Internet-based TRS providers will help to ensure the security of the central database and the privacy of the data contained therein.[165] We therefore adopt the Joint Proposal's suggestion to restrict access to Internet-based TRS providers.

d. Other Considerations

68. *Architecture*. Commenters observe that the DNS-based ENUM technology is a natural choice for the central database mechanism.[166] We note that a DNS database structure can be implemented through a variety of architectures, and are not, in selecting a DNS structure for the central database of the centralized numbering directory mechanism, mandating the creation of a single, monolithic DNS database or otherwise limiting options for implementation of the central DNS database. One of the key strengths of the DNS approach is its flexibility, and we defer to the neutral third party administrator discussed in section III.B.3 below to determine the most appropriate database architecture.

69. *Implementation Time*. Selection of the Joint Proposal's ORD structure does raise potential areas of concern. Because the Joint Proposal's ORD requires the selection of a new database operator and the creation of operational procedures for updating the database, commenters have raised concerns with respect to the likelihood that the Commission's December 31, 2008 implementation deadline will be met if a DNS structure is selected.[167] By contrast, the NPAC already exists, is already managed by a neutral third party operator, and the processes and procedures necessary to provision information to and obtain information from the NPAC are well established.[168]

70. While timing will be a challenge, the record evidence indicates it is possible to build a new central numbering database as set out in the Joint Proposal's ORD with appropriate governance structures prior to the Commission's deadline.[169] Given the assertions that both NeuStar's TRU and the Joint Proposal's ORD could be implemented prior to our deadline, we believe that the benefits of utilizing the Joint Proposal's ORD structure described above outweigh the relative time advantage of using NeuStar's TRU. Further, as discussed in greater detail in section III.G, the Commission today takes steps to ensure that the Commission's deadline is met.

71. *Privacy and Security*. NeuStar also argues that the database mechanisms, as utilized in the CSDVRS ONS and the Joint Proposal's ORD, raise potential security and privacy considerations.[170] In particular, NeuStar argues that the database mechanism described in the CSDVRS ONS and the Joint Proposal's ORD could be subject to unauthorized access or make available sensitive personal information or competitive information.[171] By contrast, under the rules by which the NPAC is administered, only service providers authorized by NeuStar are allowed access to the central database itself, and NeuStar's existing implementation has the facility to restrict the data that an authorized user can see and the amount

[165] *See* AT&T Refresh Reply Comments at 5; GoAmerica Refresh Reply Comments at 11–12.

[166] *See, e.g.*, CSDVRS Refresh Comments at 15 (noting that these technologies are "scalable and expandable to meet the evolving needs of the deaf and hard of hearing community"); AT&T Refresh Reply Comments at 3–4 (noting that a DNS system is preferable for a central database mechanism as it is already in place and used in the VoIP context).

[167] *See* NeuStar Refresh Reply Comments at 16–18; Sorenson Refresh Reply Comments at 4–6.

[168] NeuStar states that modifications to the NPAC can be completed in two weeks, with necessary upgrades to provider systems and processes requiring three to four months. *See* NeuStar Workshop Deck at 21.

[169] *See* AT&T Workshop Deck at 10 (showing implementation timeline); Dash Refresh Reply Comments at 12.

[170] Although these issues overlap with who gets access to information, the fact that the NPAC already exists and has established access procedures is germane to the task of selecting a central database mechanism.

[171] *See* NeuStar Refresh Reply Comments at 14–15, 18–20.

of data that can be downloaded.[172]

72. We believe the security and privacy advantages NeuStar attributes to use of its proposal are attributable to the rules that limit access to the central database to a limited set of registered entities, rather than to any particular technical aspect of the NPAC itself. The record indicates that comparable registration and restricted access requirements can be implemented to secure a central database.[173] As discussed in section III.B.2.c, we require that access to the central database be limited so as to adequately address those concerns.[174]

3. Neutral Administrator

73. Building, maintaining, and operating the central database will best be done by a neutral third-party administrator under contract to the Commission and compensated through the Fund. Other, similar numbering functions are handled by third parties pursuant to contract, such as the NANPA and the PA. Indeed, as we have noted with regard to those functions, section 251(e)(1) directs that "[t]he Commission shall create or designate one or more impartial entities to administer telecommunications numbering and to make such numbers available on an equitable basis."[175] The record reflects consistent support for using this approach to support a central numbering database in this context as well.[176]

74. Time is of the essence.[177] The neutral database administrator must be selected, and must construct the database, work with industry to populate the database, test the functionality of the database, and be prepared to support ten-digit numbers for Internet-based TRS users by December 31, 2008.[178] Given the extremely tight timeline for accomplishing all these tasks – a timeline warranted by the public safety and functional equivalency that the ten-digit numbering solution will provide to the deaf and hard-of-hearing community – we establish the following process for how we will contract with a neutral administrator.

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[172] NeuStar Workshop Deck at 19.

[173] NeuStar itself noted that "its suggestions on security are independent of the choice of database." NeuStar Refresh Reply Comments at 10.

[174] NeuStar also raises the concern regarding the security of the link between Internet-based TRS providers and their end-users. Although mandatory user registration should allay some of these concerns, *see supra* note 118, we seek comment on NeuStar's remaining suggestions in the *Further Notice*, *see infra* Part IV.

[175] 47 U.S.C. § 251(e)(1).

[176] *See, e.g.*, GoAmerica Refresh Comments at 12 (supporting the use of a neutral third-party database administrator); CSDVRS Refresh Comments at 9; NeuStar Refresh Comments at 15; Sorenson Refresh Comments at 17; Sprint Refresh Comments at 5; TDI Coalition Refresh Comments at 3.

[177] *See* Letter from Sheri Farinha Mutti, Chief Executive Officer, NorCal Services for Deaf and Hard of Hearing, to Marlene H. Dortch, Secretary, FCC, at 1 (June 5, 2008) (Of prime importance for the purposes of E9-1-1 is the need for the Commission to enforce strict deadlines with regard to the established timeline, i.e., December 31, 2008, for full implementation of the numbering plan."); Letter from Claude L. Stout, Executive Director, Telecommunications for the Deaf and Hard of Hearing, Inc., to Marlene H. Dortch, Secretary, FCC, at 1 (June 5, 2008) (noting "the pressing public interest need for Commission action on the numbering matter prior to the June 30, 2008 deadline previously established by the Commission"); Letter from Rosaline Hayes Crawford, Director of the Law and Advocacy Center, National Association of the Deaf, to Marlene H. Dortch, Secretary, FCC, at 1 (June 5, 2008) ("There remains a pressing public interest need for . . . implementation of a numbering system prior to the December 31, 2008 deadline previously established by the Commission.").

[178] *See infra* Section III.G.

75. In the interest of time, we are not referring this issue to the NANC, as we have for past numbering contracts.[179] Rather, we delegate authority to the Office of the Managing Director (Managing Director), with the assistance of the Wireline Competition Bureau, the Consumer & Governmental Affairs Bureau, and the Office of General Counsel, to select the neutral administrator based on a competitive bidding process. As soon as possible after release of this *Order*, the Managing Director shall begin the contracting process.

76. Any database administrator must meet certain neutrality criteria, both with respect to being selected as the administrator and in performing its functions. Consistent with the other numbering functions performed under contract, we believe that the neutral administrator should be a non-governmental entity that is not aligned with any particular telecommunications industry segment.[180] The neutral administrator must be fair and impartial. It must also meet neutrality criteria similar to those we have established for the NANPA[181] and the PA,[182] but adjusted as appropriate to reflect the purposes of this particular database.

77. There are two proposals on the record for neutrality criteria that should apply to the neutral administrator. Both ATIS[183] and Sorenson[184] suggest that the Commission adopt neutrality criteria very similar to those already in place for the NANPA. We agree that this is the best approach, as demonstrated by our successful experience working with those neutrality criteria in another context. We therefore conclude that: (1) the neutral administrator must be a non-governmental entity that is impartial and is not an affiliate[185] of any Internet-based TRS provider; (2) the neutral administrator and any affiliate may not issue a majority of its debt[186] to, nor derive a majority of its revenues from, any Internet-based TRS provider; and (3) notwithstanding the neutrality criteria set forth in (1) and (2) above, the neutral

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[179] *Administration of the North American Numbering Plan; Toll Free Service Access Codes*, CC Docket Nos. 99-237, 95-155, Third Report and Order and Third Report and Order, 12 FCC Rcd 23040, 23049, para. 15 (Oct. 9, 1997) (*NANP Administration Third Report and Order*).

[180] *See NRO First Report and Order*, 15 FCC Rcd at 7642, para. 153.

[181] *See* 47 C.F.R. § 52.12(a)(1) (listing neutrality criteria for the NANPA).

[182] *See* 47 C.F.R. § 52.20(d)(1) (applying NANPA neutrality criteria to PA).

[183] *See* ATIS Report, Appendix 3 § 1.0.

[184] *See* Sorenson Refresh Comments, Attach. 1.

[185] We base our definition of "affiliate" on the statutory definition in section 3 of the Act. *See* 47 U.S.C. § 153(1) (defining "affiliate"). We elaborate on that definition as follows: "Affiliate" is a person who controls, is controlled by, or is under the direct or indirect common control of another person. A person shall be deemed to control another if such person possesses, directly or indirectly, (1) an equity interest by stock, partnership (general or limited) interest, joint venture participation, or member interest in the other person ten percent (10%) or more of the total outstanding equity interests in the other person; or (2) the power to vote ten percent (10%) or more of the securities (by stock, partnership (general or limited) interest, joint venture participation, or member interest) having ordinary voting power for the election of directors, general partner, or management of such other person; or (3) the power to direct or cause the direction of the management and policies of such other person, whether through the ownership of or right to vote voting rights attributable to the stock, partnership (general or limited) interest, joint venture participation, or member interest of such other person, by contract (including but not limited to stockholder agreement partnership (general or limited) agreement, joint venture agreement, or operating agreement, or otherwise. *See* 47 C.F.R. § 52.12(a)(1)(i); *see also NRO First Report and Order*, 15 FCC Rcd at 7642, para. 154 n.354; *NANP Administration Third Report and Order*, 12 FCC Rcd at 23076, para. 69.

