costs,[308] and that such an allocator unduly penalizes carriers with high capital costs or high operating costs other than payments to other carriers.[309]

98. Commenters that support an allocator based on gross-revenue shares less charges carriers paid to and received from other carriers argue that failure to deduct revenues received from other carriers also raises the double-counting problem by counting revenue once when collected from the end-user and again when collected from the intermediary carrier.[310] Time Warner argues that to avoid the double counting problem, carriers should deduct charges they pay to other carriers, or deduct charges they collect from other carriers, but not both: doing both is not necessary and only distorts any assessment of market share.[311] Similarly, the California Public Utilities Commission argues that deducting charges carriers receive from other carriers ignores revenue from access charges and defeats the purpose of subtracting payments to other carriers in the first place.[312]

99. Commenters that support a gross-retail-revenues allocator argue that it reflects the fact that number portability primarily benefits users of retail services,[313] that it places competing retail carriers in the same relative position based solely upon their position in the retail marketplace,[314] that it best focuses on what carriers collect from services to end-users and so best measures carriers' abilities to bear portability costs,[315] and that it still avoids the double-counting problem.[316] Opponents argue that such an allocator inappropriately allocates regional database costs to competitive LECs and IXCs based on revenue from end users that the competitive LECs and IXCs do not keep but pass on to

308 Bell Atlantic Comments at 5-6. *See In re* Telecommunications Relay Services, *Third Report and Order*, 8 FCC Rcd. 5300, 5302 (1993).

309 AirTouch Communications Comments at 5 (noting, however, that such an allocator would ameliorate disparate treatment of facilities-based carriers and resellers caused by an unadjusted gross revenues allocator). *See also* CTIA Comments at 3-4 (arguing that although an allocator based on gross revenues less charges carriers pay to other carriers may be appropriate for a mature, static industry, additional time is necessary to determine the applicability of such an allocator to wireless carriers because the wireless industry is characterized by new entry and rapid build-out, and new PCS providers may have allocable costs but little revenue).

310 PacTel Comments at 6.

311 Time Warner Reply at 5.

312 Calif. Pub. Utils. Comm'n Reply at 2.

313 NYNEX Comments at 8-9; U S WEST Reply at ii, 14-15.

314 Ameritech Comments at 6.

315 USTA Reply at 7.

316 Ameritech Comments at 6-7; NYNEX Comments at 8-9.

incumbent LECs in rates for access, wholesale services, and unbundled network elements.[317]

ii. Nonrevenue-based allocators

100. Advocates of line-based allocators argue that such allocators are less subject to manipulation than revenue-based allocators.[318] Opponents contend that line-based allocators fail to recognize that a PBX system may serve multiple end-user numbers from one line,[319] that such allocators disadvantage carriers that serve low-volume customers by counting such customers the same as the usually more valuable high-volume customers,[320] and that it unfairly advantages new entrants, who initially will have little or no customer base.[321]

101. Commenters that support allocators based on share of access or presubscribed lines argue that the benefits of number portability are related to the number of active lines a carrier serves;[322] that when a customer changes carriers, the additional shared cost that the acquiring carrier incurs will equal the shared cost that the former carrier avoids;[323] and that such allocators are less subject to manipulation and should be easy to calculate.[324] Opponents argue that such allocators would be difficult to calculate,[325] and, rather than reach all carriers, would disproportionately burden LECs.[326]

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[317] AT&T Reply at 10; WinStar Reply at 6-7. *Cf.* Time Warner Reply at 4-5 (arguing that failure to subtract intercarrier charges inappropriately attributes to one carrier revenue that it passes on to the other, and so does not accurately reflect either carrier's relative market share).

[318] Sprint Reply at 4-5.

[319] Calif. Pub. Utils. Comm'n Comments at 7 n.3.

[320] AirTouch Communications Comments at 9-10. *Cf.* Fla. Pub. Servs. Comm'n Comments at 3 (arguing that unlike access-line based allocators, gross revenues less charges paid to other carriers accounts for both customer number and value).

[321] Calif. Dep't Consumer Affairs Comments at 15.

[322] AirTouch Communications Reply at 1, 4-6 & n.7 (preferring retail minutes of use, but advocating total lines a carrier serves as a reasonable alternative because of its simpler calculation); MCI Reply at 15 (arguing that share of access lines or active telephone numbers reflects the level of local exchange competition more accurately than gross revenues); Sprint Comments at 6-8 (arguing that an allocator based on presubscribed local service lines more accurately reflects the level of local exchange competition and a carrier's market share).

[323] AirTouch Communications Reply at 4-5 (preferring retail minutes of use, but advocating total lines a carrier serves as a reasonable alternative because of its simpler calculation); Sprint Comments at 6 (arguing that the unit charge would be the same for each new subscriber gained by any service provider).

[324] MCI Reply at 15; Sprint Reply at 4-5.

[325] Time Warner Reply at 3-4 (noting the difficulty in applying such an allocator to competitive access providers that provide transport solely to the central office or tandem, and to customers who switch carriers between line-calculations).

102. SBC Communications proposes allocating regional database costs in proportion to each carrier's share of something the company calls "elemental access lines (EALs)."[327] SBC divides the wireline access line into three presubscribed "elements" that account for the customer-perceived uses of telecommunications service: local exchange service, intraLATA toll service, and interLATA toll service.[328] A wireless access line would have two EALs: local and interexchange.[329] A paging access line would have just one local EAL.[330] Carriers that do not have access lines would be assigned EALs based on their number of serving arrangements.[331] A carrier's total number of EALs equals the sum of local exchange access lines, intraLATA toll presubscribed access lines, and interLATA toll presubscribed access lines it provides to customers.[332] Commenters that support an EAL-based allocator argue that it is the least market distorting,[333] and that it equitably distributes portability costs across all carriers.[334] At least one of these commenters, however, concedes that the allocator is "arbitrary, as evidenced by SBC's subdivision of markets into neat 'thirds,'" and uses "fictional" nomenclature.[335]

103. Supporters of number-based allocators argue that the use, benefits, and costs of number portability are most closely related the number of telephone numbers a carrier serves,[336] and that the demand for telephone numbers is more inelastic than the demand for telecommunications services as a whole.[337] Commenters that specifically support allocation by proportion of active, end-user assigned numbers note that it was one of the allocators noted in the *Order* as competitively

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[326] GST Reply at 12-13; MFS Comments at 6; NCTA Reply at 8; NYNEX Reply at 7; SBC Reply at i; Teleport Comments at 5-6; Time Warner Reply at 3-4; USTA Reply at ii; WinStar Comments at 5.

[327] SBC Comments at 7.

[328] *Id.*

[329] *Id.* at 8 n.13.

[330] SBC Reply at 12.

[331] *Id.* at 12 n.34 (arguing, for example, that a competitive access provider that serves a customer with 500 telephone numbers would have 500 intraLATA EALs and 500 interLATA EALs).

[332] SBC Comments at 8.

[333] BellSouth Reply at 7-8.

[334] *Id.*; SBC Reply at 3.

[335] BellSouth Reply at 7-8.

[336] Calif. Pub. Utils. Comm'n Comments at 8; GSA Comments at 7; MCI Comments at 7.

[337] MCI Comments at 6-7.

neutral for the costs of interim number portability.[338] Critics of number-based allocators argue that rather than reach all carriers, such allocators disproportionately burden LECs,[339] make it harder for low-margin, high-volume carriers to earn a normal return,[340] and unfairly advantage new entrants, who initially will have little or no customer base.[341]

104. In support of an allocator based upon share of retail minutes of use, AirTouch Communications argues that such an allocator is competitively neutral because a carrier that acquires a customer incurs the same number portability cost that the former carrier avoids.[342] AirTouch also argues that each minute of use provides a revenue opportunity, whether or not the carrier charges per-minute, and the allocator reduces each carrier's return by the same percentage regardless of how much the carrier earned per minute of use.[343] Critics argue that such an allocator needlessly encourages carriers to reduce minutes of use,[344] and would present difficulties for providers of flat-rate services that do not ordinarily charge by or track minutes of use.[345] Even AirTouch Communications describes the calculation of a minutes-of-use allocator as involving "somewhat greater complexity."[346]

2. Discussion

105. As part of its management duties under section 52.26 of the Commission's Rules,[347] the LNPA of each regional database must collect sufficient revenues to fund that database. We will require the LNPA of each regional database to do this by allocating the costs of each regional database among carriers in proportion to each carrier's intrastate, interstate, and international end-user telecommunications revenues attributable to that region. The Commission adopted end-user telecommunications revenues in the *Universal Service Order* as the assessment base for determining

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[338] Calif. Pub. Utils. Comm'n Comments at 8.

