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Before the
Federal Communications Commission
Washington D.C. 20554

DISPATCHED

In the Matter of) CC Docket No. 95-116
Telephone Number Portability) RM 8535

Third Report and Order

Adopted: May 5, 1998

Released: May 12, 1998

By the Commission: Chairman Kennard and Commissioner Tristani issuing separate statements;
Commissioners Ness and Furchtgott-Roth approving in part, concurring in part, and issuing statements.

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I. INTRODUCTION

1. Section 251(e)(2) of the Communications Act of 1934 (1934 Act), as amended, requires that "[t]he cost of establishing telecommunications numbering administration arrangements and number portability shall be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission."¹ In this *Third Report and Order*, we implement section 251(e)(2) with regard to the costs of providing long-term number portability.

2. The Telecommunications Act of 1996 (1996 Act) amends the 1934 Act "to provide for a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition."² In particular, section 251(b) of the amended 1934 Act imposes specific obligations on all local exchange carriers (LECs) to open their networks to competitors.³

3. Congress recognized that the inability of customers to retain their telephone numbers when changing local service providers hampers the development of local competition.⁴ To address this

¹ 47 U.S.C. § 251(e)(2).

² S. CONF. REP. NO. 104-230, at 1 (1996). *See also* Iowa Utils. Bd. v. FCC, 120 F.3d 753, 791 (8th Cir. 1997) (stating that Congress passed the 1996 Act, in part, "to erode the monopolistic nature of the local telephone service industry by obligating [incumbent LECs] to facilitate the entry of competing companies into local telephone service"), *cert. granted on other grounds sub nom.* AT&T Corp. v. Iowa Utils. Bd., 118 S. Ct. 879 (1998).

³ *See* 47 U.S.C. § 251(b).

⁴ *See, e.g.*, H. COMMERCE COMM. REP. NO. 104-204, pt. 1, at 72 (1995) (to accompany H.R. 1555) (stating that "[t]he ability to change service providers is only meaningful if a customer can retain his or her local telephone number"), *reprinted* in 1996 U.S.C.C.A.N. 10, 37. *See also* *In re Telephone Number Portability*, First Report and Order & Further Notice of Proposed Rulemaking, 11 FCC Rcd. 8352, 8367-68 (1996) (Order & Further Notice) (citing evidence that business and residential customers are reluctant to switch carriers if they must change telephone numbers, and stating that "[t]o the extent that customers are reluctant to change service providers due to the absence of number portability, demand for services provided by new entrants will be depressed. This could well discourage entry by new service providers and thereby frustrate the pro-competitive goals of the 1996 Act."), *appeals pending on other grounds sub nom.* U S WEST v. FCC, No. 97-9518 (10th Cir. held in abeyance Sept. 12, 1997) and Bell Atlantic NYNEX Mobile v. FCC, No. 97-955 (10th Cir. filed

concern, Congress added section 251(b)(2) to the 1934 Act,⁵ which requires all LECs, both incumbents and new entrants,⁶ "to provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission."⁷ The amended Communications Act defines number portability as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."⁸ This "service provider portability" differs from "location portability," which is the ability to keep the same telephone number when moving to a new location, and from "service portability," which is the ability to keep the same telephone number when subscribing to new services. In light of the statutory definition, section 251(b)(2) requires service provider portability but not location or service portability.

4. Section 251(b)(2) removes a significant barrier to competition by ensuring that consumers can change carriers without forfeiting their existing telephone numbers.⁹ The Commission has noted that the absence of number portability "likely would deter entry by competitive providers of local service because of the value customers place on retaining their telephone numbers. Business customers, in particular, may be reluctant to incur the administrative, marketing, and goodwill costs

May 30, 1997).

⁵ See Telecommunications Act of 1996, sec. 101(a), § 251(b)(2), Pub. L. No. 104-104, 110 Stat. 56 (1996).

⁶ See S. CONF. REP. NO. 104-230, at 121 (stating that section 251(b) requires all local exchange carriers, "including the 'new entrants' into the local exchange market," to provide number portability).

⁷ 47 U.S.C. § 251(b)(2). See 141 CONG. REC. H8269 (daily ed. Aug. 2, 1995) (statement of Rep. Hastert) (stating that requirements such as number portability would "allow real competition in the local loop"); *Communications Law Reform: Hearing on H.R. 1555 Before the Subcomm. on Telecomm. and Fin. of the Comm. on Commerce, 104th Cong. 18* (1995) (statement of Rep. Manton) (expressing "skeptic[ism] as to whether local competition can actually flourish without a number portability requirement"); S. COMMERCE COMM. REP. NO. 104-23, at 52 (1995) (to accompany S. 652) (stating that "Congress believes that the implementation of final number portability is an important element in the introduction of local competition"); H.R. COMMERCE COMM. REP. NO. 103-560, at 67 (1994) (to accompany H.R. 3636) (finding "number portability to be one of the fundamental building blocks upon which a competitive market for telephone exchange service will be built"). See also *Order & Further Notice*, 11 FCC Rcd. at 8354 (stating that "[n]umber portability is one of the obligations that Congress imposed on all local exchange carriers ... to promote the pro-competitive, deregulatory markets it envisioned. Congress has recognized that number portability will lower barriers to entry and promote competition in the local exchange marketplace.").

⁸ 47 U.S.C. § 153(30).

⁹ See *Order & Further Notice*, 11 FCC Rcd. at 8367 (stating that "number portability is essential to meaningful competition in the provision of local exchange services. ... [N]umber portability provides consumers flexibility in the way they use their telecommunications services and promotes the development of competition among alternative providers of telephone and other telecommunications services.").

associated with changing telephone numbers."¹⁰ Although telecommunications carriers, both incumbents and new entrants, must incur costs to implement number portability, the long-term benefits that will follow as number portability gives consumers more competitive options outweighs these costs. As the Commission has stated:

The ability of end users to retain their telephone numbers when changing service providers gives customers flexibility in the quality, price, and variety of telecommunications services they can choose to purchase. Number portability promotes competition between telecommunications service providers by, among other things, allowing customers to respond to price and service changes without changing their telephone numbers. The resulting competition will benefit all users of telecommunications services. Indeed, competition should foster lower local telephone prices and, consequently, stimulate demand for telecommunications services and increase economic growth.¹¹

To prevent the initial cost of providing number portability from itself becoming a barrier to local competition, section 251(e)(2) requires that "[t]he cost of establishing telecommunications numbering administration arrangements and number portability shall be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission."¹²

¹⁰ *Id.* at 8368 (citations omitted).

¹¹ *Id.*

¹² 47 U.S.C. § 251(e)(2). The legislative history suggests that Congress was aware even in earlier legislative drafts that the cost of providing number portability could defeat the purpose of number portability in the first place. S. 652 as passed by the Senate provided that interconnection agreements should require LECs to provide number portability "in a manner that ... provides for a reasonable allocation of costs among the parties to the agreement." S. 652, 104th Cong., § 251(b)(6)(C) (1995) (as passed the Senate June 15, 1995), *reprinted in* 141 CONG. REC. H8570 (daily ed. June 16, 1995).

S. 652 as passed by the House would have required that "the costs that a carrier incurs in offering ... number portability ... be borne by the users of such ... number portability." S. 652, 104th Cong., § 242(b)(4)(D) (1995) (as passed by the House and sent to conference Oct. 12, 1995), *reprinted in* 141 CONG. REC. H9954 (daily ed. Oct. 12, 1995). See also S. CONF. REP. 104-230, at 120-21 (stating that section 242(b)(4) of the House amendment "directs the Commission to establish regulations requiring full compensation to the LEC for costs of providing services related to ... number portability").

H.R. 1555, as introduced, would have required LECs to provide number portability only "to the extent technically feasible and economically reasonable." H.R. 1555, 104th Cong., § 242(a)(4) (1995) (as introduced May 3, 1995). See also *Communications Law Reform: Hearing on H.R. 1555 Before the Subcomm. on Telecomm. and Fin. of the Comm. on Commerce*, 104th Cong. at 18 (1995) (statement of Rep. Manton) (expressing concern that "economically reasonable" language might create a loophole that will delay competition); *Communications Law Reform: Hearing on H.R. 1555 Before the Subcomm. on Telecomm. and Fin. of the Comm. on Commerce*, 104th Cong. at 203 (1995) (statement of Rep. Fields) (stating that the "economically reasonable" language was intended to ensure that "some demand was not made of someone that just honestly could not be met").

