers, and 2 million SMR transmitters. See Implementation of Section 6002(B) of the Omnibus Reconciliation Act of 1993, First Report, 10 FCC Rcd 8844, 8847 n.9 (1995) (First Report on CMRS).

158. With the recent and expected future entry of new PCS providers,⁴⁵⁶ and the growth of existing CMRS generally,⁴⁵⁷ we believe it important that service provider portability for cellular, broadband PCS, and covered SMR providers be made available so as to remove barriers to competition among such providers. Removing barriers, such as the requirement of changing telephone numbers when changing providers, will likely stimulate the development of new services and technologies, and create incentives for carriers to lower prices and costs. We find unpersuasive arguments that number portability is unimportant because the CMRS market is already substantially competitive since CMRS customers already may choose from multiple competitive carriers.⁴⁵⁸ Most CMRS customers today subscribe to cellular service because broadband PCS has been offered for a very short time, SMR service has typically been used for communications among mobile units of the same business subscriber (e.g., taxi dispatch), and mobile satellite services have typically been used only in rural areas.⁴⁵⁹ The possibility of entry by new competitors can constrain monopolistic, or in this case, duopolistic, conduct by incumbent providers and thus serve the public interest by potentially lowering prices, improving service quality, and encouraging innovation.⁴⁶⁰ We note that while the cellular industry, with two facilities-based carriers offering service in each market area, is more competitive than traditional monopoly telephone markets, it is far from perfectly competitive. The United States Government Accounting Office, the Department of Justice, and the Commission have determined that only limited competition currently exists in the cellular market.⁴⁶¹

⁴⁵⁶ The Commission has awarded or will award a total of 2074 broadband PCS licenses. The A and B Blocks are licensed within 51 Major Trading Areas (MTAs), and the C, D, E, and F Blocks are licensed within 493 Basic Trading Areas (BTAs). Ultimately, six broadband PCS providers will operate in each market. Amendment of the Commission's Rules to Establish New Personal Communications Services, Memorandum Opinion and Order, 9 FCC Rcd 4957, 4963 (1994).

⁴⁵⁷ The cellular industry has approached or exceeded 50% growth rates in each of the last 10 years. Double-digit growth rates for CMRS are anticipated during the next several years. First Report on CMRS, 10 FCC Rcd at 8846, 8848, 8855-56.

⁴⁵⁸ See, e.g., AirTouch/US West New Vector Reply Comments at 3; Bell Atlantic NYNEX Mobile Comments at 2.

⁴⁵⁹ See First Report on CMRS, 10 FCC Rcd at 8855-61. We have recognized that covered SMR service providers have the potential to compete with cellular and broadband PCS carriers. See Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, First Report and Order, CC Docket No. 94-54, FCC 96-263 (adopted June 12, 1996).

⁴⁶⁰ First Report on CMRS, 10 FCC Rcd at 8871 (citing United States v. Waste Management, Inc., 743 F.2d 976, 982-83 (2d Cir. 1984); American Bar Association, I Antitrust Law Developments at 307-11 (3d ed. 1992)).

⁴⁶¹ First Report on CMRS, 10 FCC Rcd at 8866-67 (citing Memorandum of the United States in Response to the Bell Companies' Motions for Generic Wireless Waivers at 14-18, United States v. Western Electric Co., 158 F.R.D. 211 (D.D.C. 1994), Civ. Action No. 82-0192, filed July 25, 1994; July 1992 Gen. Acct'g Off.

159. We conclude that number portability will facilitate the entry of new service providers, such as PCS and covered SMR providers, into CMRS markets currently dominated by cellular carriers, and thus provide incentives for incumbent cellular carriers to lower prices and increase service choice and quality. Indeed, we noted recently that competition from PCS, alone, is expected to reduce cellular prices by as much as 40% over the next two years.⁴⁶² We believe that such pro-competitive effects will be enhanced by eliminating the need for customers to change telephone numbers when switching providers of cellular services, broadband PCS, and covered SMR services.

160. We further conclude that number portability will promote competition between CMRS and wireline service providers as CMRS providers offer comparable local exchange and fixed commercial mobile radio services.⁴⁶³ The Commission has recognized on several occasions that CMRS providers, such as broadband PCS and cellular, will compete in the local exchange marketplace.⁴⁶⁴ For example, the Commission permitted Southwestern Bell Mobile Systems, Inc. to own local exchange facilities outside of Southwestern Bell's service area in order to "promote significant Commission objectives by encouraging local loop competition. The development of CMRS is one of several potential sources of competition that we have identified to bring market forces to bear on the existing LECs."⁴⁶⁵ The Commission also adopted an auction licensing mechanism to speed deployment of PCS and thereby "create competition for existing wireline and wireless services."⁴⁶⁶ In addition, the Commission decided to permit foreign investment in Sprint Corporation based, in part, on a finding that a portion

Rep., Telecommunications: Concerns About Competition in the Cellular Telephone Service Industry, GAO/RCED-92-220 at 2).

⁴⁶² First Report on CMRS, 10 FCC Rcd at 8871.

⁴⁶³ See Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, Notice of Proposed Rulemaking, 11 FCC Rcd 2445 (1996) (Fixed CMRS Notice). See also Implementation of Section 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, Second Report and Order 9 FCC Rcd 1411, 1422 (1994) (Second CMRS Report and Order).