[339] BellSouth Comments at 9; GST Reply at 12-13; MFS Reply at 4-5; NYNEX Reply at 7 & n.25; PacTel Reply at 5-6; U S WEST Reply at 15-16; USTA Reply at ii; WinStar Reply at 7-8.

[340] Arch Communications Group Reply at 7.

[341] Calif. Dep't Consumer Affairs Comments at 15.

[342] AirTouch Communications Comments at 8.

[343] *Id.*

[344] Mo. Pub. Servs. Comm'n Comments at 4.

[345] *Id. Cf.* U S WEST Reply at 15 (arguing that such an allocator would not reach flat-rated services); PCIA Comments at 7 (arguing that an allocator based on minutes of use may discriminate against carriers with certain network designs or customer calling patterns).

[346] AirTouch Communications Comments at 2, 9.

[347] 47 C.F.R. § 52.26.

contributions to universal support mechanisms.[348] We will require carriers to include intrastate, interstate, and international[349] revenues in calculating end-user revenues because number portability will affect all such services. An end-user telecommunications revenue allocator is similar to a retail-revenues allocator in that both are based on telecommunications revenues that carriers collect from end-users. Unlike retail-revenues, however, end-user telecommunications revenues includes revenues derived from subscriber line charges (SLCs).[350] End-user telecommunications revenues also include revenues collected from carriers that purchase telecommunications services for their own internal use.[351]

106. The end-user telecommunications revenue allocator meets the two-prong competitive neutrality test. First, the allocator will not give one service provider an appreciable, incremental cost advantage when competing for a subscriber. Because the end-user telecommunications revenue allocator will distribute the shared costs of the regional databases to each carrier in proportion to that carrier's end-user revenues, it will cost carriers approximately the same increase in shared costs to win a specific subscriber. For example, if one of two LECs wins a third LEC's subscriber, whichever of the two LECs wins the subscriber will win the end-user revenue that subscriber generates, which will increase its allocated portion of the shared costs. Because the subscriber is likely to use approximately the same amount of local service regardless which of the two competing LECs provides service to the subscriber, the incremental shared cost one of the two LECs would experience if it had won the subscriber would be about the same as the incremental shared cost the other would experience if it won the subscriber. This increase would also approximately equal the decrease in shared costs the third carrier would experience, having lost the subscriber. These amounts may not be exactly the same because each of the three carriers may have different rates and may not collect exactly the same revenue from that subscriber. The difference, however, will not be significant enough to create an appreciable, incremental cost disadvantage. Furthermore, any difference will not be caused by providing number portability, but by differences in the underlying efficiency, services, and rates of each of the carriers. Thus we believe the allocator will not itself create an appreciable, incremental cost advantage that was not already present even absent number portability.

107. Second, allocating shared costs in proportion to end-user revenues will prevent the shared costs from disparately affecting the ability of carriers to earn a normal return. Because carriers' allocations of the shared costs will vary directly with their end-user revenues, their share of the regional database costs will increase in proportion to their customer base. Thus, no carrier's portion of

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[348] *See In re Federal-State Joint Board on Universal Service*, Report and Order, 12 FCC Rcd. 8776, 9206-07 (1997) (Universal Service Order), *appeal pending sub nom*. Texas Office of Public Util. Counsel, No. 97-60421 (5th Cir. filed June 25, 1997).

[349] This differs from the assessment base for determining universal service contributions, which, in accord with section 254(d) of the Act, includes only those international end-user revenues earned by carriers that provide interstate telecommunications services. *See Universal Service Order*, 12 FCC Rcd. at 9173-75.

[350] *Id.* at 9206-07. The SLC is a flat monthly per-line rate that the end user pays. *See* 47 C.F.R. § 69.104.

[351] *See Universal Service Order*, 12 FCC Rcd. at 9206-07.

the shared costs will be excessive in relation to its expected revenues, and its allocated share will only increase as it increases its revenue stream. Consequently, the end-user revenues allocator will not disparately affect competing carriers' abilities to earn a normal return. An end-user revenues allocator will also be easy to administer because carriers already track their sales to end-users for billing purposes, and will be familiar with the end-user revenues allocator from its use for universal service support contributions.[352] Although an end-user revenues allocator will relieve pure wholesalers, which have no end-user revenue, from directly bearing shared costs, the end-user method does not exclude wholesale revenues from the revenue base that determines carriers' shared costs. As the Commission explained in the *Universal Service Order*, wholesale charges are built into retail rates, and thus the allocator still reflects wholesale revenue.[353] This is competitively neutral because it avoids double-counting revenues, and because wholesale carriers are not competing with retail carriers for end users in the marketplace.

108. Based on the current record, it appears that other allocators that commenters have proposed could also meet the two-prong test. We choose an end-user revenues allocator over those other proposals because each of the alternatives has distinct disadvantages. Because section 251(e)(2) requires that we select a competitively neutral allocator but specifies no other criteria that must be used in that selection, we conclude that we have discretion under the statute to choose among several competitively neutral allocation mechanisms based upon other valid regulatory goals, such as administrative efficiency.

109. We decline to adopt an allocator based on gross telecommunications revenues less charges carriers paid to other carriers, despite the Commission's tentative conclusion in the *Further Notice*.[354] As the Commission explained in the *Universal Service Order*, an end-user revenues allocator is more administratively efficient than an allocator based on gross revenues less charges carriers pay to other carriers.[355] Under an end-user revenues allocator, IXCs would be directly allocated shared costs attributable to the revenues they collect from their end users to pay incumbent LECs' access charges. Under the allocator based on gross revenues less charges carriers pay to other carriers, on the other hand, IXCs would not be directly allocated shared costs attributable to access charges: although they would collect revenue from their end users to pay the incumbent LECs for these charges, they would be entitled to subtract charges they pay to other carriers for the purpose of determining the amount of shared costs allocated to them. Incumbent LECs would be allocated the

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352 *See id.* at 9208.

353 *See id.* at 9207.

354 *See supra* paragraph 79. We recognize that the Commission adopted under section 251(e)(2) an allocator based on gross revenues less charges carriers pay to other carriers to allocate the costs of numbering administration. *See In re Administration of the North American Numbering Plan*, Second Report and Order and Memorandum Opinion and Order, 11 FCC Rcd. 19392, 19405, 19541 (1996). As we explain in the text, we believe that a number of allocators may be competitively neutral, but conclude that for the allocation of number-portability costs, share of end-user revenues is preferable to an allocator based on gross revenues less charges carriers pay to other carriers.

355 *See Universal Service Order*, 12 FCC Rcd. at 9206.

shared costs attributable to access charge revenue they collect from IXCs. As at least one IXC pointed out in the *Universal Service* proceeding, however, the incumbent LECs would likely pass these shared costs on to the IXCs through exogenous treatment in their access rates.[356] Thus, IXCs would incur shared costs attributable to access revenues under both an allocator based on gross revenues less charges carriers pay to other carriers and an end-user revenues allocator. Because the end-user revenue allocator reaches the same result as an allocator based on gross revenues less charges carriers pay to other carriers, but without the inefficiency and added complication of the pass-through step, we prefer the end-user revenues allocator. As the Commission also explained in the *Universal Service Order*, some wholesale carriers—particularly those with long-term contracts—might be unable to recover their shared costs from their customers under an allocator based on gross revenues less charges carriers pay to other carriers.[357] We also decline to adopt a gross telecommunications revenue allocator because it would double-count revenue. When a wholesale or access carrier is involved in providing service, for example, such an allocator assigns shared costs to each unit of revenue twice: once when the wholesale carrier collects revenue from the retail carrier, and again when the retail carrier collects revenue from its customer.[358]

110. We also decline to adopt an allocator based on gross telecommunications revenues less charges carriers pay to *and receive from* other carriers because such an allocator fails to count certain revenue—such as from access charges—at all. Finally, we decline to adopt non-revenues-based allocators—such as those tied to minutes of use, telephone numbers, or lines—because such allocators would be difficult to calculate for carriers that do not offer service on a per-line or per-minute basis.[359] Furthermore, line-based allocators count low-volume customers the same as high-volume customers, and could advantage new entrants who initially have little or no customer base. We also reject SBC's EAL allocator because it has not offered a convincing reason why local, intraLATA toll, and interLATA toll service should count equally in allocating costs.