5. In light of Congress' number portability mandate, the Commission released a combined *First Report and Order (Order) & Further Notice of Proposed Rulemaking (Further Notice)* in July 1996 to begin implementing number portability.¹³ In the *Order*, the Commission directed LECs to use currently available techniques such as call forwarding to offer an interim form of number portability (interim number portability).¹⁴ Under call-forwarding techniques, a customer's former carrier forwards that customer's calls to the customer's new carrier, enabling people to continue reaching the customer at the original number.¹⁵ Although this approach serves the pro-competitive goals of number portability, it requires two telephone numbers for each customer who changes carriers.¹⁶ To ensure a more efficient use of telephone numbers, the *Order* required carriers to develop and implement a long-term solution that does not use two telephone numbers for each customer.¹⁷

6. Based on the record, the Commission concluded that "none of the currently supported methods [of providing long-term number portability] has been tested or described in sufficient detail to permit the Commission to select the particular architecture without further consultation with the industry."¹⁸ The Commission also noted that prescribing a particular architecture at the time might hinder the efforts of the carriers, switch vendors, and state commissions that were in the process of developing long-term number portability solutions.¹⁹ Consequently, the Commission promulgated performance criteria that the industry's long-term number portability solutions must meet,²⁰ required local exchange carriers to implement long-term number portability through a system of regional databases managed by neutral third party administrators,²¹ and established a phased timetable for the implementation of long-term number portability.²²

7. Because of the myriad questions regarding the design and deployment of a long-term number portability system, the *Order* could not and did not resolve how carriers would bear the costs

¹³ *Order & Further Notice*, 11 FCC Rcd. at 8352.

¹⁴ *Id.* at 8355-56.

¹⁵ *See id.* at 8361-62.

¹⁶ *See id.* at 8405 n.295.

¹⁷ *Id.* at 8411-12.

¹⁸ *See id.* at 8377. *See also id.* at 8359-62, 8494-8500 (describing variety of industry proposals for number portability).

¹⁹ *See id.* at 8377.

²⁰ *See id.* at 8355, 8371-85.

²¹ *Id.* at 8355-56, 8399-8404.

²² *Id.* at 8355, 8393-96, 8501-02, *modified*, *In re Telephone Number Portability*, First Memorandum Opinion and Order on Reconsideration, 12 FCC Rcd. 7236, 7283, 7346-47 (1997).

of providing long-term number portability. Instead, the Commission sought comment in the *Further Notice* on the costs associated with implementing long-term number portability.²³ The Commission tentatively identified three categories of costs: (1) shared industry costs, such as the costs of third-party administrators to build and operate the regional databases;²⁴ (2) carrier-specific costs directly related to providing number portability, such as the cost of portability capable switch software;²⁵ and (3) carrier-specific costs not directly related to providing number portability, such as network upgrades that involve Advanced Intelligent Network (AIN) and Signaling System 7 (SS7) technologies.²⁶ The Commission also sought comment on the distribution of these costs among carriers, and possible carrier cost-recovery mechanisms.²⁷

8. In this *Third Report and Order*, we conclude that section 251(e)(2) requires the Commission to ensure that all telecommunications carriers bear in a competitively neutral manner the costs of providing long-term number portability for interstate and intrastate calls.²⁸ We adopt as the governing principles for our determinations with respect to those costs the interpretations of competitive neutrality that the Commission developed in the *Order*.²⁹ We conclude that "the cost[s] of ... number portability" that carriers must bear on a competitively neutral basis include the costs that LECs incur to meet the obligations imposed by section 251(b)(2), as well as the costs other telecommunications carriers—such as interexchange carriers (IXCs) and commercial mobile radio service (CMRS) providers—incur for the industry-wide solution to providing local number portability.³⁰ We also conclude that carrier-specific costs not directly related to providing number portability are not costs of number portability and, consequently, are not subject to section 251(e)(2)

²³ See *Order & Further Notice*, 11 FCC Rcd. at 8459-66.

²⁴ *Id.* at 8459, 8461, 8463.

²⁵ *Id.* at 8459, 8464.

²⁶ *Id.* at 8459, 8465. AIN, a telecommunications network architecture that uses databases to facilitate call processing, call routing, and network management, allows carriers to change the routing of both inbound and outbound calls from moment to moment based on criteria they develop. See 47 C.F.R. § 51.5 (defining "advanced intelligent network"); HARRY NEWTON, *NEWTON'S TELECOM DICTIONARY* 32-33 (11th ed. 1996). SS7 is a digital, packet-switched, carrier-to-carrier signaling system used for call routing, billing, and management that occurs "out-of-band," which means the call routing information is transmitted in separate circuits from the conversation. See 47 C.F.R. § 64.1600(f) (defining "signaling system 7"); NEWTON, *supra*, at 545. This offers additional speed, control, and other advantages not available with "in-band" signalling systems. NEWTON, *supra*, at 545.

²⁷ *Order & Further Notice*, 11 FCC Rcd. 8459-66.

²⁸ See *infra* paragraph 28.

²⁹ See *infra* paragraphs 52-60.

³⁰ See *infra* paragraph 36.

and its competitive neutrality mandate.³¹ Furthermore, we conclude that the costs of establishing number portability include not just the costs associated with the creation of the regional databases and the initial physical upgrading of the public switched telephone network for the provision of number portability, but also the continuing costs necessary to provide number portability.³² We also conclude that section 251(e)(2) applies to any distribution of number portability costs among carriers as well as the recovery of those costs by carriers.³³

9. We apply the Commission's competitive neutrality rules to distribute among telecommunications carriers the shared costs of each regional database based on carriers' intrastate, interstate, and international end-user telecommunications revenues for each region.³⁴ Once the shared regional database costs have been distributed among carriers, we treat each carrier's portion of the shared costs as another carrier-specific cost directly related to providing number portability.³⁵ We conclude that it is competitively neutral for carriers to bear their own carrier-specific costs directly related to providing number portability.³⁶ Beginning February 1, 1999, we will allow—but not require—rate-of-return and price-cap LECs to recover their carrier-specific costs directly related to providing long-term number portability through a federally tariffed, monthly number-portability charge that will apply to end users for no longer than five years, as well as through a federally tariffed intercarrier charge for long-term number portability query services they perform for other carriers; other telecommunications carriers may recover their carrier-specific costs directly related to providing long-term number portability in any lawful manner.³⁷

10. We recognize consumers' sensitivity to end-user charges. As discussed below,³⁸ we conclude that allowing carriers to recover in this manner will best serve the goals of the statute. We anticipate that the benefits of number portability, namely the increased choice and lower prices that result from the competition that number portability helps make possible, will far outweigh the initial costs.

³¹ See *infra* paragraph 37.

³² See *infra* paragraph 38.

³³ See *infra* paragraph 39.

³⁴ See *infra* paragraphs 87-92, 105-110, 116-117.

³⁵ See *infra* paragraphs 69, 87.

³⁶ See *infra* paragraphs 135-141.

³⁷ See *infra* paragraphs 135-149.

³⁸ *Id.*

II. BACKGROUND

A. The Provision of Long-Term Number Portability

11. Without number portability, customers ordinarily cannot change their local telephone companies unless they change telephone numbers. Under the existing network architecture and the North American Numbering Plan (NANP), a telephone number functions like an address: every number is associated with an individual switch operated by a particular local telephone company in a specific geographic area.³⁹ The area code, also called the Numbering Plan Area (the NPA), identifies the general geographic area within which the switch provides service.⁴⁰ The next three digits of the telephone number (the NXX) identify the switch that serves the customer.⁴¹ The last four digits identify the specific telephone line serving the customer's location.⁴² Carriers use this ten-digit number to connect a telephone call to the called party.⁴³ Thus, if a customer changes local telephone companies and receives service at the same location from a different telephone company providing service from a different switch, the customer's new local telephone company typically must assign the customer a new seven-digit number (NXX code plus line number) associated with the new switch and new telephone line.

12. Number portability technology allows customers to retain their telephone numbers when changing local service providers. Although the Commission did not mandate a specific long-term number portability method, most carriers intend to provide long-term number portability through a location routing number (LRN) architecture.⁴⁴ Under an LRN architecture, each switch is assigned a unique ten-digit LRN, the first six digits of which identify the location of that switch.⁴⁵ Each customer's telephone number is matched in a regional database with the LRN for the switch that

³⁹ See AIN PROGRAM, NATIONAL COMMUNICATIONS SYSTEM, LOCAL NUMBER PORTABILITY: AIN AND NS/EP IMPLICATIONS, §§ 2.0-2.5 (July 1996) [hereinafter LOCAL NUMBER PORTABILITY REPORT].

⁴⁰ See *id.* at § 2.1.

⁴¹ See *id.*

⁴² See *id.*

⁴³ See *id.* at §§ 2.3, 5.

⁴⁴ See *In re Telephone Number Portability*, Second Report and Order, 12 FCC Rcd. 12281, 12287-88 (1997) (Second Report and Order).

