

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

In the Matter of)

AT&T Petition to Launch a Proceeding)
Concerning the TDM-to-IP Transition)

Petition of the National Telecommunications)
Cooperative Association for a Rulemaking)
To Promote and Sustain the Ongoing)
TDM-to-IP Evolution)

GN Docket No. 12-353

REPLY COMMENT OF THE PUBLIC SERVICE COMMISSION OF WISCONSIN

AT&T Inc. has requested that the Federal Communications Commission (Commission) open a proceeding, and consider approval of a series of trials to facilitate the transition from the time-division multiplexing (TDM) network of the past to the Internet Protocol (IP)-based network of the future.¹ The National Telecommunications Cooperative Association (NTCA) filed a petition asking the Commission to examine means of promoting the ongoing evolution of the Public Switched Telephone Network to an IP infrastructure.² The Commission sought comments and replies on these petitions by its Public Notice of December 14, 2012.³ Several parties filed comments on these petitions on January 28, 2013. The Public Service Commission of Wisconsin (PSCW) appreciates the Commission's invitation to explore these critical issues. This reply comment briefly addresses the issues in general and certain of the initial comments filed by other parties.

¹ Petition of AT&T Inc. filed on November 7, 2012.

² Petition of NTCA filed on November 19, 2012.

³ Comments due by January 28, 2013; Reply Comments due by February 25, 2013.

Network Evolution

The PSCW has long recognized that the telecommunications network was, and is, evolving. Almost two decades ago, the PSCW found that,

The public switched networks, such as those built and maintained by the LECs . . . are facing a major technological change in the evolution from a primarily analog “narrow-band” network designed chiefly for voice traffic, to a digital “broadband” network capable of carrying voice, video, and data. The fundamental transmission mode of the network is changing from analog circuits to digital circuits, and, finally, to digital packets.⁴

Since the introduction of the SLC-96 technology in the 1970s, the network has become increasingly packet based and standardized on Internet Protocol. TDM technology is outdated and its demise should be planned, not a matter of happenstance. The PSCW thus agrees with the intentions of both AT&T and NTCA that the evolution of the network continue and that a focused approach should be explored as to how to effectively and logically move to an IP network world. The PSCW agrees with AT&T about the importance of eliminating perverse incentives and any regulatory uncertainties that would slow the replacement of obsolete technologies. The PSCW also supports the NTCA concern that the IP evolution must be sustained in a manner consistent with objectives of protecting consumers, promoting competition and ensuring universal service.⁵

⁴ Final Order, *Petition of Ameritech Advanced Data Services of Wisconsin, Inc., for Authority to Resell FRS, SMD and ATM Services*, PSCW Docket 7852-TI-100 (Sept. 1, 1995) (subsequent history omitted).

⁵ Similar concerns are rightly raised by the California Public Utilities Commission, Comments of January 28, 2013, at page 15 (“California urges the FCC to seek to continue implementing the IP-transition in a way that will preserve states’ ability to ensure universal service, protect consumers, ensure reliability of their essential communications networks, and promote competition.”) and the Indiana Utility Regulatory Commission, Comments of January 28, 2013, at page 6 (“Whatever approach is decided upon must fulfill the statutory cornerstones of consumer protection, competition and universal service.”).

The PSCW sees merit in the AT&T idea of trials, provided they are carefully crafted to address these very concerns about consumers, competition, and universal service, and provided that the trials are structured and conducted in a manner to yield useful information for further actions. As noted by NECA and OPASTCO:

Trials of some kind may indeed be useful in evaluating the effects of replacing today's TDM services with an all-IP network and, in the process, addressing current regulations applicable to today's telecommunications services. The Commission should not, however, permit trials to proceed unless and until their precise scope can be better defined, and the significant regulatory and legal questions raised by AT&T's proposal are resolved via focused notice and comment proceedings.⁶

The PSCW is open to assisting in that endeavor.

Wisconsin IP Conversion Experience

Several small Wisconsin incumbent local exchange carriers (ILECs) have already converted to an all-IP infrastructure in their outside plant, and have experimented with IP switching and interconnection.⁷ Their experiences may prove instructive.⁸ One lesson this experience reinforces is that the services provided to retail customers are largely independent of the underlying technology. In most circumstances, customers are not buying TDM or IP; they are buying the ability to communicate. These ILECs have managed to replicate the services offered on TDM networks, even to the extent of making customers' rotary phones

⁶ Comments of National Exchange Carrier Association, Inc. (NECA), and the Organization for the Promotion and Advancement of Small Telecommunications Companies (OPASTCO) dated January 28, 2013, at page 9.

