



PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C.20554

News Media Information 202 / 418-0500
Internet: <http://www.fcc.gov>
TTY: 1-888-835-5322

DA 13-1016

Released: May 10, 2013

TECHNOLOGY TRANSITIONS POLICY TASK FORCE SEEKS COMMENT ON POTENTIAL TRIALS

GN Docket No. 13-5

Comments: [45 days after publication in the Federal Register]

Reply Comments: [75 days after publication in the Federal Register]

The Technology Transitions Policy Task Force (Task Force) proposes to move forward with real-world trials to obtain data that will be helpful to the Commission. The goal of any trials would be to gather a factual record to help determine what policies are appropriate to promote investment and innovation while protecting consumers, promoting competition, and ensuring that emerging all-Internet Protocol (IP) networks remain resilient. We seek comment on several potential trials relating to the ongoing transitions from copper to fiber, from wireline to wireless, and from time-division multiplexing (TDM) to IP.¹ The Commission has a long history of using trials and pilot programs to help answer questions regarding technical concerns and to gather data and develop appropriate policy recommendations.² Indeed, the Commission recently unanimously authorized a 6-month trial to examine providing interconnected VoIP providers direct access to telephone numbers.³ Stakeholders have also requested that the Commission initiate trials to explore technology transition issues.⁴

¹ Consistent with their policy development and coordination functions, today's action is taken by the Chiefs of the Consumer & Governmental Affairs Bureau, Public Safety and Homeland Security Bureau, Wireless Telecommunications Bureau, and Wireline Competition Bureau, as well as the Commission's General Counsel, all of whom were named by Chairman Genachowski to serve as members of the Task Force. See *FCC Chairman Genachowski Announces Formation of "Technology Transitions Policy Task Force"*, News Release, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-317837A1.pdf (Dec. 2012).

² See, e.g., *DTV Transition Premiers in Wilmington, North Carolina*, News Release, available at http://hraunfoss.fcc.gov/edocs_public/attachmatc/DOC-282032A1.pdf (May 8, 2008) (announcing the test market for an early transition to give broadcasters and consumers a chance to experience in advance the DTV transition); *Office of Engineering and Technology Announces the Opening of Public Testing for Spectrum Bridge's TV Band Database System*, ET Docket No. 04-186, Public Notice, 26 FCC Rcd 12906 (2011) (announcing a limited trial to allow the public to access and test Spectrum Bridge's database system); *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Sixth Report and Order, 25 FCC Rcd 18762, 18783-87, paras. 41-50 (2010) (establishing a trial program to investigate the merits and challenges of wireless off-premises connectivity for students, and to help the Commission determine whether off-premises mobile connectivity should be eligible for E-rate support).

³ *Numbering Policies for Modern Communications; IP-Enabled Services; Telephone Number Requirements for IP-Enabled Services Providers; Telephone Number Portability; Developing a Unified Inter-carrier Compensation*

(continued...)

In the spirit of these prior initiatives, we seek comment on a set of potential trials to assist the Commission in ensuring that policy decisions related to ongoing technology transitions are grounded in sound data.

First, as we move from TDM to all-IP networks, providers are migrating to voice over Internet Protocol (VoIP) interconnection. VoIP interconnection should be more efficient and has the potential to unleash new, innovative services and features. We seek comment on a VoIP interconnection trial that would gather data to determine whether there are technical issues that need to be addressed and gather information relevant to the appropriate policy framework.

Second, as we transition away from TDM, the nation's emergency calling (911) system must also migrate to Next Generation 9-1-1 (NG911).⁵ Although there is broad consensus regarding the benefits and potential of NG911, when these new capabilities will be introduced is less certain.⁶ We seek comment on a trial that will assist the Commission, state, local and Tribal governments, and Public Safety Answering Points (PSAPs) in a few geographic areas to answer important technical and policy questions to accelerate the transition. Beyond NG911, we also seek comment on how a trial could elicit data on the impact of network resiliency and public safety more broadly as consumers migrate to wireless and IP-based services that are dependent on commercial power.

Third, at least one provider has proposed serving consumers with wireless service in place of wireline service in certain geographic areas. We seek comment on a trial that would analyze the impact of doing so and, in particular, focus on the consumer experience and ensure that consumers have the ability to move back to a wireline product during the trial.

Some parties have advocated a trial in which one or more providers make a general switch to all-IP traffic in a geographic area, potentially transitioning from wireline to wireless technology in part of the area, but also making a number of other simultaneous transitions.⁷ We have previously sought comment on this general approach.⁸ We seek further comment on this idea in the context of the three potential

(Continued from previous page) _____
Regime; Connect America Fund; Numbering Resource Optimization; Petition of Vonage Holdings Corp. for Limited Waiver of Section 52.15(g)(2)(i) of the Commission's Rules Regarding Access to Numbering Resources; Petition of TeleCommunication Systems, Inc. and HBF Group, Inc. for Waiver of Part 52 of the Commission's Rules, WC Docket Nos. 13-97, 04-36, 07-243, 10-90, CC Docket Nos. 95-116, 01-92, 99-200, Notice of Proposed Rulemaking, Order, and Notice of Inquiry, FCC 13-51 (rel. Apr. 18, 2013) (VoIP Direct Access NPRM or Order or NOI).

⁴ See AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, GN Docket No. 12-353, at 6, 21 (filed Nov. 7, 2012) (AT&T Wire Center Trials Petition) (stating that "the Commission should open a new proceeding to conduct, for a number of select wire centers, trial runs for a transition from legacy to next-generation services, including the retirement of TDM facilities and offerings" and that "the Commission should also seek public comment on how best to implement specific regulatory reforms within those wire centers on a trial basis").