[186] "Majority" means greater than 50%, and "debt" means stock, bonds, securities, notes, loans, or any other instrument of indebtedness. *See* 47 C.F.R. § 52.12(a)(1)(ii); *NRO First Report and Order*, 15 FCC Rcd at 7643, para. 154 n.356; *NANP Administration Third Report and Order*, 12 FCC Rcd at 23076, para. 69.

administrator may be determined to be or not to be subject to undue influence by parties with a vested interest in the outcome of TRS-related numbering administration and activities.[187] Any subcontractor that performs functions of the neutral administrator must also meet these neutrality criteria.

78. *Consensus body*. The ATIS Report and certain commenters recommend formation of a competent body, or the use of an existing body, to effectively coordinate the development of implementation requirements and manage ongoing database operations with the designated database provider.[188] Such a body could include providers of Internet-based TRS, representatives from the deaf and hard-of-hearing community, and other interested stakeholders. We encourage providers of Internet-based TRS to heed the ATIS Report recommendation in this regard, but decline at this time to mandate the formation of an appropriate body.

C. Emergency Call Handling Requirements

79. We stated in the *Interim Emergency Call Handling Order* our belief that the use of a Registered Location process, similar to that adopted in the *VoIP 911 Order*, constitutes an additional critical component of an E911 solution for Internet-based TRS providers,[189] so that a CA may promptly determine an appropriate PSAP, designated statewide default answering point, or appropriate local emergency authority to call to respond to the emergency.[190] Accordingly, as we required of all interconnected VoIP providers, we require that all Internet-based TRS providers obtain or have access to consumer location information for the purposes of emergency calling requirements.[191] We also require all Internet-based TRS providers to obtain from their Registered Internet-based TRS Users their physical location, and we modify the call handling requirements adopted in the *Interim Emergency Call Handling Order* to reflect the adoption of a Registered Location requirement.[192]

80. *Registered Location Requirement*. We recognize that it currently is not always

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[187] *See* 47 C.F.R. § 52.12(a)(1)(iii); *NRO First Report and Order*, 15 FCC Rcd at 7643, para. 154 & n.357; *NANP Administration Third Report and Order*, 12 FCC Rcd at 23076, para. 69.

[188] ATIS Report at 14, para. 4.2; CSDVRS Refresh Comments at 10.

[189] We note that the courts have upheld our adoption, under our Title I jurisdiction, of similar rules for interconnected VoIP. *See Nuvio Corp. v. FCC*, 473 F.3d 302 (D.C. Cir. 2006).

[190] *See Interim Emergency Call Handling Order*, 23 FCC Rcd at 5268, para. 22 (citing *VoIP 911 Order*, 20 FCC Rcd at 10271, para. 46 (describing Registered Location requirement for interconnected VoIP providers); 47 C.F.R. § 9.3 (defining "Registered Location" as the "most recent information obtained by an interconnected VoIP service provider that identifies the physical location of an end user")).

[191] *See* 47 C.F.R. § 9.5(d)(1) (requiring interconnected VoIP providers to "[o]btain from each customer, prior to the initiation of service, the physical location at which the service will first be utilized"); *VoIP 911 Order*, 20 FCC Rcd at 10271, para. 46 (same); *see also id.* at 10272, para. 47 ("[I]nterconnected VoIP providers must, as a condition of providing that service to a consumer, provide that consumer with E911 service as outlined [by the Commission.]"). Numerous commenters supported this requirement. *See, e.g.*, TDI Coalition Refresh Comments at 5–6; NeuStar Refresh Comments at 7–8; TRS Advisory Council Refresh Comments at 2; NENA Refresh Reply Comments at 4.

[192] The requirement to "implement a system that ensures that providers answer an incoming emergency call before other non-emergency calls (*i.e.*, prioritize emergency calls and move them to the top of the queue)" remains unchanged. *Interim Emergency Call Handling Order*, 23 FCC Rcd at 5265–66, para. 16. We now require that "in the event one or both legs of the call are disconnected (*i.e.*, either the call between the Internet-based TRS user and the CA, or the outbound voice telephone call between the CA and the PSAP, designated statewide default answering point, or appropriate local emergency authority)," Internet-based TRS providers must "immediately re-establish contact with the Internet-based TRS user and/or the appropriate PSAP, designated statewide default answering point, or appropriate local emergency authority and resume handling the call" in all circumstances. *Id.*

caller's Registered Location and that has been designated for telecommunications carriers under section 64.3001 of the Commission's rules.[201] These calls must be routed through the use of ANI and, if necessary, pseudo-ANI,[202] via the dedicated Wireline E911 Network,[203] and the Registered Location must be available from or through the ALI Database.

83. Internet-based TRS providers may satisfy this requirement by interconnecting indirectly through a third party such as a competitive LEC, interconnecting directly with the Wireline E911 Network, or through any other solution that allows an Internet-based TRS provider to offer E911 service as described above. For the same reasons discussed in the *VoIP 911 Order*, an Internet-based TRS provider need only provide such call back and location information as a PSAP, designated statewide default answering point, or appropriate local emergency authority is capable of receiving and utilizing.[204]

84. We emphasize that as of December 31, 2008, Internet-based TRS providers may not fulfill their 911 obligations by routing 911 calls to ten-digit NPA-NXX numbers (so called "administrative numbers") of PSAPs, designated statewide default answering points, or appropriate local emergency authorities where a Selective Router is utilized.[205]

85. *911 Service Providers*. Based on the record before us, we continue to expect that Internet-based TRS providers will be able to use much of the same infrastructure and technology that is already in place for the delivery of 911 and E911 calls by interconnected VoIP service providers.[206] The

[201] 47 C.F.R. § 64.3001; *see also Implementation of 911 Act; The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, WT Docket No. 00-110, CC Docket No. 92-105, Fifth Report and Order, Memorandum Opinion and Order on Reconsideration, 16 FCC Rcd 22264, 22269–77, paras. 10–31 (Dec. 11, 2001). The term "PSAP" has the same meaning as that set forth in section 20.3 of the Commission's rules. 47 C.F.R. § 20.3.

[202] The term "pseudo-ANI" as used herein has the same meaning as that set forth in section 20.3 of the Commission's rules. 47 C.F.R. § 20.3. In light of the fact that TRS calls currently are not billed to TRS users, we must adopt a modified version of the term ANI as defined in § 20.3. The term "ANI" as used herein shall mean "For 911 systems, the ANI identifies the calling party and may be used as the callback number."

[203] The term "Wireline E911 Network" as used herein has the same meaning as that set forth in section 9.3 of the Commission's rules. 47 C.F.R. § 9.3. In a typical implementation, the Wireline E911 Network includes the Selective Router, which receives 911 calls from competitive and incumbent LEC central offices over dedicated trunks. The Selective Router, after querying an incumbent LEC-maintained Selective Router Database (SRDB) to determine which PSAP serves the caller's geographic area, forwards the calls to the PSAP that has been designated to serve the caller's area, along with the caller's phone number (ANI). The PSAP then forwards the caller's ANI to an incumbent LEC maintained Automatic Location Information database (ALI Database), which returns the caller's physical address (that has previously been verified by comparison to a separate database known as the Master Street Address Guide (MSAG)). The Wireline E911 Network thus consists of: the Selective Router; the trunk line(s) between the Selective Router and the PSAP; the ALI Database; the SRDB; the trunk line(s) between the ALI database and the PSAP; and the MSAG. *VoIP 911 Order*, 20 FCC Rcd at 10252, para. 15.

[204] *See VoIP 911 Order*, 20 FCC Rcd at 10269–70, paras. 42–43.

[205] *See Interim Emergency Call Handling Order*, 23 FCC Rcd at 5270–71, paras. 27–28.

[206] *See VoIP 911 Order*, 20 FCC Rcd at 10267–69, paras. 38–39; *see also* GoAmerica Refresh Comments at 17 (noting that once Internet-based TRS users have NANP telephone numbers, "emergency calls can be efficiently passed on to 911 systems for automatic routing to the appropriate PSAP in the same manner as VoIP calls are done today"); NeuStar Refresh Comments at 7–8 ("VRS and other IP-based relay services should use the same system for providing their users with E9-1-1 capability as is used by VoIP providers today."); Comments of the National Emergency Number Association, Attach. at 2–3 (Dec. 3, 2007) (indicating that an emergency call can be routed to a PSAP from a relay center using the same process that interconnected VoIP providers use); *cf. id.* at 2 n.4 (noting that OnStar, a telematics provider, routes emergency calls from its call centers to the appropriate PSAP over the Wireline E911 Network).

record further reflects that there is a competitive market for the provision of such infrastructure and technology as well as related services,[207] and competition has the effect of improving service and reducing prices. We therefore reject CSDVRS's suggestion that all Internet-based TRS providers be required to utilize a single provider of 911 related services.[208]

86. We recognize that, because Internet-based TRS providers will be able to choose from among multiple providers of 911 related services, in instances in which an Internet-based TRS user places an emergency call through an Internet-based TRS provider other than the Internet-based TRS user's default provider, the alternative provider may not have access to the Internet-based TRS user's Registered Location information.[209] We note, however, that providers must prioritize and answer emergency calls in accordance with the requirements set forth in the *Interim Emergency Call Handling Order*.[210] Further, because of the importance of emergency call handling, providers must ensure adequate staffing of emergency call handling processes so that CAs are not required to disconnect non-emergency calls in order to process emergency calls. In light of these requirements and the nature of emergency calls, we expect that most, if not all, emergency calls will be dialed via an Internet-based TRS user's default provider and thus will have associated Registered Locations. Further, in light of the importance of access to emergency services for relay users, we ask below whether the Commission should take other steps in order to ensure that emergency calls are handled in an appropriate and expeditious manner.[211]

D. Consumer Outreach and Education

87. The Commission recognizes that effective consumer outreach and education are necessary to ensure a seamless transition to a ten-digit numbering system,[212] and to ensure the successful implementation of the Registered Location requirement.[213] To achieve these goals, we require Internet-based TRS providers to expand upon the consumer advisory that we required them to issue in conjunction with the *Interim Emergency Call Handling Order* to include matters addressed in this *Order* pertaining to the assignment of ten-digit telephone numbers and the registration of Internet-based TRS users' location information. We also require Internet-based TRS providers, consistent with the *VoIP 911 Order*, to obtain, keep, and make available to the Commission upon request a record of affirmative acknowledgement by every user to whom they assign a ten-digit telephone number of having received and understood the advisory described below.