⁴⁵ NORTH AMERICAN NUMBERING COUNCIL, LOCAL NUMBER PORTABILITY ADMINISTRATION SELECTION WORKING GROUP REPORT [hereinafter NANC RECOMMENDATION] App. D (Architecture & Administrative Plan for Local Number Portability), ¶ 7.2, at 6 (April 25, 1997), *adopted*, Second Report and Order, 12 FCC Rcd. at 12283-84; LOCAL NUMBER PORTABILITY REPORT, *supra* note 39, at § 6.1. The industry has not yet decided a use for the last four digits. NANC RECOMMENDATION, *supra*, App. D (Architecture & Administrative Plan for Local Number Portability), ¶ 7.2, at 6.

currently serves that telephone number.⁴⁶ Each database serves an area that corresponds to one of the original regional Bell Operating Company (RBOC) service territories.⁴⁷

13. Neutral third parties, called local number portability administrators (LNPAs), will administer these regional databases.⁴⁸ The telecommunications carriers within each particular region have formed a limited liability corporation (LLC) to negotiate service contracts with the LNPA for that region. Additional telecommunications carriers may join an LLC at any time. On the recommendation of the North American Numbering Council (NANC)—a federal advisory committee made up of industry, state regulatory, and consumer representatives—the Commission approved the LNPAs that the seven regional LLCs endorsed for each region.⁴⁹ The Commission also adopted the NANC's recommendation that the administrative functions of the LNPAs include all management tasks required to run the regional databases.⁵⁰ The Mid-Atlantic, Mid-West, Northeast, and Southwest LLCs each separately endorsed Lockheed-Martin IMS.⁵¹ The Southeast, Western, and West Coast LLCs each separately endorsed Perot Systems Inc.⁵² The LLCs for the Southeast, Western, and West Coast regions have since reported that performance problems prompted them to terminate their contracts with

⁴⁶ See *In re Telephone Number Portability*, First Report and Order & Further Notice of Proposed Rulemaking, 11 FCC Rcd. 8352, 8359-60, 8399-8400, 8494-95 (1996) (Order & Further Notice); LOCAL NUMBER PORTABILITY REPORT, *supra* note 39, at § 6.1.

⁴⁷ See NANC RECOMMENDATION, *supra* note 45, App. D (Architecture & Administrative Plan for Local Number Portability), at 11-12, ¶ 9. U.S. states, possessions, and territories that are not served by RBOCs—such as Alaska, Guam, Hawaii, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands—have been incorporated into other regions' databases. Thus the Mid-Atlantic region is composed of Delaware, the District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia, and West Virginia. *Id.* The Mid-West region is composed of Illinois, Indiana, Michigan, Ohio, and Wisconsin. *Id.* The Northeast region is composed of Connecticut, Maine, New Hampshire, Massachusetts, New York, Rhode Island, and Vermont. *Id.* The Southeast region is composed of Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, and the Virgin Islands. *Id.* The Southwest region is composed of Arkansas, Kansas, Missouri, Oklahoma, and Texas. *Id.* The West Coast region is composed of California, Guam, Hawaii, Nevada, and the Northern Mariana Islands. *Id.* The Western region is composed of Alaska, Arizona, Colorado, Idaho, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. *Id.*

⁴⁸ See *Order & Further Notice*, 11 FCC Rcd. at 8400-02.

⁴⁹ *Second Report and Order*, 12 FCC Rcd. at 12303; NANC RECOMMENDATION, *supra* note 45, § 6.2, at 18-19.

⁵⁰ *Second Report and Order*, 12 FCC Rcd. at 12306-09.

⁵¹ NANC RECOMMENDATION, *supra* note 45, § 6.2, at 18-19.

⁵² *Id.*

Perot in favor of Lockheed.⁵³

14. When a customer changes from one LEC to another, the carrier that wins the customer will "port" the customer's number from the former carrier by electronically transmitting (uploading) the new LRN to the administrator of the relevant regional database.⁵⁴ This will pair the customer's original telephone number with the LRN for the switch of the new carrier, allowing the customer to retain the original telephone number. The regional database administrators will then electronically transmit (download) LRN updates to carrier-operated local service management systems (LSMSs).⁵⁵ Each carrier will distribute this information to service control points (SCPs) or signal transfer points (STPs) that the carrier will use to store and process data for providing number portability.⁵⁶

⁵³ See Letter from West Coast Portability Services, LLC, to A. Richard Metzger, Jr., Chief, Common Carrier Bureau, FCC (January 23, 1998); Letter from Alan C. Hasselwander, Chairman, North American Numbering Council, to A. Richard Metzger, Jr., Chief, Common Carrier Bureau, FCC (February 20, 1998); *Common Carrier Bureau Seeks Comment on Petitions For Extension of Time of the Local Number Portability Phase 1 Implementation Deadline*, CC Docket No. 95-116, Public Notice, DA 98-449 (rel. March 4, 1998); Public Notice, DA 98-451 (rel. March 5, 1998).

⁵⁴ See *id.* at App. E (LNPA Technical & Operational Requirements Task Force Report), app. a (Issues & Resolutions), p. 1, and app. b (Inter-Service Provider LNP Operations Flows), fig. 1 (Provisioning) & p. 2. The former carrier may, at its option, also transmit this information. *Id.*

⁵⁵ See *id.* at App. E (LNPA Technical & Operational Requirements Task Force Report), app. b (Inter-Service Provider LNP Operations Flows), fig. 2 (Provisioning Without Unconditional 10-Digit Trigger) & p. 1, step 4, and fig. 3 (Provisioning With Unconditional 10-Digit Trigger) & p. 1, step 5.

⁵⁶ See *id.* at App. E (LNPA Technical & Operational Requirements Task Force Report), app. b (Inter-Service Provider LNP Operations Flows), fig. 2 (Provisioning Without Unconditional 10-Digit Trigger) & p. 2, step 8, and fig. 3 (Provisioning With Unconditional 10-Digit Trigger) & p. 2, step 8.

An SCP is a computer-like device in the public switched network that contains a database of information and call processing instructions needed to process and complete a telephone call. See 47 C.F.R. §§ 51.5, 52.21(m) (defining "service control point"). An STP is a packet switch that acts as a routing hub for a signaling network and transfers messages between various points in and among signaling networks. See 47 C.F.R. § 51.5 (defining "signal transfer point").

Although carriers originally envisioned number portability as SCP-based, at least one manufacturer purports to be offering an STP-based network technology to implement LRN more efficiently than the SCP-based solution. See *Ex Parte* Letter from Sylvia Lesse, Attorney, Kraskin & Lesse, to William Caton, Acting Secretary, FCC (Feb. 19, 1997) (on file with Secretary of the FCC). At least one third-party provider says it plans to use this technology to provide number portability services. See *Ex Parte* Letter from Richard R. Wolf, Director of Legal & Regulatory Affairs, Illuminet, to Jeannie Su, Attorney, FCC, attach. (Oct. 16, 1997) (on file with Secretary of the FCC). GTE, Cincinnati Bell, Bell Atlantic, and NYNEX also appear to be considering an STP-based solution for at least part of their implementation of number portability. See Tekelec, GTE INS Chooses Eagle STP for LNP/LSMS Solution (Dec. 8, 1997), Cincinnati Bell Chooses Tekelec Local Number Portability Solution (Nov. 17, 1997), Tekelec and Bell Atlantic Conclude Agreement (May 30, 1997), Tekelec Details Recent Agreement with NYNEX (April 22, 1997) (press releases available at <<http://www.tekelec.com/>>).

15. For a carrier to route an interswitch telephone call to a location where number portability is available, the carrier must determine the LRN for the switch that serves the terminating telephone number of the call.⁵⁷ Once number portability is available for an NXX, carriers must "query" all interswitch calls to that NXX to determine whether the terminating customer has ported the telephone number.⁵⁸ Carriers will accomplish this by sending a signal over the SS7 network to retrieve from an SCP or STP the LRN associated with the called telephone number. The industry has proposed, and the Commission has endorsed, an "N minus one" (N-1) querying protocol.⁵⁹ Under this protocol, the N-1 carrier will be responsible for the query, "where 'N' is the entity terminating the call to the end user, or a network provider contracted by the entity to provide tandem access."⁶⁰ Thus the N-1 carrier (*i.e.* the last carrier before the terminating carrier) for a local call will usually be the calling customer's local service provider; the N-1 carrier for an interexchange call will usually be the calling customer's interexchange carrier (IXC).⁶¹ An N-1 carrier may perform its own querying, or it may arrange for other carriers or third parties to provide querying services on its behalf.⁶²

16. To route a local call under this system, the originating local service provider will examine the seven-digit number that its customer dialed, for example "456-7890." If the called telephone number is on the originating switch (*i.e.* an intraswitch call), the originating local service provider will simply complete the call. If the call is interswitch, the originating local service provider will compare the NXX, "456," with its table of NXXs for which number portability is available. If "456" is not such an NXX, the originating local service provider will treat the call the same as it did before the existence of long-term number portability. If it is an NXX for which portability is available, the originating local service provider will add the NPA, for instance "123," to the dialed number and query "(123) 456-7890" to an SCP containing the LRNs downloaded from the relevant regional database. The SCP will return the LRN for "(123) 456-7890" (which would be "(123) 456-XXXX" if the customer has not changed carriers, or something like "(123) 789-XXXX" if the customer has changed carriers), and use the LRN to route the call to the appropriate switch with an SS7 message indicating that it has performed the query. The terminating carrier will then complete the call. To route an interexchange call, the originating local service provider will hand the call off to

⁵⁷ See *Order & Further Notice*, 11 FCC Rcd. at 8359-60; LOCAL NUMBER PORTABILITY REPORT, *supra* note 39, at §§ 2.3, 5.