⁴⁶⁴ See, e.g., Fixed CMRS Notice, 11 FCC Rcd at 2447 (quoting Rule Making to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5 - 29.5 GHz Frequency Band, to Reallocate the 29.5 - 30.0 GHz Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, Third Notice of Proposed Rulemaking and Supplemental Tentative Decision, 11 FCC Rcd 53, 64 (rel. July 28, 1995) (Rule Making to Amend Parts 1, 2, 21, and 25)); First Report on CMRS, 10 FCC Rcd at 8869-70; Omnipoint Reply Comments at 12. See also Southwestern Bell Mobile Systems, Inc., Memorandum Opinion and Order, 11 FCC Rcd 3386, 3395 (1995); Implementation of Section 309(j) of the Communications Act - Competitive Bidding, Second Report and Order, 9 FCC Rcd 2348, 2350 (1994); Sprint Corporation, 11 FCC Rcd 1850, 1863 (1996).

⁴⁶⁵ Southwestern Bell Mobile Systems, Inc., 11 FCC Rcd at 3395 (1995) (footnote omitted).

⁴⁶⁶ Implementation of Section 309(j) of the Communications Act - Competitive Bidding, 9 FCC Rcd at 2350.

of that investment would be used to fund PCS competition with wireline local exchange providers in the U.S. market.⁴⁶⁷ Finally, in the Fixed CMRS Notice, the Commission tentatively concluded that PCS and cellular providers will provide fixed CMRS local loop services, and that such carriers will directly compete with traditional wireline local exchange carriers.⁴⁶⁸ We believe, for the reasons stated above, that service provider portability will encourage CMRS-wireline competition, creating incentives for carriers to reduce prices for telecommunications services and to invest in innovative technologies, and enhancing flexibility for users of telecommunications services.⁴⁶⁹

161. We find unpersuasive commenters' arguments that number portability is not a competitive issue for CMRS providers because consumers are not interested in retaining their CMRS numbers.⁴⁷⁰ We recognize that currently customers of cellular, broadband PCS, and covered SMR providers may generally initiate more calls than they receive, and are reluctant to distribute their CMRS telephone numbers. We agree with the argument advanced by PCS Primeco that this reluctance generally is caused by the current cellular carrier pricing structures, under which customers pay for incoming calls, rather than lack of attachment to CMRS telephone numbers.⁴⁷¹ Several parties have indicated that at least some CMRS providers intend to compete with wireline carriers in the local exchange market.⁴⁷² To do so effectively, CMRS carriers are likely to change their pricing structures to resemble more closely wireline pricing structures.⁴⁷³ As broadband CMRS pricing structures are modified as a likely result of increased competition, and cellular, broadband PCS, and covered SMR become integrated and less functionally distinguishable from wireline services, customers may be more likely to make their CMRS telephone numbers known, and utilize numbering resources in a

⁴⁶⁷ Sprint Corporation, 11 FCC Rcd at 1863.

⁴⁶⁸ Fixed CMRS Notice, 11 FCC Rcd at 2447 (quoting Rule Making to Amend Parts 1, 2, 21, and 25, 11 FCC Rcd at 27).

⁴⁶⁹ See Expanded Interconnection with Local Telephone Company Facilities, 9 FCC Rcd at 5155.

⁴⁷⁰ See AirTouch/US West New Vector Reply Comments at 4; CTIA Comments at 9, 10 & n.15; Bell Atlantic NYNEX Mobile Comments at 2-3.

⁴⁷¹ See Pacific Bell Comments at 8; PCS Primeco Reply Comments at 1-2.

⁴⁷² See, e.g., AT&T Wireless Services, Inc. Ex Parte Letter at 2, from Cathleen A. Massey, to William F. Caton, FCC, CC Docket No. 95-116, filed May 28, 1996 (AT&T Wireless May 28, 1996 Ex Parte Letter); Competitive Carriers Comments at 13; Competitive Carriers Reply Comments at 8; Omnipoint Reply Comments at 12. See also PCIA Reply Comments at 13; PCS Primeco Reply Comments at 1-2.

⁴⁷³ See PCS Primeco Reply Comments at 1-2 ("if wireless service is to more nearly resemble [sic] plain old telephone service, 'calling party pays' will have to become the rule rather than the exception for wireless service").

manner more comparable with that of the current wireline market.⁴⁷⁴ We, therefore, conclude that requiring number portability for cellular, broadband PCS, and covered SMR providers will enhance the development of competition among those providers and among CMRS and wireline service providers.

162. Deployment of Long-Term Solutions by CMRS Carriers. The record of this proceeding suggests that cellular, broadband PCS, and covered SMR providers will face burdens comparable to wireline carriers in modifying their networks to implement number portability, and that any technical issues that are unique to those carriers can be resolved.⁴⁷⁵ While a number of parties have raised CMRS-specific issues that must be resolved before CMRS carriers can effectively provide number portability, we conclude that the record demonstrates that none of these difficulties are insurmountable.⁴⁷⁶ Several parties claim that CMRS networks can be updated to accommodate long-term number portability.⁴⁷⁷ In addition, the report on number portability recently released by the INC indicates that broadband CMRS roaming systems, including mobile station registration and call delivery, switches, protocols, and wireline interconnection arrangements can be updated to accommodate number portability.⁴⁷⁸ PCIA asserts that most broadband carriers already plan to deploy the components necessary to implement LRN (i.e., SS7 signaling, IN/AIN to do database queries and responses, and AIN triggers).⁴⁷⁹ Omnipoint argues that the cellular industry has failed to demonstrate why CMRS-specific technical issues cannot be worked out within the same time as wireline technical issues.⁴⁸⁰

163. A number of commenters, however, also suggest that implementation of service provider portability for broadband CMRS would necessitate more time than deployment of wireline methods. For instance, several cellular interests claim that upgrading cellular networks to handle number portability will require greater time and effort than adapting wireline networks, primarily because relatively few cellular networks have IN or AIN capabilities, and because the current six-digit-based screening used to provide roaming, validate customer information, and handle billing will have to be

⁴⁷⁴ See id. at 2.