⁵ NG911 refers to an initiative aimed at enabling the public to obtain emergency assistance by means of advanced communications technologies beyond traditional voice-centric devices. The NG911 proceeding examines how to update the 911 system to improve public emergency communications services and allow them to take advantage of the enhanced capabilities of IP-based devices and networks by enabling 911 PSAPs to receive texts, photos, videos, and data. See *Framework for Next Generation 911 Deployment*, PS Docket No. 10-255, Notice of Inquiry, 25 FCC Rcd 17869, 17870, para. 1, 17872, para. 7 (2010).

⁶ Federal Communications Commission, *Legal and Regulatory Framework for Next Generation 911 Services*, Report to Congress and Recommendations (Feb. 22, 2013), available at <http://www.fcc.gov/document/legal-and-regulatory-framework-ng911-services-report-congress>.

⁷ See AT&T Wire Center Trials Petition at 20–23; AT&T Jan. 28, 2013 Comments, GN Docket No. 12-353, at 5.

⁸ See *Pleading Cycle Established on AT&T and NTCA Petitions*, GN Docket No. 12-353, Public Notice, 27 FCC Rcd 15766 (2012).

trials discussed above, including whether the trials discussed herein should be conducted in a single geographic area, if there is information to be gained from a general geographic trial that would not be gathered from the more targeted trials discussed here, and the costs and benefits of the alternative approaches. We invite parties in favor of conducting a broader geographic trial to submit a more detailed and comprehensive plan laying out how such a trial would work.

We also seek comment on whether there are other trials we should consider, such as additional numbering trials, trials to facilitate better access for persons with disabilities, and whether there are additional trials concerning the TDM to IP or copper to fiber transitions that we should evaluate. We also seek comment on the general structure and design of any trial, and legal and administrative issues. We recognize the important role that states and Tribes continue to play in these ongoing technology transitions and therefore seek comment on how to best work with state and local entities in selecting and implementing potential trials and ideas as to other ways that we can effectively coordinate with state and local agencies in this area.

We are mindful of the fact that, while participation in any trial would be voluntary for providers, all consumers in trial regions would likely be affected, either directly or indirectly. As consumer protection is a core principle guiding the work of the Task Force, comments in support of any trial proposal should address how best to ensure a successful trial while also avoiding potential harmful impacts to consumers.

We also seek comment on ways to obtain useful data in addition to trials. For instance, the Commission is currently collecting data regarding special access through a mandatory data request.⁹ Are there other data collections that the Commission should undertake to obtain data necessary to guide sound policymaking regarding the ongoing technological transitions?

I. Technology Trials

A. VoIP Interconnection

Several commenters have urged the Commission to initiate a trial for VoIP interconnection to ensure that technical and process issues are understood and resolved.¹⁰ We seek comment on whether to conduct such a trial so that the Commission can gather real-world data on the need and scope for technical or industry standards for the exchange of voice traffic in Internet protocol formats. We note that interconnection for voice (and possibly other real-time services) using Internet protocols at the application layer is distinct from and raises different technical and administration issues than general peering and interconnection for layer-3 IP data services, and we emphasize that the trial we propose today does not reach layer-3 peering issues.

Background. The Commission has highlighted the tremendous benefits, efficiencies, and increased reliability and redundancy that interconnecting using Internet protocols has over the traditional TDM framework.¹¹ VoIP interconnection also unleashes the potential for new services and features for

⁹ See *Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25, RM-10593, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 16318 (2012).

¹⁰ See, e.g., American Legislative Exchange Council Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 3–4; Bandwidth Jan. 28, 2013 Comments, GN Docket No. 12-353, at 6–7; CALinnovates Jan. 28, 2013 Comments, GN Docket No. 12-353, at 1; T-Mobile Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 1–2; Western Telecommunications Alliance Jan. 28, 2013 Comments, GN Docket No. 12-353, at 2.

¹¹ See *Connect America Fund, et al.*, WC Docket Nos. 10-90, et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17978, para. 892 (2011) (*USF/ICC Transformation Order and FNPRM*), *pets. for review pending sub nom. In re: FCC 11-161*, No. 11-9900 (10th Cir. filed Dec. 8, 2011) (noting that “IP-based softswitches . . . are significantly less costly and more efficient than the TDM-based switches they replace”).

consumers such as high definition (HD) audio, additional video and text media formats, and secured caller ID. In the *USF/ICC Transformation Order*, the Commission stated that it “expect[ed] all carriers to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic.”¹² The Commission also explained that “[t]he duty to negotiate in good faith has been a longstanding element of interconnection requirements under the Communications Act and does not depend upon the network technology underlying the interconnection, whether TDM, IP, or otherwise.”¹³ In the Further Notice of Proposed Rulemaking accompanying the *USF/ICC Transformation Order*, the Commission sought comment on all aspects of VoIP interconnection, from different legal frameworks, to various policy proposals and questions on implementation of each issue.¹⁴ Although commenters agreed that future interconnection for voice traffic would occur using Internet protocols,¹⁵ commenters disagreed about the appropriate policy framework for VoIP interconnection,¹⁶ and whether there was a need for technical and industry standards.¹⁷

More recently, in 2012, the FCC’s Technological Advisory Council (TAC) examined the issue of VoIP interconnection and concluded that, although “VoIP Interconnect[ion] is happening all over the world, at a rapid rate,” implementation in the United States has been “delayed” aside from the efforts of some cable companies and competitive local exchange carriers (CLECs).¹⁸ Finally, as noted above, the

¹² See *USF/ICC Transformation Order and FNPRM*, 26 FCC Rcd at 18045, para. 1011. The Commission also indicated that it “expect[ed] such good faith negotiations to result in interconnection arrangements between IP networks for the purpose of exchanging voice traffic.” See *id.*

¹³ See *id.*

¹⁴ See *id.* at 18123–47, paras. 1335–1398.