⁵⁸ See *Order & Further Notice*, 11 FCC Rcd. at 8463. Carriers need not query calls that originate and terminate on the same switch. See NANC RECOMMENDATION, *supra* note 45, App. D (Architecture & Administrative Plan for Local Number Portability), ¶ 8, at 10 & fig. 2, scenarios 1 & 2.

⁵⁹ See *Second Report and Order*, 12 FCC Rcd. at 12323.

⁶⁰ NANC RECOMMENDATION, *supra* note 45, app. D (Architecture & Administrative Plan for Local Number Portability), ¶ 7.8, at 8.

⁶¹ *Id.* app. D (Architecture & Administrative Plan for Local Number Portability), attachment A (Example N-1 Call Scenarios); LOCAL NUMBER PORTABILITY REPORT, *supra* note 39, at § 9.1.3. & fig. 9-3 (N-1 Network Query).

⁶² See *Order & Further Notice*, 11 FCC Rcd. at 8404.

the IXC and the IXC will undertake the same procedure.

B. Prior Commission Decisions

17. The *Order*, as modified by the *First Memorandum Opinion and Order on Reconsideration* (First Reconsideration Order), requires LECs to implement long-term number portability: (1) in Chicago, Philadelphia, Atlanta, New York, Los Angeles, Houston, and Minneapolis—the largest metropolitan statistical area (MSA) in each of the seven RBOC regions—between October 1, 1997, and March 31, 1998; (2) in the rest of the 100 largest MSAs in quarterly stages between January 1, 1998, and December 31, 1998; and (3) thereafter in switches outside the 100 largest MSAs, within six months of a request by a telecommunications carrier.⁶³ A number of carriers have received extensions of the March 31, 1998, implementation deadline for certain areas ranging from two to five months.⁶⁴

18. The Commission explained that the statutory definition of number portability requires LECs to implement number portability in such a way that LEC customers can keep their telephone numbers when they switch to any other telecommunications carrier, including, therefore, when they switch to a commercial mobile radio services (CMRS) provider.⁶⁵ The Commission also required in the *Order* that certain types of CMRS providers be able by December 31, 1998, to route calls to any ported numbers and be able by June 30, 1999, to allow their own customers to take their telephone

⁶³ See *in re Telephone Number Portability*, First Memorandum Opinion and Order on Reconsideration, 12 FCC Rcd. 7236, 7283, 7326-27, 7346-47 (1997) (First Reconsideration Order), *modifying Order & Further Notice*, 11 FCC Rcd. at 8355, 8393-96, 8482-85. Section 251(f)(2), however, allows a LEC "with fewer than 2 percent of the Nation's subscriber lines installed in the aggregate nationwide" to petition a State commission to suspend or modify its section 251(b)(2) obligation to provide number portability. 47 U.S.C. § 251(f)(2).

⁶⁴ See *In re Telephone Number Portability*, *Petition for Extension of the Deployment Schedule for Long-Term Database Methods for Local Number Portability, Phase I*, CC Docket No. 95-116, Order, DA 98-613 (Network Servs. Div. rel. March 31, 1998) (extending SBC Companies' deadline to implement long-term number portability in Houston from March 31, 1998, to May 26, 1998); Order, DA 98-614 (Network Servs. Div. rel. March 31, 1998) (granting carriers a time extension ranging from two to five months for Atlanta, Los Angeles, and Minneapolis because of the switch from Perot to Lockheed as the database administrator of the Southeast, Western, and West Coast regions); Order, DA 98-729 (Network Servs. Div. rel. April 16, 1998) (extending Sprint's deadline to implement long-term number portability in Houston from March 31, 1998, to May 26, 1998). See also *supra* note 52 and accompanying text.

⁶⁵ See *Order & Further Notice*, 11 FCC Rcd. at 8355, 8357 (citing 47 U.S.C. § 153(30) (defining number portability as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another") (emphasis added)). See also 47 U.S.C. §§ 153(43), (44), (46) (defining "telecommunications," "telecommunications carrier," and "telecommunications service," in such a way that includes CMRS providers).

numbers to other carriers.⁶⁶ By its language, section 251(b)(2) requires only that LECs provide number portability,⁶⁷ and the 1934 Act, as amended, excludes from the definition of "local exchange carrier" those entities "engaged in the provision of a commercial mobile service under section 332(c), except to the extent that the Commission finds that such service should be included in the definition of such term."⁶⁸ Although the Commission declined in the *Order* to address whether CMRS providers are LECs,⁶⁹ the Commission exercised authority under sections 1, 2, 4(i), and 332 to require three categories of CMRS providers—cellular providers, broadband personal communications service (PCS) providers, and covered specialized mobile radio (SMR) providers⁷⁰—to provide number portability.⁷¹

⁶⁶ *Order & Further Notice*, 11 FCC Rcd. at 8355, 8439-40. The Cellular Telecommunications Industry Association (CTIA) filed a petition November 24, 1997, asking the Wireless Telecommunications Bureau to delay until March 31, 2000, the requirement that wireless carriers be able to port their own numbers by June 30, 1999. See *Wireless Telecommunications Bureau Seeks Comment on CTIA Petition for Waiver to Extend the Implementation Deadlines of Wireless Number Portability*, CC Docket No. 95-116, Public Notice, DA 97-2579 (rel. Dec. 9, 1997). CTIA subsequently asked the Commission to delay wireless number portability until PCS carriers complete their 5-year build-out schedule. See *Petition for Forbearance of the Cellular Telecommunications Industry Association*, CC Docket No. 96-116 (filed Dec. 16, 1997).

⁶⁷ 47 U.S.C. § 152(b) (stating that "[e]ach local exchange carrier has the . . . duty to provide . . . number portability") (emphasis added).

⁶⁸ 47 U.S.C. § 251(26). See also *Order & Further Notice*, 11 FCC Rcd. at 8355 (stating that the statute excludes CMRS providers from the definition of local exchange carriers, and therefore from the section 251(b) obligations to provide number portability, unless the Commission takes action to include CMRS providers in the definition of local exchange carrier).

⁶⁹ *Order & Further Notice*, 11 FCC Rcd. at 8355, 8431.

⁷⁰ The Commission's rules states that:

[t]he term "covered SMR" means either 800 MHz and 900 MHz SMR licensees that hold geographic area licenses or incumbent wide area SMR licensees that offer real-time, two-way switched voice service that is interconnected with the public switched network either on a stand-alone basis or packaged with other telecommunications services. This term does not include local SMR licensees offering mainly dispatch services to specialized customers in a non-cellular configuration, licensees offering only data, one-way, or stored voice services on an interconnected basis, or any SMR provider that is not interconnected to the public switched network.