⁴⁷⁵ See, e.g., Competitive Carriers Reply Comments at 8; Pacific Bell Comments at 9; PCIA February 28, 1996 Ex Parte Filing at 1-2; PCS Primeco Comments at 5.

⁴⁷⁶ See supra ¶ 146.

⁴⁷⁷ See, e.g., Competitive Carriers Comments at 13; Competitive Carriers Reply Comments at 7-8; PCIA Ex Parte Presentation at 1-2, CC Docket No. 95-116, filed Feb. 28, 1996 (PCIA February 28, 1996 Ex Parte Filing).

⁴⁷⁸ INC Report at 41-43.

⁴⁷⁹ PCIA March 12, 1996 Ex Parte Letter at 3.

⁴⁸⁰ Omnipoint Reply Comments at 11.

adapted to ten-digit-based screening.⁴⁸¹ These parties claim that the necessary standards for functions such as ten-digit-based screening have yet to be developed.⁴⁸²

164. It appears that while the wireline industry has already developed many of the standards and protocols necessary for wireline carriers to provide number portability, the CMRS industry is only beginning to address the additional standards and protocols specific to the provision of portability by CMRS carriers. The technical requirements for broadband CMRS portability have been given comparatively little attention compared to those for wireline. Initial state efforts have generally not addressed CMRS issues; for example, the Illinois Number Portability Workshop, which began studying wireline portability in April 1995, only plans to begin addressing CMRS portability in July 1996.⁴⁸³ Moreover, cellular, broadband PCS, and covered SMR providers face technical burdens unique to the provision of seamless roaming on their networks, and standards and protocols will have to be developed to overcome these difficulties. Therefore, based on the record, and the technical evidence presented both by the parties in this proceeding and the INC Report, we conclude that cellular, broadband PCS, and covered SMR providers should implement long-term service provider portability based on the following schedule.

165. We require all cellular, broadband PCS, and covered SMR carriers to have the capability of querying appropriate number portability database systems in order to deliver calls from their networks to ported numbers anywhere in the country by December 31, 1998, the date by which wireline carriers must complete implementation of number portability in the largest 100 MSAs. This schedule will ensure that cellular, broadband PCS, and covered SMR providers will have the ability to route calls from their customers to a wireline customer who has ported his or her number, by the time a substantial number of wireline customers have the ability to port their numbers between wireline carriers.⁴⁸⁴ This capability to access a database for routing information can be accomplished in either of two ways. First, the carrier may implement hardware and software upgrades (e.g., IN/AIN capabilities) similar to those needed in wireline networks. Since these upgrades do not require development of the standards and protocols necessary to support roaming, we believe that cellular, broadband PCS, and

⁴⁸¹ See AirTouch Cellular May 15, 1996 Ex Parte Filing at 10-17; CTIA April 18, 1996 Ex Parte Filing at 25-29; CTIA Further Comments at 4-6.

⁴⁸² See AirTouch Cellular May 15, 1996 Ex Parte Filing at 15-17; CTIA April 18, 1996 Ex Parte Filing at 28-29; CTIA Further Comments at 4-6.

⁴⁸³ Ameritech May 15, 1996 Ex Parte Filing at 13-14; Nortel Ex Parte Presentation at 7, CC Docket No. 95-116, filed May 21, 1996 (Nortel May 21, 1996 Ex Parte Filing).

⁴⁸⁴ See CTIA April 18, 1996 Ex Parte Filing at 20-21 (asserting that even if number portability is limited to the wireline network, CMRS service providers must still modify their method of routing calls from their CMRS customers to wireline customers who have ported their numbers).

covered SMR carriers should be able to complete these upgrades by the date by which wireline carriers must complete implementation of number portability in the largest 100 MSAs. Second, the carrier may make arrangements with other carriers that are capable of performing database queries. Cellular, broadband PCS, and covered SMR carriers operating in areas outside the largest 100 MSAs thus would need to make arrangements with other CMRS providers that have the capability to query databases, or with wireline carriers in the largest 100 MSAs, which will have completed deployment of number portability by December 31, 1998.

166. We require all cellular, broadband PCS, and covered SMR carriers to offer service provider portability throughout their networks, including the ability to support roaming, by June 30, 1999.⁴⁸⁵ The record indicates that additional time is needed to develop standards and protocols, such as ten-digit-based screening, to overcome the technical burdens unique to the provision of seamless roaming on cellular, broadband PCS, and covered SMR networks.⁴⁸⁶ Individual carriers, of course, may implement number portability sooner, and we expect that some carriers will do so based on individual technical, economic, and marketing considerations. We believe a nationwide implementation date for number portability for cellular, broadband PCS, and covered SMR providers is necessary to ensure that validation necessary for roaming can be maintained.⁴⁸⁷ We delegate authority to the Chief, Wireless Telecommunications Bureau, to establish reporting requirements in order to monitor the progress of cellular, broadband PCS, and covered SMR providers implementing number portability, and to direct such carriers to take any actions necessary to ensure compliance with this deployment schedule. We believe it necessary to establish reporting requirements for CMRS to ensure timely resolution of the standards issues unique to CMRS number portability, particularly roaming.