¹⁵ See, e.g., AT&T Feb. 24, 2012 Comments, WC Docket No. 10-90, at 1; Bandwidth.com Feb. 24, 2012 Comments, WC Docket No. 10-90, at 6; Comcast Feb. 24, 2012 Comments, WC Docket No. 10-90, at 19; Google Feb. 24, 2012 Comments, WC Docket No. 10-90, at 2, 4; Time Warner Feb. 24, 2012 Comments, WC Docket No. 10-90, at 5; T-Mobile Feb. 24, 2012 Comments, WC Docket No. 10-90, at 3; Verizon Feb. 24, 2012 Comments, WC Docket No. 10-90, at 3, 12–14.

¹⁶ Compare, e.g., CenturyLink Feb. 24, 2012 Comments, WC Docket No. 10-90, at 43–47 (stating that the Commission should allow carriers to establish efficient solutions for exchanging IP voice traffic through good faith negotiations, but no additional regulation is necessary or beneficial); Leap & Cricket Feb. 24, 2012 Comments, WC Docket No. 10-90, at 12 (arguing that there is no reasonable basis to apply the interconnection framework developed for legacy PSTN networks when Internet exchange points are a good model) with MetroPCS Feb. 24, 2012 Comments, WC Docket No. 10-90, at 17–18 (commenting that the Commission should not leave IP interconnection unregulated); Bandwidth.com Feb. 24, 2012 Comments, WC Docket No. 10-90, at 7 (stating that because there remain disproportionate levels of negotiating power centered upon the PSTN today, the Commission cannot prod the industry along with a completely hands-off approach).

¹⁷ See, e.g., CenturyLink Feb. 24, 2012 Comments, WC Docket No. 10-90, at 38 (stating that standards for IP voice traffic are still developing); Nebraska Rural Independent Carriers Feb. 24, 2012 Comments, WC Docket No. 10-90, at 30 (recommending that the Commission adopt overall IP technical standards after review and consultation with industry technical standards working groups); Verizon Feb. 24, 2012 Comments, WC Docket 10-90, at 23–25 (stating that industry cooperation is the best place to resolve the complicated technical issues surrounding IP interconnection); Google Feb. 24, 2012 Comments, WC Docket No. 10-90, at 6 (stating that multi-stakeholder groups that span a full cross section of interested players can provide targeted and timely input and direction on technical issues).

¹⁸ FEDERAL COMMUNICATIONS COMMISSION TECHNOLOGICAL ADVISORY COUNCIL, TAC MEMO – VOIP INTERCONNECTION 2 (2012), available at <http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting92412/VoIP-Interconnection-TAC-Memo-9-24-12.pdf> (TAC VOIP INTERCONNECTION WHITE PAPER). The TAC did not recommend a particular policy approach or framework, but did urge the Commission to “promote a technology-

(continued...)

Commission recently adopted an Order and NPRM regarding providing interconnected VoIP providers direct access to numbers. Among other things, that item sought comment on the status of VoIP interconnection arrangements in the United States.¹⁹ We look forward to receiving updated information as we evaluate the framework for these potential trials.

Discussion. We seek comment on conducting a trial in a few geographic markets, including at least one major metropolitan area and one rural area. We seek comment on the number of geographic markets to be included in the trial, the scope of a geographic area, and on the selection criteria. We seek comment on how best to encourage participation in such a trial and the means of identifying appropriate geographic areas in these trials.

Technical Issues. We seek comment on how to structure a trial to help identify whether industry standards or standards profiles are needed in the areas of signaling, media formats (codecs), non-voice media such as text and video, fault location, and fail-over and quality-of-service measurements. A trial may also identify multiple lower-layer mechanisms for exchanging voice traffic, such as common points of presence or Internet exchange points, Internet transport, and dedicated transport links. We seek comment on how to structure any trial to help examine these issues.

Logistical Issues. In moving from TDM to VoIP interconnection, issues such as the number and physical points of interconnection, pricing, transit, numbering and number portability, service level agreements, quality of service, and other terms and conditions will need to be resolved. For example, the TAC identified several issues that need to be resolved to reach VoIP interconnection agreements, including routing, addressing, security, signaling, media, quality, accounting/charging, and testing.²⁰ A trial may shed light on which issues are more difficult to resolve and which issues parties are able to negotiate more easily. In addition, parties will need to resolve application of any legacy rules to the VoIP interconnection agreement.²¹ We seek comment on how best to structure any trial to provide the Commission with data to evaluate which policies may be appropriate.

Process. We are considering allowing providers that participate in a trial to negotiate in good faith without a backstop of regulations or specific parameters and provide updates, reports, and data to the Commission regarding any technical issues as well as any other issues of dispute. We also seek comment on whether we should, as some commenters have proposed,²² conduct another trial where parties agree to negotiate pursuant to the existing section 251/252 framework or a similar process (including one that does not require any party to concede that sections 251/252 apply as a legal matter).²³ We seek comment on

(Continued from previous page) _____
neutral position and allow for continuous innovation going forward.” TAC VOIP INTERCONNECTION WHITE PAPER at 3.

¹⁹ See *VoIP Direct Access NPRM*, FCC 13-51, para. 53.

²⁰ TAC VOIP INTERCONNECTION WHITE PAPER at 2, Appendix A.

²¹ For example, parties would need to resolve whether and how intercarrier compensation occurs with VoIP interconnection, or whether parties will exchange traffic under a bill-and-keep methodology.

²² See COMPTTEL Jan. 28, 2013 Comments, GN Docket No. 12-353, at 5; Pennsylvania PUC Jan. 28, 2013 Comments, GN Docket No. 12-353, at 9–10.