47 C.F.R. § 52.21(c).

⁷¹ *Order & Further Notice*, 11 FCC Rcd. at 8355, 8431-33. See 47 U.S.C. § 151 (creating the Commission to regulate "interstate and foreign commerce in communication by wire and radio so as to make available . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges"), § 152(b) (excluding from Commission jurisdiction regulation of intrastate communication by wire or radio, except as provided in certain sections of the 1934 Act, including section 332 on mobile services), § 154(i) (authorizing the Commission to "perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this Act, as may be necessary in the execution of its

The Commission concluded that requiring these CMRS providers to provide number portability would serve the public interest by promoting competition between and among local wireless and wireline carriers, as well as among providers of interstate access service.⁷²

19. In the *Order*, the Commission exempted some CMRS providers from the obligation to provide number portability: paging and other messaging service providers, private paging service providers, business radio service providers, providers of land mobile service on 220-222 MHz, public coast stations, public land mobile service providers, 800 MHz air-ground radio-telephone service providers, offshore radio service providers, mobile satellite service providers, narrowband PCS service providers, local SMR licensees, and local multipoint distribution service (LMDS) providers.⁷³ The Commission reasoned that such carriers currently have little impact on competition for local service.⁷⁴

20. In the *First Reconsideration Order*, the Commission concluded that within the 100 largest MSAs, LECs must provide number portability only in switches for which another carrier has specifically and reasonably requested the provision of number portability.⁷⁵ The Commission reasoned that such an approach allows carriers to focus their resources where competitors plan to enter, which is where number portability is likely to have the most impact in the short run on the development of competition for local services.⁷⁶ Structuring implementation in this fashion reduces costs, eases the demands on software vendors, and encourages efficient deployment, network planning, and testing.⁷⁷ The Commission emphasized, however, that all carriers, even those operating portability-incapable switches, are still responsible for properly routing calls to telephone numbers in locations where number portability is available.⁷⁸ Carriers can meet that responsibility either by routing the call to one of their switches that is capable of performing the necessary database query, or by arranging for another carrier or a third party to query the database or route the call.⁷⁹

21. In the *Second Report and Order*, the Commission determined that if an N-1 carrier arranges with another entity to perform queries on the carrier's behalf, that other entity may charge the

functions"), and § 332(c)(1) (granting the Commission authority to regulate any entity "engaged in the provision of mobile service ... as a common carrier").

⁷² *Order & Further Notice*, 11 FCC Rcd. at 8431-38.

⁷³ *Id.* at 8433-34.

⁷⁴ *Id.* at 8433-34 & n. 451.

⁷⁵ *First Reconsideration Order*, 12 FCC Rcd. at 7272-7277.

⁷⁶ *Id.* at 7272-73.

⁷⁷ *Id.*

⁷⁸ *Id.* at 7277.

⁷⁹ *Id.*

N-1 carrier in accordance with requirements to be established in this *Third Report and Order*.⁸⁰ The Commission also noted that when an N-1 carrier fails to ensure that a call is queried, the call might inadvertently be routed by default to the LEC that originally served the telephone number.⁸¹ If the number was ported, the LEC incurs costs in redirecting the call. This could happen, for example, if there is a technical failure in the N-1 carrier's ability to query, or if the N-1 carrier fails to ensure that its calls are queried, either through its own query capability or through an arrangement with another carrier or third-party.⁸² The Commission determined in the *Second Report and Order* that if a LEC performs queries on default-routed calls, the LEC may charge the N-1 carrier in accordance with requirements to be established in this *Third Report and Order*.⁸³ The Commission determined further that it would "allow LECs to block default-routed calls, but only in specific circumstances when failure to do so is likely to impair network reliability."⁸⁴ The Commission also said that it would "require LECs to apply this blocking standard to calls from all carriers on a nondiscriminatory basis."⁸⁵

22. The Competitive Pricing Division (Division) of the Common Carrier Bureau issued two *Memorandum Opinions and Orders* on October 30, 1997, and December 30, 1997, granting petitions by Ameritech, Bell Atlantic, Southwestern Bell, and Pacific Bell to establish new service rate elements for the provision of long-term number portability query services to other carriers.⁸⁶ The Division required all four carriers, however, to conform their rates, rate structures, regulations, and services offered under these rate elements to any determinations made by the Commission in

⁸⁰ *Second Report and Order*, 12 FCC Rcd. at 12324.

⁸¹ *Id.* at 12324-25.

⁸² As noted, CMRS carriers are not required to have the capability to query calls before December 31, 1998. See *supra* paragraph 18. They will, nonetheless, be N-1 carriers once LECs begin providing number portability, even before December 31, 1998. For an explanation of the N-1 protocol, see paragraph 15, *supra*.

⁸³ *Second Report and Order*, 12 FCC Rcd. at 12325-26.

⁸⁴ *Id.* at 12324-25.

⁸⁵ *Id.* at 12325-26.

⁸⁶ See *In re Petition of Ameritech to Establish a New Access Tariff Service and Rate Elements Pursuant to Part 69 of the Commission's Rules*, CCB/CPD Docket No. 97-46, Memorandum Opinion and Order, DA 97-2294, at ¶¶ 1, 13-17 (Comp. Pricing Div. Comm. Car. Bur. rel. Oct. 30, 1997) (Ameritech and Bell Atlantic Order); *In re Petition of Southwestern Bell Telephone Company Under Section 69.4(g)(1)(ii) of the Commission's Rules for Establishment of New Service Rate Elements*, CCB/CPD Docket No. 97-64, Memorandum Opinion and Order, DA 97-2725 (Comp. Pricing Div. Comm. Car. Bur. rel. Dec. 30, 1997) (Southwestern Bell and Pacific Bell Order). The Division also suspended for one day and incorporated into the investigation Ameritech revisions to its long-term number portability query service purporting to clarify in certain circumstances Ameritech's right to block unqueried traffic that carriers deliver to Ameritech's network. See *In re Ameritech Revisions to Tariff F.C.C. No. 2*, CCB/CPD 97-46, Memorandum Opinion and Order, DA 97-2353 (rel. Nov. 7, 1997).

CC Docket No. 95-116.⁸⁷ The Division further concluded that the tariff revisions the carriers filed implementing the rate elements raised substantial questions of lawfulness.⁸⁸ Consequently, the Division suspended the tariff revisions for one day and set them for investigation.⁸⁹ The Division also imposed accounting orders, which remain pending, for the duration of the investigation.⁹⁰ The Division issued an order January 30, 1998, designating issues for investigation.⁹¹

23. On March 30, 1998, the Commission terminated as moot the investigation of the tariff revisions of Pacific Bell and Southwestern Bell because both carriers filed superseding tariff revisions and neither carrier had customers under the initial tariff revisions designated for investigation.⁹² The Commission also terminated as moot the investigation of Bell Atlantic's tariff revisions because Bell Atlantic had also filed superseding tariff revisions, and because it planned to refund all charges imposed on customers under the initial tariff revisions.⁹³ The Commission found Ameritech's tariff revisions unlawful for lack of adequate cost support.⁹⁴ Because Ameritech had not provided query services to any customers under the tariff revisions, it was not necessary to require refunds.⁹⁵ The Commission has suspended and set for investigation all four carriers' refiled tariff revisions.⁹⁶

⁸⁷ *Ameritech and Bell Atlantic Order* at ¶ 17; *Southwestern Bell and Pacific Bell Order* at ¶ 9.

⁸⁸ *Ameritech and Bell Atlantic Order* at ¶ 18; *Southwestern Bell and Pacific Bell Order* at ¶ 10.

⁸⁹ *Ameritech and Bell Atlantic Order* at ¶ 18; *Southwestern Bell and Pacific Bell Order* at ¶ 11.

⁹⁰ *Ameritech and Bell Atlantic Order* at ¶ 18; *Southwestern Bell and Pacific Bell Order* at ¶ 11.

⁹¹ *In re Number Portability Query Services*, CC Docket No. 98-14, Designation Order, DA 98-182 (rel. Jan. 30, 1998).

⁹² *In re Number Portability Query Services*, CC Docket No. 98-14, Tariff Investigation and Termination Order, FCC 98-50, at ¶¶ 1, 8-9, 16 (rel. March 30, 1998) (Tariff Investigation and Termination Order).

⁹³ *Id.* at ¶¶ 1, 10-11, 16.

⁹⁴ *Id.* at ¶¶ 1, 13, 16.

⁹⁵ *Id.* at ¶ 13.

⁹⁶ See *In re Southwestern Bell Tariff F.C.C. No. 73*, CCB/CPD 98-17, Memorandum Opinion and Order, DA 98-530 (Comp. Pricing Div. Comm. Car. Bur. rel. March 18, 1998); *In re Pacific Bell Tariff F.C.C. No. 128*, CCB/CPD 98-23, Memorandum Opinion and Order, DA 98-598 (Comp. Pricing Div. Comm. Car. Bur. rel. March 27, 1998); *In re Ameritech Long-Term Number Portability Query Services*, CCB/CPD 98-26, Memorandum Opinion and Order, DA 98-648 (Comp. Pricing Div. Comm. Car. Bur. rel. April 3, 1998); *In re Bell Atlantic Tariff F.C.C. No. 1*, CCB/CPD 98-25, Memorandum Opinion and Order, DA 98-686 (Comp. Pricing Div. Comm. Car. Bur. rel. April 9, 1998).

