3. Discussion

46. Performance criteria versus selection of architecture. We conclude that establishing performance criteria that a LEC's number portability architecture must meet would better serve the public interest than choosing a particular technology or specific architecture. First, we believe that to date there appears to be sufficient momentum to deploy compatible methods, if not an identical method, nationwide. Every state that has selected a particular architecture for implementation within its state boundaries has selected the same method, LRN, and numerous states are reportedly following suit.[142] With the exception of some of the incumbent LECs, most parties that advocate selection of a particular method at this time are also supporting the LRN method.[143] Under these circumstances, mandating the implementation of a particular number portability architecture, or mandating that the same architecture be deployed nationwide, appears unnecessary. Second, such a mandate might actually delay the implementation of number portability. We are reluctant, based on the record in this proceeding, to select one of the proposed long-term methods. According to a number of parties, none of the currently supported methods, including LRN, has been tested or described in sufficient detail to permit the Commission to select the particular architecture without further consultation with the industry.[144] If, however, we were to direct an industry body to recommend a specific number portability architecture, it would likely delay the implementation of number portability that already is underway in several states, and would create significant uncertainty for those switch vendors currently modifying switch software to accommodate LRN. Third, dictating implementation of a particular method could foreclose the ability of carriers to improve on those methods already being deployed or to implement hybrid (but compatible) methods.

47. We believe that our establishment of criteria for long-term number portability methods, however, will ensure an appropriate level of national uniformity, while maintaining flexibility to accommodate innovation and improvement. The deployment of a uniform number portability architecture nationwide will be important to the efficient functioning of the public switched telephone network and will reduce the costs of implementing number portability nationwide by allowing switch vendors to spread the costs of development over more customers. Moreover, a uniform deployment will allow switch manufacturers to work toward a single standard, thus avoiding the situation where different manufacturers partition the market among different methods.

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[142] See supra ¶¶ 21-22.

[143] See, e.g., Ameritech, AT&T, Central Telephone Co. of Illinois, MCI, MFS, Teleport, Time Warner Holdings, and Sprint Joint Ex Parte Letter at 1, to Regina Keeney, FCC, CC Docket No. 95-116, filed May 8, 1996 (Ameritech et al. May 8, 1996 Joint Ex Parte Letter).

[144] See GTE Ex Parte Presentation at 2, CC Docket No. 95-116, filed Feb. 7, 1996 (GTE February 7, 1996 Ex Parte Filing); GTE Ex Parte Presentation at 3-4, CC Docket No. 95-116, filed Mar. 27, 1996 (GTE March 27, 1996 Ex Parte Filing); Pacific Bell Comments at 15-17; NYNEX Reply Comments at 5.

48. Performance Criteria. We thus adopt the following minimum criteria. Any long-term number portability method, including call processing scenarios or triggering, must:

(1) support existing network services, features, and capabilities;

(2) efficiently use numbering resources;

(3) not require end users to change their telecommunications numbers;

(4) not require telecommunications carriers to rely on databases, other network facilities, or services provided by other telecommunications carriers in order to route calls to the proper termination point;

(5) not result in unreasonable degradation in service quality or network reliability when implemented;

(6) not result in any degradation of service quality or network reliability when customers switch carriers;

(7) not result in a carrier having a proprietary interest;

(8) be able to accommodate location and service portability in the future; and

(9) have no significant adverse impact outside the areas where number portability is deployed.

We discuss each of these performance criteria in turn below.

49. First, we require that any long-term method support existing network services, features, or capabilities, such as emergency services, CLASS features, operator and directory assistance services, and intercept capabilities. The 1996 Act requires that consumers be able to retain their numbers "without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."[145] Moreover, customers are not likely to switch carriers and retain their telephone numbers if they are required to forego services and features to which they have become accustomed. Thus, any long-term method that precludes the provision of existing

[145] See 47 U.S.C. § 153(30).

services and features would place competing service providers at a competitive disadvantage.[146]

50. The public interest also requires that service provider portability not impair the provision of network capabilities that are important to public safety, such as emergency services and intercept capabilities. In our proposal to ensure that PBXs and CMRS providers support enhanced 911 services, we reaffirmed that 911 services enable telephone users to receive fast response to emergency situations, and that broad availability of 911 and E911 services best promotes "safety of life and property through the use of wire and radio communication."[147] In addition, the Communications Assistance for Law Enforcement Act requires telecommunications carriers generally to provide capabilities that enable secure, reliable, and non-intrusive law enforcement interception of call setup information and call content so that law enforcement agencies can intercept and monitor calls when necessary.[148]

51. Second, we require that any long-term method efficiently use numbering resources. Telephone numbers are the means by which commercial and residential consumers gain access to, and reap the benefits of, the public switched telephone network.[149] In recent years, the explosive growth of wireless services has caused an equally dramatic increase in the consumption of telephone numbers.[150] Indeed, in January

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[146] Moreover, we have found that the provision of some services, such as caller ID and emergency services, is in the public interest. For example, our rules require passage of calling party information because national availability of caller ID enables a multitude of services, efficiency gains, and additional choices for consumers. See Rules and Policies Regarding Calling Number Identification Service - Caller ID, Report and Order and Further Notice of Proposed Rulemaking, 9 FCC Rcd 1764, 1765-66 (1994), aff'd, Public Util. Comm'n of California v. FCC, 75 F.3d 1350 (9th Cir. 1996).

[147] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Notice of Proposed Rulemaking, 9 FCC Rcd 6170, 6171-72 (1994) (quoting 47 U.S.C. § 151).

[148] Communications Assistance for Law Enforcement Act (CALEA), Pub. L. No. 103-414, 108 Stat. 4279 (1994), 47 U.S.C. §§ 1001 et seq. Under CALEA, the term "telecommunications carrier" means a person or entity that is engaged in the transmission or switching of wire or electronic communications as a common carrier. The term includes commercial mobile service providers, as well as providers of wire or electronic communication switching or transmission service if the Commission finds that such service substantially replaces local telephone exchange service. The requirements of CALEA do not extend to information service providers or any class or category of telecommunications carriers that the Commission exempts by rule. 47 U.S.C. § 1001(8).

[149] Numbering Plan Order, 11 FCC Rcd at 2591.

[150] Two out of three new telephone numbers go to wireless subscribers. See CTIA Ex Parte Letter at 1, from Robert F. Roche, to Mindy Littell, FCC, CC Docket No. 95-116, filed June 3, 1996 (CTIA June 3, 1996 Ex Parte Letter). The total number of cellular subscribers more than doubled between 1993 and 1995. In December 1993, there were 16,009,461 cellular subscribers, and, in December 1995, cellular subscribers totalled 33,785,661. Trends in Telephone Service, Industry Analysis Division, Common Carrier Bureau,

1995, carriers began to deploy interchangeable NPA (INPA) codes because all NPA codes had been exhausted.[151] The anticipated shortage of numbers has prompted several BOCs to propose the use of area code overlays.[152] The increased use of overlays and area code splits has resulted in both industry and consumer inconvenience and confusion. The consumption rate of NANP resources is likely to accelerate with the entry of new wireline and wireless carriers.[153] Thus, we conclude that deploying a long-term number portability method that rapidly depletes numbering resources would undermine the efforts of the industry, the states, and the Commission to ensure sufficient numbering resources.