167. We recognize, however, that additional technical issues may arise as the industry begins to focus on provision of portability by CMRS carriers. We therefore delegate authority to the Chief, Wireless Telecommunications Bureau, to waive or stay any of the dates in the implementation schedule, as the Chief determines is necessary to ensure the efficient development of number portability, for a period not to exceed 9

⁴⁸⁵ See Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, Second Report and Order and Third Notice of Proposed Rulemaking, CC Docket No. 94-54, FCC 96-284 (adopted June 27, 1996) (imposing manual roaming non-discrimination requirements). We recognize that customers may not be able to roam into some systems due to technical incompatibilities (e.g. different air interface technologies) between the system and the customer's handset. Nothing in this Order should be interpreted as requiring such capability.

⁴⁸⁶ See, e.g., AirTouch Cellular May 15, 1996 Ex Parte Filing at 15-17; CTIA April 18, 1996 Ex Parte Filing at 28-29; CTIA Further Comments at 4-6.

⁴⁸⁷ See AirTouch Cellular May 15, 1996 Ex Parte Filing at 10-17; CTIA April 18, 1996 Ex Parte Filing at 25-29; Nortel May 21, 1996 Ex Parte Filing at 5-7.

months (*i.e.*, no later than September 30, 1999, for the first deadline, and no later than March 31, 2000, for the second deadline).

168. In the event a carrier is unable to meet our deadlines for implementing a long-term number portability solution, it may file with the Commission at least 60 days in advance of the deadline a petition to extend the time by which implementation in its network will be completed. We emphasize, however, that carriers are expected to meet the prescribed deadlines, and a carrier seeking relief must present extraordinary circumstances beyond its control in order to obtain an extension of time. Carriers seeking such relief must demonstrate through substantial, credible evidence the basis for its contention that it is unable to comply with our deployment schedule. Such requests must set forth: (1) the facts that demonstrate why the carrier is unable to meet our deployment schedule; (2) a detailed explanation of the activities that the carrier has undertaken to meet the implementation schedule prior to requesting an extension of time; (3) an identification of the particular switches for which the extension is requested; (4) the time within which the carrier will complete deployment in the affected switches; and (5) a proposed schedule with milestones for meeting the deployment date.

169. Interim Number Portability Measures. We do not require CMRS providers to provide RCF, DID, or comparable measures. Different treatment of CMRS and wireline carriers in this instance is justified by their differing circumstances. According to the record, RCF and DID currently cannot be provided by mobile telephone switching offices.⁴⁸⁸ Due to the different nature of CMRS networks and wireline networks, implementation of RCF or DID capability in a CMRS network appears far more problematic and expensive than in a wireline network.⁴⁸⁹ For example, PCIA claims that RCF requires carriers to maintain a point of interconnection within each NPA in which it intends to provide such service, and that currently, many broadband CMRS carriers' switches do not interconnect at all such points.⁴⁹⁰ Moreover, cellular roaming systems would have to be modified to account for the fact that, under RCF, a number different than the one dialed is used to route the call. As a result, alternative means will have to be developed to enable CMRS carriers to validate mobile subscribers who have roamed out of their service areas.⁴⁹¹ Broadband carriers may also have to purchase new switches in order to provide RCF and DID. Moreover, most new broadband carriers are already planning to deploy the components necessary to implement a long-term database method

⁴⁸⁸ PCIA March 12, 1996 Ex Parte Letter at 2-3; PCIA February 28, 1996 Ex Parte Filing at 1-2.

⁴⁸⁹ See generally PCIA March 12, 1996 Ex Parte Letter; PCIA March 28, 1996 Ex Parte Letter.

⁴⁹⁰ See PCIA March 12, 1996 Ex Parte Letter at 3.

⁴⁹¹ See AT&T Wireless, Inc. Ex Parte Letter, from Cathleen A. Massey, to William Caton, FCC, CC Docket No. 95-116, filed May 24, 1996 (AT&T May 24, 1996 Ex Parte Letter).

as part of their initial network designs.⁴⁹² Consequently, those new broadband carriers might have to spend as much or more to upgrade their networks to support interim measures as they would spend to upgrade to support a long-term database method, and requiring implementation of both might delay implementation of the long-term method.⁴⁹³ We also find it significant that, while the wireline parties advocating full portability generally support interim measures, the CMRS parties advocating full portability generally oppose interim measures.⁴⁹⁴

170. We therefore conclude that it would be counterproductive to require CMRS carriers to provide interim measures since they can provide long-term portability comporting with our standards just as quickly and less expensively. We believe that relieving cellular, broadband PCS, and covered SMR carriers of the burden of providing interim measures will allow them to devote their full resources toward implementing a long-term method and thus enhance their ability to provide long-term portability on the same schedule as wireline carriers.⁴⁹⁵ We note that CMRS carriers are, of course, free to provide interim number portability, if they choose to do so.

171. Number Transferability. A few parties raise the issue of number transferability, the ability of a reseller to transfer telephone numbers from one facilities-based carrier to another in order to permit the reseller's end user customers to retain their existing telephone numbers.⁴⁹⁶ Because the record does not establish any relationship between number transferability and number portability, and does not identify the technical issues involved in providing number transferability, we decline to address the provision of number transferability in this proceeding. We note that this issue has been raised in the Second CMRS Interconnection NPRM, and will be addressed in CC Docket No. 94-54.⁴⁹⁷

⁴⁹² PCIA March 12, 1996 Ex Parte Letter at 3.