III. THE STATUTORY FRAMEWORK

A. Federal/State Jurisdiction

1. Background

24. In the *Further Notice*, the Commission sought comment on its role under section 251(e)(2) in determining the distribution and recovery of number portability costs.⁹⁷ The Commission also sought comment on whether portability costs should be recovered through a tariff filed at the federal or state level.⁹⁸

2. Positions of the Parties⁹⁹

25. Commenters disagree on the appropriate Commission role with respect to the distribution and recovery of the costs of providing number portability.¹⁰⁰ Ameritech, MCI, and NARUC, as well as the California, Colorado, Florida, Illinois, New York, Ohio, and Washington state utility commissions, ask us to establish general guidelines, but to allow local commissions to develop

⁹⁷ *In re Telephone Number Portability*, First Report and Order & Further Notice of Proposed Rulemaking, 11 FCC Rcd. 8352, 8462, 8464-66 (1996) (Order & Further Notice) (seeking comment on whether the Commission should create mechanisms by which carriers recover from end users or other carriers the shared and carrier-specific costs of providing number portability, and if so, what form those mechanisms should take). In the Notice of Proposed Rulemaking that the Commission issued prior to the *Order & Further Notice*, the Commission also requested comment on how carriers should allocate the costs of long-term number portability between federal and state jurisdictions. *In re Telephone Number Portability*, Notice of Proposed Rulemaking, 10 FCC Rcd. 12350, 12368 (1995).

⁹⁸ *Order & Further Notice*, 11 FCC Rcd. at 8465.

⁹⁹ Appendix A of this *Third Report and Order* lists the commenters and reply commenters in this proceeding. The comment deadline was August 16, 1996. The reply deadline was September 16, 1996. The Illinois Commerce Commission and the Telecommunications Resellers Association filed late comments, and GST Telecom Inc. and WinStar Communications Inc. filed late replies. We grant these commenters' motions to accept their late-filed pleadings. See 47 C.F.R. § 1.3 (stating that "[a]ny provision of the rules may be waived by the Commission on its own motion or on petition if good cause therefor is shown").

¹⁰⁰ Many commenters use the phrase "cost recovery" in some contexts to refer to the distribution among carriers of the costs of providing number portability, and in other contexts to refer to the collection of funds by carriers to meet those costs. For purposes of clarity, we define "cost recovery" as the collection of funds by carriers to cover some or all of their costs of providing number portability. *Cf.* III. Commerce Comm'n Comments at 3-4. "Cost distribution" refers to the division among carriers of responsibility to recover number portability costs. "Cost allocation" is one method of distributing number portability costs, through the use of some allocator such as share of telecommunications revenues. Another distribution method might be to make carriers responsible for their own costs of providing number portability, *i.e.*, the costs that they themselves incur in the first instance.

detailed, state-specific mechanisms.¹⁰¹ They argue that such an arrangement will balance the Commission's section 251(e)(2) responsibility of ensuring competitive neutrality, with the local commissions' needs for flexibility to address state-specific circumstances.¹⁰²

26. NARUC, as well as the California, Colorado, Illinois, Missouri, New York, Ohio, and Washington state commissions, also argue that section 251(e)(2) gives the Commission authority over the distribution of number portability costs among carriers, but that the states still have local ratemaking authority over recovery of the intrastate costs from end users.¹⁰³ NARUC and the Missouri Public Service Commission explicitly argue that number portability costs should be subject to the FCC's separations rules, and that the states are responsible for designing rates to recover the intrastate portion.¹⁰⁴

27. Bell Atlantic, NYNEX, PacTel, SBC, U S WEST, Time Warner, AirTouch Communications, and Omnipoint oppose allowing state commissions to establish state-specific number portability mechanisms, and argue that we should create an exclusively federal mechanism.¹⁰⁵ They

¹⁰¹ Ameritech Reply at 3-5; Calif. Pub. Utils. Comm'n Reply at 1; Colo. Pub. Utils. Comm'n Comments at 5-11; Fla. Pub. Servs. Comm'n Comments at 3; Ill. Commerce Comm'n Comments at i-ii, 3-5; MCI Comments at 8-9; N.Y. Dep't Pub. Servs. Comments at 1-2; NARUC Reply at 2; Ohio Pub. Utils. Comm'n Comments at 1-3, 7, 10-11; Wash. Utils. Transp. Comm'n Reply at 3-8.

¹⁰² Ameritech Reply at 3-5; Colo. Pub. Utils. Comm'n Comments at 7-10; Ill Commerce Comm'n Comments at 4-5; NARUC Reply at 2; Ohio Pub. Utils. Comm'n Comments at 10; Wash. Utils. Transp. Comm'n Reply at 4, 7.

¹⁰³ Calif. Pub. Utils. Comm'n Reply at 6-9; Colo. Pub. Utils. Comm'n Comments at 5-11; Ill. Commerce Comm'n Comments at 3-7; Mo. Pub. Servs. Comm'n Comments at 2, 5; NARUC Reply at 2; N.Y. Dep't Pub. Serv. Comments at 2; Ohio Pub. Utils. Comm'n Comments at 1, 3, 11; Wash. Utils. Transp. Comm'n Reply at 3-8. *See also* Calif. Dep't Consumer Affairs Comments at 10, 21-24 (arguing that section 251(e)(2) does not apply to recovery from end users, but nonetheless advocating an end-user charge for the costs of *establishing* number portability; arguing that carriers should recover the ongoing costs of number portability as they see fit); Fla. Pub. Servs. Comm'n Comments at 3, 5-6 (arguing that carriers should recover their costs as they see fit, subject to any state regulations, such as price caps).

¹⁰⁴ Mo. Pub. Servs. Comm'n Comments at 2, 5; NARUC Reply at 2. *Cf.* Colo. Pub. Utils. Comm'n Comments at 6 (arguing that "[i]t is inappropriate for the FCC to get into the business of ratemaking for local service"); Ill. Commerce Comm'n Comments at 5-7 & n.2 (arguing that "the Act did not remove or reduce state jurisdiction over intrastate rate design" and that "[t]he FCC should not impose requirements regarding intrastate consumer rates, except to the limited extent needed to ensure competitive neutrality among carriers"); N.Y. Dep't Pub. Serv. Comments at 2 (arguing that recovery of the intrastate portion of the number portability costs from customers through intrastate service rates is subject to state, not federal, jurisdiction).

¹⁰⁵ AirTouch Communications Reply at 10; Bell Atlantic Comments at 3-4; NYNEX Comments at 10-11 & n.22; Omnipoint Communications Reply at 8-9; PacTel Reply at 7-8; SBC Reply at 5-7 & nn.16, 18; Time Warner Reply at 16 & n.42; U S WEST Reply at 2-4.

argue that the Commission has exclusive jurisdiction over number portability,¹⁰⁶ that a uniform methodology is necessary to ensure that nationwide competition develops,¹⁰⁷ that state-by-state mechanisms would be administratively and financially burdensome, especially for smaller carriers and new entrants,¹⁰⁸ and that the Commission must ensure that carriers recover their portability costs.¹⁰⁹ AirTouch Paging asks us to preempt inconsistent state mechanisms.¹¹⁰

3. Discussion

28. We conclude that section 251(e)(2) requires the Commission to ensure that carriers bear the costs of providing long-term number portability on a competitively neutral basis for both interstate and intrastate calls. In reaching this conclusion, we note that section 251(e)(2) expressly and unconditionally grants the Commission authority to ensure that carriers bear the costs of providing number portability on a competitively neutral basis. We recognize that the United States Court of Appeals for the Eighth Circuit concluded that the Commission lacked jurisdiction under section 251 to

¹⁰⁶ AirTouch Communications Reply at 10 (arguing that although section 251(e)(1) permits the Commission to delegate its authority over number administration, section 251(e)(2) does not have a similar provision permitting the Commission to delegate authority over number portability); NYNEX Comments at 10-11 & n.22 (pointing to sections 1, 251(b)(2), and 251(e) to argue that the Commission has "exclusive" jurisdiction over long-term number portability and cost support); PacTel Reply at 7-8 (arguing that section 251(e) gives the Commission exclusive authority to make rules for portability cost recovery); SBC Reply at 5-7 & nn. 16, 18 (arguing that sections 251(b)(2) and 251(e) give the Commission exclusive jurisdiction over number portability and that number portability affects both state and federal jurisdictions); U S WEST Reply at 2-4 (arguing that number portability falls under an exclusively federal jurisdiction because carriers must provide it pursuant to a federal mandate and federal requirements, as well as in accordance with federal interests in network interoperability, conservation of numbers, and the promotion of competition). *Cf.* Omnipoint Communications Reply at 8-9 (arguing that for control over the way costs are allocated among competing carriers, the Commission rather than the states should create a comprehensive allocation mechanism).

¹⁰⁷ AirTouch Communications Reply at 10; Omnipoint Communications Reply at 8-9; PacTel Reply at 7-8; Time Warner Reply at 16 & n.42. *Cf.* Bell Atlantic Comments at 3-4 (arguing that separate cost recovery mechanisms in every state would needlessly complicate matters and serve no public good).