88. In the *VoIP 911 Order*, the Commission required interconnected VoIP providers to "specifically advise" their subscribers of "the circumstances under which E911 service may not be available" through an interconnected VoIP service.[214] The Commission also required interconnected

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[207] *See* NeuStar Refresh Reply Comments at 5, 11; Dash Refresh Reply Comments at 5; Sorenson Refresh Reply Comments at 12; *cf.* GoAmerica Refresh Reply Comments at 10 (criticizing CSDVRS proposal for requiring Internet-based TRS providers to "undo arrangements they are now making with 911 service providers").

[208] *See* CSDVRS Refresh Reply Comments at 31–32 (discussing the benefits of its proposed "centralized common E9-1-1 system").

[209] *See* CSDVRS Refresh Reply Comments at 9 (noting that other proposals "do not explain if and how each provider's address database information would be shared with other providers in real-time to support E9-1-1 situations"); Sprint Nextel Refresh Comments at 6–7; NeuStar Refresh Reply Comments at 10–11.

[210] *See Interim Emergency Call Handling Order*, 23 FCC Rcd at 5269, para. 24; *see also* 47 C.F.R. § 64.605.

[211] *See infra* Section IV.1.

[212] *See supra* Section III.B.

[213] *See supra* paras. 80–81.

[214] *VoIP 911 Order*, 20 FCC Rcd at 10272, para. 48.

VoIP providers to "obtain and keep a record of affirmative acknowledgement by every subscriber, both new and existing, of having received and understood this advisory"[215] and to distribute labels "warning subscribers if E911 service may be limited or not available and instructing the subscriber to place them on and/or near the CPE used in conjunction with the interconnected VoIP service."[216] In light of these requirements, the Commission's *VRS/IP Relay 911 NPRM* sought comment on whether the Commission should impose similar consumer notification requirements on Internet-based TRS providers.[217]

89. In the *Interim Emergency Call Handling Order*, the Commission required Internet-based TRS providers to include an advisory on their websites and in any promotional materials directed to consumers, prominently and in plain language, explaining the circumstances under which emergency calls made via Internet-based TRS may be in some way limited by comparison to traditional E911 service.[218] We imposed this requirement based on our belief that it is important to educate consumers regarding the limitations of using the Internet-based forms of TRS to make emergency calls in the event that a consumer does place an emergency call via an Internet-based relay service.[219] The Commission also noted that it may address "additional" consumer notification requirements, "as appropriate," in a forthcoming order, "consistent with the consumer notification requirements adopted in the *VoIP 911 Order*."[220]

90. Because substantial consumer outreach efforts will be needed to ensure a seamless transition to a ten-digit numbering system and to ensure the successful implementation of the Registered Location requirement adopted herein, we require each Internet-based TRS provider to include an additional advisory on its website and in any promotional materials addressing the new requirements adopted herein. This requirement is subject to the approval of the Office of Management and Budget (OMB). If approved by OMB, this requirement shall become effective upon publication by the Commission of a notice in the Federal Register announcing the effective date. At a minimum, the advisory must address the following issues: (1) the process by which Internet-based TRS users may obtain ten-digit telephone numbers, including a brief summary of the numbering assignment and administration processes adopted herein; (2) the portability of ten-digit telephone numbers assigned to Internet-based TRS users; (3) the process by which persons using Internet-based forms of TRS may submit, update, and confirm receipt by the provider of their Registered Location information; and (4) an explanation emphasizing the importance of maintaining accurate, up-to-date Registered Location information with the user's default provider in the event that the individual places an emergency call via an Internet-based relay service. Consistent with the *VoIP 911 Order*, we also require Internet-based TRS providers to obtain and keep a record of affirmative acknowledgement by every user assigned a ten-digit telephone number of having received and understood the advisory described above.[221]

91. We conclude that imposing these requirements will help to ensure that consumers receive timely and complete information concerning the transition to a ten-digit numbering system and the

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[215] *Id.*

[216] *Id.* at 10273, para. 48.

[217] *VRS/IP Relay 911 NPRM*, 20 FCC Rcd at 19486, para. 22.

[218] *Interim Emergency Call Handling Order*, 23 FCC Rcd at 5270, para. 26.

[219] *Id.* (citing *VoIP 911 Order*, 20 FCC Rcd at 10272, para. 48).

[220] *Id.*

[221] *See, e.g.*, NENA Refresh Reply Comments at 4–5.

implementation of the Registered Location requirement.[222] We also agree with the comments of the TDI Coalition that significant outreach efforts both by providers and by the Commission will be needed in order to ensure a positive consumer experience during the transition to a ten-digit numbering system.[223] To this end, the Commission directs the Consumer & Governmental Affairs Bureau to issue a consumer advisory to TRS users summarizing the requirements and obligations set forth in this *Order*, and to disseminate the advisory through the Consumer Information Registry.[224] Commission staff will also continue to work closely with industry and consumer groups to ensure that TRS users are aware of and understand these new requirements.

E. IP Relay Fraud

92. Although Internet-based relay services have proven to be enormously popular with consumers, these services (and particularly IP Relay) may be more susceptible to misuse than other forms of TRS. For example, the Commission has received complaints and anecdotal evidence that persons without a hearing or speech disability have misused IP Relay to defraud merchants by making purchases over the telephone using stolen, fake, or otherwise invalid credit cards.[225] This misuse is enabled both by Internet-based TRS providers' current difficulty in determining with certainty the geographic location of their users and by IP Relay providers' inability to determine the identity of any particular user (because an IP Relay CA only receives the text of a user's message). In other words, IP Relay affords the user a degree of anonymity that is generally not possible with PSTN-based relay calls.[226] This misuse harms both the merchants who are victimized and legitimate IP Relay users who may no longer be able to convince merchants to take their calls or accept their orders for merchandise.[227] In addition, the misuse of IP Relay by hearing callers poses an added burden on the Fund – a burden ultimately borne by all consumers.[228]

93. In the *IP Relay/VRS Misuse FNPRM*, the Commission sought comment on specific ways

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[222] Commenters support efforts to educate consumers about the transition to a ten-digit numbering system, including Registered Location requirements. *See, e.g.*, AAPD Refresh Reply Comments at 3; CSDVRS Refresh Reply Comments at 10; NENA Refresh Reply Comments at 5; TDI Coalition Refresh Comments at 6.

[223] *See* TDI Coalition Refresh Comments at 6.

[224] The Consumer Information Registry (CIR) is a consumer notification system developed by the Consumer & Governmental Affairs Bureau that delivers to subscribers free, customized information on various communications-related topics of interest to the subscriber. Consumers wishing to subscribe may access CIR at http://www.fcc.gov/cgb/contacts/welcome.html. To receive announcements concerning Internet-based TRS numbering (and other disability-related issues), users should select "Disability Issues" from among the listed topics of interest on which the user wishes to receive e-mail notifications.

[225] *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Further Notice of Proposed Rulemaking, 21 FCC Rcd 5478, 5480–81, para. 6 (May 8, 2006) (*IP Relay/VRS Misuse FNPRM*).

[226] *Id.* Because TTY-based TRS calls are made over the PSTN, the call to the relay center includes identifying information, such as the calling party's number (*e.g.*, the ANI). That information is used to determine if the call is interstate or intrastate for compensation purposes under section 225, but also has the effect of deterring the misuse of this form of TRS. *Id.* at 5480–81, para. 6 & n.19.

[227] *Id.* at 5481, para. 7. *See* Comments of Country Boy Trailers (June 1, 2006) (stating that they will be hesitant to accept TRS orders in the future because all experience with TRS in the past has been fraudulent).

[228] *IP Relay/VRS Misuse FNPRM*, 21 FCC Rcd at 5481, para. 7.

to curtail the misuse of IP Relay consistent with section 225 and the TRS regulations.[229] The majority of the commenters urged the Commission to address this problem.[230] In doing so, IP Relay providers generally asserted that a large portion of the fraudulent calls are placed by persons outside the United States using a stolen or fraudulent credit card to order goods to be shipped to a foreign location.[231]

94. We believe that registration of Internet-based TRS users with a default provider and provision of a Registered Location[232] should reduce the misuse of IP Relay by persons seeking anonymity to make fraudulent credit card purchases and engage in other wrongdoing.[233] We expect that the registration of Internet-based TRS users will gradually boost confidence amongst merchants that Internet-based TRS calls are a valuable means of doing business within an often underserved community. And because the curbing of IP Relay fraud is a collateral benefit of our registration requirements and because recent comments show that Internet-based TRS users do not object to registering for purposes of obtaining a ten-digit number and ensuring access to seamless emergency call handling services,[234] we think the concerns of the commenters that opposed registration of IP Relay users solely as a means to curb fraud[235] are moot.[236]

95. At the same time, we seek further comment on whether additional steps may be

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[229] *Id.* at 5483–84, para. 11–16. Although the TRS statutory and regulatory regime does not contemplate that CAs should have a law enforcement role by monitoring the conversations they are relaying, *id.* at 5482, para. 9; Comments of Hamilton Relay, Inc. at 2 (July 6, 2006) (Hamilton TRS Fraud Comments), the Commission sought comment on whether CAs and Internet-based TRS providers should be given discretion to terminate calls they suspect to be fraudulent, *IP Relay/VRS Misuse FNPRM*, 21 FCC Rcd at 5483, para. 11–13. The item also sought comment on ways to curtail the use of VRS in circumstances where a fee-based in-person interpreter or a Video Remote Interpreting (VRI) service should be used. *Id.* at 5484–85, para. 17–21.

[230] *See, e.g.*, Comments of AT&T, Inc. at 1 (July 3, 2006) (AT&T TRS Fraud Comments); Hamilton TRS Fraud Comments at 1–2; Comments of Sorenson Communications, Inc. at 2 (July 3, 2006) (Sorenson TRS Fraud Comments); Comments of Verizon, Inc. at 1 (July 3, 2006) (Verizon TRS Fraud Comments).