52. Third, deployment of a long-term method should not require customers to make any telecommunications number change. The 1996 Act mandates that end users be able "to retain . . . existing telecommunications numbers . . . when switching from one telecommunications carrier to another."[154] Requiring any number change would contravene this basic requirement. Congress noted that the ability to switch service providers is only meaningful if customers can retain their telephone numbers.[155]

53. Fourth, we require that any long-term method ensure that carriers have the ability to route telephone calls and provide services to their customers independently from the networks of other carriers. Requiring carriers to rely on the networks of their competitors in order to route calls can have several undesirable effects. For example, dependence on the original service provider's network to provide services to a customer that has switched carriers contravenes the choice made by that customer to change service providers. In addition, such dependence creates the potential for call blocking by the original service provider and may make available to the original service provider proprietary customer information. Moreover, methods which first route the call through the original service provider's network in order to determine whether the call is to a ported number, and then perform a query only if the call is to be ported, would treat ported numbers differently than non-ported numbers, resulting in ported calls taking longer to complete than unported calls. This differential in efficiency would disadvantage the carrier to whom the call was ported and impair that carrier's ability to compete

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Federal Communications Commission, at 63 (May 1996).

[151] Numbering Plan Order, 11 FCC Rcd at 2593. NPA codes, commonly known as area codes, have historically been of the format N 0/1 X, where N may be any number from 2 to 9, 0/1 is either 0 or 1, and X may be any number from 0 to 9. INPAs have the format NXX. Id.

[152] See, e.g., Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech - Illinois, Declaratory Ruling and Order, 10 FCC Rcd 4596, 4598 (1995).

[153] See Numbering Plan Order, 11 FCC Rcd at 2595, 2617, 2629.

[154] 47 U.S.C. § 153(30).

[155] H.R. Rep. No. 204, 104th Cong., 1st Sess., pt. 1, at 72 (1995).

effectively against the original service provider.[156] Finally, dependence on another carrier's network also reduces the new service provider's ability to control the routing of telephone calls to its customers, thus inhibiting its ability to control the costs of such routing. For these reasons, a long-term number portability method should not require dependency on another carrier's network. We note that this criterion does not prevent individual carriers from determining among themselves how to process calls, including a method by which a carrier voluntarily agrees to use the original service provider's network.[157]

54. We recognize that this criterion will effectively preclude carriers from implementing QOR. Those carriers that oppose QOR argue that it would treat ported and non-ported numbers differently, force reliance on the incumbent LEC's network, increase post-dial delay and the potential for call blocking, result in inefficient routing, create significant network interoperability issues, and delay deployment of a long-term number portability method.[158] There is little evidence in the record to support the claim that allowing carriers to implement QOR would result in significant cost savings. Pacific Bell submitted summary figures indicating that it would save approximately $14.2 million per year assuming that 20 percent of subscribers port their numbers if it implemented QOR.[159] These savings, which represent less than 0.2 percent of Pacific Bell's total annual operating revenues, appear insignificant in relation to the potential economic and non-economic costs to competitors if QOR is used. According to AT&T, using QOR on Lucent switches is more cost effective only if less than 12 percent of subscribers have ported their numbers. Similarly, AT&T asserts that using QOR on Siemens switches is more cost effective only if less than 23 percent of subscribers have ported their numbers.[160] In addition, because carriers using QOR may be required to send a QOR message to another carrier's switch to determine if a customer has transferred the number, the second carrier must have the ability to recognize and respond to the QOR

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[156] AT&T April 24, 1996 Ex Parte Letter at 7-8 (increased call completion time on calls to alternative carriers' networks will likely be incorrectly perceived as reflecting an inferior quality of service, and incumbent carriers may seek to exploit call completion differentials); MCI April 23, 1996 Ex Parte Letter at 1-4 (in interexchange market, competitors can and will use "imperceptible" differences in post dial delay to their marketing advantage).

[157] See infra ¶ 62.

[158] See, e.g., AT&T April 24, 1996 Ex Parte Letter at 3-5; MCI April 23, 1996 Ex Parte Letter at 2-4; AT&T May 22, 1996 Ex Parte Filing; AT&T Further Reply Comments at 6; MCI Further Reply Comments at 3-5.

[159] Pacific Bell Ex Parte Letter at 7, from Alan F. Ciamporcero, to William Caton, FCC, CC Docket No. 95-116, filed June 6, 1996 (Pacific Bell June 6, 1996 Ex Parte Letter). According to the estimates submitted by Pacific Bell, higher levels of penetration would result in lower levels of cost savings.

[160] AT&T Ex Parte Presentation at 4, CC Docket No. 95-116, filed May 30, 1996 (AT&T May 30, 1996 Ex Parte Filing).

message, which also may increase its costs.[161] Based on the record before us, we conclude that the competitive benefits of ensuring that calls are not routed through the original carrier's network outweigh any cost savings that QOR may bring in the immediate future.

55. Fifth, as a general matter, we require that the implementation of any long-term method not unreasonably degrade existing service quality or network reliability. Consumers, both business and residential, rely on the public switched telephone network for their livelihood, health and safety. Jeopardizing the reliability of the network would stifle business growth and economic development, and endanger individuals' personal safety and convenience. Consumers, both business and residential, have also come to expect a certain level of quality and convenience in using basic telecommunications services. We note that this Commission has repeatedly affirmed its commitment to maintaining service quality and network reliability.[162] We, therefore, require that any long-term method of providing number portability not cause any unreasonable degradation to the network or the quality of existing services. This requirement extends to degradation that affects carriers operating, and end users obtaining services, outside as well as within the area of portability.

56. Sixth, once long-term number portability is implemented, we require that customers not experience any degradation of service quality or network reliability when they port their numbers to other carriers. We reiterate that the 1996 Act requires that consumers be able to retain their numbers "without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."[163] We interpret this mandate to mean, at a minimum, that when a customer switches carriers, that customer must not experience a greater dialing delay or call set up time, poorer transmission quality, or a loss of services (such as CLASS features) due to number portability compared to when the customer was with the original carrier.[164]

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[161] AT&T May 22, 1996 Ex Parte Filing at 10.

[162] See Expanded Interconnection with Local Telephone Company Facilities, Report and Order and Notice of Proposed Rulemaking, 7 FCC Rcd 7369, 7380 & n.38 (1992); Intelligent Networks, Notice of Proposed Rulemaking, 8 FCC Rcd 6813, 6814 (1993); Network Reliability: A Report to the Nation, Compendium of Technical Papers, presented by the Federal Communications Commission's Network Reliability Council (June 1993) (NRC Report); Policy and Rules Concerning Rates for Dominant Carriers, Second Report and Order, 5 FCC Rcd 6786, 6829-32 (1990); Reform for Local Exchange Carriers Subject to Rate of Return Regulation, 58 Fed. Reg. 36,145 (1993) (to be codified at 47 C.F.R. pts. 61, 65, 69); Provision of Access for 800 Service, Memorandum Opinion and Order on Reconsideration and Second Supplemental Notice of Proposed Rulemaking, 6 FCC Rcd 5421, 5425-26 (1991).