¹⁰⁸ AirTouch Communications Reply at 10 (arguing that the transaction costs of dealing with as many as 51 different locally designed allocation mechanisms would burden smaller carriers and new entrants). *Cf.* Bell Atlantic Comments at 3-4 (arguing that the Commission should create a simple national cost allocation mechanism); Omnipoint Communications Reply at 8-9 (arguing that for expeditious deployment, the Commission rather than each state should create the allocation mechanism); SBC Reply at 5-7 & n.18 (arguing that state-specific allocation mechanisms would prove problematic).

¹⁰⁹ U S WEST Reply at 2-4 (arguing that the Commission may not rely on state mechanisms to make up any recovery shortfall).

¹¹⁰ AirTouch Paging Comments at 6-9.

promulgate pricing rules for interconnection, unbundled access, and resale.¹¹¹ The Eighth Circuit distinguished, however, the Commission's authority governing number portability, noting that section 251(e) contains a specific grant of authority to the Commission.¹¹² Section 251(e)(2) states that carriers shall bear the costs of number portability "as determined by the Commission," and does not distinguish between costs incurred in connection with intrastate calls and costs incurred in connection with interstate calls. Thus, we conclude that section 251(e)(2) addresses both interstate and intrastate matters and overrides section 2(b)'s reservation of authority to the states over intrastate matters.

29. Consequently, we find that section 251(e)(2) authorizes the Commission to provide the distribution and recovery mechanism for all the costs of providing long-term number portability. We conclude that an exclusively federal recovery mechanism for long-term number portability will enable the Commission to satisfy most directly its competitive neutrality mandate, and will minimize the administrative and enforcement difficulties that might arise were jurisdiction over long-term number portability divided. Further, such an approach obviates the need for state allocation of the shared costs of the regional databases, a task that would likely be complicated by the databases' multistate nature. Under the exclusively federal number portability cost recovery mechanism, incumbent LECs' number portability costs will not be subject to jurisdictional separations. Instead, we will allow incumbent LECs to recover their costs pursuant to requirements we establish in this *Third Report and Order*.

B. Scope of Section 251(e)(2)

1. Background

30. Section 251(e)(2) states that "[t]he cost of establishing ... number portability shall be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission."¹¹³ The Commission tentatively concluded in the *Further Notice* that the competitive neutrality requirements of section 251(e)(2) apply to shared costs and carrier-specific costs directly related to providing number portability, but not to costs not directly related to providing number portability.¹¹⁴ The Commission tentatively concluded that it would not create a particular recovery mechanism for carrier-specific costs not directly related to providing number portability.¹¹⁵ Instead,

¹¹¹ *Iowa Utils. Bd. v. FCC*, 120 F.3d 753, 792-800 & n. 21 (8th Cir. 1997), *cert. granted sub nom. AT&T Corp. v. Iowa Utils. Bd.*, 118 S. Ct. 879 (1998).

¹¹² *See Iowa Utils. Bd. v. FCC*, 120 F.3d at 792, 794 & n.10, 795 & n.12, 802 & n.23, 806 (stating that "the FCC is specifically authorized to issue regulations under subsections 251(b)(2) [and] ... 251(e)"). *See also Order & Further Notice*, 11 FCC Rcd. at 8417 (explaining that unlike the interconnection order, the number portability proceeding need not reach the issue whether section 251 gives the Commission general pricing authority because the statute grants the Commission the express authority to set competitively neutral pricing principles for number portability).

¹¹³ 47 U.S.C. § 251(e)(2).

¹¹⁴ *Order & Further Notice*, 11 FCC Rcd. at 8460, 8465-66.

¹¹⁵ *Id.* at 8465.

the Commission tentatively concluded that carriers would bear such costs as network upgrades.¹¹⁶ The Commission also tentatively concluded that section 251(e)(2) governs the distribution of costs among carriers, but not the recovery of those costs from end-users.¹¹⁷ The Commission reasoned that "[t]his interpretation is borne out by the plain language of the statute, which only requires that telecommunications carriers bear the costs of number portability."¹¹⁸ The Commission sought comment on these tentative conclusions.¹¹⁹

2. Positions of the Parties

31. Bell Atlantic argues that section 251(e)(2) applies to only the costs that LECs incur to meet their number portability obligations under section 251(b)(2), and does not govern number portability costs of other telecommunications carriers because such carriers are not subject to 251(b)(2).¹²⁰

32. Bell Atlantic, PacTel, SBC, AT&T, MCI, and GSA, as well as a number of competitive LECs, CMRS providers, and state commissions, agree with the Commission's tentative conclusion that section 251(e)(2) does not apply to costs not directly related to number portability. They argue that because network upgrade costs are associated with the provision of a wide range of services, such expenditures are not costs of establishing number portability.¹²¹ These parties further argue that identifying costs for section 251(e)(2) treatment other than those necessary to implement number portability would artificially raise the costs not only of number portability, but of local competition in general,¹²² that carriers should not be required to subsidize nonportability-related

¹¹⁶ *Id.*

¹¹⁷ *Id.* at 8460.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 8460, 8465-66.

¹²⁰ Bell Atlantic Comments at 2-3.

¹²¹ ALTS Comments at 2; Bell Atlantic Comments at 2; Calif. Pub. Utils. Comm'n Comments at 15; Colo. Pub. Utils. Comm'n Comments at 5; Florida Pub. Servs. Comm'n Comments at 5-6; Frontier Comments at 3; GSA Comments at 2-3; MCI Comments at 10-11; Ohio Pub. Utils. Comm'n Comments at 3; PacTel Comments at 11-12; SBC Comments at 9 n.15; TRA Comments at 4, 12-13; Time Warner Comments at 2-3; Wash. Utils. Transp. Comm'n Reply at 3. *Cf.* AirTouch Paging Reply at 2 (arguing that carriers should bear their own costs not directly related to number portability, and should treat them as network upgrade costs, because these costs would have been incurred even absent the number portability requirement); AT&T Comments at 17 (arguing that even absent a number portability requirement carriers regularly undertake network modifications, such as the installation of SS7 capability, that allow carriers to offer new services or improve existing ones); Mo. Pub. Servs. Comm'n Comments at 5 (arguing that carriers should bear their own upgrade costs because such upgrades permit carriers to provide advanced services unrelated to number portability).

¹²² AT&T Comments at 4-5, 17; Scherers Communications Group Comments at 2.

improvements of other carriers' networks,¹²³ and that excluding such costs encourages carriers to upgrade their networks efficiently based on market forces and customer demand.¹²⁴ The California Department of Consumer Affairs agrees that section 251(e)(2) does not apply to indirect costs,¹²⁵ but also argues that section 251(e)(2) governs only the implementation costs of establishing number portability, and not the ongoing costs of portability once it is in place.¹²⁶

33. A number of small LECs, competitive LECs, and state commissions, as well as MCI and the TRA, argue that section 251(e)(2) applies only to the distribution of number portability costs among telecommunications carriers, and not to the recovery of those costs from end-users, because the statute discusses how carriers should bear costs but makes no mention of end-user customers.¹²⁷ AirTouch Communications, USTA, and a number of incumbent LECs, on the other hand, argue that section 251(e)(2) applies to recovery, as well.¹²⁸

34. Most commenters that address the issue argue that we should apply to section

¹²³ AT&T Comments at 17; GSA Comments at 2-3; Omnipoint Comments at 4-6; Scherers Communications Group Comments at 2; TRA Comments at 4, 12-13; WinStar Comments at 6-8. *Cf.* Time Warner Reply at 12-13 (arguing that carriers should bear their own costs not directly related to number portability because the industry should not be required to pay for basic network upgrades that can be used for revenue-generating services).

¹²⁴ AT&T Comments at 17; NCTA Reply at 4; Omnipoint Comments at 4-6; PCIA Comments at 8; WinStar Comments at 6-8. *Cf.* Time Warner Reply at 12-13 (arguing that carriers would overstate their costs not directly related to number portability if they could recover some of them from other carriers).

¹²⁵ Calif. Dep't Consumer Affairs Comments at 9-10, 25

¹²⁶ *Id.* at 3 & n.1, 14, 17-18.

¹²⁷ ALTS Comments at 2; Calif. Pub. Utils. Comm'n Comments at 4; Colo. Pub. Utils. Comm'n Comments at 5; Ill. Commerce Comm'n Comments at 3-4; MCI Reply at 12-13; Ohio Pub. Utils. Comm'n Comments at 3; Time Warner Comments at 5-6; TRA Comments at 4; Wash. Utils. Transp. Comm'n Reply at 3. *Cf.* NTCA/OPASTCO Comments at 11-12 (arguing that by referring only to carriers in section 251(e)(2), Congress intended service providers, and not subscribers directly, to bear the costs of number portability).