[231] *See* Sorenson TRS Fraud Comments at 4; Comments of Sprint Nextel Corporation at 3–4 (July 3, 2006) (Sprint TRS Fraud Comments).

[232] *See supra* Section III.B.1.e & paras. 80–81.

[233] Merchants concerned about fraud can now require an NANP telephone number to call back to verify transactions and gain an additional level of confidence because only registered Internet-based TRS users will have such numbers. *See* Hamilton TRS Fraud Comments at 4 (asserting that mandatory user registration system would be an effective method of curbing fraudulent misuse of Internet-based TRS).

[234] *See, e.g.*, TDI Coalition Refresh Comments at 5–6; TDI Coalition Refresh Reply Comments at 2.

[235] *See* AT&T TRS Fraud Comments at 7 ("[I]mpaired consumers have repeatedly and strongly opposed user registration as a means to curb fraudulent activity."); Sprint TRS Fraud Comments at 7 (worrying that mandatory registration "would impose undue burdens on the deaf and hard-of-hearing community"); Comments of Telecommunications for the Deaf and Hard of Hearing, Inc., *et al.* at 7 (July 3, 2006) (opposing registration as a means of curbing fraud, but noting "emergency call handling is not before the Commission in this FNPRM"); Verizon TRS Fraud Comments at 9 (claiming that registration of Internet-based TRS user is "unnecessary").

[236] Sorenson's concern that a fraudulent user might register with a fake name, *see* Sorenson TRS Fraud Comments at 9–10, is tempered, in part, by the fact that a registering user will also be required to provide a physical address when registering. Moreover, by endorsing the benefits of registration, the Commission does not rule on the particular practices of Internet-based TRS providers for curbing fraud within their own networks. *See, e.g.*, Sprint TRS Fraud Comments at 3–5 (describing Sprint's efforts to combat IP Relay fraud).

warranted to curtail the misuse of IP Relay.[237]

F. Cost Recovery Issues

96. Section 225 creates a cost recovery regime whereby TRS providers are compensated for their reasonable costs of providing service in compliance with the TRS regulations.[238] The Commission has explained that "for purposes of determining the 'reasonable' costs that may be recovered . . . , the costs must relate to the provision of service in compliance with the applicable non-waived [TRS] mandatory minimum standards."[239] Therefore, because we now require Internet-based TRS providers to offer ten-digit numbering and E911 services, providers of these services are entitled to recover their reasonable costs of complying with the new requirements as set forth below.[240]

97. Presently, both VRS and IP Relay are compensated at per-minute rates calculated pursuant to the cost recovery methodologies adopted in the *2007 TRS Rate Methodology Order*.[241] For IP Relay, we adopted a price cap plan that sets rates for a three-year period, subject to possible adjustment, including for "exogenous costs."[242] For VRS, we adopted tiered rates based on the providers' projected costs and minutes of use, which are also set every three years.[243] Although the VRS rates are not based on price caps, the Commission stated that providers would be permitted "to seek exogenous cost adjustments if new costs are imposed that are beyond the providers' control."[244]

98. Although we do not believe that the providers' additional costs necessary to implement the numbering and Registered Location requirements adopted herein will be substantial, they are costs for which the providers generally may be reimbursed. These costs, of course, have not been factored into the present compensation rates, but reflect new costs related to new service requirements.[245] Although we could adjust the current VRS and IP Relay rates to include these additional costs, we conclude that because the amount of these costs is presently uncertain, and may vary among the providers, we will compensate these costs separately from the other costs presently encompassed by the per-minute compensation rates.

99. Therefore, providers seeking compensation for their actual reasonable costs of complying with the new requirements adopted in this item must submit to the Interstate TRS Fund Administrator a

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[237] *See infra* Section IV.11.

[238] 47 U.S.C. § 225(d)(3); 47 C.F.R. § 64.604(c)(5). TRS users cannot be required to pay rates "greater than the rates paid for functionally equivalent voice communication services with respect to such factors as duration of the call, the time of day, and the distance from point origination to point of termination." 47 U.S.C. § 225(d)(1)(D).

[239] *2004 TRS Report & Order*, 19 FCC Rcd at 12551–52, para. 199; *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Order on Reconsideration, 21 FCC Rcd 8050, 8057, paras. 15–16 (July 12, 2006).

[240] *See Interim Emergency Call Handling Order*, 23 FCC Rcd at 5269, para. 23 n.87 (noting that the costs of compliance with that order are compensable from the Interstate TRS Fund as part of providing TRS service in compliance with the mandatory minimum standards).

[241] 22 FCC Rcd 20140.

[242] *Id.* at 20159–60, paras. 43–44. "Exogenous" costs are those costs beyond the control of the providers that are not reflected in other adjustments to the price cap rate. *Id.* at 20160, para. 44.

[243] *Id.* at 20162–65, paras. 52–56.

[244] *Id* at 20164–65, para. 56.

[245] *Id.* at 20160, para. 44.

reasonably detailed explanation of those costs incurred. We will require that such costs be submitted every three months, beginning three months after the release date of this *Order*. Costs submitted must be for those costs actually incurred during the prior three-month period. The TRS Fund Administrator, and the Commission, shall review submitted costs and may request supporting documentation to verify the expenses claimed, and may also disallow unreasonable costs. We will permit such filings until such time as new compensation rates are adopted that include the costs of complying with the requirements adopted herein, or the Commission otherwise re-addresses this issue.

100. Submitted costs may include those additional costs incurred by a provider that directly relate to: (1) ensuring that database information is properly and timely updated and maintained; (2) processing and transmitting calls made to ten-digit numbers assigned pursuant to this *Order*; (3) routing emergency calls to an appropriate PSAP; (4) other implementation related tasks directly related to facilitating ten-digit numbering and emergency call handling; and (5) consumer outreach and education related to the requirements and services adopted in this *Order*.[246] These costs do not include, however, costs relating to assigning numbers to the Internet-based TRS users nor costs relating to number portability. Because voice telephone users generally bear these costs, we seek comment in the *Further Notice* below on whether Internet-based TRS users or the Fund should bear these costs. We also remind Internet-based TRS providers, however, that these costs may not include costs related to facilitating non-TRS peer-to-peer (or video-to-video) calls.[247]

101. We further note that some of the start-up expenses related to the database and the administration of the database might be more appropriately borne by the Fund rather than Internet-based TRS providers. In this regard, we expect that the selection process for the database administrator may include contractual provisions addressing the direct compensation of the database administrator by the TRS Fund Administrator, as appropriate. Therefore, to the extent necessary, we authorize the TRS Fund Administrator to pay the reasonable costs of providing necessary services consistent with this *Order* directly to the database administrator rather than funnel the funding indirectly through providers. Finally, we note that to the extent the costs necessitated by the requirements adopted in this *Order* may require an adjustment to the Fund size, and therefore the carrier contribution factor, we expect the TRS Fund Administrator to monitor payments made from the Fund in connection with this *Order* and to recommend to the Commission, if and when appropriate, that the Fund size be adjusted.[248]

G. Timeline and Benchmarks

102. By this *Order*, the Commission has met its commitment to complete a final order on a ten-digit numbering plan in the second quarter of this year.[249] Recognizing that Internet-based TRS

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[246] These costs are recoverable only to the extent they are not already recovered as part of, or factored into the calculation of, current rates.

[247] In this regard, we note that several consumer organizations suggest that *hearing persons* who communicate in American Sign Language should also be permitted to obtain a ten-digit number from Internet-based TRS providers so that they may benefit from the numbering system and make peer-to-peer calls to deaf persons. *See, e.g.*, TDI Coalition Refresh Reply Comments at 3–4. We seek comment on that matter in the *Further Notice*. *See infra* Section IV.7.

[248] *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Order, 23 FCC Rcd 1680 (CGB Feb. 6, 2008) (adjusting Fund size and carrier contribution factor for the 2007–2008 Fund year); *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CC Docket No. 98-67, Order, 19 FCC Rcd 2993 (CGB Feb. 24, 2004) (adjusting Fund size and carrier contribution factor for the 2003–2004 Fund year).

[249] *See Interim Emergency Call Handling Order*, 23 FCC Rcd at 5269, para. 24.

providers and the neutral third-party administrator discussed above will require time to implement this *Order*, we require, consistent with the *Interim Emergency Call Handling Order*, that the ten-digit numbering plan be implemented such that ten-digit numbers are available to end users no later than December 31, 2008.[250] In order to ensure this deadline is met, we authorize the Managing Director to include in the neutral third-party administration contract such benchmarks as are necessary to meet the implementation deadline.[251]

103. As a further means of ensuring that our implementation deadline is met, and recognizing that detailed implementation issues must be finalized prior to the implementation deadline, we hereby direct the Managing Director to include in the neutral third-party administration contract the requirement to refer all implementation disputes that it is unable to resolve in a reasonable time to the Chief, Wireline Competition Bureau. We further authorize the Managing Director, if so requested by the Chief, Wireline Competition Bureau, to retain a technical advisor that will provide such assistance as the Chief, Wireline Competition Bureau, may require to resolve such disputes.

104. As noted above, the efforts of the end-user community, industry, and the Commission were not until now sufficient to reach consensus on critical implementation issues.[252] Our decision to provide a mechanism for the rapid resolution of implementation disputes should in no way be taken as a signal that we expect such failure of cooperation to continue. Quite the opposite; this *Order* provides industry with the guidance it needs to move forward with implementation of the numbering system, emergency call processing, and other requirements set forth herein. We emphasize that each stakeholder has the general obligation, and responsibility, to ensure that the requirements of this *Order* are fully and promptly implemented. We will take any and all actions necessary to ensure that such obligations and responsibilities are fulfilled.

