Before the
**FEDERAL COMMUNICATIONS COMMISSION**
Washington, DC 20554

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| In the Matter of | ) | |
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| Technology Transitions | ) | GN Docket No. 13-5 |
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| AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition | ) | GN Docket No. 12-353 |

To: The Commission

## COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association ("TIA")[1] supports the broad objectives of the Federal Communications Commission ("Commission") as it tackles in a comprehensive and systematic fashion how both the industry and applicable governing regulations will transition to next-generations services and platforms. TIA applauds the Commission's efforts to initiate a diverse set of experiments and data collection initiatives allowing it and the public to evaluate this historic technology transition to transform our nation's communications networks.[2]

[1] TIA represents the global information and communications technology ("ICT") industry through standards development, advocacy, tradeshows, business opportunities, market intelligence and world-wide environmental regulatory analysis. Its hundreds of member companies manufacture or supply the products and services used in the provision of broadband and broadband-enabled applications. Since 1924, TIA has enhanced the business environment for broadband, mobile wireless, information technology, networks, cable, satellite and unified communications. TIA's standards committees create consensus-based voluntary standards for numerous facets of the ICT industry.

[2] *Commission Seeks Comment on AT&T's Proposal for Service-Based Technology Transitions Experiments*, *Public Notice*, GN Dockets Nos. 12-353 and 13-5 ("Public Notice" )

## I. Proposed Trials Respond to Marketplace Trends: Communications Networks Transitioning toward all IP-Based Technologies

The Commission's initiation of the trial process and AT&T's proposal appropriately reflect the pronounced trend toward IP-based communications.[3] TIA's own data from our *2013 Market Review & Forecast* underscores the extent to which the ongoing IP transition impacts the telecommunication marketplace.[4] The publication analyzed a wide range of data, weighing economic, technology, and policy drivers, with specific data on industry segments, including wireless data, wireline data, conferencing services, wired Internet access, network equipment and more. The data confirmed the speed with which the network transition is taking place and underscores the benefits associated with enabling the network transition.

AT&T's proposal notes the continued migration through which a "significant majority of Americans" have made the switch from TDM-based services to IP-based services.[5] As noted in our July 2013 comments, TIA forecasts that voice service markets are expected to experience decreases in circuit-switched spending, and we noted the phenomenon of households and businesses beginning to drop their circuit-switched lines. The data supports the conclusion that Voice over IP ("VoIP") growth will also drop to single digit levels as the market begins to mature and the technology enabling IP-based communication becomes more ubiquitous to consumers and businesses, because of wasted resources allocated to traditional TDM

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[3] See, *AT&T Proposal for Wire Center Trials*, GN Docket Nos. 13-5 and 12-353, found at: (filed Feb. 27, 2014)(discussing the vastly increasing amount of portals of communications for consumers produced by over-the-top ("OTTs") applications and services, such Vontage or Skype, changing the way we communicate and directly competing with tradition telephone companies)("AT&T Proposal").

[4] This data, as well as all other projections and statistics provided in this document which are not cited to otherwise, are derived from the TIA *2013 ICT Market Review & Forecast*, a propriety annual publication from TIA containing distilled data and analysis on information and communications technology industry trends and market forecast through the end of 2016. This document is available for purchase at http://www.tiaonline.org/resources/market-forecast.

[5] *See* AT&T Proposal p. 3 (reporting "more than 70 percent of residential consumers in the 22 states where AT&T is the legacy "phone company" have abandoned legacy phone service.").

communication for service-based technologies. It is imperative that the Commission takes these market cues as motivation to promote more studies towards an IP transition for service-based technologies.

Moreover, antiquated legacy TDM platforms, which are nearly approaching a 40- plus year lifespan, continue to be a major driver of the transition. These platforms require expertise and equipment spares which are becoming increasing sparse. If an original vendor were to go out of business, providing no alternative support or available spares, it could force carriers to migrate from their legacy silo model to a new voice platform. The only preventative measure is to ensure an IP platform transition.

## II. "Enduring Values" Can be Preserved with a Transition to all IP-Networks

The Commission has shown foresight by ensuring that the inevitable transition of legacy transmission platforms and technologies to Internet Protocols ("IP") networks occur in an organized and orderly fashion. TIA concurs with Chairman Wheeler's assessment generally that AT&T's submissions are "important steps" in the Commission's effort in determining the best course of action when implementing a transition from time-division multiplexing ("TDM") networks to IP networks, while still preserving the Commission's "enduring values" of the Network Compact.[6]

The preservation of the "four enduring values that have always informed

[6] See *Statement from FCC Chairman Tom Wheeler on Technology Transition Experiments*, found at: http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0221/DOC-325728A1.pdf (Released on Feb. 21, 2014) (defining the Network Compact's enduring values as "universal service, public safety, competition and consumer protection).