⁴⁹³ Id. at 2-3.

⁴⁹⁴ See, e.g., id.; PCIA February 28, 1996 Ex Parte Filing at 1-2.

⁴⁹⁵ PCIA March 12, 1996 Ex Parte Letter at 2.

⁴⁹⁶ See, e.g., AirTouch/US West New Vector Reply Comments at 8; CTIA Comments at 2; CTIA Reply Comments at 4-5 (asserting that approximately 13.2% of cellular customers change carriers annually); Time Warner Telecom Reply Comments at 7, Exhibit (supporting obligation of cellular licensees to provide number transferability). See also Notice, 10 FCC Rcd at 12360 n.31.

⁴⁹⁷ See Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, Second Notice of Proposed Rulemaking, 10 FCC Rcd 10666 (1995).

H. Service and Location Portability

1. Background

172. While service provider portability refers to the ability of end users to retain the same telephone numbers as they change from one service provider to another, service portability refers to the ability of users of telecommunications services to retain existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications service to another service provided by the same telecommunications carrier. We regard switching among wireline service providers and broadband CMRS providers, or among broadband CMRS providers, as changing service providers, not changing services, even if the broadband CMRS and wireline service providers or the two broadband CMRS providers are affiliated. We base this conclusion on our view that CMRS providers, such as cellular, broadband PCS, and covered SMR providers, compete directly with one another, and broadband CMRS providers potentially will compete in the future with wireline carriers.⁴⁹⁸

173. Today, telephone subscribers must change their telephone number when they change telephone service (e.g., from Plain Old Telephone Services (POTS) to Integrated Services Digital Network (ISDN)) because a particular service may be available only through a particular switch. In our Notice, we sought comment on the demand for service portability and the extent to which a lack of service portability inhibits the growth of new services, such as ISDN.⁴⁹⁹ We requested information on the relative importance of service portability to the decisions of end users when considering whether to switch from one service to another. We also sought comment on what public interest objectives would be served by encouraging (or possibly mandating) implementation of service portability, and how the Commission could encourage service portability.⁵⁰⁰

174. Location portability refers to the ability of users of telecommunications services to retain existing telecommunications numbers without impairment of quality, reliability, or convenience when moving from one physical location to another.⁵⁰¹ Today, telephone subscribers must change their telephone numbers when they move outside the area served by their current central office. In our Notice, we sought comment on the demand for location portability and the geographic area in which portability might be desired by consumers. We asked what federal policy objectives would be served by

⁴⁹⁸ See supra ¶¶ 157-161.

⁴⁹⁹ Notice, 10 FCC Rcd at 12360.

⁵⁰⁰ Id.

⁵⁰¹ Id.

encouraging (or possibly mandating) implementation of location portability, and how such objectives could be attained.⁵⁰² We sought comment on the potential impact that location portability for wireline telephone numbers and the development of the 500 personal communications services market, which permits customers to be reached through a single telephone number regardless of their location, may have on each other.⁵⁰³

2. Position of the Parties

175. Most parties agree that location portability and service portability do not have the same potential impact on consumer choice and on the development of local competition as service provider portability.⁵⁰⁴ Pacific Bell and the Missouri PSC argue that the availability of service portability will be driven by market forces, and that product differentiation will stimulate customers to change their telecommunications services.⁵⁰⁵ Ameritech and SBC Communications note that since the 1996 Act addresses only service provider portability, the Commission should not adopt rules mandating service and location portability.⁵⁰⁶ OPASTCO claims that requiring service portability would strain the limited abilities of small LECs, and thus delay deployment of rural infrastructure.⁵⁰⁷ The Missouri PSC and New York DPS argue that there currently is not enough demand for ISDN to warrant requiring service portability.⁵⁰⁸ The Florida PSC, on the other hand, maintains that, in many cases, service portability is already available, as long as the switch has the needed functionality.⁵⁰⁹

176. Most parties agree that implementation of location portability poses many problems, including: (1) loss of geographic identity of one's telephone number;⁵¹⁰ (2)

⁵⁰² Id.

⁵⁰³ The geographic mobility offered through 500 number services requires customers to change their existing telephone numbers to 500 numbers.

⁵⁰⁴ See, e.g., ACTA Comments at 4-6; California PUC Comments at 5; Pacific Bell Comments at 11-12, 26.

⁵⁰⁵ Missouri PSC Comments at 1-2; Pacific Bell Comments at 25-26. See also ACTA Comments at 5.

⁵⁰⁶ Ameritech Further Comments at 1; SBC Communications Further Comments at 2. See also NYNEX Further Reply Comments at 4-6.

⁵⁰⁷ OPASTCO Comments at 14.

⁵⁰⁸ Missouri PSC Comments at 1-2; New York DPS Comments at 5.

⁵⁰⁹ Florida PSC Comments at 4.