IV. FURTHER NOTICE OF PROPOSED RULEMAKING

105. Through this *Further Notice*, we seek comment on additional issues relating to the assignment and administration of ten-digit telephone numbers for Internet-based TRS. These issues include: (1) certain peripheral issues concerning the proper handling of 911 calls placed via Internet-based TRS; (2) registration period; (3) the eligibility of Internet-based TRS users to receive multiple telephone numbers; (4) the use of toll free numbers; (5) what steps the Commission should take, if any, to facilitate implementation of standards-based signaling between service providers; (6) the assignment of a single telephone number to multiple services; (7) multi-line telephone systems; (8) eligibility to obtain Internet-based TRS telephone numbers; (9) the regulatory treatment of IP CTS; (10) additional security measures designed to ensure the integrity of the TRS system and Internet-based TRS equipment and networks; (11) verification of registration; (12) application of the anti-slamming rules to protect relay consumers against unauthorized default provider changes; (13) the extent to which the CPNI rules should apply to Internet-based TRS providers; and (14) whether, and to what extent, in connection with the compensation of Internet-based TRS providers for their reasonable actual costs of complying with this *Order*, the costs of acquiring numbers, and porting fees, should be passed on to Internet-based TRS users.

1. 911 Issues

106. We seek comment on whether we should modify the call completion rule to allow for

[250] *See id.*

[251] *See* Workshop Webcast, http://www.fcc.gov/realaudio/mt042908.ram, at 4:53:03–4:56:08.

[252] *See supra* para. 47.

immediate answer of 911 calls.[253] Under the current call completion rule, if a CA is conducting a relay call, that CA may not terminate the call for any reason, even if a 911 call is waiting in queue. As demonstrated in the record, immediate response to 911 calls is critical so first responders can be deployed in an emergency.[254] *Thus, we seek comment on whether the call completion rule should be modified so* that if a CA is handling a non-emergency relay call and identifies an incoming 911 call, the CA may terminate the existing call to answer the 911 call immediately. If so, how should the rule be modified? What, if any, technical considerations must be addressed?

107. In addition, as noted above, if an Internet-based TRS user places an emergency call through an Internet-based TRS provider other than the Internet-based TRS user's default provider, the default provider may not have access to the Internet-based TRS user's Registered Location information.[255] We seek comment on ways in which Registered Location information might be made available to alternative relay providers for the purpose of routing emergency calls.

108. NeuStar proposes to require "inter-provider signaling," a process by which an alternative relay provider would route emergency calls to the 911 service provider utilized by the caller's default Internet-based TRS provider, thus ensuring the call is routed according to the Internet-based TRS user's Registered Location data.[256] We seek comment on NeuStar's inter-provider signaling proposal. We also seek comment on whether other technical solutions are available to allow an alternative relay provider to obtain access to Registered Location data for the purpose of routing emergency calls.

2. Registration Period

109. We recognize that there must be a registration period to allow existing Internet-based TRS users to register with a default provider, provide their Registered Location, and obtain their new ten-digit NANP telephone numbers.[257] We also seek comment on the length of time necessary for this registration period. Should there be a cut-off date upon which any Internet-based TRS user who has not registered with a default provider will lose the ability to use Internet-based TRS until they register with a default provider? Are there technical or other means by which Internet-based TRS providers could require an Internet-based TRS user to register prior to the reinitiation of service? Are there any other issues we must consider in connection with the registration period?

3. Eligibility for Multiple Telephone Numbers

110. We note that Internet-based TRS providers will incur costs to acquire telephone numbers for their Registered Internet-based TRS Users. There is some discussion in the record of how many numbers an Internet-based TRS user should be entitled to obtain from an Internet-based TRS provider, including allowing an Internet-based TRS user to obtain different numbers for use at particular locations (*e.g.*, home and work), allowing one telephone number per device,[258] and allowing one telephone number per household.[259] The record does not, however, reflect a consensus on this issue, and we request further comment on whether Internet-based TRS users should be entitled to obtain multiple numbers, and if so at

[253] *See* 47 C.F.R. § 64.604(a)(3)(i) ("Consistent with the obligations of telecommunications carrier operators, CAs are prohibited from refusing single or sequential calls or limiting the length of calls utilizing relay services.").

[254] *See, e.g.*, TDI Coalition Refresh Comments at 6.

[255] *See supra* para. 86.

[256] NeuStar Refresh Reply Comments at 11–12.

[257] *See supra* para. 45.

[258] *See* NeuStar Workshop Deck at 13, 16.

[259] *See* Sonny Reply Refresh Comments at 2.

what cost.

4. Use of Toll Free Numbers

111. We acknowledge that certain Internet-based TRS users currently use toll free numbers issued or assigned by Internet-based TRS providers or other carriers and may continue to do so.[260] We seek comment on whether these Internet-based TRS users should be subject to a fee for use of a toll free number, as are hearing users.[261] We also seek comment on any other issues involved in using toll free numbers for Internet-based TRS, including any impact the use of such numbers may have on the provision of 911 service.

5. Signaling

112. NeuStar's TRU proposes that standards-based signaling be required between service providers.[262] NeuStar suggests that inter-provider signaling using Session Initiation Protocol (SIP) for TRS will facilitate a transition from the current requirement that end devices implement H.323 protocols to an environment that will support H.323 standard and SIP end devices.[263] Because our choice of a central database provisioned with IP addresses for VRS users obviates the immediate need for inter-provider signaling, we decline to adopt NeuStar's proposal at this time. However, we invite comments on NeuStar's underlying objective of transitioning to SIP based end devices and steps the Commission could take to facilitate the process.[264] We also seek comment on what steps the Commission should take, if any, to facilitate implementation of standards-based signaling between service providers in other contexts, such as IP Relay.

6. Assignment of a Single Telephone Number to Multiple Services

113. The TDI Coalition asserts that functional equivalency requires that deaf and hard-of-hearing users should have one NANP number for multiple devices, such as a stationary videophone and a portable wireless videophone.[265] We note that currently, hearing users may not have one NANP number for multiple services, such as their home telephones and their portable wireless phones. Indeed, hearing

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[260] *See supra* note 72.

[261] 47 C.F.R. § 52.101(f) (defining toll free numbers as numbers "for which the toll charges for completed calls are paid for by the toll free subscriber").

[262] *See* NeuStar Workshop Deck at 17; NeuStar TRU Supplement at 1–2.

[263] Videophones and other devices that send video via the Internet to make VRS calls operate via specific call signaling protocols or standards that connect the two endpoints to the call. H.323 identifies one set of standards for transmitting real-time voice and video over packet-based networks. *See* International Telecommunication Union, *Packet-based Multimedia Communications Systems*, ITU-T Recommendation H.323 (July 2006). SIP identifies another, newer, set of standards. *See* Internet Engineering Task Force, *SIP: Session Initiation Protocol*, IETF RFC 3261 (June 2002).

[264] When we previously sought comment on whether VRS devices should be required to support a particular standard, *see Interoperability Declaratory Ruling and FNPRM*, 21 FCC Rcd at 5460–62, paras. 51–57, commenters were divided on the issue, *see, e.g.*, Comments of AT&T, Inc. at 5 (July 17, 2006) ("[T]he Commission could adopt H.323 as the de facto standard, but allow VRS providers the option of using other protocols in lieu of H.323 to the extent such protocols interface with H.323."); Reply Comments of Snap Telecommunications, Inc. at 1 (asserting that opposition to mandatory standards was "near unanimous" and that such standards were "unnecessary" given the Commission's existing rules.").

[265] TDI Coalition Refresh Reply Comments at 4–5; *see also* Dash Refresh Comments at 10 (discussing the possibility of assigning multiple devices to a single NANP telephone number); NeuStar Refresh Reply Comments at 15–16 (same).

users generally need to employ some type of call forwarding functionality in order to make it possible to receive calls placed to a single telephone number from multiple devices.[266] We seek comment on whether such a call forwarding system is sufficient for Internet-based TRS devices. Alternatively, we seek comment on whether the functional equivalency standard requires that the numbering system adopted in this *Order* allow for a single NANP number to be assigned to multiple services. Whether and to what extent should the cost of such additional functionalities be passed on to Internet-based TRS users?

7. Multi-Line Telephone Systems

114. Many large enterprises, including school districts, colleges, and businesses, rely on private branch exchange, Internet-based private branch exchange, Centrex, and other multi-line telephone systems (MLTS). In doing so, they regularly assign telephone numbers to their students, residents, and employees. We seek comment on what, if anything, the Commission should do to ensure that Internet-based TRS users who work in government buildings, live on college campuses, or otherwise use multi-line telephone systems have access to functionally equivalent telephone numbers and E911 services as required by this *Order*.[267] Can, and should, MLTS operators provide telephone numbers to Internet-based TRS users? What procedures would be required to effectuate such a system? What impact does the presence of a MLTS have on the ability of an Internet-based TRS user to select a default provider? Are any additional safeguards necessary to assure that emergency calls are properly routed and handled for Internet-based TRS users using MLTS?

8. Eligibility to Obtain Internet-Based TRS Telephone Numbers

115. We seek comment on who should be eligible to obtain telephone numbers from Internet-based TRS providers.[268] Commenters should address any effect of their proposals on the Interstate TRS Fund. Are there number exhaust concerns we should consider? What safeguards should be put in place, such as eligibility requirements and/or verification? Are there other means by which the Commission or industry can or should facilitate the provision of "point-to-point" Internet-based communications among individuals with and without hearing or speech disabilities? Commenters should also address the scope of section 225 with regard to these questions.

9. Regulatory Treatment of IP CTS

116. As noted above, IP CTS raises distinct technical and regulatory issues in the context of numbering.[269] There is insufficient information in the record to make a finding on this form of Internet-based TRS. Accordingly, we seek comment on whether we should extend the numbering system adopted in this *Order* to IP CTS. How are IP CTS calls routed and how does such call routing differ from VRS

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[266] TDI Coalition Refresh Reply Comments at 5 (asking what actions deaf and hard-of-hearing users will need to take to "forward calls received on one 10-digit number to be received on another 10-digit number, when using the same or different communication modalities").

[267] With the exception of an *ex parte* from ACUTA, there is little in the record on this issue. *See* ACUTA *Ex Parte* at 1–2.

[268] AG Bell Refresh Reply Comments at 1 (requesting that hearing users have access to VRS numbers as "many deaf and hard of hearing . . . consumers have family members, friends, co-workers, and other associates who are hearing and who may wish to use [Internet-based TRS]"); AAPD Refresh Reply Comments at 2 (arguing that the "Commission should not take any action that could limit communication access in any way by making it difficult for hearing users to use telephone numbers to call persons who are deaf, persons who are hard of hearing or persons with speech disabilities either directly or through relay services"); Nebraska PSC Refresh Comments at 2 (stating that Internet-based TRS must "provide equal access to all users").