D. Carriers Required to Share the Costs of the Regional Databases

1. Positions of the Parties

111. Incumbent LECs, state commissions, competitive LECs, and CMRS providers argue that all telecommunications carriers must share the regional database costs. They contend that the "all telecommunications carriers" language of section 251(e)(2) does not leave the Commission authority to

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356 *See Id.* at 9602-03 & n.1901 (citing Sprint Comments at 9-10 and Bell Atlantic/NYNEX Reply at 3-4).

357 *Id.* at 9208-09.

358 *See id.* at 9207.

359 *Cf. id.* at 9210.

exclude any carriers from sharing these costs.[360] Some of these commenters, however, support distribution mechanisms that have the effect of excluding carriers from incurring at least some regional database number portability costs.[361]

112. IXCs, some small LECs, GSA, the Telecommunications Resellers Association (TRA), some CMRS providers, and some state commissions, on the other hand, contend that we should exclude some carriers from sharing any regional database portability costs.[362] These commenters suggest that we exclude: 1) carriers that do not participate in number portability;[363] 2) carriers that provide paging and one-way messaging services;[364] 3) carriers that do not appear on end-user bills;[365]

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[360] Ameritech Comments at 1-2, 4-5; Bell Atlantic Reply at 1, 4; BellSouth Reply at 5; Colo. Pub. Utils. Comm'n Comments at 5; Frontier Comments at 3-4 & n.8; GST Reply at 10-11; Iowa Network Servs. Reply at 3; MFS Comments at 6; NARUC Reply at 1; NCTA Reply at 6; NYNEX Comments at 5-6; Ohio Pub. Utils. Comm'n Comments at 1, 3-5; Omnipoint Comments at 3; PacTel Comments at 3, 6-7; SBC Comments at 4-6; Teleport Comments at 2-4; U S WEST Reply at 12-14 & nn.33-35; USTA Reply at 4-5; WinStar Comments at 2-5; Wash. Utils. Transp. Comm'n Reply at 3.

[361] Ameritech Comments at 9-11 (arguing that only carriers that use the databases should bear upload and download costs); Colo. Pub. Utils. Comm'n Comments at 6-8 (arguing that only carriers using the databases should bear download costs, and that only carriers that upload data to the databases should bear nonrecurring, recurring, and upload costs); Iowa Network Servs. Reply at 5-7 (arguing that only carriers providing portability at any given time should bear nonrecurring and recurring costs, and that only carriers using the databases should bear database information costs); Ohio Pub. Utils. Comm'n Comments at 1, 6-10 (advocating distribution of nonrecurring and recurring costs by share of local access lines—which would exclude carriers not providing local exchange service—and upload, download, and query costs on a usage-sensitive basis—which would exclude carriers that do not use the databases—if usage variance is significant and determinable); Omnipoint Comments at 1-2 (excluding carriers that do not use the databases by advocating per-query charges consisting of ratable portions of the nonrecurring, recurring, and database information costs); PacTel Comments at 2, 7 (arguing that only carriers using the databases should bear upload, download, and query costs); Wash. Utils. Transp. Comm'n Reply at 4-6 (arguing that only carriers that upload or download data should bear regional database costs).

[362] MobileMedia Reply at 3; Paging Network Reply at 2-5; PCIA Comments at 4; Time Warner Comments at 4-5 & n.9; TRA Comments at 4-6. *Cf.* AirTouch Communications Reply at 5-6 (arguing that the 1996 Act requires competitively neutral cost recovery to prevent certain classes of carriers from bearing a disproportionate burden, and number portability does not benefit paging companies).

[363] AirTouch Communications Reply at 8-9; AT&T Comments at 7-9 & n.11; ALTS Comments at 2; Calif. Dep't Consumer Affairs Comments at 13, 15-18; Colo. Pub. Utils. Comm'n Comments at 6-7; Fla. Pub. Servs. Comm'n. Comments at 3-4; GSA Reply at 9-10; Iowa Network Servs. Reply at 5-7; ITCs Comments at 1-3; MCI Comments at 3-6; NTCA/OPASTCO Comments at 7-11; Ohio Pub. Utils. Comm'n Comments at 8-9; Omnipoint Communications Comments at 1-3; PCIA Reply at 2-3; Sprint Comments at 5-6; Wash. Utils. Transp. Comm'n Reply at 4-6.

[364] AirTouch Paging Reply at 5-8; Arch Communications Group Reply at 3-5; GSA Reply at 9-10; MobileMedia Communications Reply at 3-4; Paging Network Reply at 1-4; PCIA Comments at 5; Time Warner Comments at 4-5 & n.9. *Cf.* Nextel Comments at 3-4 (excluding carriers whose revenue is irrelevant to number portability, such as non-covered SMR providers, which are exempt from number portability obligations).

4) carriers that do not provide local exchange service;[366] and 5) resellers.[367]

2. Discussion

113. We will require allocation of the shared costs among all telecommunications carriers because 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." Our end-user revenues allocator, by its nature, does not reach carriers, such as pure wholesalers, that do not have end-user revenues. Because section 251(e)(2) requires all carriers to bear the costs of number portability on a competitively neutral basis, we will require carriers that do not have end-user revenues to pay $100 per year per region as their statutory share of the shared costs. We believe that $100 represents a fair contribution for carriers that do not have end-user revenues, but can revisit this issue should it become necessary. This fee will not give any such carriers an appreciable, incremental cost advantage when competing for a subscriber because such carriers do not compete for end-user customers. Moreover, this charge will be the same for all such carriers. Thus, it will not create any disadvantage to the extent these carriers are competing with each other. This fee is also not likely to disparately affect the ability of competing carriers to earn a normal return because such a nominal charge is unlikely to affect a carrier's return and, again, because all such carriers will face the same charge. Consequently, such a fee is competitively neutral.

114. We believe that assessing this sum will discharge our statutory duty and at the same time represents a reasonable contribution for carriers that do not have end-user revenues. In addition, it will be equitable for all telecommunications carriers, even those without end-user revenues and those not directly involved in number portability, to contribute toward the costs of the regional databases because all telecommunications carriers will benefit from number portability. Number portability will remove barriers to entry into the market for local service and increase local competition. Number portability will also ameliorate number exhaust concerns by making possible number pooling.[368]

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365 Calif. Pub. Utils. Comm'n Comments at 5-6 & n. 2 (arguing that for allocation of regional database costs, "all telecommunications carriers" should include only carriers of record on an end user's bill that operate in a given region or state, because all such carriers must access the database to terminate calls; expressing no opinion whether the definition should include resellers because of uncertainty how such carriers would interface with the database).

366 TRA Comments at 5-6. *Cf.* GSA Reply at 9-10 (distributing costs by share of telephone numbers, which would exclude "pure" IXCs, among other carriers); Ohio Pub. Utils. Comm'n Comments at 1, 6 (distributing costs by share of local access lines less private lines plus a trunk equivalency); Scherers Communications Group Comments at 3 (distributing costs only among carriers whose services require a telephone number and that use the databases for their numbers).

367 Scherers Communications Group Comments at 3. *Cf.* ALTS Comments at 2 (excluding carriers as needed to avoid double recovery).

368 For a brief discussion of number pooling, see note 472, *infra*.

E. Regional v. National Allocation of Regional Database Costs

1. Positions of the Parties

115. Some commenters argue that the costs of the regional databases should be allocated on a regional basis.[369] These commenters argue that each region may have unique costs and carriers should only pay for databases that serve areas where they terminate calls,[370] that allowing the regional administrators to collect costs applicable to their own regions is simpler than aggregating costs and selecting a national administrator,[371] and that national allocation would create regional cross-subsidies and reduce efficiency incentives.[372] Other commenters argue that costs should be allocated on a nationwide basis.[373] These commenters argue that a national system would avoid complications regarding the calculation of regional end-user revenues,[374] that a national system ensures uniformity of treatment and administrative efficiency,[375] that carriers often operate over multiple regions and completing calls will require carriers to use multiple databases,[376] and that such a system would avoid discriminating against carriers that happen to serve regions with more expensive databases.[377] NECA

[369] AirTouch Communications Comments at 6-7; Ameritech Comments at 5; Calif. Dep't Consumer Affairs Comments at 14; Calif. Pub. Utils. Comm'n Comments at 6; Ill. Commerce Comm'n Comments at 5; Iowa Network Servs. Reply at 5; ITCs Comments at 2-3; NARUC Reply at 1; NCTA Reply at 8; Sprint Comments at 7 n.9; Time Warner Comments at 8; USTA Reply at ii.