⁵¹⁰ See, e.g., AT&T Comments at 7-8; GVNW Comments at 5-6; Illinois Commerce Commission Comments at 13.

lack of industry consensus as to the proper geographic scope of location portability;⁵¹¹ (3) substantial modification of billing systems and the consumer confusion regarding charges for calls;⁵¹² (4) loss of the ability to use 7-digit dialing schemes;⁵¹³ (5) the need to restructure directory assistance and operator services;⁵¹⁴ (6) coordination of number assignments for both customer and network identification;⁵¹⁵ (7) network and switching modifications to handle a two-tiered numbering system;⁵¹⁶ (8) development and implementation of systems to replace 1+ as toll identification;⁵¹⁷ and (9) possible adverse impact on E911 services.⁵¹⁸

177. Several BOCs maintain that the Commission should require location portability immediately because currently new entrants can serve larger geographic areas with a single switch.⁵¹⁹ Some of these parties maintain that the ability of competing carriers to serve larger geographic areas from a single wire center may increase consumer demand for location portability, thus giving competing carriers an advantage over incumbent LECs.⁵²⁰ MCI, SBC Communications, Nextel, and Arch/AirTouch Paging argue that, if location portability is implemented, it should be limited to the local calling area of a wireline carrier.⁵²¹ MCI further maintains that allowing numbers to be transferred across NPA or state boundaries would negatively affect the numbering resource because individuals could remove numbers from the NPA by taking such

⁵¹¹ SBC Communications Comments at 6-7; PCIA Comments at 4, 6. See also AT&T Comments at 8 n.11 (advocating location portability within each exchange); Ameritech Reply Comments at 11-12 (advocating location portability on an NPA basis); PCS Primeco Comments at 5 (same).

⁵¹² See, e.g., New York DPS Comments at 3-4; Pacific Bell Comments at 27; SBC Communications Comments at 7.

⁵¹³ GVNW Comments at 9-10; US Airwaves Comments at 3.

⁵¹⁴ GVNW Comments at 9-10; Pacific Bell Comments at 28.

⁵¹⁵ GVNW Comments at 9-10.

⁵¹⁶ Id.; ACTA Comments at 6.

⁵¹⁷ GVNW Comments at 9-10.

⁵¹⁸ NENA Reply Comments at 2.

⁵¹⁹ BellSouth Comments at 8; NYNEX Comments at 18 n.19; GTE Reply Comments at 13.

⁵²⁰ BellSouth Comments at 8; NYNEX Comments at 18 n.19; SBC Communications Reply Comments at 6-7.

⁵²¹ MCI Comments at 23; SBC Communications Comments at 6; SBC Communications Reply Comments at 7; Nextel Comments at 5; Arch/AirTouch Paging Reply Comments at 18 n.63.

numbers to other areas of the country.⁵²² In contrast, GSA believes that the greater the geographic scope of location portability, the more meaningful the consumer benefits.⁵²³

178. While many parties believe location portability has some value, most parties maintain that its implementation should not delay implementation of service provider portability.⁵²⁴ At the same time, numerous parties, including incumbents, new entrants, and state commissions, argue that any number portability method adopted by the Commission should be capable of expanding to encompass location portability if such demand arises.⁵²⁵ GSA, Nortel, and Bell Atlantic argue that a long-term portability method should eventually encompass service and location portability.⁵²⁶ The National Emergency Numbering Association (NENA) contends the statutory definition of "number portability" in its broadest interpretation would limit any requirement to provide location portability to the area served by the same central office.⁵²⁷

179. Pacific Bell and Time Warner Holdings argue that market forces should drive the development of location portability.⁵²⁸ Florida PSC, Missouri PSC, ACTA, Pacific Bell, BellSouth, and Sprint maintain that current market demand for location portability is mixed, and depends on such factors as the geographic scope of location portability and costs of implementation.⁵²⁹ GSA, on the other hand, claims that demand for location portability is reflected in the increase in demand for 800 services and by the demand for 500 services.⁵³⁰ A number of wireless parties argue that wireless carriers already provide significant location portability.⁵³¹ Finally, the New York DPS maintains that location portability, if limited to a rate center, will avoid the problems of customer

⁵²² MCI Comments at 23.

⁵²³ GSA Reply Comments at 7.

⁵²⁴ See, e.g., MCI Comments at 22; Teleport Comments at 6; Time Warner Holdings Comments at 8-9.

⁵²⁵ See, e.g., BellSouth Comments at 8; US West Comments at 4-5; Teleport Comments at 6; Florida PSC Comments at 5-6; Illinois Commerce Commission Comments at 14; Ohio PUC Comments at 3-4.

⁵²⁶ Bell Atlantic Comments at 12; GSA Comments at 5-7; Nortel Reply Comments at 1.

⁵²⁷ NENA Further Comments at 2. See also 47 U.S.C. § 153(46).

⁵²⁸ Pacific Bell Comments at 3; Time Warner Holdings Comments at 7; Time Warner Holdings Reply Comments at 7.

⁵²⁹ Florida PSC Comments at 5; Missouri PSC Comments at 1, 3-4; ACTA Comments at 4; Pacific Bell Comments at 11-12, 26; BellSouth Comments at 7-8; Sprint Comments at 19.

⁵³⁰ GSA Comments at 6.