²³ Given the positions in the record it is unclear whether any incumbent LECs would voluntarily agree to a trial using the section 251/252 framework. AT&T not only opposes NTCA’s proposal to regulate VoIP interconnection under sections 251 and 252 as “needless and harmful,” but also argues that the Commission lacks Title II authority to regulate interconnection between IP-based service providers. See AT&T Jan. 28, 2013 Comments, GN Docket No. 12-353, at 11; see also AT&T Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 32–33 (reiterating that the Commission lacks Title II authority to regulate IP-to-IP interconnection, arguing that IP-based services are properly classified as “information services”). CenturyLink contends that the requirements of section 251 were

(continued...)

these approaches. Should we allow providers to negotiate and, if they cannot resolve disputes, then no agreement is reached? Or, should there be a process for arbitrating or mediating disputes? If so, should the state be responsible for arbitrating the agreements, or should the Commission or an independent entity arbitrate or mediate any disputes? Should any VoIP interconnection agreements reached during the trial be the basis for future agreements or could doing so impact the negotiations during the trial? If we undertake a trial under the section 251/252 framework, should the existing rules be applied or should they be modified?

Data. We propose that providers participating in a VoIP interconnection trial submit data regarding the length of time it took to reach an agreement, the issues in dispute, a copy of any agreements that are reached, as well as reports on the implementation of such agreements, such as call quality and reliability metrics, and a description of any technical problems that were encountered. We seek comment on the scope and frequency of these reporting requirements.

B. Public Safety - NG911

Background. Public safety is a paramount value that must be protected as technologies transition. The transition of the current enhanced 911 (E911) system to IP-based technologies has already begun, with widely-accepted industry standards²⁴ and first deployments of NG911. NG911 promises to use widely available IP technologies to create 911 services that are more resilient and cost-effective, offer additional capabilities such as text,²⁵ data and video, and better meet the needs of people with disabilities. With the technology transition, we have the opportunity to better coordinate the provision of emergency services with the emergence of IP-based networks. Such coordination may avoid deploying costly legacy network translation components, and hasten the availability of new features and functionality.

The NG911 architecture differs significantly from the legacy 911 TDM model. For example, the number and nature of hand-off points for 911 calls to the public safety emergency services IP network (ESInet) differs from the current approach of routing all calls through a selective router. Similarly, with

(Continued from previous page) _____

meant to address the “difficulties of competitors in providing voice telephony service in a marketplace where incumbent LECs were monopolists with ubiquitous facilities and 100 percent market share. Because fewer than 40% of households currently purchase voice services from ILECs, this concern no longer exists, and section 251 should therefore not be used to mandate IP-to-IP interconnection.” *See* CenturyLink Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 18; *see also* Verizon Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 11–12 (arguing that the Commission does not have the authority to require interconnection in any particular format, including IP, under section 251 of the Act). *But see* NECA *et al.* Feb. 25, 2013 Reply, GN Docket No. 12-353, at 3 (arguing that IP interconnection arrangements between carriers for the exchange of traffic is subject to sections 251 and 252, regardless of the technologies employed).

²⁴ *See, e.g.*, NENA, Security for Next-Generation 9-1-1 Standard (NG-SEC), Version 1.0 (Feb. 6, 2010), available at https://c.ymcdn.com/sites/vena_site-ym.com/resource/collection/9652017C-3DDB-4F48-91BE-57871A0E68E6/NENA_75-001-v1_NG-Security.pdf (last accessed May 7, 2013); NENA, Emergency Services IP Network Design for NG9-1-1, NENA 08-506, Version 1, (Dec. 14, 2011), available at http://c.ymcdn.com/sites/www.nena.org/resource/collection/2851C951-69FF-40F0-A6B8-36A714CB085D/NENA_08-506_Emergency_Services_IP_Network_Design_12142011.pdf (last accessed May 7, 2013); NENA, Detailed Functional and Interface Standards for the NENA i3 Solution, 08-003v1, July 14, 2011, available at http://www.nena.org/?page=i3_Stage3 (last accessed May 7, 2013).

²⁵ *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications; Framework for Next Generation 911 Deployment*, PS Docket Nos. 11-153, 10-255, Further Notice of Proposed Rulemaking, 27 FCC Rcd 15659 (2012); Alliance for Telecommunications Industry Solutions (ATIS) and Telecommunications Industry Association (TIA), Joint ATIS/TIA Native SMS to 9-1-1 Requirements And Architecture Specification, J-STD-110, March 2013, available at <http://www.atis.org/docstore/product.aspx?id=27924> (last accessed May 7, 2013).

nomadic, mobile, and over-the-top VoIP applications, conveying accurate caller location data to the 911 call center, *i.e.*, the PSAP, changes from a number-based lookup mechanism to new protocols.

Scope. Given that reliable 911 service is critical to public safety, we seek comment on a possible trial that would deploy an “all-IP” NG911 service on an accelerated basis in a number of geographic areas where public safety authorities are ready to deploy NG911 for one or more PSAPs.²⁶ We seek comment on using trials that build on the earlier and more limited NG911 proof-of-concept effort that was conducted by the U.S. Department of Transportation in 2008.²⁷ With an updated NG911 trial, we would hope to gather both process and technical knowledge, addressing such questions as: Can VoIP and other IP-based networks readily interconnect with ESInets? Can advanced real-time services, such as video and text, reach ESInets? In IP-based networks, how can subscriber location data be maintained and conveyed to the ESInet? How long does it take transition from a TDM-based to an IP-based architecture? Where and how are 911 calls to be handed off to the ESInet, whether by ILECs or other providers, such as CMRS, interconnected VoIP, interconnected text and telematics services? Are there state or Commission rules that accelerate or delay the conversion from E911 to NG911? Are there steps that regulators can take to speed the transition to NG911 and/or minimize the expense?²⁸ We seek comment on the technical and process issues that should be covered by a trial and on how best to structure a trial to gather data on these issues.