[163] 47 U.S.C. § 153(30).

[164] See AT&T April 24, 1996 Ex Parte Letter at 7 (arguing that method that imposes incremental post-dial delay on calls to ported numbers and not on calls to non-ported numbers violates 47 U.S.C. § 153(30)); MCI April 23, 1996 Ex Parte Letter at 3 (same).

57. Seventh, we require that no carrier have a proprietary interest in any long term method. A telecommunications carrier may not own rights to, or have a proprietary interest in, number portability technology. We believe that the requirement in the 1996 Act that the costs of number portability be borne on a competitively neutral basis precludes carrier ownership of the long-term method, and their collection of licensing or other fees for use of the method.[165] In addition, it would be competitively unfair if a LEC providing portability were to benefit directly, through licensing fees or a proprietary interest, from its competitors' use of portability. We note that one of the first criteria required by the Illinois task force in selecting a number portability method was that it be non-proprietary.[166]

58. Eighth, we require that any long-term method be able to accommodate service and location portability in the future. Although we do not at this time mandate provision of service or location portability, we recognize that service and location portability have certain benefits, and we may take steps to implement them in the future if demand for these services develops.[167] As our society becomes increasingly mobile, the importance that consumers attribute to the geographic identity of their telephone numbers may change.[168] It is, therefore, in the public interest to take steps now to ensure that we do not foreclose realization of future economies of scope.

59. Finally, we require that any long-term method not have a significant adverse impact on carriers operating, and end users obtaining services, outside the area of number portability. We believe it is fundamentally unfair to impose any new or different obligations on carriers and customers that do not benefit from service provider portability. Indeed, we are adopting a phased approach to implementation so that number portability is available only in the most populous local markets where competition already has begun to develop or is likely to develop in the near term.[169]

60. We do not believe it is necessary to require that a long-term method utilize existing network infrastructure and functionalities to the extent possible, as some

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[165] We note that AT&T and its former technology division, Lucent Technologies, have forsworn any proprietary interest in LRN. See AT&T Ex Parte Letter at 2, from Gerard Salemme, to Regina Keeney, FCC, CC Docket No. 95-116, filed March 12, 1996 (AT&T March 12, 1996 Ex Parte Letter).

[166] Illinois Commerce Commission Ex Parte Presentation at 11, CC Docket No. 95-116, filed June 19, 1996 (ICC June 19, 1996 Ex Parte Filing).

[167] See infra ¶¶ 182-183, 187.

[168] See infra ¶ 187.

[169] See infra ¶ 82.

commenting parties have suggested.[170] Minimizing the costs of implementing a long-term method should be in the best interests of all the parties involved in such implementation. This conclusion is also consistent with our tentative conclusion that the carrier-specific costs that are not directly related to number portability must be borne by the individual carriers.[171] Thus, existing local service providers have an incentive to minimize the extent of the necessary modifications and upgrades, as well as the costs of implementing number portability-specific software. Moreover, while new entrants may not need to modify existing networks, they must deploy and build networks with at least the same capabilities as those of the incumbents if they are to provide number portability.

61. We also decline to require carriers that receive ported numbers also to provide portability because we believe the 1996 Act renders such a requirement unnecessary. Specifically, section 251(b)(2) imposes a duty to provide number portability on all LECs -- incumbents as well as new entrants.[172] In light of the fact that the 1996 Act applies this duty across all LECs, establishing a reciprocity performance criterion would be needlessly redundant.

62. Call processing scenarios. We decline to specify the carrier that must perform the database query in a database method, because we recognize that individual carriers may wish to determine among themselves how to process calls under alternative scenarios.[173] We therefore leave to local exchange carriers the flexibility to choose and negotiate the scenario that best suits their networks and business plans, as long as they act consistently with the requirements established by this Order. While our criterion requiring carriers to be able to route calls and provide service independently from other carriers' networks may preclude unilateral use of the TAP scenario by a particular carrier, there may be instances where carriers agree to use the TAP scenario, or where the terminating provider is the only carrier capable of performing the database query. In those instances, our performance criterion would not preclude use of the TAP scenario.

63. Rating and billing. Finally, we decline to regulate the rating and billing of local wireline calls to end users in connection with a long-term number portability method. Traditionally, the billing and rating of local wireline calls -- including the establishment of mileage standards, procedures for calling cards, and billing format -- have been left to the purview of the states and the carriers themselves. While several

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[170] See supra note 122.

[171] See infra ¶ 226.

[172] 47 U.S.C. § 251(b)(2).

[173] For explanations of the call processing scenarios, see supra ¶ 42.

parties have raised rating and billing questions with regard to number portability, we believe that such issues are more properly addressed by the states.[174]

D. Mandate of Number Portability

1. Background

64. In the Notice, we sought comment on the estimated time to design, build, and deploy a long-term service provider number portability system.[175] We also requested that parties address what network and other modifications would be necessary to effect the transition to portability.[176] The 1996 Act mandates that all LECs "provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission."[177]

2. Position of the Parties

65. Mandate Implementation By A Date Certain. The competitive local exchange providers generally contend that the Commission should mandate the availability of number portability by a date certain.[178] The incumbent LECs, however, caution the Commission not to act with undue haste by mandating the implementation of number portability by a date certain.[179] Indeed, BellSouth claims that the 1996 Act's omission of a deadline for implementation indicates Congress's intent not to require a date certain at this time.[180] It adds that the industry must first give careful attention to developing an implementation checklist that will ensure that the necessary tasks for the

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[174] This does not limit the Commission's ability to take action with regard to rate centers, however, as rate center issues may affect the efficient administration of numbering resources. Rate centers are defined by the local exchange carrier and approved by the state utility commission. Billing between rate centers is calculated based on the distance between the center points in the rate centers. Because each carrier must have a unique NXX in each rate center in a calling area, a carrier's ability to establish rate centers potentially could contribute to number exhaust.

[175] Notice, 10 FCC Rcd at 12371.

[176] Id.

[177] 47 U.S.C. § 251(b)(2).

[178] See, e.g., CompTel Comments at 8-9; Jones Intercable Reply Comments at 5, 7; Teleport Comments at 12.

[179] See, e.g., BellSouth Reply Comments at 5; NYNEX Comments at 10; SBC Communications Comments at 10; GTE Further Comments at 2, 7-10. See also Cincinnati Bell Comments at 6.