[370] Calif. Dep't Consumer Affairs at 14; Calif. Pub. Utils. Comm'n Comments at 6-7; Iowa Network Servs. Reply at 5; ITCs Comments at 2-3. *Cf.* Sprint Comments at 7 n.9 (arguing that to allocate costs of a regional database by national revenues or revenues from services other than local service would make little sense).

[371] Time Warner Comments at 8.

[372] Ill. Commerce Comm'n Comments at 5.

[373] Bell Atlantic Comments at 3-4; BellSouth Reply at 9 (abandoning regional allocation position in comment in favor of national allocation); CTIA Comments at 2-3; MobileMedia Communications Reply at 5; SBC Reply at 9-10; Scherers Communications Group Comments at 4; TRA Comments at 7; U S WEST Reply at i-ii. *Cf.* GTE Comments at 12-14 (proposing a national pool funded through end-user surcharges from which carriers would seek reimbursement of number portability costs); PCIA Comments at 6-7 (arguing that the portability fund should be collected and disbursed on a centralized basis).

[374] BellSouth Reply at 9; SBC Reply at 7 n.18; U S WEST Reply at 16-19. *Cf.* Sprint Comments at 7 (advocating regional allocation but acknowledging that calculating regional revenue may be difficult).

[375] BellSouth Reply at 9; PCIA Reply at 2; SBC Reply at 10; U S WEST Reply at 16-19.

[376] CTIA Comments at 2-3 (arguing that wireless subscribers use their telephones nationwide and that CMRS service areas may span multiple regions); SBC Reply at 7 n.18, 9.

[377] SBC Reply at 10.

volunteers to administer the allocation process if we choose a nationwide mechanism.[378]

2. Discussion

116. We will require telecommunications carriers to bear the shared costs on a regional basis because such a plan is most consistent with the regional nature of the databases, and because a national approach would require designation of a national administrator. As part of its duties established in section 52.26 of the Commission's Rules,[379] each local number portability administrator[380] of a regional database[381] shall collect sufficient revenues from all telecommunications carriers providing telecommunications service in areas that regional database serves to fund the operation of that regional database. Thus, after subtracting the charges it collects from telecommunications carriers with no end-user revenues, each database administrator shall distribute the remaining shared costs based upon each remaining telecommunications carrier's proportion of the end-user revenues collected by all telecommunications carriers in that region. To apply the end-user revenues allocator, administrators may request regional end-user revenues data from telecommunications carriers once a year. We direct telecommunications carriers to comply with such requests. One of the objectives of the biennial review of our regulations required under the Communications Act is to consider ways to reduce filing burdens on carriers. The Commission may further consider in the biennial review or other proceedings how best to administer the allocation of the shared costs.

117. We are aware that some carriers have already begun paying their regional database administrators based on temporary agreements negotiated by the regional LLCs. We will permit, but not require, each regional administrator and LLC to adjust prospectively through a reasonable true-up mechanism the future bills of those carriers that participated in such agreements so that the shared costs each such carrier will have contributed approaches what those carriers would have paid had an end-user telecommunications revenue allocator been in place when carriers started paying the regional administrators. Permitting the regional administrators and LLCs to perform such true-ups ensures that costs are recovered from carriers in a manner consistent with our rules, while accounting for the period prior to the effective date of our rules and recognizing that agreements may have been reasonable mechanisms to recover regional database costs on a temporary basis pending this *Third Report and Order*.

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[378] NECA Reply at 2-3.

[379] 47 C.F.R. § 52.26. As explained in the *Second Report and Order*, these duties include all management tasks required to run the regional databases. *In re Telephone Number Portability*, Second Report and Order, 12 FCC Rcd. 12281,12307-09 (Second Report and Order).

[380] The term "local number portability administrator" (LNPA) is defined at 47 C.F.R. § 52.21(h).

[381] The term "regional database is defined at 47 C.F.R. § 52.21(l).

F. Amortization

1. Positions of the Parties

118. Parties that address the issue of the time period for amortization of nonrecurring regional database costs almost uniformly advocate a five-year period.[382] These commenters argue that amortization will equitably distribute these costs among current carriers and later entrants,[383] accommodate changes in market volume and market share,[384] and avoid the adverse impact that a large, one-time payment may cause.[385] Omnipoint advocates an adjustment mechanism to account for changes in nonrecurring and administrative expenses and the costs of improvements to the database facilities.[386] Other commenters argue that the data used for allocation—whether revenues, lines, or some other factor—must be regularly updated to account for changes in market share.[387] Some commenters also advocate that we establish a settlement period or true-up mechanism by which later

[382] Ameritech Reply at 8 (advocating amortizing over no more than five years the costs of establishing long term number portability, and after five years treating the ongoing regional database costs associated with database administration as costs of doing business); Calif. Dep't Consumer Affairs Comments at 15-16 (advocating amortizing the implementation costs of number portability annually at an exponentially increasing pace over a period long enough to reflect changes in market volume and market share that portability-spurred competition is likely to create); Cincinnati Bell Comments at 10 & n.13 (advocating amortizing nonrecurring costs over five years); Colo. Pub. Utils. Comm'n Comments at 8 (advocating amortizing nonrecurring costs over the life of the database administrators' contracts); NCTA Reply at 9 (advocating amortizing nonrecurring costs through monthly charges over five years); PacTel Comments at 5 (advocating amortizing database start-up costs over a period in the range of five years); Time Warner Comments at 9 (advocating amortizing nonrecurring costs over three to five years); USTA Comments at iv (advocating amortizing nonrecurring costs over five years).

[383] NCTA Reply at 2; Time Warner Comments at 9.

[384] Calif. Dep't Consumer Affairs Comments at 15-16.

[385] Cincinnati Bell Comments at 10 & n.13; NCTA Reply at 2; Time Warner Comments at 9; USTA Comments at iv.

[386] Omnipoint Communications Comments at 4.

[387] Cincinnati Bell Reply at 4 (arguing that any allocation method would require annual adjustments); SBC Comments at 11 (arguing that the number portability administrators should periodically update the EAL-count); Sprint Comments at 7 (advocating quarterly allocator-related updates of each local service provider's number of presubscribed lines). *Cf.* Cincinnati Bell Comments at 7-8 (criticizing revenue-based allocators because they would require continual updating as companies enter the market and their revenue share grows; arguing that to fix shares based on current revenues would require incumbent LECs to bear the majority of costs even if their share of market revenues declines); MCI Reply at 14 (criticizing revenues-based allocators because they would require continuous updating as companies enter and exit the market and as revenue shares change).

entrants would reimburse previous participants.[388]

2. Discussion

119. As part of its management duties under section 52.26 of our Rules, the administrator of each regional database must collect sufficient revenues to fund its regional database. In this regard, the nonrecurring shared costs attributable to that database must be amortized over a reasonable period. This approach will avoid potentially large, one-time charges on carriers, and ameliorate carriers' concerns that later participants might avoid nonrecurring database costs. We decline to implement a true-up mechanism under which later entrants reimburse previous participants.[389] Requiring amortization of nonrecurring costs will adequately address concerns that later entrants will avoid nonrecurring costs. Furthermore, carriers have not demonstrated that the absence of a true-up mechanism would significantly affect carriers' abilities to compete for customers.

G. Enforcement

1. Positions of the Parties

120. Commenting parties suggest various enforcement mechanisms to ensure that all telecommunications carriers are assessed on a competitively neutral basis the regional database costs of number portability, such as a cost-audit process that a neutral party such as the NANC, NANPA, or Commission would administer.[390]

2. Discussion

121. Commenters have failed to show the need for any special enforcement mechanisms to ensure that carriers bear the costs of the regional databases on a competitively neutral basis in accordance with our requirements. If carriers find that other carriers or the LNPAs are not meeting

[388] Cincinnati Bell Reply at 4 (arguing that to do otherwise would encourage entrants to delay entry until other carriers have borne the nonrecurring costs); Iowa Network Servs. Reply at 7 (arguing that as carriers implement number portability their allocated share of nonrecurring and recurring shared costs could be applied as a credit to carriers that have already contributed); ITCs Comments at 3 (arguing that beneficiaries of number portability should bear nonrecurring costs through a one-time assessment, with future beneficiaries providing credits to previous contributors); Ohio Pub. Utils. Comm'n Comments at 9 (advocating a true-up based on projected gross revenues over a seven-year period to ensure that entrants bear their fair share of nonrecurring costs and have no incentive to delay entry until all nonrecurring costs are distributed among other carriers).