[269] *See supra* note 5.

and IP Relay services? Would the unique characteristics of IP CTS make it difficult or infeasible to map a NANP number to an IP address? What jurisdictional and regulatory issues must be taken into consideration should the Commission decide to extend the numbering system adopted in this *Order* to IP CTS?

10. Security

117. NeuStar raises several concerns regarding the security of the TRS numbering system and of the equipment and networks used by Internet-based TRS users. We seek comment on NeuStar's proposals to require device registration, close firewalls, and "close the network" such that default Internet-based TRS providers only accept calls from their own Registered Internet-based TRS Users, from the PSTN, or from another Internet-based TRS provider.[270] NeuStar notes that its "suggestions on security are independent of the choice of database."[271] We seek further comment on whether there are other security issues and measures that should be considered to ensure the integrity of the TRS system and the equipment and networks of Internet-based TRS users. Does an Internet-based TRS user's access ultimately need to be restricted to a single provider, as NeuStar proposes? If so, what implications, if any, are there for the ability of users to "dial around" to alternative Internet-based TRS providers? Would the Commission need to revise existing speed of answer requirements and, if so, how? Alternatively, are there standards-based technical solutions for user authentication and for securing the user firewall traversal that would permit users to continue to make or receive relay calls directly through providers other than their default provider? Could such technical solutions also enable two registered VRS users to connect directly to each other based only on information contained in a central database, without the need to rely on an intervening Internet-based TRS provider? What specific consensus-based standards would be required? We also seek comment on the Commission's authority to mandate the adoption of such security measures.

11. Verification of Registration

118. As noted, we believe that requiring Internet-based TRS providers to offer their users a means of registering will help reduce the abuse of IP Relay for fraudulent purposes.[272] Nonetheless, we recognize that significantly reducing illegitimate IP Relay calls should benefit merchants, Internet-based TRS providers, Internet-based TRS users, and indeed all users of telecommunications services, and therefore seek comment on further rules that might curb these problematic practices. Specifically, would a closed system requiring Internet-based TRS providers to validate the registration of users before completing non-emergency calls help curb IP Relay fraud?[273] Would such a system be possible without imposing undue burdens on legitimate Internet-based TRS users? And how are Internet-based TRS providers to verify that registration information itself is not fraudulent? Absent such a mandatory system, should the Commission specifically encourage (or even require) Internet-based TRS providers to filter out requests for Internet-based TRS that come from suspected illegitimate users, such as known fraudsters or overseas users?[274]

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[270] NeuStar Refresh Comments at 10-11, Attach. at 9-10. NeuStar's proposal would limit network access to only Registered Internet-based TRS Users and is identical to the process used by VoIP providers. *Id.*

[271] NeuStar Refresh Reply Comments at 10.

[272] *See supra* Section III.E.

[273] NeuStar proposes one such approach, which we discuss above. *See supra* Section IV.10.

[274] *See* Sorenson TRS Fraud Comments at 5–9.

12. Slamming Issues

119. With our adoption of a ten-digit numbering mechanism for Internet-based TRS users, including giving users a choice of default Internet-based TRS providers to service their assigned numbers, we believe we should adopt rules to protect relay consumers against unauthorized default provider changes. We seek comment on whether such protections are necessary and, if so, whether they should be similar to our current regulations to protect against, and remedy instances of, "slamming."[275] Where commenters support the adoption of protections analogous to our current slamming regulations, we seek specific proposed rule language and, in that regard, solicit comment on proposed rule language already submitted into the record by Sorenson.[276]

120. *Background.* In the context of telecommunications services, slamming occurs when a company changes a subscriber's carrier selection without that subscriber's knowledge or explicit authorization.[277] Section 258 of the Act and the Commission's implementing regulations explicitly prohibit slamming by telecommunications carriers.[278] As the Commission previously has recognized, slamming nullifies the ability of consumers to select the telecommunications providers of their choice, and "distorts the telecommunications market because it rewards those companies who engage in deceptive and fraudulent practices by unfairly increasing their customer base at the expense of those companies that market in a fair and informative manner and do not use fraudulent practices."[279] Comments we received in response to the *Numbering PN* support applying slamming rules to VRS and IP Relay providers as part of a ten-digit numbering plan, particularly in view of the fact that to obtain a ten-digit telephone number, a TRS consumer will have to choose one of these providers as the default provider to service that number. Commenters note that under this default provider system, there will be substantial competition among VRS or IP Relay providers for default status among relay consumers, which may lead to slamming by such providers.[280]

121. Current Commission rules, applicable to carriers in the provision of telecommunications service, require individual subscriber consent before a carrier change may occur.[281] Such consent, moreover, must be obtained in compliance with the Commission's prescribed verification procedures,

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[275] *See* 47 U.S.C. § 258; 47 C.F.R. Part 64, Subpart K (47 C.F.R § 64.1100 *et seq.*).

[276] *See* Letter from Ruth Milkman, Counsel, Sorenson Communications, Inc., to Marlene H. Dortch, Secretary, FCC, at 2–3 & Attach. 3 (dated May 15, 2008) (Sorenson Rules *Ex Parte*); Letter from Ruth Milkman, Counsel, Sorenson Communications, Inc., to Marlene H. Dortch, Secretary, FCC, Attach. (dated May 19, 2008) (Sorenson Amended Rules *Ex Parte*).

[277] *Implementation of the Subscriber Carrier Selection Changes Provisions of the Telecommunications Act of 1996; Policies and Rules Concerning Unauthorized Changes of Consumers' Long Distance Carriers*, CC Docket No. 94-129, Second Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 1508, 1510, para. 1 (Dec. 23, 1998) (*1998 Slamming Order*).

[278] *See* 47 U.S.C. § 258(a) ("No telecommunications carrier shall submit or execute a change in a subscriber's selection of a provider of telephone exchange service or telephone toll service except in accordance with such verification procedures as the Commission shall prescribe"); *see also, e.g.*, 47 C.F.R. § 64.1120(a) ("No telecommunications carrier shall submit or execute a change on the behalf of a subscriber in the subscriber's selection of a provider of telecommunications service except in accordance with the procedures prescribed in this subpart").

[279] *1998 Slamming Order*, 14 FCC Rcd at 1510–11, para. 1.

[280] *See* CSDVRS Refresh Comments at 15–17; Sorensen Refresh Comments at 14–15; TDI Coalition Refresh Comments at 4; CSDVRS Refresh Reply Comments at 4; GoAmerica Refresh Reply Comments at 3.

[281] 47 C.F.R. § 64.1120.

which require that a carrier, prior to effecting a carrier change, either: (1) obtain the subscriber's written or electronically signed authorization; (2) obtain confirmation from the subscriber via a toll free number provided exclusively for the purpose of confirming orders electronically; or (3) utilize an independent third party to verify the subscriber's order.[282] Commission rules also allow a telecommunications carrier to acquire by sale or transfer either part or all of another carrier's subscriber base, provided that the acquiring carrier complies with specific procedures.[283] In addition, the Commission's incumbent slamming rules set forth carrier liability for slamming;[284] procedures for resolution of an unauthorized change in carrier;[285] procedures for resolving subscriber charges by an unauthorized carrier, whether the subscriber has paid the carrier or not;[286] and procedures by which a subscriber can "freeze" his or her preferred carrier.[287] Finally, the Commission's forfeiture guidelines currently establish a standard forfeiture amount of $40,000 for a violation of the Commission's rules against slamming.[288]

122. *Scope of Slamming Rules.* We seek comment on whether we should adopt rules to safeguard against the unauthorized change of a relay user's default provider. In particular, we seek comment on whether such protections largely should track our current slamming regulations implementing section 258.[289] We note that even though some Internet-based TRS providers are telecommunications carriers in other contexts, our current slamming regulations are not applicable to these carriers or other relay providers in the context of the provision of Internet-based TRS, because the Commission's slamming regulations apply to the provision of telecommunications service. The Commission previously has concluded that TRS providers do not provide "telecommunications services" within the meaning of the Act.[290] Therefore, we seek comment on the adoption of a parallel set of slamming rules to apply specifically to VRS and IP Relay providers in the context of providing Internet-based TRS, regardless of whether these providers are telecommunications carriers in other contexts.[291] We solicit input on whether those rules should be modeled after our current slamming regulations and, if so, how to account for the unique circumstances presented by slamming as it relates to the provision of ten-digit numbers to VRS and IP Relay users. We also seek comment on whether our current slamming rules can be modified in such a way that they also may apply to VRS and IP Relay.

123. *Jurisdiction.* As a threshold matter, we seek comment generally on the Commission's authority with respect to extending slamming requirements to VRS and IP Relay providers. Section 258,

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[282] 47 C.F.R. § 64.1120(c).

[283] 47 C.F.R. § 64.1120(e).

[284] 47 C.F.R. § 64.1140.

[285] 47 C.F.R. § 64.1150.

[286] 47 C.F.R. §§ 64.1160, 64.1170.

[287] 47 C.F.R. § 64.1190. A preferred carrier freeze "prevents a change in a subscriber's preferred carrier selection unless the subscriber gives the carrier from whom the freeze was requested his or her express consent." 47 C.F.R. § 64.1190(a).

[288] 47 C.F.R. § 1.80(b)(4).

[289] *See* 47 C.F.R. Part 64, Subpart K ("Changes in Preferred Telecommunications Service Providers").

[290] *See 2000 TRS Order*, 15 FCC Rcd at 5174–75, paras. 79–81.