[180] BellSouth Further Reply Comments at 4-5.

implementation are properly identified and performed.[181] Instead of establishing a mandatory implementation date, some LECs contend that the Commission should direct an industry body, such as the INC, to determine the most appropriate schedule for deployment of a long-term solution.[182] Other commenters argue that the implementation schedule should be determined by state regulatory bodies.[183] Pacific Bell warns that a Commission-mandated solution at this time would be premature and cites a late proposal introduced by ITN as an illustration that the optimal solution may not yet have been introduced.[184]

66. The wireless industry offers various implementation plans. For instance, PageNet urges the Commission to establish federal guidelines for number portability, and at a specified time in the future, to evaluate the industry's standards using the guidelines through a notice and comment proceeding.[185] However, Omnipoint believes the Commission should act more aggressively in mandating service provider portability by a date certain.[186]

67. Time Estimates for Deployment. Parties differ on their estimates for deployment. AT&T asserts that virtually all of the equipment vendors participating in the Illinois number portability task force indicate that they can provide most upgrades necessary to implement LRN by the second quarter of 1997.[187] As noted above, Illinois, Georgia, and Colorado plan to deploy LRN in mid-1997.[188] New York also expects to deploy LRN in mid-1997, though deployment in certain AT&T switches is expected to

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[181] BellSouth Comments at 54-55.

[182] See, e.g., id. at 47; NYNEX Comments at 10-11.

[183] See e.g., Ameritech Reply Comments at 8; USTA Comments at 6.

[184] Pacific Bell Reply Comments at 8. In its comments, ITN proposed a three-stage number portability method which utilizes AIN triggering to query one or more databases which contain customer "profile" information, such as Preferred IXC Carrier identification codes and customer network addresses. ITN Comments at 4-14. ITN's method was proposed for the first time in mid-1995 after a number of other methods had been proposed, and has garnered little industry support, according to the record.

[185] PageNet Comments at 5-7

[186] Omnipoint Reply Comments at 9-10.

[187] See, e.g., AT&T Reply Comments at 24; AT&T Further Comments at 6; Sprint Further Comments at 2.

[188] CO PUC LNP Order at 2; Ameritech February 21, 1996 Ex Parte Filing at 12, 54; GA PSC Portability Order at 5-7; AT&T Further Comments at 4 n.5, 7; GA PSC Portability Order at 5-7; NARUC April 17, 1996 Ex Parte Filing at 32; Time Warner Holdings February 12, 1996 Ex Parte Filing at 5.

begin earlier.[189] Michigan has ordered that implementation of long-term number portability in Michigan start at the same time that implementation begins in Illinois.[190] BellSouth, however, estimates that three to five years are required to deploy a number portability system that addresses all the necessary issues.[191]

68. Parties also differ on the interpretation of "technically feasible" as that term is used in section 251(b)(2) of the 1996 Act. GTE argues that the term should not be equated with "technically possible" because cost and timing considerations cannot be separated from the concept of technical feasibility.[192] GTE also maintains that no long-term solution proposed is currently technically feasible, since they all require further information on costs, operation, and reliability.[193] Bell Atlantic contends that deploying a system that is technically feasible, but inefficient, may not be consistent with Congress's goal of a "rapid, efficient" telecommunications system.[194] Bell Atlantic and BellSouth also claim that LRN is merely a call handling protocol, as opposed to a technical solution for number portability.[195]

69. In contrast, Time Warner Holdings and Cox argue that "feasible" must be given common dictionary meaning -- "capable of being done, executed or effected" -- and does not mean "commercially available."[196] Time Warner Holdings points out that equal access and 800 number portability proved to be technically feasible even when they were not commercially available.[197] Time Warner Holdings claims, moreover, that LECs control commercial availability because vendors will not develop and manufacture

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[189] NY DPS Portability Trial Report at 4, 6, 7, Attachment at 2.

[190] MI PSC Interconnection Order at 43.

[191] BellSouth Comments at 54.

[192] GTE Further Comments at 4-5; see also Cincinnati Bell Further Reply Comments at 4.

[193] GTE Further Reply Comments at 1-5. See also Pacific Bell Further Reply Comments at 2-4; SBC Communications Further Reply Comments at 4.

[194] Bell Atlantic Further Reply Comments at 4 (quoting 47 U.S.C. § 151).

[195] Id. at 3; BellSouth Further Reply Comments at 3-6. But see ALTS Further Reply Comments at 7-8 (criticizing characterization of LRN as mere addressing scheme or separation of number portability into triggering and routing functions as attempts to increase unnecessarily involvement of incumbent LECs' networks in LRN implementation).

[196] Time Warner Holdings Further Comments at 4-5 (quoting American Textile Manufacturers Institute v. Donovan, 452 U.S. 490, 509 (1981)); Cox Further Reply Comments at 2 (same).

[197] Time Warner Holdings Further Comments at 5. But see Bell Atlantic Further Reply Comments at 2 & n.4 (asserting that (1) AT&T agreed to make equal access available as part of its consent decree arrangement and (2) 800 number portability was commercially in use before the Commission ordered its deployment).

portability methods until LECs demand them.[198] Similarly, Sprint argues that technically feasible does not mean that every operational and regulatory issue must be resolved before any decision on national number portability can be made.[199] Sprint further claims that Congress's use of the phrase "technically feasible" precludes any consideration of economic feasibility.[200] AT&T and MCI argue that LRN is technically feasible, although they do not explicitly address the precise meaning of the statutory language.[201]

70. Phased Implementation. Most parties addressing the implementation of number portability caution against a flash-cut approach (i.e., deployment nationwide simultaneously).[202] USTA argues that because section 251(b)(2) only requires provision of number portability, not deployment of the necessary software and network upgrades, LECs need only deploy portability upon a bona fide request.[203] Most parties, however, recommend that service provider portability be deployed on a per-market basis within a period of time specified by the Commission.[204] For example, Competitive Carriers proposes that service provider portability be implemented in the 100 largest MSAs within 24 months of this Order.[205] Similarly, Sprint proposes that the Commission adopt a phased approach requiring local service providers to deploy a long-term solution upon receipt of a bona fide request from a certified carrier: (1) in the top 100 MSAs by the end of fourth quarter 1997; (2) in the next 135 MSAs, within 3-4 years after this Order is issued; and (3) within any remaining areas, beginning in the fifth year after this Order is issued.[206] Omnipoint maintains that service provider portability should be made available in the top 100 MSAs between October of 1997 and October of 1998,[207] while GO Communications proposes implementation of service provider portability in the major

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[201] AT&T Further Reply Comments at 3; MCI Further Reply Comments at 2-3.

[202] See, e.g., US West Comments at 22; Illinois Commerce Commission Comments at 9; GTE Further Comments at 8.

[203] USTA Further Reply Comments at 7 & n.4.

[204] See, e.g., Citizens Utilities Comments at 8, 17; Nextel Comments at 5.

[205] Competitive Carriers Comments at 15. See also Jones Intercable Reply Comments at 7-8.

[206] Sprint Comments at 11-12. Sprint Reply Comments at 5; Sprint Further Comments at 5, 6. See also Teleport Comments at 12.

[207] Omnipoint Reply Comments at 9.

[208] GO Communications Reply Comments at 6-7.