¹²⁸ AirTouch Communications Reply at 13-14 (arguing that to be competitively neutral the Commission must neither mandate nor prohibit any particular recovery mechanism); Ameritech Reply at 6-8 & nn.10-11 (arguing that competitive neutrality requires a uniform end-user surcharge); Bell Atlantic Comments at 7-8 (arguing that to be competitively neutral, the Commission must require all telecommunications carriers to recover their costs in proportion to the revenues they bill); GTE Comments at 8-9, 11 (arguing that competitive neutrality requires that carriers recover all their number portability costs through a uniform, explicit, mandatory end-user charge); NYNEX Comments at 10-11 (arguing that distribution and recovery are inseparable, and that competitive neutrality requires a fair and reasonable recovery mechanism); USTA Comments at 16 n.12 (arguing that competitive neutrality should apply to distribution and recovery).

251(e)(2) the definition of "telecommunications carrier" found in section 3 of the Act.¹²⁹ The California Public Utilities Commission, on the other hand, argues that the definition of telecommunications carriers should be different for different cost categories and, at least for shared costs, should include carriers that appear on end-user's bills because all such carriers will need to obtain access to the regional databases to terminate calls.¹³⁰

3. Discussion

35. The language and legislative history of section 251(e)(2) provides only limited guidance concerning the meaning of section 251(e)(2).¹³¹ Accordingly, we interpret the terms of section 251(e)(2) in ways that will best implement its goals. The 1996 Act amended the 1934 Act "to provide for a pro-competitive, de-regulatory national policy framework [and to open] all telecommunications markets to competition."¹³² Section 251(b)(2) furthers those congressional goals by requiring all LECs to provide number portability so that subscribers of local telephone service can retain their telephone numbers when changing carriers.¹³³ At the same time, by requiring the Commission to ensure that all telecommunications carriers bear on a competitively neutral basis the costs of providing number portability, section 251(e)(2) seeks to prevent those costs from themselves undermining competition.¹³⁴

36. We conclude that "the cost[s] of establishing ... number portability" to be borne on a competitively neutral basis include the costs that LECs incur to meet the obligations imposed by section 251(b)(2), as well as the costs other telecommunications carriers—such as IXCs and CMRS.

¹²⁹ ALTS Comments at 2; Calif. Dep't Consumer Affairs Comments at 3 & n.2; Colo. Pub. Utils. Comm'n Comments at 5; NYNEX Comments at 5 (citing paragraph in *Order & Further Notice* that references definitions in 1934 Act); Ohio Pub. Utils. Comm'n Comments at 4; SBC Comments at 3-4; Time Warner Comments at 5; U S WEST Reply at 12-13; USTA Reply at 3; Wash. Utils. Transp. Comm'n at 3. See also *Order & Further Notice*, 11 FCC Rcd. at 8357, 8419 (1996) (using definitions in section 3 to interpret the meaning of the "all telecommunications carriers" language of section 251(e)(2) for purposes of the interim portability cost recovery mechanism).

¹³⁰ Calif. Pub. Utils. Comm'n Comments at 1-2, 5.

¹³¹ With respect to number portability, the conference agreement states only that "[t]he costs for numbering administration and number portability shall be borne by all providers on a competitively neutral basis." S. CONF. REP. NO. 104-230, at 122 (1996). Investigation of the bills in which these terms originate, and the floor debate surrounding them, does not resolve the issue.

¹³² *Id.* at 1.

¹³³ See 47 U.S.C. § 251(b)(2). For further discussion of the goals of section 251(b)(2), see notes 2-12, *supra*, and accompanying text.

¹³⁴ See 47 U.S.C. § 251(e)(2). For further discussion of the goals of section 251(e)(2), see notes 2-12, *supra*, and accompanying text.

providers—incur for the industry-wide solution to local number portability.¹³⁵ The Act defines number portability as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."¹³⁶ Thus, "the costs of number portability" are the costs of enabling telecommunications users to keep their telephone numbers without degradation of service when they switch carriers. Such costs include the costs a carrier incurs to make it possible to transfer a telephone number to another carrier, as well as the costs involved in making it possible to route calls to customers who have switched carriers (*i.e.*, the costs involved in making the N-1 querying protocol possible). IXCs and CMRS providers, as well as LECs, incur these costs. Consequently, requiring the number portability costs of all carriers to be borne on a competitively neutral basis is a more reasonable reading of the statute than the narrower reading advocated by Bell Atlantic.¹³⁷ Furthermore, if Congress had intended the costs that were to be borne on a competitively neutral basis to be the costs of a subset of carriers, we believe it would have done so explicitly.¹³⁸

37. We also adopt the tentative conclusion in the *Further Notice* that costs not directly related to providing number portability, as defined further below,¹³⁹ are not costs of providing number portability.¹⁴⁰ Consequently, such costs need not "be borne by all telecommunications carriers on a competitively neutral basis" under section 251(e)(2). Section 251(e)(2) requires that the costs of providing number portability be borne on a competitively neutral basis. Costs not directly related to providing number portability encompass a wide range of costs that carriers incur to provide telecommunications functions unrelated to number portability. We find no indication that Congress intended to place such costs within the scope of the competitive neutrality requirement of section 251(e)(2). Because costs not directly related to providing number portability are not subject to 251(e)(2), the Commission is not obligated under that section to create special provisions to ensure that they are borne on a competitively neutral basis.

38. The California Department of Consumer Affairs interprets "the costs of establishing ... number portability" in section 251(e)(2) narrowly, limiting it to mean only the costs that carriers

¹³⁵ Under the N-1 protocol recommended by the industry under the auspices of the NANC, and the Commission's requirements for the provision of long-term number portability, almost all telecommunications carriers—including LECs, IXCs, and CMRS providers—will incur costs of number portability. *See supra* paragraphs 15 and 18.

¹³⁶ 47 U.S.C. § 153(30).

¹³⁷ *See supra* text accompanying note 120 for Bell Atlantic's argument.

¹³⁸ Compare 47 U.S.C. § 251(b)(2) (explicitly limiting to LECs the statutory obligation to provide number portability).

¹³⁹ *See infra* Part IV.

¹⁴⁰ *See supra* note 114 and accompanying text.

initially incur to upgrade the public switched telephone network and create the databases.¹⁴¹ This interpretation is overly restrictive. Transferring numbers and querying calls is what "establishes," *i.e.* "creates" or "brings into existence," long-term number portability for each successive end-user who wishes to switch carriers.¹⁴² Although the majority of the costs of providing number portability are initial, one-time costs of reconfiguring carrier networks, carriers will incur other costs—such as upload, download, and query costs—on an ongoing basis. As discussed above, the Act defines number portability as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."¹⁴³ We conclude, therefore, that "the costs of establishing number portability" include not just the costs associated with the creation of the regional databases and the initial physical upgrading of the public switched telephone network, but also the ongoing costs, such as the costs involved in transferring a telephone number to another carrier and routing calls under the N-1 protocol.¹⁴⁴

39. We also conclude that section 251(e)(2) requires the Commission to ensure that number portability costs are distributed among, as well as recovered by, carriers on a competitively neutral basis. Despite the Commission's tentative conclusion that section 251(e)(2) only applies to the distribution of number portability costs,¹⁴⁵ we now find ambiguous the scope of the language requiring that costs "be borne ... on a competitively neutral basis." We find further that reading section 251(e)(2) as applying to both distribution and recovery best achieves the congressional goal of ensuring that the costs of providing number portability do not restrict the local competition that number portability is intended to encourage. Because the manner in which carriers recover the costs of providing number portability could affect their ability to compete, we cannot ensure that number portability costs are "borne by all telecommunications carriers on a competitively neutral basis" unless we address both distribution and recovery.¹⁴⁶ If the Commission ensured the competitive neutrality of only the distribution of costs, carriers could effectively undo this competitively neutral distribution by

¹⁴¹ See *supra* text accompanying note 126 for the argument of the California Department of Consumer Affairs.

¹⁴² Common dictionary definitions define the term "establish" as "to found or create" or "to bring into existence." See *The American Heritage Dictionary of the English Language* 246 (1980). See also *Webster's Ninth New Collegiate Dictionary* 425 (1984).

¹⁴³ See *supra* text accompanying note 8.

¹⁴⁴ Cf. *Order & Further Notice*, 11 FCC Rcd. at 8415 (arguing that the "statutory mandate that local exchange carriers provide number portability through [remote call forwarding, direct inward dialing], or other comparable arrangements until a long-term number portability approach is implemented" requires the Commission to "adopt cost recovery principles for currently available number portability that satisfy the 1996 Act").

¹⁴⁵ See *supra* note 117 and accompanying text.

¹⁴⁶ We note that commenters that urge the Commission to require certain types of recovery, such as end-user charges, apparently assume that recovery falls within the scope of section 251(e)(2).