[291] For instance, in lieu of applying to "carriers," *see* 47 C.F.R. § 64.1100(a)–(d), these rules could apply to "providers," defined to include Internet-based TRS providers. *See, e.g.*, Sorenson Rules *Ex Parte*, Attach. 3, at 1; Sorenson Amended Rules *Ex Parte*, Attach. at 1.

by its own terms, applies only to "telecommunications carrier[s],"[292] which do not include carriers or other relay providers in the context of their provision of relay services.[293] We seek comment on whether, if we were to extend slamming rules to VRS and IP Relay providers, we can employ ancillary jurisdiction under Title I of the Act to do so. The Commission can employ ancillary jurisdiction where it has subject matter jurisdiction over the service to be regulated and the assertion of jurisdiction is "reasonably ancillary" to the effective performance of our responsibilities.[294] It is clear from section 225 and the Commission's implementing orders that the regulation of TRS falls within the Commission's jurisdiction.[295] Furthermore, we tentatively conclude that, because of the risk of slamming engendered by the adoption of a numbering system for VRS and IP Relay providers, adopting anti-slamming rules is "reasonably ancillary" to our regulation of relay services and our statutory duty to ensure that relay services are available in the most efficient manner to hearing- and speech-impaired individuals.[296] We seek comment on this tentative conclusion. We also seek comment on whether using our Title I ancillary jurisdiction in this manner is consistent with other instances where we have extended Title II obligations to Internet-based providers,[297] and extended our TRS requirements to interconnected VoIP providers pursuant to section 225(b) of the Act and our Title I ancillary jurisdiction.[298]

124. *Substance of Anti-Slamming Rules.* We seek comment on the specific measures we should adopt to protect against slamming that may result from the adoption of a ten-digit numbering mechanism for Internet-based TRS users.[299] More specifically, we seek comment on whether any rules we adopt should prohibit covered TRS providers from submitting or executing a change on behalf of a TRS user in the selection of a default provider except in accordance with prescribed procedures. We also

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[292] 47 U.S.C. § 258(a).

[293] Though some relay providers are "telecommunications carriers" in the context of providing "telecommunications service," these same relay providers are not considered "telecommunications carriers" in the context of providing relay services. *See 2000 TRS Order*, 15 FCC Rcd at 5174–75, paras. 79–81.

[294] *U.S. v. Southwestern Cable Co.*, 392 U.S. 157, 177–78 (1968).

[295] *See* 47 U.S.C. § 225(b) (granting Commission authority to administer and enforce section 225's relay services mandate); 47 U.S.C. § 225(d) (directing Commission to develop and implement regulations governing the provision of relay services); *2000 TRS Order*, 15 FCC Rcd at 5141–42, para. 1 ("Section 225 requires the Commission to ensure that interstate and intrastate relay services are available throughout the country and to establish regulations to ensure the quality of relay service.").

[296] *See* 47 U.S.C. § 225(b)(1).

[297] *See IP-Enabled Services; Implementation of Sections 255 and 251(a)(2) of The Communications Act of 1934, as Enacted by The Telecommunications Act of 1996: Access to Telecommunications Service; Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities; Telecommunications and Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, WC Docket No. 04-36, CC Docket No. 92-105, WT Docket No. 96-198, CG Docket No. 03-123, Report and Order, 22 FCC Rcd 11275, 11282–83, para. 15 (June 15, 2007) (*Sections 225/255 VoIP Order*) (describing Commission's application of E911 calling, universal service contribution, and customer proprietary network information obligations to interconnected VoIP providers).

[298] *See id.* at 11292–93, para. 35. We extended our TRS requirements to interconnected VoIP providers based on our finding that doing so "will serve the core objectives of section 225 and our TRS rules by making TRS widely available and by providing functionally equivalent services for the benefit of individuals with hearing or speech disabilities." *Id.* at 11293, para. 35.

[299] As noted above, a threshold difference between the current slamming rules and the rules that we could adopt to apply to VRS and IP Relay providers is that the new rules could be addressed to TRS "providers" and "users," as opposed to telecommunications "carriers" and "subscribers."

seek comment on how to ensure and verify that consumer consent was obtained before a provider change is effectuated. Would it suffice to require that a provider, prior to effectuating a provider change, either: *(1) obtain the TRS user's written or electronically signed authorization; or (2) obtain the TRS user's* electronic authorization? We do not at this juncture propose utilization of an independent third party to verify the TRS user's order regarding the default provider change, as we do not think such a step is necessary where the relay user's written or electronically signed authorization may be obtained readily, as is the case with Internet-based relay.[300] We believe that if experience dictates a need for verification procedures other than the two we propose, we can revisit this issue at a later point. We seek comment on these proposed verification procedures, including the absence of a third-party verification mechanism.

125. In addition, we seek comment on how to craft liability provisions for violations of any new slamming rules that we adopt for Internet-based TRS providers. Specifically, we seek comment on whether, as with our current slamming regulations, different liability mechanisms should exist depending on whether the unauthorized provider already has been paid. We seek comment on liability provisions in circumstances where the unauthorized provider has not yet been reimbursed by the Fund for minutes incurred by a user whose default provider was impermissibly transferred. Section 64.1160 of the Commission's rules provides that, in the telecommunications service context, an unauthorized carrier must remove from a subscriber's bill all charges incurred for service provided during the first 30 days after the alleged unauthorized change occurred.[301] Section 64.1160 was designed to provide carriers with the incentive to verify all carrier changes properly, in order to protect themselves against any possible inappropriate consumer claims of slamming, as well as to use methods that provide convincing proof of a subscriber's authorization. Relatedly, it provides incentive for carriers to implement strictly the Commission's verification rules because failure to comply may mean that the carriers will not get paid for any services rendered after an unauthorized switch.[302] We seek comment on whether we should adopt a similar rule in the context of VRS and IP Relay. For instance, should the unauthorized provider be required to remove all minutes from its monthly submission to the TRS Fund Administrator for services provided to the slammed user for the first 30 days after the alleged unauthorized change in providers occurred? If so, do the Commission and the TRS Fund Administrator have sufficient safeguards in place to ensure that these minutes actually are excluded from the unauthorized provider's monthly submission? We also welcome other suggestions for liability provisions in these circumstances.

126. In circumstances where the unauthorized provider already has been compensated from the Fund, should we require that provider to forward to the authorized provider an amount equal to 100% of all payments the unauthorized provider received from the Fund for minutes attributable to the slammed user? We believe that as part and parcel of any slamming rules that we adopt for VRS and IP Relay, these liability amounts would not be recoverable from the Fund, nor could they be built into the cost data submitted to calculate the rates for subsequent Fund years.

127. We also seek comment on whether liability provisions, as applied to any new slamming rules we adopt for VRS and IP Relay providers, should differ from those in the existing slamming regulations in light of the fact that the costs of Internet-based TRS are not borne by TRS users, rather they are paid from the Fund. Therefore, for example, unlike in the context of telecommunications services

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[300] *Cf.* 47 C.F.R. § 64.1120(c)(3) (permitting use of an independent third party to verify an authorized switch of telecommunications carrier).

[301] *See* 47 C.F.R. § 64.1160.

[302] *See Implementation of the Subscriber Carrier Selection Changes Provisions of the Telecommunications Act of 1996; Policies and Rules Concerning Unauthorized Changes of Consumers' Long Distance Carriers*, CC Docket No. 94-129, First Order on Reconsideration, 15 FCC Rcd 8158, 8161–63, paras. 8, 10 (May 3, 2000) (citing *1998 Slamming Order*, 14 FCC Rcd at 1518–19, paras. 13–14).

billed to subscribers, there is no basis to relieve the VRS or IP Relay user of charges paid for service when a provider has been changed without authorization. In this regard, we seek comment on whether unauthorized providers should be liable to remit to the Fund an additional 50% of the amount paid to the unauthorized provider for the provision of TRS to the slammed user, regardless of whether the unauthorized provider already has been reimbursed by the Fund. This is analogous to our current slamming regulations, where the unauthorized carrier is liable to repay the authorized carrier and slammed subscriber a total of 150% of the charges incurred after the unauthorized carrier change, albeit only where the slammed subscriber already has paid the charges to the unauthorized carrier.[303] We seek comment on whether a provision whereby an unauthorized provider is liable to remit a total of 150% of the payments associated with the user's minutes of use after the unauthorized change is appropriate as a deterrent to slamming in the context of Internet-based TRS, or whether it is unnecessary if we adopt forfeiture provisions governing slamming by VRS and IP Relay providers.[304] We also solicit input on whether any liability provisions that we adopt should constitute a different percentage of payments, should be distributed in a different proportion or to different recipients, or should be measured in a different manner altogether.

128. Regarding complaint resolution, we seek comment on what procedures to adopt when a provider is informed by a user of an unauthorized change in provider, including procedures by which the allegedly unauthorized provider may rebut the allegation that an unauthorized change occurred. Does section 64.1150 of our current slamming regulations provide a good model for any such procedures that we adopt?[305] Section 64.1150 generally sets forth procedures for resolution of unauthorized changes in preferred carrier, such as notifying the slammed subscriber of his or her options for filing a complaint or otherwise seeking resolution of the unauthorized change, and what an allegedly unauthorized carrier should do to rebut the allegation of an unauthorized carrier change.[306] One element of section 64.1150 that we would propose to omit from new slamming rules applicable to VRS and IP Relay providers is the provision for state commission administration of the slamming rules.[307] Because states generally do not oversee the provision of VRS and IP Relay, and do not compensate VRS and IP Relay providers at this time, we propose to exclude an option for a state to resolve VRS and IP Relay slamming complaints or otherwise administer the slamming rules. We seek comment on this proposal. We also seek comment on whether there should be a deadline by which relay users must notify unauthorized providers of an alleged unauthorized provider change. Has delay in notification of alleged unauthorized carrier changes or filing of slamming complaints been an issue under our current slamming regulations?

129. Furthermore, we seek comment on whether we should adopt other rules substantially similar to their counterparts in the current slamming regulations, though modified to apply to the specific circumstances of the numbering and default provider scheme for VRS and IP Relay. For instance, should we allow a VRS or IP Relay provider to acquire, by sale or transfer, either part or all of another provider's consumer base, provided that the acquiring provider complies with specific procedures?[308] Should we set forth requirements for a letter of agency to serve as a valid request for a change in default VRS or IP Relay provider?[309] Should we adopt procedures by which a TRS user can "freeze" his or her default VRS

[303] *See* 47 C.F.R. §§ 64.1140(a), 64.1170.

[304] *See infra* para. 130.

[305] *See* 47 C.F.R. § 64.1150.

[306] *See id.*

[307] *Cf.* 47 C.F.R. §§ 64.1110, 64.1150(b) (permitting state commissions to administer slamming rules).