[209] MFS Comments at 8-9.

metropolitan areas by early 1997.[208] MFS supports a final cut-over in the 100 largest MSAs by October 1997, with an initial cut-over in the top 35 MSAs on March 31, 1997.[209] It adds that, in order to deploy this capability as competition develops in specific markets, number portability should be implemented by LECs within 18 months of activation of an NXX code in the Local Exchange Routing Guide (LERG) and assignment to a competitor.[210] AT&T has indicated that LRN deployment could begin in the third quarter of 1997 in one MSA in each of the seven BOC regions, followed by deployment in at least three additional MSAs per region during both fourth quarter 1997 and first quarter 1998.[211] Once this initial phase is completed, AT&T suggests that the Commission could require LRN to be deployed in at least four additional MSAs during both second and third quarters 1998, or 105 MSAs total.[212] AT&T's proposed plan would result in deployment of LRN software in a total of 7 MSAs in third quarter 1997, 21 additional MSAs in fourth quarter 1997, 21 additional MSAs in first quarter 1998, 28 additional MSAs in second quarter 1998, and 28 additional MSAs in third quarter 1998.[213] AT&T further asserts that its proposed schedule would require major switch manufacturers to update switch software at a rate of 53 switches per week, and that one major switch manufacturer has claimed that it alone can update 50 switches per week.[214] MCI urges that number portability be deployed in the top 100 MSAs, by population, over a 10 month period beginning no later than June 30, 1997.[215] After implementation is complete in the initial 100 MSAs, MCI recommends that the remaining MSAs be converted based on written requests from carriers filed with the Commission, which may order implementation in a particular MSA to be completed within six months of the request.[216] MCI and Time Warner Holdings also support the notion of requiring number

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[208] GO Communications Reply Comments at 6-7.

[209] MFS Comments at 8-9.

[210] MFS Further Reply Comments at 4.

[211] AT&T April 24, 1996 Ex Parte Letter at 2.

[212] Id.

[213] Id.

[214] AT&T May 30, 1996 Ex Parte Filing at 3.

[215] MCI June 19, 1996 Ex Parte Letter at 1. MCI recommends a schedule requiring implementation in particular MSAs each month. See id. at 1.

[216] Id. at 1.

portability implementation within six months of a request of a telecommunications carrier.[217] Finally, Ameritech argues it is premature to set a deployment schedule for LRN because there are several operational issues yet to be resolved.[218] It further argues that schedules proposed by various carriers are too aggressive and exceed the resources of the industry.[219]

71. Switch vendors assert that LRN software will be generally available for service providers to deploy in 1997. Lucent Technologies plans general availability of LRN software for March 21, 1997, for its 1A ESS switch; March 31, 1997, for its 5ESS-2000 switch; and May 1, 1997, for its 4ESS switch.[220] Lucent asserts that, after the new software becomes generally available, it will be able to support up to 50 software release updates per week for the 5ESS and 1A ESS switches for North America (each release update upgrades the software for one switch).[221] Nortel states that its LRN software will be available in the second quarter of 1997 for its DMS-100, DMS-200, and DMS-500 switches, and will be available in the third quarter of 1997 for its DMS-10 and TOPS switches.[222] Siemens Stromberg-Carlson asserts that its LRN software will be available for testing on its EWSD switch in its Release 14.E generic in October 1996, and will be generally available in the first quarter of 1997.[223] Siemens further claims that upgrades to EWSD switches deployed within the top 100 MSAs can be completed within five months of the date of general availability.[224] Ericsson asserts that its LRN software for Ericsson SCPs[225] will be generally available in the second quarter of 1997, and that its LRN software for Ericsson SSPs[226] will be generally available in the third quarter of 1997.[227]

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[217] See id. (arguing for requiring provision of number portability in areas outside of 100 largest MSAs within six months of a request); Time Warner Holdings Comments at 14-16 (arguing for requirement that number portability be provided within six months after request of another telecommunications carrier); Time Warner Holdings Ex Parte Presentation at 3, CC Docket No. 95-116, filed February 26, 1996 (Time Warner Holdings Feb. 26, 1996 Ex Parte Filing).

[218] Ameritech Further Reply Comments at 3-4.

[219] Id. at 4-5.

[220] Lucent May 20, 1996 Ex Parte Letter at 1.

[221] Id. at 2.

[222] Nortel May 29, 1996 Ex Parte Letter at 1-2.

[223] Siemens May 20, 1996 Ex Parte Letter at 1.

[224] Id. at 2.

[225] For a definition of SCP, see infra note 288.

[226] A service switching point (SSP) is a stored-program controlled switching system that has the functional capability to differentiate intelligent network calls and interact with SCPs.

Ericsson expects that 6-7 switch upgrades can be accomplished each week, with each upgrade taking 3-4 days.[228]

72. The Illinois Commerce Commission argues that a phased approach -- implementing number portability in those areas where local competition is developing -- may be more cost-effective and more feasible technically than a nationwide uniform deadline.[229] Similarly, US West contends that a nationwide uniform deadline for service provider portability is neither practical nor necessary due to differing levels of competition.[230] Sprint asserts that a phased implementation will accommodate the concerns of the small LECs, arguing that a phased approach best balances the need for rapid deployment with the capital constraints facing individual carriers.[231] Nextel asserts that a phased approach is more efficient because it results in the introduction of number portability where the demand for service provider portability is greatest.[232] Bell Atlantic and US West contend that state agencies should determine when and where service provider portability should be introduced within their respective jurisdictions. Alternatively, US West suggests that the Commission could use the same approach to implementing service provider portability that it adopted in implementing equal access for independent LECs.[233]

73. Rural and Small LEC Exemption. In comments filed prior to passage of the 1996 Act, GVNW, TDS Telecom, NECA, and OPASTCO argue that, if the Commission mandates the implementation of number portability, it should exempt small and rural LECs from such a mandate.[234] GNVW, NECA, and NTCA claim that the demand for service provider portability is significantly less in areas served by rural and

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[227] Ericsson May 21, 1996 Ex Parte Letter at 1.

[228] Id.

[229] Illinois Commerce Commission Comments at 9.

[230] US West Comments at 22-23.

[231] Sprint Comments at 12.

[232] Nextel Comments at 5. See also Pacific Bell Comments at 25.

[233] Bell Atlantic Comments at 11; US West Comments at 23.

[234] See GVNW Comments at 7; OPASTCO Comments at 10; NECA Comments at 2; TDS Telecom Comments at 2-3, 5, 9 (arguing that the Commission must be able to point to nationwide public benefits stemming from number portability before rural, residential, and small business customers are burdened with the costs of portability).

small LECs because local exchange competition is not likely to develop there soon, if at all.[235]

3. Discussion

74. Section 251(b) requires that all local exchange carriers, as defined by section 153(26), "provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission."[236] We believe that requiring implementation of long-term number portability by a date certain is consistent with the 1996 Act's requirement that LECs provide number portability as soon as they can do so and will advance the 1996 Act's goal of encouraging competition in the local exchange market.[237] The record indicates that at least one long-term method will be available for deployment in mid-1997.