Communications law – public safety, universal service, competition, and consumer protection" is an appropriate expectation for a transition to all IP- networks. [7] As also articulated by Commissioner Rosenworcel in remarks to Congress, these values are an appropriate yardstick of performance:

> "As we develop a new policy framework for IP networks, we must keep in mind the four enduring values that have always informed communications law—public safety, universal service, competition, and consumer protection. To kick start this policy initiative—I believe we now need location-specific IP trials.[8]

Facilitating this transition is one of the most significant steps the Commission can take to affirmatively help promote broadband deployment and infrastructure investment while serving the public interest. In our previous comments, TIA noted the Commission's steps toward advancing the network transitions, and commended its continued reform of the Universal Service Fund ("USF") and Intercarrier Compensation ("ICC") allowing for a smooth transition to an all-IP network.[9] The "Fourth Network Revolution" is well underway, and we believe the Commission is taking all of the necessary steps in moving the telecommunications industry into the 21st Century.[10]

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[7] *See* Technology Transitions, et al., GN Docket No. 13-5, et al., Order, Report and Order and Further Notice of Proposed Rulemaking, FCC 14-5, at para. 11 (rel. Jan. 31, 2014) (Technology Transition Trials Order) at 36.

[8] see Stmt. of Comm'r Jessica Rosenworcel Before the Subcommittee on Financial Services and General Government Committee on Appropriations United States Senate, A Review of the President's FY2014 Funding Request and Justification for FCC (Sept. 11, 2013), http://www.fcc.gov/document/commissioner-rosenworcel-senate-hearing-fccfy2014-appropriations.

[9] See, Comments of the Telecommunications Industry Association, GN Docket No. 13-5 (filed on Jul. 8, 2013) ("July 2013 Comment").

[10] See o Chm. Wheeler. "The IP Transition: Starting Now ".*FCC.Gov*. Blogsite (November 19, 2013) d, from http://www.fcc.gov/blog/ip-transition-starting-now. last accessed March 31, 2014)

## III. Evaluation Criteria for IP-Network Trials

A critical step in any experiment or trial should be is to clearly identify in advance the metrics to be used to determine its success or failure. Toward this end, TIA proposes the following:

### a. **Technology Neutrality**

TIA supports the Commission's long standing commitment to technology neutrality. As a standard for determining the appropriateness of continuing legacy regulatory requirements, TIA advocates an approach that focuses on continued "substance" of a telecommunications service over its regulatory "form." Regulatory "substance" includes requirements actually impacting an end user's expectation regarding service availability and performance. Regulatory "form" may involve metrics of service technical attributes.

In an example in which regulatory form appears to trump substance, Alcatel cited its experience in which a carrier considering a PSTN migration was constrained by obligations associated with legacy voice features which required unnecessarily identical features to be provided in an IP-based replacement:

> … the IP-substitute included a nominal number of additional milliseconds of dial tone delay after switch hook closure compared to the legacy solution. While the percentage variation was insignificant with respect to customer quality of service, it was deemed unacceptable due to regulation tied to legacy technology. Ultimately, a lack of 100% equivalent implementation of existing tariffed voice services blocked the carrier's acceptance of the PSTN consolidation and retirement plan, notwithstanding a compelling business case and equivalent service quality. [11]

[11] See, Comments of Alcatel-Lucent Comments, GN Docket 12-353 at 16t 17 (filed Jan. 28 2013)

A critical factor for appropriate consideration must be that equipment that has exceeded their anticipated life cycle will inevitably become less reliable with age. Alternative technologies can exceed the performance of these deteriorated legacy investments.[12]

### *b. Impact on Communications Network Dependent Services*

The Commission appropriately asks for comment regarding the potential impact on Public Safety & NG911. TIA concurs that addressing these issues is essential to the success of trials. Many critical infrastructure systems across the nation rely on TDM for services and applications, and these essential functions must be provided an appropriate transition path so that key safety services can continue to function and are not stranded.