[389] We distinguish, however, this type of true-up mechanism from the one we are allowing, but not requiring, regional database administrators to implement to ensure that carriers which began paying for regional database costs before the release of this *Third Report and Order* will eventually pay for those costs in accordance with our end-user telecommunications revenues allocator. *See supra* paragraph 117.

[390] SBC Comments at 11 (advocating that the NANC or its designee oversee the activities and responsibilities of the fund administrator); Time Warner Comments at 12-13 (suggesting that the NANC or the Commission periodically may need to review the regional administrators' billing procedures).

our requirements, they may file a complaint under section 208 of the Act.[391] In the event experience shows that the Commission needs to amend its rules to ensure that all carriers bear their fair share of the cost of the regional databases, the Commission may reconsider our finding that no special enforcement mechanism is necessary. The Commission may also audit the costs of the regional database administrators. Furthermore, both the Commission and any collections administrator the Commission appoints may audit revenue data that carriers submit as the basis for allocation and take action as warranted.

VI. CARRIER-SPECIFIC COSTS DIRECTLY RELATED TO PROVIDING NUMBER PORTABILITY

A. Background

122. In the *Further Notice*, the Commission identified two approaches to the distribution among carriers of carrier-specific costs directly related to providing number portability: 1) making individual carriers responsible for their own carrier-specific costs directly related to providing number portability; or 2) pooling carrier-specific costs directly related to providing number portability and distributing them among carriers based on some allocator.[392] The Commission sought comment on the application of section 251(e)(2) to these distribution methods, and on any alternative ways of distributing those costs.[393]

123. The Commission also sought comment on whether it should create a mechanism for carriers to recover carrier-specific costs directly related to providing number portability from end-users or other carriers, and if so, under what authority the Commission could do so and what form the mechanism should take.[394] If carriers recover number portability costs from end users, the Commission sought comment on whether they should be allowed to do so in any manner they choose, or whether the Commission should require an end-user number portability charge.[395] The Commission also sought comment on whether any such charge should vary among carriers within regions, among carriers across regions, or over time.[396] The Commission also asked whether carriers should charge their end users a one-time charge, a monthly fee, or a percentage of the monthly bill, and whether any charge should appear as a line-item on the bill.[397] The Commission sought comment on the

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[391] *See* 47 U.S.C. § 208.

[392] *See In re Telephone Number Portability*, First Report and Order & Further Notice of Proposed Rulemaking, 11 FCC Rcd. 8352, 8464 (1996) (Order & Further Notice).

[393] *Id.*

[394] *Id.*

[395] *Id.*

[396] *Id.* at 8465.

[397] *Id.*

application of section 251(e)(2) to the recovery from end users of carrier-specific costs directly related to providing number portability.[398] If carriers recover number portability costs from other carriers, the Commission sought comment on whether regulated carriers should be allowed to do so through increases in charges for regulated services, and under what authority the Commission can permit such increases.[399]

124. The Commission tentatively concluded that price-cap LECs should be permitted to treat as exogenous carrier-specific costs directly related to providing number portability, but should not be allowed to treat as exogenous carrier-specific costs not directly related to providing number portability.[400] The Commission sought comment on this tentative conclusion, as well as whether price-cap LECs should place number portability costs into a new or existing price-cap basket.[401]

B. Positions of the Parties

125. PacTel, U S WEST, AT&T, MCI, Sprint, Frontier, MFS, NCTA, Teleport, Time Warner, AirTouch Communications, AirTouch Paging, Omnipoint, and PCIA argue that we should require carriers to recover their own carrier-specific costs directly related to number portability, rather than pool such costs.[402] They argue that requiring each carrier to "bear its own costs," unlike pooling, encourages efficiency because each carrier is responsible for every dollar it spends.[403] They also argue that making each carrier responsible for its own costs is more consistent with a competitive

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398 *Id.* at 8464.

399 *Id.* at 8465.

400 *Id.* at 8466.

401 *Id.*

402 AirTouch Communications Reply at 6-8; AirTouch Paging Reply at 2-5; AT&T Comments at 12-14; Frontier Comments at 2-3; MCI Reply at 6-10; MFS Comments at 2-4; NCTA Reply at 3-5; Omnipoint Reply at 3-8; PacTel Comments at 10-11; PCIA Reply at 6-8; Sprint Reply at 5-6; Teleport Comments at 7-8; Time Warner Reply at 5-12; U S WEST Reply at 19-20. *See also* Ameritech Comments at 8, Reply at 6-8 & nn.9-10 (arguing that national pooling is inefficient and expensive but that carrier-specific costs directly related to number portability can be pooled at the regional or state level and allocated among all LECs; arguing alternatively that carriers can recover their costs from their own end users without pooling if a uniform, mandatory, regional or state surcharge based on the average or median cost of all carriers in the area can fairly compensate reasonably efficient LECs).

403 AirTouch Communications Reply at 6-7; AirTouch Paging Reply at 4-5; AT&T Reply at 11-12; MCI Reply at 9; MFS Reply at 6-7; NCTA Reply at 4-5; Omnipoint Reply at 5-6; PacTel Comments at 10-11; PCIA Comments at 7-8; Sprint Reply at 5-6; Teleport Comments at 8; Time Warner Reply at 5-6, 10; U S WEST Reply at 19-20. *Cf.* Ameritech Comments at 7 (arguing that more efficient options are available than pooling, which is administratively expensive and may reward inefficiency).

marketplace,[404] and requires carriers to pay for the benefits they receive from number portability instead of forcing some carriers to subsidize other carriers' network improvements.[405] In addition, they argue that making each carrier responsible for its own costs is less administratively expensive and cumbersome than pooling because it avoids the need for the Commission or the states to distribute costs, collect funds, and police abuses.[406]

126. Bell Atlantic, BellSouth, NYNEX, SBC, USTA, Nextel, the Florida Public Service Commission, and the GSA argue that an administrator should pool the carrier-specific costs directly related to number portability and then allocate them among carriers.[407] They argue that such costs are not discretionary, but incurred for the statutorily mandated, industry-wide goal of porting numbers to the benefit of all end-users.[408] They also argue that section 251(e)(2) requires all carriers to bear the costs of number portability,[409] and that Congress would not have adopted section 251(e)(2) had it intended carriers to incur and recover their own costs under competitive market forces.[410] In response to commenters that argue pooling is inefficient, they argue that incumbent LECs would still have

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404 AirTouch Communication Reply at 6-7; MCI Reply at 9; MFS Reply at 6-7; Omnipoint Reply at 6; PacTel Comments at 10-11; PCIA Comments at 7-8; Sprint Reply at 5-6; Time Warner Reply at 10-12.

405 AirTouch Communications Reply at 6-7; AirTouch Paging Reply at 4-5; Frontier Comments at 2-3; MCI Comments at 9-10; MFS Reply at 6; NCTA Reply at 4; Omnipoint Reply at 4-6; PacTel Comments at 10-11; Sprint Reply at 5-6; Time Warner Reply at 7-9.

406 Ameritech Comments at 7; MCI Reply at 9-10; Omnipoint Reply at 5-8; PacTel Comments at 10-11; PCIA Reply at 3-4; Sprint Reply at 5-6; U S WEST Reply at 19-20. *Cf.* Ameritech Comments at 7 (arguing that more efficient options are available than pooling, which is administratively expensive and may reward inefficiency); Teleport Comments at 8 (arguing that pooling would subject the previously unregulated competitive LECs to burdensome reporting requirements). *See also* Calif. Dep't Consumer Affairs Comments at 19-21 (arguing that requiring carriers to bear their own costs directly related to number portability would likely burden incumbent LECs disproportionately, but that the Commission must assess whether such costs warrant the bureaucratic expense and regulation involved in pooling).

407 Bell Atlantic Comments at 1-4; BellSouth Reply at 9-11; Fla. Pub. Servs. Comm'n Comments at 4-5; GSA Reply at 5-7; NYNEX Reply at 4-6, 8-11; Nextel Comments at 4; SBC Comments at 9-11; USTA Comments at 11-16. *See also* Cincinnati Bell Comments at 7-13 (arguing that rather than allocate costs an administrator should pool carrier cost-estimates and set a charge for carriers to collect from end users); GTE Comments at 12-14 (arguing that rather than allocate costs an administrator should reimburse carriers from a pool of charges the administrator collects from end users based on carriers' cost estimates).