75. We decline the suggestion of some parties that we direct an industry body to determine an appropriate implementation plan. The INC has been analyzing the issues surrounding number portability for over two years. Delegating responsibility for number portability implementation to an industry group such as the INC would unnecessarily delay implementation of number portability. Similarly, we reject BellSouth's arguments in favor of delaying implementation for three to five years. We believe such a delay is inconsistent with the 1996 Act's requirement that LECs make number portability available when doing so is technically feasible, as well as with the pro-competitive goals of the 1996 Act, and would not serve the public interest.

76. Carriers filing comments in this proceeding have suggested various deployment schedules, with most suggesting deployment within two years of a Commission order or sooner.[238] According to current schedules in Illinois, Georgia, Colorado, Maryland, and New York, AT&T's LRN method is scheduled for deployment (most likely excluding necessary field testing) beginning in mid-1997.[239] Thus, the record indicates that one method for providing number portability will be available in mid-1997.

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[235] See, e.g., GVNW Comments at 2; NECA Comments at 2; NTCA Comments at 1-2.

[236] 47 U.S.C. §§ 153(26), 251(b)(2).

[237] 47 U.S.C. § 251(b)(2).

[238] See, e.g., AT&T April 24, 1996 Ex Parte Letter at 2; Citizens Utilities Comments at 8, 17; Competitive Carriers Comments at 15; GO Communications Reply Comments at 6-7; Jones Intercable Reply Comments at 7-8; MCI June 19, 1996 Ex Parte Letter; MFS Comments at 8-9; Omnipoint Reply Comments at 9-10; Teleport Comments at 12.

[239] See supra ¶ 22.

77. Pursuant to our statutory authority under the 1996 Act, we require local exchange carriers operating in the 100 largest MSAs to offer long-term service provider portability commencing on October 1, 1997, and concluding by December 31, 1998, according to the deployment schedule set forth in Appendix F.[240] We require deployment in one MSA in each of the seven BOC regions by the end of fourth quarter 1997, 16 additional MSAs by the end of first quarter 1998, 22 additional MSAs by the end of second quarter 1998, 25 additional MSAs by the end of third quarter 1998, and 30 additional MSAs by the end of fourth quarter 1998.[241] As a practical matter, this obligation requires LECs to provide number portability to other telecommunications carriers providing local exchange or exchange access service within the same MSA. This schedule is consistent with switch vendor estimates that software for at least one long-term number portability method will be generally available for deployment by carriers around mid-1997, and with the schedule proposed by AT&T.[242] One major switch manufacturer has claimed that it alone can support the deployment of number portability software in 50 switches per week.[243] We conclude that a schedule consistent with AT&T's proposed schedule, which would require all of the major switch manufacturers collectively to update switch software at a total rate of 53 switches per week, appears workable.

78. We note that, in establishing this schedule, we have relied upon representations of switch vendors concerning the dates by which the necessary switching software will be generally available.[244] As a result, our deployment schedule depends directly upon the accuracy of those estimates and the absence of any significant technical problems in deployment. We delegate authority to the Chief, Common Carrier Bureau, to monitor the progress of local exchange carriers implementing number portability, and to direct such carriers to take any actions necessary to ensure compliance with this deployment schedule. We expect that the industry will work together to resolve any outstanding issues, technical or otherwise, which are involved with providing long-term number portability in accordance with our requirements and deployment schedule. We note that while we prescribe the time constraints within which LECs must implement number portability, we strongly encourage carriers to provide such portability before the Commission-imposed deadlines.

79. In addition, we direct the carriers that are members of the Illinois Local Number Portability Workshop to conduct a field test of LRN or another technically

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[240] See infra app. D for list of 100 largest MSAs.

[241] See infra app. F.

[242] See supra ¶ 71; AT&T April 24, 1996 Ex Parte Letter at 2.

[243] See AT&T May 30, 1996 Ex Parte Letter at 3; Lucent May 20, 1996 Ex Parte Letter at 2.

[244] See supra ¶ 71.

feasible long-term number portability method that comports with our performance criteria concluding no later than August 31, 1997.[245] We select the Chicago area for the field test because the record indicates that the Illinois workshop was responsible for drafting requirements for switching software currently being developed by switch manufacturers. Because of the significant work which has been done on behalf of the Illinois workshop, we believe the Chicago area is the best site within which to conduct a field test. The field test should encompass both network capability and billing and ordering systems, as well as maintenance arrangements. We delegate authority to the Chief, Common Carrier Bureau, to monitor developments during the field test. We further direct that the carriers participating in the test jointly file with the Bureau a report of their findings within 30 days following completion of the test. While we do not routinely order field testing of telecommunications technologies as part of rulemaking proceedings, we have a significant interest in ensuring the integrity of the public switched network as number portability is deployed nationwide. We believe a field test will help to identify technical problems in advance of widespread deployment, thereby safeguarding the network.

80. After December 31, 1998, each LEC must make long-term number portability available in smaller MSAs within six months after a specific request by another telecommunications carrier in the areas in which the requesting carrier is operating or plans to operate. Telecommunications carriers may file requests for number portability beginning January 1, 1999. Such requests should specifically request long-term number portability, identify the discrete geographic area covered by the request, and provide a tentative date six or more months in the future when the carrier expects to need number portability in order to port prospective customers.

81. We believe that this deployment schedule is consistent with the requirements of sections 251(b)(2) and (d), which give the Commission responsibility for establishing regulations regarding the provision of number portability to the extent technically feasible.[246] As the record indicates, long-term number portability requires the use of one or more databases.[247] Such databases have yet to be deployed. As indicated above, the methods for providing long-term number portability that would satisfy our criteria require the development of new switching software that is not currently available, but is under development. The record indicates, however, that at least one method of long-term number portability will be technically feasible by mid-1997. Requiring number

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[245] We note that the following carriers are currently members of the Illinois Local Number Portability Workshop: Ameritech-Illinois, GTE North, GTE South, Central Telephone Company of Illinois, AT&T Communications, MCI Telecommunications, Sprint Communications, MCI Metro Transmission Services, MFS Intelenet of Illinois, Teleport Communications Group, and Southwestern Bell Mobile Systems. See Ameritech et al. May 8, 1996 Joint Ex Parte Letter at 1 n.2. This directive would also apply to any carrier that joins the workshop after release of this Order.

[246] 47 U.S.C. § 251(b)(2), (d).

[247] See infra ¶ 91.

portability to be fully operational in the largest 100 MSAs by December 31, 1998, would allow a reasonable amount of time to install the appropriate generic and application software in the relevant switches.[248] Moreover, such a phased deployment is preferable to implementing nationwide number portability simultaneously in all markets (or implementing this service in multiple large MSAs at the same time) because a phased deployment would be less likely to impose a significant burden on those carriers serving multiple regions of the country.[249] Specifically, our phased approach spreads the implementation over 15 months, thus easing the burden on carriers serving multiple regions by limiting the number of MSAs in which implementation is required during a particular calendar quarter. In addition, the burden on such carriers should be less than that upon carriers in smaller markets because the latter may be required to undertake hardware upgrades whereas larger carriers may already have upgraded their switches. Our phased approach would also avoid the potential strain on vendors caused by implementation in all the largest 100 MSAs on or around a single date, as well as help to safeguard the integrity of the public switched telephone network.