[308] *See* 47 C.F.R. § 64.1120(e).

[309] *See* 47 C.F.R. § 64.1130.

or IP Relay provider, which would prevent a change in providers unless the consumer gives the provider from whom the freeze was requested his or her express consent?[310] The Commission adopted carrier freeze mechanisms nearly ten years ago in order to provide an extra measure of consumer protection against fraud and slamming. In doing so, however, the Commission also recognized the potential for their implementation in an unreasonable or anticompetitive manner.[311] Is the threat of slamming in the context of VRS and IP Relay sufficient to justify this extra protection? We request that commenters addressing default provider freezes also discuss the positives and negatives of preferred carrier freezes in the telecommunications context through the lens of nearly ten years' experience with them.

130. Finally, as noted above, the Commission's forfeiture guidelines currently establish a standard forfeiture amount of $40,000 for a violation of the Commission's rules against slamming.[312] Forfeitures pursuant to section 1.80(b)(4) are in addition to the carrier liabilities set forth in sections 64.1160 and 64.1170 of the Commission's rules for unauthorized changes in preferred carrier. We seek comment on the applicability of this provision to instances of slamming by VRS or IP Relay providers. As with the slamming liability amounts discussed above,[313] unauthorized providers would not be permitted to recover forfeiture amounts levied under section 1.80(b)(4) of our rules from the Fund, and may not build them into cost data submitted to calculate the rates for subsequent Fund years. In addition to the foregoing issues and proposals on which we seek comment, we solicit suggestions on whether there are any other provisions, either currently in our slamming regulations or otherwise, that should be applied to VRS and IP Relay providers if we adopt new anti-slamming rules for these Internet-based relay services.

13. Consumer Privacy

131. In this section, we seek comment on what, if any, specific actions the Commission should take to ensure the privacy and security of TRS consumers' call records or other personally identifiable account or usage information, including the information users provide in connection with the Registered Location requirement discussed above.[314]

132. *Section 222 and the Commission's CPNI Rules*. To safeguard consumer privacy interests in a newly deregulated telecommunications market, in 1996 Congress added section 222 to the Communications Act[315] to regulate telecommunications carriers' "use and disclosure of customer proprietary network information (CPNI) and other customer information obtained by carriers in their provision of telecommunications services."[316] Designed to reflect a "balance of competitive and consumer privacy interests with respect to CPNI," section 222 "embodies the principle that customers must be able to control information they view as sensitive and personal from use, disclosure, and access

[310] *See* 47 C.F.R. § 64.1190 (governing preferred carrier freezes).

[311] *See 1998 Slamming Order*, 14 FCC Rcd at 1576–79, paras. 93–99.

[312] 47 C.F.R. § 1.80(b)(4).

[313] *See supra* para. 126.

[314] *See supra* paras. 80–81.

[315] 47 U.S.C. § 222.

[316] *See Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information; Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as Amended*, Second Report and Order and Further Notice of Proposed Rulemaking, CC Docket Nos. 96-115, 96-149, 13 FCC Rcd 8061, 8061, para. 1 (Feb. 26, 1998) (*CPNI Order*) (explaining the regulatory backdrop of the enactment of section 222).

by carriers."[317] CPNI is "information that relates to the quantity, technical configuration, type, destination, location, and amount of use of a telecommunications service" that is available to a carrier "solely by virtue of the carrier-customer relationship."[318] As a practical matter, CPNI may include information such as the phone numbers called by a consumer; the frequency, duration, and timing of such calls; and any services purchased by the consumer, such as call waiting. Section 222(c)(1) provides that a carrier may only use, disclose, or permit access to customers' CPNI in limited circumstances: (1) as required by law; (2) with the customer's approval;[319] or (3) in its provision of the "telecommunications service from which such information is derived," or in its provision of "services necessary to, or used in, the provision of such telecommunications service."[320]

133. In the *CPNI Order* and subsequent orders, the Commission promulgated rules implementing the statutory requirements of section 222.[321] In doing so, the Commission found that customer approval could be inferred from an existing carrier-customer relationship for certain uses of CPNI by the carrier itself.[322] The Commission thus adopted a "total service approach" under which a carrier could, without notice to the customer, use CPNI to market new services incidental to the service

[317] *Id.* at 8065, para. 3.

[318] *See* 47 U.S.C. § 222(h)(1). CPNI also includes information contained in customer bills. *Id.*

[319] The Commission identified two possible methods of ascertaining customer approval: (1) to presume customer approval unless the customer specifies otherwise (opt-out approach); or (2) to require a customer to affirmatively indicate approval (opt-in approach). In its first order interpreting section 222, the Commission determined that opt-in best reflected Congress's intent to the extent that the term "approval" generally connotes "an informed and deliberate response," and "express approval [by opt-in] best insures such a knowing response." *CPNI Order*, 13 FCC Rcd at 8130, para. 91. The United States Court of Appeals for the Tenth Circuit vacated on First Amendment grounds the Commission's decision requiring carriers to obtain opt-in consent before disclosing CPNI to a third party. *U.S. West v. FCC*, 182 F.3d 1224, 1237–38 (10th Cir. 1999) (holding that "opt-in" approach did not advance FCC's asserted interest in protecting privacy of CPNI because of lack of evidence showing harm to privacy is real and because FCC failed to adequately consider less restrictive "opt-out" strategy). In light of the Tenth Circuit's objections to the opt-in approach, the Commission on remand adopted an opt-out approach for carriers' own use of CPNI for marketing purposes and for disclosures of CPNI to third parties for those purposes. *Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information*, Third Report and Order and Third Further Notice of Proposed Rulemaking, CC Docket No. 96-115, 17 FCC Rcd 14860, 14874, para. 30 (July 25, 2002). Last year, the Commission, in response to "new circumstances," changed its rules once again to require opt-in consent before disclosing CPNI to a third party *other than* "agents" and "affiliates that provide communications-related services." *Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information*, Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 96-115, 22 FCC Rcd 6927, 6947, para. 37 (Apr. 2, 2007) (*EPIC CPNI Order*) (requiring opt-in for joint venture partners and independent marketing contractors), *pet. for rev. pending, NCTA v. FCC*, Docket No. 07-1312 (D.C. Cir., filed Aug. 8, 2007).

[320] *See* 47 U.S.C. § 222(c)(1).

[321] *See* 47 C.F.R. § 64.2001 *et seq.*

[322] *See CPNI Order*, 13 FCC Rcd at 8080, para. 23. The Commission explained, "the language of section 222(c)(1)(A) and (B) reflects Congress' judgment that customer approval for carriers to use, disclose, and permit access to CPNI can be inferred in the context of an existing customer-carrier relationship. This is so because the customer is aware that its carrier has access to CPNI, and, through subscription to the carrier's service, has implicitly approved the carrier's use of CPNI within that existing relationship." *Id.*

already being provided (such as caller ID marketed to an existing local service customer).[323] The total service approach did not extend to disclosure of CPNI beyond the carrier itself to third parties.

134. The Commission also adopted rules to ensure telecommunications carriers establish effective safeguards to protect against unauthorized use or disclosure of CPNI.[324] Among other things, the rules require carriers to: (1) implement a system by which the status of a customer's CPNI approval can be clearly established prior to the use of CPNI;[325] (2) train their personnel as to when they are and are not authorized to use CPNI (and establish an express disciplinary process);[326] (3) maintain a record of instances in which CPNI has been disclosed or provided to third parties, or where third parties have been allowed access to CPNI, and to maintain such records for at least one year;[327] (4) establish a supervisory review process for "outbound" marketing campaigns under which sales personnel must obtain supervisory approval of proposed "outbound" marketing requests for customer approval;[328] and (5) certify annually regarding its compliance with the Commission's CPNI requirements and to make this certification publicly available.[329]

135. In last year's *EPIC CPNI Order*, the Commission adopted additional safeguards to protect customers' CPNI in response to concerns raised in the record and in a petition for rulemaking filed by the Electronic Privacy Information Center (EPIC) regarding unauthorized disclosure and the practice of "pretexting."[330] The Commission defined "pretexting" as "the practice of pretending to be a particular customer or other authorized person in order to obtain access to that customer's call detail or other private communications records."[331] Based on its review of the record, the Commission determined it "must take additional steps to protect customers from carriers that have failed to adequately protect CPNI."[332] In particular, the *EPIC CPNI Order*: (1) restricted disclosure of CPNI over the telephone and required passwords to be used in customer-initiated calls seeking CPNI;[333] (2) required passwords for on-line access to customer account information;[334] and (3) adopted a number of notification requirements for changes in account status and unauthorized disclosures of CPNI.[335] The Commission also changed its rules to require an opt-in approach for carrier disclosure to any third party other than "agents" and

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[323] *See id.* (explaining "total service approach" to defining boundaries of customer's implied consent concerning use of CPNI).

[324] *See id.* at 8195, para. 193.

[325] 47 C.F.R. § 64.2009(a); *see also CPNI Order*, 13 FCC Rcd at 8198, para. 198.

[326] 47 C.F.R. § 64.2009(b); *see also CPNI Order*, 13 FCC Rcd at 8198, para. 198.

[327] 47 C.F.R. § 64.2009(c); *see also CPNI Order*, 13 FCC Rcd at 8198–99, para. 199.

[328] 47 C.F.R. § 64.2009(d); *see also CPNI Order*, 13 FCC Rcd at 8199, para. 200.

[329] 47 C.F.R. § 64.2009(e); *see also CPNI Order*, 13 FCC Rcd at 8199, para. 201.

[330] *EPIC CPNI Order*, 22 FCC Rcd at 6928, para. 1 n.1.

[331] *Id.* "Call detail" includes "any information that pertains to the transmission of specific telephone calls including, for outbound calls, the number called, and the time, location, or duration of any call and, for inbound calls, the number from which the call was placed, and the time, location, or duration of any call." *Id.* at 6936, para. 13 n.45.

[332] *Id.* at 6933, para. 12.

[333] *Id* at 6937–39, paras. 15–17.

[334] *Id.* at 6940–41, paras. 20–22.

[335] *Id.* at 6942, 6943–45, paras. 24, 26–32.