Process. We are considering a NG911 trial that would take place in areas where public safety authorities are transitioning or have taken initial steps to prepare for transition of their legacy systems to NG911 and where providers, including landline, wireless, and interconnected VoIP, are able to deliver VoIP-based 9-1-1 calls (and potentially other IP-based traffic) to an ESInet, either “natively” or, if necessary, initially through legacy network gateways (LNGs). We seek comment on the process for identifying such areas. Trial participants would also make caller location available through NG911 mechanisms, including the Location Information Server (LIS). We seek comment on candidate PSAPs or regions, the selection of participating carriers, and whether trials should take place in areas where calls are delivered via VoIP or also via legacy network gateways. We intend to coordinate with the National 9-1-1 Implementation Coordination Office²⁹ and seek comment on the best ways to coordinate with state, local, and Tribal authorities during such trials.

Any trial of this kind should provide data on both the challenges of transitioning from E911 to NG911 and the operational performance characteristics of NG911 call handling. Thus, we propose that participants in the trial document the design and conversion process, including effort and time required, and gather data on call handling performance, interoperability issues, location accuracy, and any system

²⁶ See, e.g., Letter from Robert W. Quinn, Jr., AT&T, to Marlene H. Dortch, Secretary, FCC, WC Docket 10-90 et al., Attach. at 3 (filed Aug. 30, 2012) (suggesting a checklist of steps the Commission should undertake to begin the transition to an IP-based network/ecosystem, including “tak[ing] action necessary to establish a next generation 911 for an all-IP platform/ecosystem”).

²⁷ U.S. Department of Transportation, Research and Innovative Technology Administration, *Research Success Stories: Next Generation 9-1-1: Research Overview*, RITA INTELLIGENT TRANSPORTATION SYSTEMS JOIN PROGRAM OFFICE (Nov. 15, 2012, 4:03 PM), <http://www.its.dot.gov/NG911> (last accessed May 7, 2013).

²⁸ See, e.g., Next Generation 9-1-1 Transition Policy Implementation Handbook: A Guide for Identifying and Implementing Policies to Enable NG9-1-1, NENA Next Generation Partner Program (Mar. 2010), available at http://c.yimcdn.com/sites/www.nena.org/resource/resmgr/ngpp/ng911_transition_policy_impl.pdf (last accessed May 7, 2013).

²⁹ See U.S. Department of Transportation, National Highway Traffic Safety Administration, Office of Emergency Medical Services, *Strengthening America's 911 Systems*, 911.GOV, <http://www.911.gov> (last accessed May 7, 2013); 47 U.S.C. § 942(a)(1)(B) (establishing the 9-1-1 Implementation Coordination Office).

failures related to call or location delivery. We seek comment on how best to address these issues and whether there are other aspects that should be documented or evaluated.

Finally, we also seek comment on the impact of consumer migration to wireless and IP-based services that are dependent on commercial power and network resiliency and public safety services generally. Participants in the Commission's recent field hearings following Superstorm Sandy consistently raised this issue and the need to establish adequate back up power solutions. How should this issue be integrated into the Commission's technology trials and other data gathering efforts?

C. Wireline to Wireless

We seek comment on conducting trials to assess the impact on residential and business customers when they are transitioned from wireline voice and broadband products to wireless alternatives. We propose to compare wireline and wireless offerings across a number of dimensions, including: quality and terms of service, price, product functionalities, E-911 performance, accessibility options, reliability, and potential carrier cost savings in the delivery of voice and data services to higher cost areas. While there is potential for some service quality degradation if not properly transitioned, the move to wireless-only networks also could enable improved voice quality and reliability and broadband investment in areas not likely to be served in the near future with wireline technology, or at higher speeds than existing wireline offerings, among other potential benefits. We want to analyze the consumer experience, including challenges and benefits for consumers, of a wireless-only option as part of a trial. In this section we seek comment on how to structure any such trials.

Background. As part of the technology transition, some incumbent LECs are considering replacing existing customer voice and broadband services delivered over legacy circuit switched wireline networks with similar product offerings delivered over a wireless IP network. For example, Verizon is currently replacing copper based services damaged by Hurricane Sandy on Fire Island, New York with wireless-only voice and data products.³⁰ For its part, AT&T has indicated that it intends to seek authority to serve millions of current wireline customers, mostly in rural areas, with a wireless-only product.³¹ We therefore seek comment on conducting a trial that would evaluate the customer experience when customers are transitioned from wireline to wireless voice and broadband services. In particular, we are interested in observing whether consumers/businesses lose any capabilities previously available to them or what steps consumers/businesses must take to keep the functionality of certain services.³² We are also interested in learning about the potential benefits for consumers/businesses of the transition to wireless, including any improvement in voice quality in areas with degraded wireline networks, access to broadband for the first time in areas with no wireline broadband service, and potential improvements in network reliability.³³

³⁰ Tim Worstall, *The Beginning of the Death of Wired Broadband*, FORBES (Mar. 23, 2013), <http://www.forbes.com/sites/timworstall/2013/03/23/the-beginning-of-the-death-of-wired-broadband> (last accessed May 7, 2013). We understand that Verizon is coordinating with applicable state authorities on the Fire Island transition. We hope to learn from these ongoing efforts in addition to the results of this proposed trial which would focus more systematically on the consumer experience during such a transition.

³¹ See AT&T Wire Center Trials Petition at 9 (explaining that AT&T will offer wireless communications alternatives to customers living in particularly high-cost areas, including its Mobile Premises Services, which allows customers to make calls using ordinary wireline handsets connected to wireless base stations).

³² Such capabilities could include, among other things, access to 911 and emergency services, the ability to send and receive a fax, credit card transactions for small businesses, alarm/security systems, and the ability for individuals with disabilities to continue to use the devices they use on a regular basis.