82. In addition, we believe that our phased implementation of long-term number portability is in the public interest and supported by the record. Our phased deployment schedule takes in account the differing levels of local exchange competition that are likely to emerge in the different geographic areas throughout the country. Thus, our deployment schedule is designed to ensure that number portability will be made available in those regions where competing service providers are likely to offer alternative services. We believe that competitive local service providers are likely to be providing service in the major metropolitan areas soon.[250] In those areas beyond the 100 largest MSAs, however, the actual pace of competitive entry into local markets should determine the need for service provider portability. We therefore agree with those parties that argue that, in markets outside of the 100 largest MSAs, long-term number portability should be deployed within six months of a specific request from another telecommunications provider.[251] We believe a six-month interval is appropriate given the

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[248] See supra ¶ 71.

[249] See US West Comments at 22; Illinois Commerce Commission Comments at 9.

[250] Competition has already begun in several MSAs. See Teleport Ex Parte Letter at 1-4, from Paul Kouroupas, to William Caton, FCC, CC Docket No. 95-116, filed Mar. 29, 1996 (Teleport March 29, 1996 Ex Parte Letter). AT&T has applied for certification in all 50 states. AT&T Ex Parte Letter at 2, from Frank Simone, to William F. Caton, FCC, CC Docket No. 95-116, filed Mar. 29, 1996 (AT&T March 29, 1996 Ex Parte Letter).

[251] See MCI June 19, 1996 Ex Parte Letter (arguing in favor of requiring provision of number portability in areas outside of 100 largest MSAs within six months of a request); Time Warner Holdings Comments at 14-16 (arguing in favor of requirement that number portability be provided within six months after request of another telecommunications carrier); Time Warner Holdings February 26, 1996 Ex Parte Filing at 3.

more significant network upgrades that may be necessary for carriers operating in these smaller areas.

83. We note that the 1996 Act exempts rural telephone companies from the "duty to negotiate . . . the particular terms and conditions of agreements to fulfill the [interconnection] duties" created by the 1996 Act, including the provision of number portability, and that carriers satisfying the statutory criteria contained in section 251(f) may be exempt from the obligations to provide number portability as set forth herein.[252] In addition, section 251(f)(2) permits a LEC with fewer than two percent of the country's total installed subscriber lines to petition a state commission for suspension or modification of the requirements of section 251.[253] In our recent notice of proposed rulemaking implementing sections 251 and 252 of the Communications Act, we address the application of this statutory exemption, and we believe that specific application of such provisions is best addressed in that proceeding.[254] We intend to establish regulations to implement these provisions by early August 1996, consistent with the requirements of section 251(d).[255]

84. In our Second Further Notice of Proposed Rulemaking on Billed Party Preference (BPP), we stated that the Commission would further consider the feasibility of implementing BPP in the upcoming proceeding to implement the 1996 Act's local number portability requirements in section 251(b)(2).[256] We recognize that our deployment schedule may have implications for the provision of BPP, the ability of a customer to designate in advance which Operator Service Provider (OSP) should be billed when that customer makes a call from a pay telephone. This capability may involve querying a database, similar to the proposed long-term number portability methods. In the BPP Second Further Notice, we noted that the record indicated that the cost of BPP would likely be substantial, and we sought comment on the costs of requiring OSPs to disclose their rates for 0+ calls in a variety of circumstances. In that Notice, we reaffirmed our belief that BPP would generate significant benefits for consumers, but stated that, at this time, unless local exchange providers were required to install the facilities needed to perform database queries for number portability purposes, the incremental cost to query the database for the customer's preferred OSP would outweigh the potential incremental

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[252] See 47 U.S.C. § 251(c), (f).

[253] 47 U.S.C. § 251(f)(2).

[254] Interconnection NPRM at ¶¶ 260-261.

[255] 47 U.S.C. § 251(d)(1) (mandating that Commission implement requirements of section 251 within six months of enactment of 1996 Act)

[256] Billed Party Preference for InterLATA 0+ Calls, Second Further Notice of Proposed Rulemaking, CC Docket No. 92-77, FCC 96-253, ¶ 4 (rel. June 6, 1996) (BPP Second Further Notice).

benefits that BPP would provide.[257] While we continue to recognize the benefits that could be achieved through such an approach, we note that creating the capability for all LECs to query OSP databases would require a uniform deadline to nationwide number portability which, for the reasons discussed above, is not in the public interest. Nonetheless, as indicated by our deployment schedule, LECs in the 100 largest MSAs will be required to install the capability to query number portability databases by December 31, 1998, which could then potentially be utilized for BPP in those markets.

85. Finally, we delegate to the Chief, Common Carrier Bureau, the authority 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 months (i.e., no later than September 30, 1999). In the event a carrier is unable to meet our deadlines for implementing a long-term number portability method, 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. A carrier 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.

E. Database Architecture and Administration

1. Background

86. In the Notice, we sought comment on the type of database architecture that would best serve the public interest and the technical feasibility of deploying a single national database or a series of regionally distributed databases.[258] We also sought comment on the type of information that should be contained within such database(s) and who should have access to such database(s).[259] Finally, we sought comment on administration of the number portability database(s), i.e., who should administer and

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[257] Id.

[258] Notice, 10 FCC Rcd at 12367.

[259] Id.

maintain the database(s), how should they be funded, how should the administrator(s) be selected, and what responsibilities should the administrator(s) be given.[260]

2. Position of the Parties

87. Many parties assert that any long-term number portability solution will require the use of one or more databases.[261] Jones Intercable states that use of a database solution: (1) makes numbering information available to numerous competing carriers; (2) provides the platform to offer other types of number portability; and (3) permits the deployment of other advanced services.[262] ACTA, AT&T, and Citizens Utilities assert that the database architecture of a long-term solution should resemble the architecture used for the toll free database, but with databases distributed on a regional basis.[263] US Intelco and MCI note that multiple, regional databases, rather than one national database, will be necessary to process the data for all portable geographic numbers.[264] Only Scherers Communications claims that a single national database will be able to accommodate all portable numbers, geographic and non-geographic, and will ensure consistency and cost efficiency.[265]

88. AT&T and several BOCs support the ability of individual carriers to download information from the regional databases to routing systems associated with their own networks, i.e., downstream databases.[266] Several other parties add that access to the regional databases must be open, and carriers, individually or collectively, must be permitted to develop routing databases that obtain information from the regional databases.[267] ITN contends that an architecture of regionally-deployed SCPs which correspond to blocks of NPA-NXXs would give carriers the option of maintaining their

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[260] Id. at 12367-68.