408 BellSouth Reply at 5-6; GSA Reply at 6-7; NYNEX Reply at 5; USTA Reply at 12-13.

409 Bell Atlantic Reply at 5-6; BellSouth Reply at 5; NYNEX Reply at 5-6; SBC Reply at 3-5; USTA Reply at 8-11.

410 Bell Atlantic Reply at 5-6; USTA Reply at 12-13.

efficiency incentives because they would pay a large percentage of the pooled costs.[411] They also argue that administrators could subject carriers to cost reporting requirements and audits,[412] and that the economic burdens of administering a cost pool would be small compared to LEC portability costs.[413] They further argue that making carriers responsible for their own costs would violate competitive neutrality by disproportionately burdening incumbent LECs, which will have higher number portability costs.[414] Some commenters, including Cincinnati Bell, disagree that incumbent LECs will have disproportionately higher costs, however. They note that incumbent LECs benefit from economies of scale and larger customer bases over which to spread their portability costs.[415]

127. To recover carrier-specific costs directly related to number portability, Ameritech, Bell Atlantic, BellSouth, Cincinnati Bell, GTE, NYNEX, SBC, USTA, the California Department of Consumer Affairs, Arch Communications, and MobileMedia support an explicit, uniform, mandatory charge set as a flat rate or a percentage of each end-user's bill.[416] Although some of these commenters apparently would impose such a charge only on incumbent LEC customers, others appear to suggest

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[411] BellSouth Reply at 10; Florida Pub. Servs. Comm'n Comments at 5. *Cf.* USTA Reply at 12-14 (arguing that under a pooling mechanism no carrier can impose costs on its competitors without increasing its own costs).

[412] GSA Reply at 7; SBC Reply at 13-14 n.38.

[413] Bell Atlantic Reply at 7.

[414] BellSouth Reply at 6-7, 12; Florida Pub. Servs. Comm'n Comments at 4-5; GSA Reply at 6; NYNEX Reply at 5-6; USTA Reply at 9-10. *Cf. Ex Parte* Letter from Link Brown, Director-Federal Regulatory Affairs, SBC Communications Inc., to William F. Caton, Acting Secretary, FCC (April 25, 1997) (claiming based on a hypothetical situation in the Houston market that a competitive LEC's portability costs per access line would be one-third to one-half of an incumbent LEC's costs); *Ex Parte* Letter from F.G. Maxson, Director-Regulatory Affairs, GTE Service Corporation, to William F. Caton, Acting Secretary, FCC (June 12, 1997) (claiming that carrier-specific portability switching costs per line will be more than three times those of competitive LECs). *See also* Calif. Dep't Consumer Affairs Comments at 19-21 (arguing that requiring carriers to bear their own costs directly related to number portability would likely burden incumbent LECs disproportionately, but that the Commission must assess whether such costs warrant the bureaucratic expense and regulation involved in pooling); Calif. Pub. Utils. Comm'n Comments at 11-13 (suggesting that the Commission make carriers responsible for a portion of their own costs directly related to number portability and pool the rest as a way to balance interests in competitive neutrality and efficiency).

[415] *See* AT&T Comments at 13-14; Cincinnati Bell Comments at 4 (noting that larger carriers will have greater absolute costs but are more likely to be able to negotiate discounts from manufacturers and may have less costs per line); MCI Reply at 7-9; Time Warner Reply at 9.

[416] Ameritech Comments at 8; Arch Communications Reply at 7; Bell Atlantic Comments at 8; BellSouth Reply at 12-13; Calif. Dep't Consumer Affairs Comments at 21-24; Cincinnati Bell Comments at 8-12, Reply at 6-8; GTE Comments at 9-14; MobileMedia Communications Reply at 5; NYNEX Comments at 11-12; SBC Comments at 10-14; USTA Comments at 18-19. *See also* PacTel Reply at 2-5 (advocating an explicit, mandatory end-user surcharge but arguing that instead of uniform it should be set for each carrier based on that carrier's number portability costs).

such a charge for customers of all local service, including CMRS customers,[417] all LEC customers,[418] or all end users.[419] Advocates argue that an explicit, uniform, mandatory surcharge would be competitively neutral because it would ensure that all carriers would charge customers in the same way[420] and would provide a straightforward mechanism to recover portability costs from those who benefit—consumers.[421] They also argue that this mechanism avoids market distortions that embedding the costs in carrier rates would create,[422] increases carrier accountability, and informs customers of the costs of number portability.[423] In addition, they argue that any other mechanism would not be competitively neutral because, unlike unregulated carriers, the ability of regulated carriers to recover their costs is limited by regulatory constraints.[424] GTE also argues that a uniform, mandatory end-user charge is necessary to avoid a taking in violation of the Fifth Amendment.[425] GTE supports a mechanism that would reimburse carriers for all their costs directly related to number portability.[426] Ameritech, on the other hand, would give carriers a fixed amount of revenue from the collected charges, regardless of their actual costs, and argues that this encourages efficiency.[427] GTE argues, however, that such a mechanism would discriminate against high-cost carriers and that pooling is

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[417] *See, e.g.*, Cincinnati Bell Comments at 8-12, Reply at 6-8.

[418] *See, e.g.*, Ameritech Comments at 8.

[419] *See, e.g.*, Bell Atlantic Comments at 8; NYNEX Comments at 11-12; SBC Comments at 10-14.

[420] Ameritech Comments at 7, 8; Arch Communications Group Reply at 7; Bell Atlantic Comments at 7-8; BellSouth Reply at 9, 12-13; Calif. Dep't Consumer Affairs Comments at 24; Cincinnati Bell Reply at 6-7; GTE Comments at 11-13; MobileMedia Reply at 5; NYNEX Comments at 11-14; SBC Comments at 12-14; USTA Comments at 18-19.

[421] Cincinnati Bell Comments at 6-11; GTE Comments at 10-13; NYNEX Comments at 11-14; USTA Comments at 18-19.

[422] NYNEX Comments at 11-14.

[423] Calif. Dep't Consumer Affairs Comments at 24; NYNEX Comments at 11-14; PacTel Reply at 2-5; SBC Reply at 15; USTA Reply at 18-19.

[424] BellSouth Reply at 9, 12-13; Cincinnati Bell Comments at 8-11; GTE Comments at 8-13; NYNEX Comments at 11-14.

[425] GTE Comments at 8-11. *Cf.* Cincinnati Bell Comments at 6 (arguing that the Commission must ensure that carriers recover all their number portability costs to avoid an unconstitutional taking). *See also* U S WEST Comments at 8-9, 19-22 (arguing that a federally mandated surcharge is necessary to avoid an unconstitutional taking, but arguing that carriers should be allowed flexibility in setting that surcharge).

[426] *See, e.g.*, GTE Comments at 12-14 (arguing that rather than allocate carrier-specific costs directly related to number portability an administrator should reimburse carriers from a pool of surcharges the administrator collects from end users based on carriers' cost estimates).

[427] Ameritech Comments at 8.

necessary to prevent disproportionate cost recovery.[428] The California Department of Consumer Affairs and the General Services Administration argue that any end-user charges should be limited to areas where number portability is available, and thus to customers that receive the benefits of number portability.[429]

128. The California Department of Consumer Affairs advocates an end-user charge that remains constant among carriers within a given geographic region.[430] PacTel and Teleport, on the other hand, argue that end-user charges should vary within a given geographic region to account for carriers' different portability costs.[431] Cincinnati Bell, GTE, and SBC envision recalculating the end-user charge annually based on each year's portability cost estimates.[432] Ameritech, Bell South, Cincinnati Bell, NYNEX, SBC, and U S WEST argue that once carriers recover the implementation costs of number portability, which is likely to take between three to five years, the end-user charge should either decrease[433] or discontinue.[434]

129. Bell Atlantic, the California Department of Consumer Affairs, NYNEX, and USTA argue for an end-user charge calculated as a percentage of each bill,[435] arguing that a flat charge on each customer would not reach carriers that do not have presubscribed customers.[436] Ameritech, Arch

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428 GTE Reply at 5-7.

429 Calif. Dep't Consumer Affairs Comments at 23; GSA Comments at 10 (advocating direct recovery from end users with a per-number charge).

430 Calif. Dep't Consumer Affairs Comments at 24 (arguing that a constant charge within a geographic region would comport with competitive neutrality).

431 PacTel Reply at 4; Teleport Comments at 11.

432 Cincinnati Bell Comments at 9; GTE Comments at 12-13; SBC Comments at 12. *Cf.* Ameritech Comments at 8 (advocating an optional review midway through the recovery period if costs change substantially).

433 SBC Comments at 12 n.17 (arguing that NANC should determine the recovery period); U S WEST Comments at 21 (arguing carriers should recover costs over the same period that they incur them). *But cf.* Calif. Dep't Consumer Affairs Comments at 24 (arguing carriers should prorate the portability end-user charge over several years to reflect the increased costs of implementing portability as it develops over time).