³³ See Mobile Future Jan. 28, 2013 Comments, GN Docket No. 12-353, at 3; CenturyLink Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 19; Telecommunications for the Deaf and Hard of Hearing Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 2.

Scope. We are considering a trial in which participating LECs would make available to consumers, in cooperation with state and Tribal governments, either through their own facilities or in partnership with a wireless provider, a home wireless voice product or data product or both, intended as a replacement for a customer's existing home voice and broadband data services. We propose to test these new service offerings in: (1) at least one geographic area within each participating LEC's service territory; and (2) at least one geographic area outside of each participating LEC's wireline service territory. We propose that all product offerings in any trial would be the same within each participating LEC's trial areas and that the characteristics of the offers would be made public prior to the trial. We seek comment on these proposals.

We seek comment on whether customers that participate in such a trial should have the option of wireline or wireless service during the trial or whether the LEC should be able to require all customers in the LEC service territory trial area to move to a wireless-only product. We propose that customers would be informed of when they will be allowed to switch back to their previous wireline products and that they may do so at no charge for some pre-established period, including after the trial period end date. Furthermore, we seek comment on whether LECs participating in the trial should disclose any differences between a customer's existing wireline and new wireless service prior to the customer switching. These differences may include price, data usage allowances, terms of service, 911 capabilities (including location accuracy), accessibility, calling features, incompatibilities with fax machines or other customer premises equipment, or any other differences. We seek comment on whether such a trial would result in obtaining useful information and how long it should last.

In its petition, AT&T proposes that technology and policy trials be conducted at the wire center level.³⁴ The record reflected a general support that this as an appropriate level of geography.³⁵ Therefore we are considering a trial at the wire center level and seek comment on whether wire centers are appropriately sized for this specific trial or whether an alternative unit would be more appropriate. We also seek comment on what factors should be used to select trial markets.

Data. We propose that LECs participating in such a trial would be required to collect and submit a variety of data, including a customer satisfaction survey, to the Commission for analysis. We seek comment on this proposal as well as any other issues relating to data collection. Should the Commission, and/or state or Tribal entities, collect data regarding customer churn, subscriber counts, disconnects, gross additions, average revenue per user (ARPU), counts of customers switching back to wireline service, customer service complaints, service visits and actual customer data speeds, by month and separately for each geographic area and product? Are there other indicia related to voice and broadband deployment and adoption, competition, and investment that the Commission should track during the trial period?

We seek comment on whether LECs participating in a trial should collect network reliability measures for both their wireline and wireless product offerings in the trial areas. We seek comment on whether, in addition to the network reliability measures that the Commission currently collects for wireline services,³⁶ participating carriers should submit such information on network reliability for all

³⁴ AT&T Wire Center Trials Petition at 20–23.

³⁵ See InTelePeer Jan. 29, 2013 Comments, GN Docket No. 12-353, at 4; MMTTC *et al.* Jan. 29, 2013 Comments, GN Docket No. 12-353, at 9–11; Mobile Future Jan. 29, 2013 Comments, GN Docket No. 12-353, at 7; USTA Jan. 29, 2013 Comments, GN Docket No. 12-353, at 5; WIPP Jan. 29, 2013 Comments, GN Docket No. 12-353, at 7; BullsEye Feb. 25, 2013 Reply comments, GN Docket No. 12-353, at 17–18; Intel Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 3; Wisconsin PSC Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 6. *But see* Bandwidth Jan. 29, 2013 Comments, GN Docket No. 12-353, at 6–7; Cablevision Jan. 29, 2013 Comments, GN Docket No. 12-353, at 5; Cox Jan. 29, 2013 Comments, GN Docket No. 12-353, at 11; T-Mobile Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 2.

³⁶ See 47 C.F.R. § 4.9(f).

product offerings in the relevant trial area during the trial period. In addition to these metrics, we seek comment on whether providers should submit the number of dropped and blocked wireless calls and data sessions for participating customers. Furthermore, we propose that participants describe how they address service continuity issues in the event of a power outage through the use of battery backup and other measures. Should we collect alternative or additional network reliability measures? If so, what should these measures be? We also seek comment on the public safety and accessibility issues raised by these trials.

D. Geographic All-IP Trials

AT&T and others have proposed an “all-IP” wire center trial. We have already sought comment on this general proposal, and an extensive record has been compiled addressing it. Each of the trials discussed above—VoIP interconnection, NG911, and wireline to wireless—address aspects of AT&T’s proposal.³⁷ Are there other aspects of moving from TDM to IP that a geographic trial of the kind AT&T has proposed would elicit helpful data – such as the ability to transition special-purpose TDM services?³⁸

We invite carriers interested in pursuing such a trial to submit a more detailed, comprehensive plan of how such a trial would work, including the design of the trial, the data that would be collected, the rules that would need to be waived and the role of the states and Tribes. In presenting a detailed roadmap for how such a trial would work, carriers, at a minimum, should list: (1) all of the services currently provided by the carrier in a designated wire center that the carrier would propose to phase out; (2) estimates of current demand for those services; and (3) what the replacement for those services would be, including current prices and terms and conditions under which the replacement services are offered.

II. Additional Trials

Numbering and related databases. We seek comment on a potential additional trial on numbering issues and related databases. The Commission recently authorized a limited 6-month trial to provide interconnected VoIP providers direct access to numbers, but that trial will not specifically examine changes in the structure of current numbering databases.³⁹ We note that the technology transition offers an opportunity to take a fresh look at the assignment of numbers and the features, capabilities, and security of numbering-related databases, and the TAC recently made related recommendations on these issues.⁴⁰ For example, there have been industry proposals for a unified, IP-accessible database that provides secure access to number-related information.⁴¹ Could a technology trial serve as a means to test new technical proposals for assigning telephone numbers, *e.g.*, individually instead of in blocks of 1,000? What protocols and procedures are most effective to assign and port numbers in an all-IP environment? Should there be a trial database that provides access to number-related information such as points of

³⁷ See AT&T Petition at 20–23.