TIA notes that in addition to 911, commenters to the in these proceedings have previously noted the potential public interest impact on others services. For example, comments of the Alarm Industry Communications Committee are illustrative of the coordination necessary between carries implementing trails and customers using specialized communication services: [13]

"Customers' alarm monitoring services also may not operate when their POTS service is replaced with IP services if the IP services do not appropriately encode and decode the tone messages sent by alarm panels. In recognition of this problem, the National Fire Protection Association (NFPA) created a standard, which was inserted into the National Fire and Signaling Code (NFPA 72), to be followed by Managed Facilities Voice Network systems such as Verizon FIOS, AT&T U-Verse, and digital voice services of cable companies, to give alarm companies

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[12] See, Verizon's "Fire Island" experience after Superstorm Sandy provides a case study in the circumstances in which equipment failure necessitates such a technology transition, and how comparable services can be maintained. See http://www22.verizon.com/about/community/fireislandny.htm?CMP=DMC-CVZ_ZZ_ZZ_Z_ZZ_N_X00447 (last accessed March 31, 2014)

[13] **See,** Alarm Industry Communications Committee Comments, GN Docket 12-353 (filed February 25, 2013)

and their customers' equivalent service. If the providers of IP services do not follow the NFPA standard, alarm signals may not be transmitted to the alarm monitoring central office during a fire or security event, thus placing the customer in jeopardy."

Another example is the FAA's National Airspace System, which uses TDM applications and services extensively to deliver those services. While efforts are being made through the FAA's "NextGen" Programs[14] to upgrade the National Airspace System to communications interfaces based upon Internet Protocol (IP) standards, over 92% of FTI services continue to be TDM-based. [15]

The consumer and societal impact of that diversion of funds alone warrant close Commission scrutiny to ensure its policies promote all the societal benefits and opportunities associated with IP platforms. The Commission should ensure that its policies do not prolong the nation's reliance on legacy copper-based services or frustrate the ability of providers to choose the most efficient solutions for serving consumers.

TIA cautions that at this point, it is not entirely clear the extent to which the proposed trials will provide transparency to these IP transition related issues.

c. **Competition issues**

In its January 30, 2014 public notice the Commission states: "We state again that these service-based experiments are not intended to test technologies *per se* or to resolve legal or policy debates."[16] In turn, AT&T states in its proposal: "Consistent with the Commission's intent, AT&T is not seeking to resolve any issues through this application, nor in this phase of

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[14] See, Federal Aviation Administration, What is NextGen? Describing the National Airspace System (NAS). *available at* http://www.faa.gov/nextgen/why_nextgen_matters/what/ (last accessed March 31, 2014).

[15] *See*, Harris Corp. Comments, GN Docket 12-353 at 1-2 (filed Jan. 28, 2013)

[16] See, Technology Transition Trials Order at 25.

the proposed trial, on such issues, including those concerning the extent to which wholesale obligations associated with an ILEC's provision of TDM-based services, such as the required unbundling of high capacity loops or the resale of telecommunications services, apply to IP-based services." [17]

The proposed trials, as a consequence, defers until a later date addressing the interconnection issues associated with the transition to and all IP-network.

### *IV. Encouraging Network Investment*

TIA continues to support leaving key questions regarding the timing of an IP-transition to the market-based economic considerations of carriers. Investment decisions are appropriately left to individual companies weighing competing considerations and limited resources. Carriers contending with higher maintenance costs associated with legacy equipment already have strong incentives to make appropriate technology transitions as quickly as feasible.

Never the less TIA strongly supports the conclusion of the Commission that:

"Modernizing communications networks can dramatically reduce network costs, allowing providers to serve customers with increased efficiencies that can lead to improved and innovative product offerings and lower prices. It also catalyzes further investments in innovation that both enhance existing products and unleash new services, applications and devices, thus powering economic growth. The lives of millions of Americans could be improved by the direct and spillover effects of the technology transitions, including innovations that cannot even be imagined today. [18]

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[17] See, Public Notice: "We state again that these service-based experiments are not intended to test technologies *per se* or to resolve legal or policy debates. Rather, we seek to create arenas of innovation where providers and their competitors, and the customers of each, are free to explore a variety of approaches to resolving any operational challenges that result from transitioning to new technology and that may impact users." At 37. See AT&T Proposal at footnote 23: "Consistent with the Commission's intent, AT&T is not seeking to resolve any issues through this application, nor in this phase of the proposed trial, on such issues, including those concerning the extent to which wholesale obligations associated with an ILEC's provision of TDM-based services, such as the required unbundling of high capacity loops or the resale of telecommunications services, apply to IP-based services."

[18] See, Technology Transition Trials Order at 2

TIA strongly applauds the Commission for recognizing these opportunities.

**V. *Conclusion.***

The Commission should continue to conduct a thorough review of our nation's transition to IP platforms, and help all affected parties navigate the transition in a manner that promotes additional infrastructure investment while protecting consumers and competition.

Respectfully submitted,

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