[261] ACTA Comments at 10; General Communication Comments at 5; GO Communications Comments at 6. See also Seattle LANP Trial Comments at 3.

[262] Jones Intercable Reply Comments at 8.

[263] ACTA Comments at 10; AT&T Comments at 17; Citizens Utilities Comments at 14.

[264] MCI Comments at 19; US Intelco Comments at 6. See also Citizen Utilities Comments at 14 (adding that it is not feasible to expand the 800 database or its architecture to include local number portability given the magnitude of such an undertaking)

[265] Scherers Communications Comments at 2.

[266] See, e.g., AT&T Comments at 17; BellSouth Reply Comments at 17; Pacific Bell Comments at 11. For definitions of SMS and SCP, see infra note 288.

[267] See, e.g., General Communication Comments at 5; MCI Comments at 17; NCTA Comments at 11.

own customer records or having a third party provider perform such functions.[268] It adds that such openness in data management will help ensure number portability to all service providers, including providers of service to end users and various other intelligent network service providers.[269]

89. Almost all parties, incumbent LECs and new entrants, support administration of the database(s) by a neutral third party.[270] MFS adds that the operator of a number portability database must not be able to gain a competitive advantage by manipulating the data or controlling access to the database.[271] ACTA urges that the database administrator be a non-profit organization selected through a competitive bidding process that excludes LECs and IXCs, with responsibilities established by the North American Numbering Plan Administrator (NANPA).[272]

90. Competitive Carriers assert that the database(s) should include only service provider portability-specific information, and that the carriers using the database should be responsible for the integrity of these data.[273] Teleport claims that an industry group should determine the contents of any distributed databases, subject to the Commission's criteria.[274] The Texas Advisory Commission also asserts that the database(s) should easily integrate with 911 databases.[275]

3. Discussion

91. Section 251(b) directs the Commission to establish requirements governing the provision of number portability without specifically addressing the appropriate database architecture necessary for long-term number portability.[276] We find that an architecture that uses regionally-deployed databases best serves the public interest and is

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[268] ITN Comments at 18-20.

[269] Id.

[270] See, e.g., AT&T Comments at 34; Omnipoint Reply Comments at 8; SBC Communications Comments at 23.

[271] MFS Comments at 13.

[272] ACTA Comments at 11-12. See also BellSouth Reply Comments at 20-21.

[273] Competitive Carriers Comments at 18. See also General Communication Comments at 5.

[274] Teleport Comments at 9.

[275] Texas Advisory Commission Comments at 3.

[276] See 47 U.S.C. § 251(b)(2).

supported by the record.[277] The deployment of multiple regional databases will facilitate the ability of LECs to provide number portability by reducing the distance that such carriers will have to transmit carrier routing information. This, in turn, should reduce the costs of routing telephone calls based on such data. Moreover, a nationwide system of regional databases would relieve individual carriers of the burden of deploying multiple number portability databases over various geographic areas. A regionally-deployed database system will ensure that carriers have the number portability routing information necessary to route telephone calls between carriers' networks, and will also promote uniformity in the provision of such number portability data. We agree with those parties arguing that one national number portability database is not feasible. The potential amount of information that such a database would be required to process would, according to parties in this proceeding, likely become overwhelming as number portability is deployed nationwide.[278]

92. We also conclude that it is in the public interest for the number portability databases to be administered by one or more neutral third parties. Both the record and the Commission's recent decision to reorganize the administration of telephone numbers under the NANP support neutral third party administration of these facilities.[279] We also note that section 251(e)(1) requires the Commission to "create or designate one or more impartial entities to administer telecommunications numbering and to make such numbers available on an equitable basis."[280] Neutral third party administration of the databases containing carrier routing information will facilitate entry into the communications marketplace by making numbering resources available to new service providers on an efficient basis. It will also facilitate the ability of local service providers to transfer new customers by ensuring open and efficient access for purposes of updating customer records. As we stated above, the ability to transfer customers from one carrier to another, which includes access to the data necessary to perform that transfer, is important to entities that wish to compete in the local telecommunications market.[281] Neutral third party administration of the carrier routing information also ensures the equal treatment of all carriers and avoids any appearance of impropriety or anti-competitive conduct.[282] Such administration facilitates consumers' access to the public switched network by

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[277] See, e.g., ACTA Comments at 10; AT&T Comments at 17; US Intelco Comments at 6.

[278] See MCI Comments at 19; US Intelco Comments at 6.

[279] See, e.g., ACTA Comments at 11-12; MFS Comments at 13; Omnipoint Reply Comments at 8; Numbering Plan Order, 11 FCC Rcd at 2596, 2604, 2609, 2613.

[280] 47 U.S.C. § 251(e)(1).

[281] See supra ¶¶ 27-31.

[282] Numbering Plan Order, 11 FCC Rcd at 2595-96; Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech - Illinois, 10 FCC Rcd 4596, 4604, recon. pending (1995).

preventing any one carrier from interfering with interconnection to the database(s) or the processing of routing and customer information. Neutral third party administration would thus ensure consistency of the data and interoperability of number portability facilities, thereby minimizing any anti-competitive impacts.[283]

93. We hereby direct the NANC to select as a local number portability administrator(s) (LNPA(s)) one or more independent, non-governmental entities that are not aligned with any particular telecommunications industry segment within seven months of the initial meeting of the NANC.[284] Selection of the LNPA(s) falls within the duties we established for the NANC in the Numbering Plan Order and the NANC Charter.[285] The NANC charter describes the scope the NANC's activities:

> The purpose of the [NANC] is to advise the [Commission] and to make recommendations, reached through consensus, that foster efficient and impartial number administration. The [NANC] will develop policy on numbering issues, initially resolve disputes, and select and provide guidance to the North American Numbering Plan Administrator.[286]

The fundamental purpose of the NANC is to act as an oversight committee with the technical and operational expertise to advise the Commission on numbering issues.[287] The Commission has already directed the NANC to select a NANPA. We believe the designation of a centralized entity to select and oversee the LNPA(s) is preferable to ensure consistency and to provide a national perspective on number portability issues, as well as to reduce the costs of implementing a national number portability plan.

94. We believe that the NANC is especially well-situated to handle matters relating to local number portability administration because of its similarity to the administration of central office codes. Both functions rely heavily on the use of databases, and both involve administration of NANP resources, only at different levels. Administration of number portability data is essentially the administration of telephone numbers (as opposed to NXX codes) between different carriers.

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[283] Numbering Plan Order, 11 FCC Rcd at 2595-96.

[284] Only the United States participants in the NANC shall be involved in the selection of the LNPA(s).

[285] Numbering Plan Order, 11 FCC Rcd at 2609.

[286] Charter of the North American Numbering Council, approved Oct. 5, 1995, on file with Network Services Division, Common Carrier Bureau, FCC. See also FCC Requests Nominations for Membership on the North American Numbering Council Advisory Committee, 10 FCC Rcd 9991 (1995).

[287] Numbering Plan Order, 11 FCC Rcd at 2609.