³⁸ See <http://transition.fcc.gov/oet/tac/tacdocs/tac-meeting-summary-12-20-11-final.pdf>.

³⁹ See *VoIP Direct Access NPRM and Order*, FCC 13-51, paras. 99–107; see also *id.* at paras. 118–124 (adopting a *Notice of Inquiry* seeking comment on the practical and policy implications of transitioning telephone numbers to non-geographic distribution).

⁴⁰ See Hank Hultquist, *FCC Begins Transition to All-IP Interconnection*, AT&T Public Policy Blog (Apr. 29, 2013, 2:34 pm), available at <http://attpublicpolicy.com/fcc/fcc-begins-transition-to-all-ip-interconnection> (stating that “numbering databases may seem like the driest of telecom issues, but they are the key to enabling this transition [to all-IP interconnection]” and that “in order to move to IP interconnection, there must be a database that associates IP routing information with telephone numbers”) (last accessed May 7, 2013); see also <http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting121012/TAC12-10-12FinalPresentation.pdf>.

⁴¹ See <http://www.ietf.org/proceedings/83/slides/slides-83-dispatch-1.pdf> (last accessed May 7, 2013) and <http://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting121012/TAC12-10-12FinalPresentation.pdf>.

termination or caller-ID information? If so, how would we ensure that the information in the trial database(s) is kept consistent with existing databases such as the Local Exchange Routing Guide (LERG) and the caller-ID name (CNAM) databases? Should such databases support services other than voice, such as real-time video and text? Finally, should any such trial be conducted in conjunction with a VoIP interconnection trial or separately?

Improving Access for People with Disabilities. Ensuring that people with disabilities continue to have access to evolving technologies is another core value of the Act. We seek comment on what trials we should conduct to assess the potential for improving access for people with disabilities during this transitional period. We note that Ofcom has conducted a study into the effectiveness of automated speech-to-text as an assistive tool for individuals who are deaf and hard-of-hearing in VoIP communications.⁴² Should the FCC conduct a trial on the effectiveness of new speech-to-text technologies in the telecommunications relay service (TRS) context?⁴³ Could the Commission expand on the existing Ofcom study by evaluating the role of automated speech-to-text technologies in video-over-IP communications, including the extent to which the use of video could be used to enhance communication with such automated services if used for Internet Protocol Captioned Telephone Service (IP CTS)?⁴⁴ Are there other trials that the Commission might conduct to investigate methods of improving access for individuals who are deaf, hard of hearing, deaf-blind, or who have a speech disability?

Other Possible Trials. We seek comment on whether we should have any trials that focus more specifically on the copper-to-fiber transition. Should we consider a trial on issues relating to copper retirement? For example, should we consider a trial where the incumbent LEC sells some or all copper loops to a competitive LEC? Support for such proposition has been mixed, and it is unclear if it is feasible given that fiber and copper may be intertwined in the access plant. Also, any such approach raises questions about the pricing of such copper and access to the ILEC's shared facilities and space. We seek comment on how we would address these issues in a trial. We generally seek comment on these issues.

Are there other trials we should conduct that focus on consumer protection and universal service? Should we have a trial that focuses on how to improve access to communications services for low-income Americans? For example, as the transition from wireline to wireless rapidly progresses, an increasing number of Lifeline participants are selecting wireless as their preferred method of communication. Given these demographic shifts, and building off of the success of the *2012 Lifeline and Link Up Reform Order*, should the Commission conduct trials to collect data on ways to further improve Lifeline program?⁴⁵ Is a

⁴² See Ofcom, A Study Into the Effectiveness of Speech-To-Text as an Assistive Tool in VoIP Communications, <http://stakeholders.ofcom.org.uk/market-data-research/other/policy-related-research/usability-research/research/speech-to-text-voip/> (last accessed May 7, 2013).

⁴³ 47 U.S.C. § 225(a)(3) (defining TRS as “telephone transmission services that provide the ability for an individual who is deaf, hard of hearing, deaf-blind, or who has a speech disability to engage in communication by wire or radio with one or more individuals, in a manner that is functionally equivalent to the ability of a hearing individual who does not have a speech disability to communicate using voice communication services by wire or radio”).

⁴⁴ See 47 C.F.R. § 64.601(a)(12) (defining IP CTS as “[a] telecommunications relay service that permits an individual who can speak but who has difficulty hearing over the telephone to use a telephone and an Internet Protocol-enabled device via the Internet to simultaneously listen to the other party and read captions of what the other party is saying. With IP CTS, the connection carrying the captions between the relay service provider and the relay service user is via the Internet, rather than the public switched telephone network.”).

⁴⁵ See *Lifeline and Link Up Reform and Modernization et al.*, WC Docket Nos. 11-42 *et al.*, CC Docket No. 96-45, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 6656 (2012) (*2012 Lifeline and Link Up Reform Order and FNRPM*).

trial the right setting for the Commission to explore ways to test the appropriate monthly support amount for Lifeline voice service to better gauge the appropriate price point both for consumers and carriers who provide Lifeline services?⁴⁶ Are there other universal service issues that could be tested in a trial?

We also seek comment on whether we should have any trials that focus specifically on the delivery of services to consumers and communities on Tribal lands. We generally seek comment on any potential issues associated with trials taking place on the lands of American Indian Tribes, Alaska Native Villages, or on Hawaiian Home Lands.