⁵³¹ AirTouch/US West New Vector Reply Comments at 7; CTIA Comments at 8-9; Bell Atlantic NYNEX Mobile Comments at 3.

confusion, and that the 1996 Act does not prohibit provision of location portability within that limitation.⁵³²

180. OPASTCO, SBC Communications, and Nextel argue that location portability should only be provided through use of non-geographic numbers, such as 500 services.⁵³³ GTE argues that its survey illustrates that customers are not adverse to a one-time number change to a non-geographic number in order to have number portability.⁵³⁴ Florida PSC maintains, however, that location portability and 500 services serve different purposes, with location portability providing the ability to take a phone number when a customer changes premises, and 500 services providing the ability to take a telephone number to different locations during the day, week, or month.⁵³⁵

3. Discussion

181. We decline at this time to require LECs to provide either service or location portability. This decision is not inconsistent with the 1996 Act, which mandates the provision of service provider portability, but does not address explicitly service or location portability. The 1996 Act's requirement to provide number portability is limited to situations when users remain "at the same location," and "switch[] from one telecommunications carrier to another," and thus does not include service and location portability.⁵³⁶

182. While the 1996 Act does not require LECs to offer service and location portability, it does not preclude this Commission from mandating provision of these features if it would be in the public interest, nor does it prevent carriers from providing service and location portability, consistent with this Order, if they so choose. We believe, however, that requiring service or location portability now would not be in the public interest. As the record indicates, service provider portability is critical to the development of competition, but service and location portability have not been demonstrated to be as important to the development of competition.⁵³⁷

⁵³² New York DPS Further Comments at 2.

⁵³³ OPASTCO Comments at 15-16; SBC Communications Comments at 7-8; Nextel Comments at 4; Nextel Reply Comments at 3. See also Missouri PSC Comments at 6 (customers who wish to lose the geographic significance of their telephone number may use a service-specific NPA).

⁵³⁴ GTE Reply Comments at 3.

⁵³⁵ Florida PSC Comments at 5.

⁵³⁶ See 47 U.S.C. § 153(30).

⁵³⁷ See supra ¶¶ 28, 175.

183. Consistent with the result advocated by most parties commenting on this issue, we believe that a mandate for service portability is unnecessary for several reasons. First, and most importantly, requiring carriers to make the necessary switch and network modifications to accommodate service portability as well as service provider portability may delay implementation of the latter. Second, consumer demand for service portability is unclear. The record indicates that the benefits of service portability are limited because the current unavailability of this capability affects only customers who wish to change their current service to Centrex and ISDN services or vice versa. Since most non-basic services offered by incumbent LECs are purchased in addition to (not in lieu of) basic services, implementation of service portability may actually lower demand for the alternate services if it raises their prices.⁵³⁸ Third, our requirement to provide service provider portability does not preclude carriers from offering service portability where they perceive a demand for it. In fact, our mandate will likely facilitate carriers' ability to provide service portability. Service provider portability will naturally drive the provision of service portability because if a user can receive a different service and keep the same number simply by switching carriers, service providers will have an incentive to offer service portability to keep those customers. Finally, carrier attempts to differentiate their products from those of other carriers will stimulate changes in services by customers, regardless of service portability.

184. We also believe that, at this time, the disadvantages of mandating location portability outweigh the benefits. Our chief concern is that users currently associate area codes with geographic areas and assume that the charges they incur will be in accordance with the calling rates to that area. Location portability would create consumer confusion and result in consumers inadvertently making, and being billed for, toll calls. Consumers would be forced to dial ten, rather than seven, digits to place local calls to locations beyond existing rate centers. In order to avoid this customer confusion, carriers, and ultimately consumers, would incur the additional costs of modifying carriers' billing systems, replacing 1+ as a toll indicator, and increasing the burden on directory, operator, and emergency services to accommodate 10-digit dialing and the loss of geographic identity.

185. In addition to the disadvantages, the demand for location portability is currently unclear. There is no consensus on the preferred geographic scope of location portability. Also, users who strongly desire location portability can use non-geographic numbers by subscribing to a 500 or toll free number. Finally, whereas having to change numbers deters users from switching service providers, we believe that a customer's decision to move to a new residential or business location generally would not be influenced significantly by the availability of number portability. Therefore, location portability will not foster the development of competition to the same extent as service provider portability.

⁵³⁸ See SBC Communications Comments at 8.

186. We recognize that new entrants will be able to offer a greater range of location portability per switch due to their network architecture and because they will generally have fewer customers in the area covered by a switch.⁵³⁹ To avoid the consumer confusion and other disadvantages inherent in requiring location portability, however, we believe state regulatory bodies should determine, consistent with this Order, whether to require carriers to provide location portability. We believe the states should address this issue because we recognize that "rate centers" and local calling areas have been created by individual state commissions, and may vary from state to state. To the extent rate centers and/or local calling areas vary from state to state, the degree of location portability possible without causing consumer confusion may also vary. We therefore expect state regulatory bodies to consider the particular circumstances in their respective locales in determining whether to require carriers to implement location portability.

187. We recognize that location portability would promote consumer flexibility and mobility and potentially promote competition by allowing carriers to offer different levels of location portability in a competitive manner. Also, the importance that consumers attribute to the geographic identity of their telephone numbers may change, and our concerns regarding customer confusion may no longer hold true. For these reasons, we require any long-term method to have the capability of accommodating location and service portability if, in the future, demand increases or the burdens decrease.⁵⁴⁰

I. 500 and 900 Number Portability

1. Background

188. Currently, consumers can purchase 500 or 900 services from either local exchange or interexchange carriers. A consumer subscribing to 500 service receives a 500 "area code" number that can be programmed to deliver calls wherever the consumer travels in the United States and in many locations around the world. 900 service is a calling service providing businesses with a method to deliver information, advice, or consultations quickly and conveniently by telephone. Individuals calling 500 or 900 subscribers dial 500 or 900 plus a 7-digit number (NXX-XXXX). When a call is placed to a 500 or 900 service telephone number, the originating LEC uses the NXX of the dialed number to identify the carrier serving either the owner of the 500 number, or the

⁵³⁹ We anticipate that a new entrant will employ equipment capable of serving a larger area per switch, and serve fewer customers in each area served by one switch, than incumbent LECs do presently. As a result, one switch of a new entrant could serve all customers in a certain area, while the incumbent LEC must use two or more switches to serve all customers in that area. Thus, the new entrant's network would be capable of geographically transferring telephone numbers across rate centers of incumbent LECs.