434 Ameritech Reply at 8 (arguing carriers should recover costs over no more than five years); Bell South Reply at 9, 12 (arguing carriers should recover costs over three to five years); Cincinnati Bell Comments at 10, 11 (arguing carriers should recover costs over five years); NYNEX Comments at 14.

435 Bell Atlantic Comments at 8; Calif. Dep't Consumer Affairs Comments at 24; NYNEX Reply at 9; USTA Reply at 19. *Cf.* Teleport Comments at 11-12 (arguing that recovery from consumers should be limited to their proportionate share of carriers' net revenues to remove any incumbent LEC incentive to shift portability costs to consumers in areas with lower competition).

436 USTA Reply at 19.

Communications Group, Bell South, Cincinnati Bell, GTE, MobileMedia, PacTel, SBC, and U S WEST prefer a flat end-user charge,[437] arguing that such a charge provides predictability for consumers,[438] and that neither number portability costs nor the value consumers place on number portability depend on how much a customer spends on telephone service.[439] They argue also that a charge calculated as a percentage of the bill would disproportionately burden higher priced services such as cellular and PCS,[440] and would encourage high revenue customers to port to a carrier with a lower charge.[441] They also argue that it would be difficult to determine the appropriate base against which a percentage could be applied in the case of bundled service packages that include optional extended area calling plans and vertical services.[442]

130. U S WEST, AT&T, MCI, Sprint, GST, Teleport, ALTS, Scherers Communications Group, AirTouch Communications, WinStar, PCIA, the California Public Utilities Commission and the Public Utilities Commission of Ohio argue that carriers should be allowed flexibility in deciding whether and how to recover from end users their carrier-specific costs directly related to number portability.[443] They argue that allowing carriers to recover their portability costs from end users as they see fit in light of market forces is consistent with competitive markets,[444] and that permitting rather than requiring recovery from end users encourages carriers to minimize number portability costs and charges.[445] They argue that a uniform, mandatory, end-user charge is inappropriate because not all

[437] Ameritech Comments at 2, 8; Arch Communications Reply at 7; Bell South Reply at 12; Cincinnati Bell Reply at 7-8; GTE Reply at 4; MobileMedia Reply at 5; PacTel Reply at 4-5; SBC Comments at 14; U S WEST Comments at 7.

[438] Cincinnati Bell Reply at 7.

[439] *Id.*

[440] GTE Reply at 4.

[441] PacTel Reply at 4.

[442] GTE Reply at 4.

[443] U S WEST Comments at 19-22, Reply at 5-10 (arguing that the Commission should allow incumbent LECs the discretion to collect a flat end-user surcharge).

[444] AirTouch Communications Reply at 13-14 (concluding, therefore, that for the Commission to restrict the manner in which carriers may recover their number portability costs would not be competitively neutral); AT&T Reply at 12-13; Calif. Pub. Utils. Comm'n Comments at 14 (arguing, also, that such determination concerning recovery from end users should be left to the states); Ohio Pub. Utils. Comm'n Comments at 7, 10; PCIA Comments at 8; Scherers Communications Group Comments at 4-5; Sprint Reply at 6-7; U S WEST Comments at 8-9, 13-15, 19-22 (arguing that incumbent LECs should be allowed enough flexibility to compete on price).

[445] Calif. Pub. Utils. Comm'n Reply at 6 (arguing, also, that such determination concerning recovery from end users should be left to the states); GST Reply at 8-9; Teleport Comments at 10-11; WinStar Reply at 11-12.

carriers will have the same number portability costs,[446] that an end-user charge would be difficult to administer,[447] and that the Commission should not overload customer bills with line-item charges.[448] They also argue that an end-user charge would foster hostility toward number portability and competitors,[449] that such a charge would interfere with state regulators' cost recovery authority,[450] and that section 251(e)(2) states that carriers, not customers, shall bear the costs of number portability.[451]

131. Iowa Network Services, NTCA & OPASTCO, PacTel, and U S WEST argue that the Commission should allow carriers to recover their carrier-specific costs directly related to number portability through their interconnection charges to other carriers. They argue that interconnection rates should include the incumbent LECs' costs of providing number-portability-capable service because such capability benefits the carriers that interconnect.[452] They also argue that without intercarrier charges, facilities-based carriers will be forced to raise their rates, which would put them at a competitive disadvantage.[453] Finally, they argue that allowing intercarrier charges would avoid the administrative burdens of a cost pool.[454]

132. SBC, USTA, AT&T, MCI, TRA, Time Warner, Teleport, MFS, GST, the California Public Utilities Commission, AirTouch Communications, and WinStar argue that the Commission should forbid carriers from recovering their carrier-specific costs directly related to number portability from other carriers through interconnection charges. They argue that allowing carriers to recover their number portability costs by raising rates for intercarrier services would defeat the purpose of

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446 MCI Comments at 8-9.

447 Calif. Pub. Utils. Comm'n Comments at 14 (arguing, also, that such determination concerning recovery from end users should be left to the states); MCI Reply at 11-12.

448 Calif. Pub. Utils. Comm'n Comments at 14 (arguing, also, that such determination concerning recovery from end users should be left to the states). *Cf.* ALTS Comments at 4, 6 (arguing that a line-item charge would mislead customers); Sprint Comments at 11-12 (arguing that line-item number portability charges would likely cause customer confusion).

449 ALTS Comments at 4, 6; MCI Reply at 11-12; Teleport Comments at 10-11.

450 Calif. Pub. Utils. Comm'n Reply at 6; MCI Reply at 11-12.

451 NTCA & OPASTCO Comments at 11-12.

452 Iowa Network Servs. Reply at 7-10; NTCA & OPASTCO Comments at 3-5; PacTel Reply at 3-4 (arguing that a purchaser of unbundled switching is purchasing all the functionality of the switch, including number portability). *See also* U S WEST Reply at 20 (arguing that carriers should recover number portability costs from resellers and purchasers of unbundled switching to the extent that number portability costs are not reflected in the rates for those services).

453 Iowa Network Servs. Reply at 7-10; NTCA & OPASTCO Comments at 3-5.

454 Iowa Network Servs. Reply at 7-10.

establishing a competitively neutral distribution of costs among carriers in the first place,[455] and would make intercarrier services less cost-based and constitute an implicit subsidy.[456] They also argue that intercarrier recovery would not be competitively neutral because incumbent LECs would be able to use their market power and control over bottleneck services such as interconnection or access to shift their number portability costs onto other carriers.[457] In addition, they argue that intercarrier recovery would reduce carriers' incentives to implement number portability efficiently because they would be less accountable for their own costs.[458] Finally, they argue that intercarrier recovery could confuse and delay the negotiated agreement process,[459] and would be inappropriate because all carriers will have number portability costs.[460] Commenters generally support, however, allowing intercarrier charges for number portability services one carrier provides to another, such as performing the N-1 query, whether by arrangement or default.[461]

133. ALTS, BellSouth, the California Public Utilities Commission, Frontier, GTE, ITCs, PacTel, Sprint, and TRA advocate treating incumbent LECs' carrier-specific costs directly related to number portability as exogenous. They argue that such costs are beyond the carriers' control because number portability was mandated by Congress.[462] PacTel argues that the Commission should include a new number portability rate element in the current Common Line basket, updating the rates annually to ensure that LECs would be able to recover portability costs as subscribers change providers.[463] MCI argues, on the other hand, that placing number portability in a basket with other services would allow LECs to institute a price squeeze on potential competitors by raising the number portability charges and lowering other charges to their end-user customers.[464] If the Commission treats number portability

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455 Calif. Pub. Utils. Comm'n Comments at 13-14; GST Reply at 8-9; Teleport Comments at 12; WinStar Comments at 8.

456 MFS Comments at 4; USTA Reply at 17-18; WinStar Comments at 8.

457 AirTouch Communications Reply at 12-13; AT&T Comments at 10-11, 15-16; MCI Comments at 8-10; TRA Comments at 9-10, 11-12; Time Warner Reply at 15-16.

458 AT&T Comments at 12-13; MFS Reply at 8.

459 USTA Reply at 17-18.

460 SBC Comments at 16; TRA Comments at 9-10.

461 Ameritech Reply at 8; Calif. Dep't Consumer Affairs Comments at 24-25; NYNEX Comments at 13; Teleport Comments at 12. *See also* U S WEST Reply at 20 (arguing that carriers should recover portability costs from carriers that use unbundled network switching to provide number portability).