III. Role of State and Tribal Governments

We seek comment on the role of states and Tribal governments. We note that NARUC has created a Presidential Task Force on Federalism and Telecommunications to focus on many of these same issues related to technology transitions, and we are committed to coordinating as effectively as possible with this and other state efforts.⁴⁷ We also note that the Commission's Intergovernmental Advisory Committee (IAC) has offered to play a role in working with states and localities on issues related to technology transitions.⁴⁸ How should states and Tribal governments be involved in the trials? Should the NARUC Task Force, the IAC, or any other Commission advisory committees, be involved in the selection of applications or areas? Does it depend on the nature of the trial? Should states or Tribal governments be involved in selecting geographic areas? Should non-governmental consumer-focused organizations be involved in the trial selection process or the implementation and monitoring of trials?

We generally seek comment on how to work cooperatively with the states and Tribal governments with respect to each trial and the nature of their involvement, including how to address issues where the state commission lacks jurisdiction over IP-based or wireless services. We also seek comment on providing states and Tribal governments with access to data collected during the trial, and what role states and Tribal governments should have in analyzing the data and providing recommendations to the Commission.

IV. General Trial Design and Structure

We seek comment on the process of establishing, structuring, and gathering useful data from these possible trials. How should the Commission structure the trials to address concerns about incumbent LECs operating on "best behavior" during the trials?⁴⁹ We seek comment on the process for selecting the geographic areas for the trials. We seek comment on the timing and duration of each trial. Should the

⁴⁶ See *2012 Lifeline and Link Up Reform Order and FNRPM*, 27 FCC Rcd at 6844–46, paras. 462–73 (seeking comment on the appropriate Lifeline support amount).

⁴⁷ See NARUC, Charter of the Task Force on Federalism and Telecommunications (Nov. 2012), available at http://www.naruc.org/Publications/12_1114_CharterTF_FederalismTelecom.pdf (last accessed May 7, 2013).

⁴⁸ See Intergovernmental Advisory Committee Policy Recommendation 2013-3, Jan. 8, 2013, available at <http://transition.fcc.gov/statelocal/recommendation2013-03.pdf>.

⁴⁹ See, e.g., T-Mobile Jan. 29, 2013 Comments, GN Docket No. 12-353, at 18 ("In a trial run, ILECs hoping to encourage the Commission to adopt deregulatory policies will have an incentive to refrain from abusing market power, but this incentive will disappear once the Commission eliminates pro-competitive regulations."); National Hispanic Media Coalition Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 5 ("The Commission's watchful eye will weigh heavily on the practices of AT&T in these markets, encouraging good behavior."); Cbeyond *et al.* Jan. 29, 2013 Comments, GN Docket No. 12-353, at 21–22 (stating that "incumbents would have a strong incentive to be on their best behavior during the trial runs"); Access Point *et al.* Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 4; Granite Feb. 25, 2013 Reply Comments, GN Docket No. 12-353, at 21; Public Knowledge Jan. 29, 2013 Comments, GN Docket No. 12-353, at 9; XO Jan. 29, 2013 Comments, GN Docket No. 12-353, at iii.

timing differ based on the type of trial? How should each trial wind down, and what would be grounds for terminating a trial altogether before its anticipated completion date?

We seek comment on how to acquire the most useful data from these trials. What sort of reporting should we require from participants and what sort of automated or non-automated data collection would be useful in each trial? Should the Commission require trial participants to collect the same data in certain non-trial areas to allow comparison with a control sample? To what extent should the Commission gather quantitative data and when is qualitative data preferable? We seek comment on the usability of the trial data. What sort of protections should apply to potentially sensitive data? Should information be confidential, filed pursuant to protective orders, or generally open to the public? Should we, as the Commission required in the *VoIP Direct Access Order*, issue a report with our findings after each trial concludes?

V. Legal Issues

We seek comment on whether any Commission rules or statutory provisions are implicated by the proposed trials. For example, entities participating in the wireline to wireless trial would need to file section 214 discontinuances.⁵⁰ Should we modify the process for the trials? Would the Commission need to waive or forbear from any rules before conducting a trial? We generally seek comment on these issues as well as any issues regarding the Commission's legal authority to conduct these voluntary trials.

Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. All comments are to reference **GN Docket No. 13-5** and may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS) or (2) by filing paper copies. See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.
- Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554.

⁵⁰ Section 214(a) of the Act requires common carriers to obtain Commission authorization before discontinuing, reducing, or impairing service to a community. See 47 U.S.C. § 214(a). Under Part 63 of its rules, the Commission has adopted specific requirements that clarify this duty and ensure that customers of domestic telecommunications services receive adequate notice of a carrier's discontinuance plans and have an opportunity to inform the Commission of any resultant hardships. See 47 C.F.R. §§ 63.60 *et seq.* In particular, before discontinuing service, a telecommunications carrier generally must notify all affected customers of its proposed discontinuances. Notice to customers must include the name and address of the carrier, the date of the planned service discontinuance, the geographic areas where service will be discontinued, and a brief description of the type of service affected. See 47 C.F.R. § 63.71(a). These requirements are intended to inform consumers about when their service may be discontinued and to provide them with an opportunity to object to any proposed discontinuances. See also *IP-Enabled Services*, WC Docket No. 04-36, Report and Order, 24 FCC Rcd 6039, 6042-43, para. 6 (2009).

The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.
- People with Disabilities: To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

In addition, one copy of each pleading must be sent to each of the following:

(1) The Commission's duplicating contractor, Best Copy and Printing, Inc., 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, www.bcpiweb.com; phone: (202) 488-5300 fax: (202) 488-5563;

Filings and comments are also available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554. They may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, telephone: (202) 488-5300, fax: (202) 488-5563, or via e-mail www.bcpiweb.com.

This matter shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules. Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentation and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented generally is required. Other rules pertaining to oral and written *ex parte* presentations in permit-but-disclose proceedings are set forth in section 1.1206(b) of the Commission's rules.

For further information, please contact Patrick Halley, Acting Deputy Director, Technology Transitions Policy Task Force, at 202-418-7550 or Patrick.Halley@fcc.gov.

-FCC-