⁵⁴⁰ See *supra* ¶ 58.

business operating the 900 number service. The LEC then routes the call over the appropriate carrier's network.⁵⁴¹

189. In the Notice, we tentatively concluded that service provider portability for 500 and 900 numbers is beneficial for customers of those services.⁵⁴² We sought comment on this tentative conclusion and on the costs (monetary and nonmonetary) of making such portability available.⁵⁴³ With respect to 500 service provider portability, we sought comment on the estimated costs of deploying and operating a database solution, and whether it would be technically feasible to upgrade the existing 800 database and associated software to accommodate PCS N00 numbers.⁵⁴⁴ We also sought comment on whether it is feasible (both technically and economically) to provide PCS N00 service provider portability in a switch-based translation environment.⁵⁴⁵ Further, we sought comment on the following issues raised by the Industry Numbering Committee's (INC's) PCS N00 report: (1) who would be the owner/operator of an SMS administering a PCS N00 database; (2) how would that administrator be selected; (3) how would the costs of providing PCS N00 portability be recovered; and (4) by what date should PCS N00 portability be deployed.⁵⁴⁶ Finally, we sought comment on the ability of 900 number portability to lower prices and stimulate demand for 900 services, and on the costs of deploying and operating the necessary database.⁵⁴⁷

2. Positions of the Parties

190. In comments filed prior to passage of the 1996 Act, a majority of parties argue that consideration of 500 and 900 number portability is premature, as the current

⁵⁴¹ See Ameritech Operating Companies et al. Petitions for Waiver of Sections 69.4(b) and 69.106 of Part 69 of the Commission's Rules, 9 FCC Rcd 7873 (Com. Car. Bur. 1994) (500 Access Order); AT&T Ex Parte Letter at 1, from Betsy J. Brady, to Jason Karp, FCC, CC Docket No. 95-116, filed May 17, 1996 (AT&T May 17, 1996 Ex Parte Letter).

⁵⁴² Notice, 10 FCC Rcd at 12372.

⁵⁴³ Id.

⁵⁴⁴ Id. at 12375. The term "PCS" refers to a set of capabilities that allows some combination of personal mobility, terminal mobility and service profile management. In the number portability context, "PCS N00" is used by the INC to include both 500 and other NPA codes. Id. at 12372 & n.57.

⁵⁴⁵ Id.

⁵⁴⁶ Id. at 12375-76

⁵⁴⁷ Id. at 12374.

costs of implementation outweigh any benefits.⁵⁴⁸ Indeed, several LECs maintain that the Commission should establish a separate docket to address the unique issues raised by 500 and 900 service provider portability.⁵⁴⁹

191. In contrast, MCI, Citizens Utilities, Competitive Carriers, Florida Public Service Commission, and some CMRS providers contend that 500 and 900 number portability would benefit consumers, and that service provider portability for 500 and 900 numbers should be developed, as long as the costs are not prohibitive.⁵⁵⁰ The information service providers generally agree that 900 portability should be mandated by the Commission as soon as possible to increase competition for information service provider traffic among IXCs, and to offer a more efficient and broader range of information services.⁵⁵¹

192. Interactive Services, MCI, and Teleservices maintain that the toll free database can be modified to include 900 numbers at relatively modest cost, and that the implementation and administration of toll free number portability would provide a model for 500 and 900 number portability.⁵⁵² Both Interactive Services and MCI note that parties have failed to provide relevant cost and benefit data in the record of this proceeding, and urge the Commission to require parties to submit data concerning the total costs of implementation and operation.⁵⁵³

193. Ameritech states that updating the existing toll free platform to support 900 numbers is technically possible, but would require extensive systems modifications.⁵⁵⁴ Ameritech also states that it would be technically and economically infeasible to provide PCS N00 portability in a switch-based translation environment due to the memory

⁵⁴⁸ See, e.g., Ameritech Comments at 13; AT&T Comments at 39-40; Ohio PUC Reply Comments at 8; Telemation Comments at 2-3 (900 number portability is inconsistent with Telephone Disclosure and Dispute Resolution Act).

⁵⁴⁹ See, e.g., Ameritech Comments at 13; Bell Atlantic Comments at 23-24; USTA Reply Comments at 12.

⁵⁵⁰ See, e.g., MCI Comments at 24; Citizens Utilities Comments at 18; Competitive Carriers Comments at 23; Florida PSC Comments at 9; Arch/AirTouch Paging Comments at 6 & n.9, 17-18.

⁵⁵¹ Interactive Services Comments at 2-3; Interactive Services Reply Comments at 1, 6; MCI Comments at 24; Teleservices Comments at 5.

⁵⁵² Interactive Services Reply Comments at 3-4; MCI Comments at 27-28; Teleservices Comments at 7-9.

⁵⁵³ MCI Comments at 31-32; Interactive Services Reply Comments at 4.

⁵⁵⁴ Ameritech Comments at 15.