462 ALTS Comments at 4, 6; Bell South Comments at 8; Calif. Pub. Utils. Comm'n Reply at 8; Frontier Comments at 4-5; GTE Reply at 10 n.28; ITCs Comments at 4; PacTel Comments at 12; Sprint Comments at 11-12; TRA Comments at 13-14.

463 PacTel Comments at 12.

464 MCI Comments at 13.

as a price cap service, MCI advocates treating number portability as a new service, and creating new rate elements.[465] Carriers would base the number portability rates on the cost of the service, and the rates would be included in the price cap index the following year.[466]

134. AT&T, MCI, MFS, NCTA, Time Warner, and WinStar object to allowing price-cap carriers to recover their number portability costs through exogenous adjustments to their access charges.[467] The Ad Hoc Telecommunications Users Committee argues that exogenous treatment is inappropriate because incumbent LECs have control over their own number portability costs,[468] because exogenous treatment would lower the "X" factor and thus raise access rates,[469] and because exogenous treatment could lead to double recovery.[470]

C. Discussion

135. We will allow but not require incumbent LECs subject to rate-of-return or price-cap regulation to recover their carrier-specific costs directly related to providing number portability through a federal charge assessed on end-users. As noted, we recognize consumers' sensitivity to end-user charges. Under the circumstances before us, however, we conclude that allowing carriers to recover number portability costs in this manner will best serve the goals of the statute. The Commission has only two sources from which it may allow carriers to recover costs in the federal jurisdiction: charges IXCs pay LECs for exchange access, and end-user charges. Because number portability is not an access-related service and IXCs will incur their own costs for the querying of long-distance calls,[471] we will not allow LECs to recover long-term number portability costs in interstate access charges. Nor would it likely be competitively neutral to do so. We note further that, like long-term number portability, the advent of equal access and 800 number portability required carriers to incur significant costs to modify their networks, although these costs were not recovered in

[465] *Id.*

[466] *Id.*

[467] AT&T Reply at 7 n.18, 12-13; MCI Comments at 12-13; MFS Reply at 9; NCTA Reply at 9-10; Time Warner Reply at 15-16 & n.41; WinStar Reply at 10. *See also* Bell Atlantic Comments at 7 (arguing that simply allowing incumbent LECs to treat their number portability costs as exogenous is an inadequate recovery mechanism if IXCs can buy unbundled network elements instead of access, and that treating number portability costs as exogenous is inconsistent with the goal of removing implicit subsidies); U S WEST Reply at 5-6 (arguing that exogenous cost treatment is an inadequate means for incumbent LEC recovery if IXCs can buy unbundled network elements instead of access); USTA Reply at 17-18 (arguing that exogenous adjustments are ineffective when carriers can bypass rates through the purchase of unbundled elements).

[468] Ad Hoc Comments at 1-2.

[469] *Id.* at 2-3.

[470] *Id.*

[471] *See supra* paragraph 15.

federal end-user charges. These improvements led to increased competition and substantial long-term benefits to consumers. We anticipate a similarly positive effect for consumers with respect to the impact of number portability, namely the increased choice and lower prices that result from the competition that number portability helps make possible. We also note that number portability will facilitate number pooling, which will help forestall telephone-number exhaust.[472]

136. Carriers not subject to rate regulation—such as competitive LECs, CMRS providers, and non-dominant IXCs—may recover their carrier-specific costs directly related to providing number portability in any lawful manner consistent with their obligations under the Communications Act.[473] Requiring incumbent LECs to bear their own carrier-specific costs of providing number portability and allowing them to recover those costs from their own customers, while leaving other carriers unregulated, meets our competitive neutrality standard that number portability cost distribution and recovery mechanisms: (1) not give one service provider an appreciable, incremental cost advantage over another service provider when competing for a specific subscriber, and (2) not disparately affect the ability of competing service providers to earn a normal return.[474]

137. Requiring incumbent LECs to bear their own carrier-specific costs directly related to providing number portability will not disadvantage any telecommunications carrier because under an LRN implementation of long-term number portability a carrier's costs should vary directly with the number of customers that carrier serves. Our examination of the present record and cost data that some carriers have provided indicates that incumbent LECs, competitive LECs, and CMRS providers competing in the local service market are likely to have approximately the same long-run incremental number portability cost of winning a subscriber.[475] Incumbent LECs will likely have large absolute costs because of their large networks, but they also will have a large customer base over which to spread those costs; competitive LECs and CMRS providers will likely incur fewer absolute costs because of their smaller networks, but they will also likely have smaller customer bases over which to spread those costs. We are not persuaded by arguments by SBC and GTE that incumbent LECs will

[472] Until now, local service providers had to be assigned entire NXXs, even if they did not need all 10,000 of the NXX's telephone numbers. With the advent of number portability, carriers can share NXXs and pool unused telephone numbers, which results in more efficient allocation of telephone numbers and reduces the need for measures such as area-code overlays to combat telephone number exhaust. *See generally* INDUSTRY NUMBERING COMMITTEE, ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS, INITIAL REPORT TO THE NORTH AMERICAN NUMBERING COUNCIL ON NUMBER POOLING, VERSION 3 (INC97-1017-019 Jan. 16, 1998).

[473] Although generally not rate regulated, competitive LECs, CMRS providers, and IXCs—as telecommunications carriers—remain subject to the Communications Act and Commission rules.

[474] For an explanation of the competitive neutrality standard, see Part III.C.

[475] *Cf.* Mo. Pub. Servs. Comm'n Comments at 4-5 (stating that "[a]bsent evidence to the contrary, it is reasonable to expect the individual carriers to bear their direct specific costs of providing number portability. Given that new competitors will also be required to bear similar costs for their own networks, no particular competitive disadvantage to either incumbent or new entrant is apparent.").

incur disproportionately higher costs than competitive LECs.[476] SBC considered only switch-specific software costs and ignored other significant portability costs that an entrant would incur, such as for signalling and operational support systems. SBC further assumes that the entrant will quickly "fill" its switch with customers to enjoy the lower per-line costs SBC projects. Similarly, GTE assumes that competitive LECs will serve forty-five thousand lines per switch. Furthermore, GTE treats all its switch upgrade costs as direct portability costs, and does not distinguish its costs directly related to providing number portability from those not directly related to providing number portability, such as its general network upgrades.

138. Some small LECs and CMRS providers may find that their smaller customer bases make adding number portability capability in their own networks uneconomical. Such carriers can benefit from economies of scale similar to those of incumbent LECs, however, by arranging for another carrier or third-party provider to provide number portability functionality for them, as it appears that a market for number portability services may develop. Similarly, they may enter into cooperative agreements with other small carriers. Conversely, such carriers might install number portability in their networks and sell any excess number portability capacity to other carriers. Because resellers will simply be reselling the number portability capability of a facilities-based carrier, we would expect that resellers will also have comparable incremental number portability costs. Similarly, we would expect that carriers competing for interexchange customers will bear the costs of providing number portability associated with N-1 queries in rough proportion to the number of interexchange customers they serve; the more customers they win, the more queries they must perform to terminate those customers' calls. IXCs and CMRS providers can either query interexchange calls themselves or arrange for other carriers or third-party providers to provide querying service for them.

139. Regulating the recovery of number portability costs by incumbent LECs, but not by competitive LECs, CMRS providers, and IXCs, also will not place any carrier at a competitive disadvantage. Creating an optional end-user charge for incumbent LECs ensures that such carriers have a reasonable opportunity to recover their costs and at the same time allows carriers to forego some or all of such charges if they deem it necessary to compete in the local service market. Similarly, unregulated carriers may recover their costs in end-user charges if they choose to do so. Regulating incumbent LEC recovery should not disadvantage incumbent LECs as compared to competitive LECs because competitive LECs also have number portability costs under LRN. If a customer does switch to a competitive LEC, that customer may have to pay end-user charges or service rates that recover the competitive LEC's portability costs. Thus, the customer's incentive to leave the incumbent LEC is offset by the fact that the customer would then have to pay charges that recover the competitive LEC's number portability costs. Therefore, incumbent LECs are unlikely to have a material disadvantage in competing for subscribers under our recovery mechanism.

140. We reject requests that we pool number portability costs. Because we expect that carriers' costs directly related to providing long-term number portability under LRN will vary directly with the number of customers the carriers serve, pooling carrier-specific number portability costs is not necessary to achieve competitive neutrality. In addition, pooling has significant disadvantages. Carriers participating in a pool would have less incentive to minimize costs because they would not

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[476] *See supra* note 414 and accompanying text for their arguments.