⁷ Apparently, these small ILEC conversions occurred without formal Section 214 approvals. But as AT&T is in a much different situation, its request for waiver of Section 214, 47 U.S.C. § 214 is understandable. As suggested by AT&T in its Petition, at 13, its concerns would be satisfied by a simple finding that *replacing* TDM-based network service with IP-based service that provides at least "all the essential functionalities as before, plus additional functionalities," is not in violation of Section 214.

⁸ Wisconsin rural local exchange carriers that have experience with IP include Bloomer Telephone Company, which has an extensive fiber to the home network, Wood County Telephone Company (d/b/a Solarus), and Chibardun Telephone Cooperative, Inc. (d/b/a Mosaic Telecom).

work over an IP network. What has proven more difficult to accommodate over IP are older, business-oriented services, like key systems and outdated PBX systems.

An important qualification in the Wisconsin experience is that the Wisconsin ILECs that have the most experience with all IP networks have been smaller, rural providers. Most of them have not had competitors directly interconnecting, do not have other providers subtending their tandems, and have not sold unbundled network elements. In that respect, the experience of these smaller rural ILECs is probably not an absolute indicator of the effects of the conversion to an all IP network.

Potential Useful Elements of a Trial

The PSCW believes there are three distinct areas where concerns or problems may well arise in the conversion from a TDM to IP network: retail services, interconnection with other ILECs, and interconnection with competitors. Each of these areas has a different set of concerns and issues, and these should be recognized in the crafting of the trial parameters.

The retail issues are less about actually providing service; in an IP world, nearly any older technology can be emulated, but existing older equipment, including FAX machines, key systems and some older PBXs, may not work over IP facilities. The challenge comes in explaining to customers why new interface devices are being installed in their homes, why existing equipment may need to be upgraded, and what the new options mean to them. Generally, Wisconsin companies have done a good job of educating their customers about network upgrades, but the PSCW has become involved when customers need further explanations or want confirmation of what they are hearing from providers. In rare cases, existing customer applications (especially those of larger businesses) will require

modifications or special handling, and the PSCW has been involved in facilitating resolutions of these issues. Since states are particularly well-suited to these roles, the PSCW suggests that the Commission incorporate in any trials the opportunity for a state commission to facilitate resolutions to these sorts of problems and to provide a report of facilitation activities to the Commission at the conclusion of the trial. As noted by the comments from the Pennsylvania Public Utility Commission, “The states must be active partners assigned to identify pilot study areas and wire centers. The states should have active responsibility to monitor and report back to the FCC on developments in any proposal.”⁹

The second area of potential concern in the conversion to an all IP network for a provider like AT&T involves interconnection with wireless carriers and other ILECs. Wisconsin has 83 ILECs, and a number of facilities-based wireless providers. All of these providers are interconnected. Neighboring ILECs typically have extended area service (EAS)¹⁰ arrangements to allow customers to make local calls across exchange and company boundaries. AT&T interconnects with several wireless providers. Many of the rural ILECs also exchange toll traffic with AT&T tandems, and they may be interconnected in other ways.¹¹ These providers have every incentive to ensure that traffic continues to flow; however, coordinated action will be needed to identify and resolve all incompatibilities in a timely manner. The Commission may wish to review its notice requirements for network changes to ensure that they serve to facilitate such inter-ILEC and wireless-ILEC actions and

⁹ Comments of the Pennsylvania Public Utility Commission filed January 28, 2013, at page 7.

¹⁰ In Wisconsin, there is another local interexchange calling option called Extended Community Calling (ECC) that exists at almost all exchanges across the state.

¹¹ Typically, ILECs will have trunk groups dedicated to 911, operator services, and foreign exchange service. Interconnected ILECs may also need to find new ways to capture data used for billing access service.

perhaps explore or develop mechanisms in a trial in which a state commission may facilitate resolution of tandem interconnection issues.

The third area involves interconnected competitive local exchange carriers (CLECs), especially those purchasing unbundled network elements. The CLECs are providing service, often advanced service, to end users using part of the AT&T network. Some of those advanced services may rely on TDM components or functionalities that may not exist in an IP network. The functionalities may be replicable on an IP network, but that replication may require effort and expense. In some cases, it may not be possible to replicate the exact services being offered, and CLECs, their customers, or both may incur costs of upgrading to remain compatible with the AT&T network. This may be addressed in interconnection agreements, but where it is not, other action may be necessary. The Commission may need to intervene, if existing agreements would prohibit this network evolution, and ensure that AT&T and affected CLECs can negotiate a fair sharing of the costs and inconveniences if AT&T's change to an IP network impacts CLECs and their customers. Hopefully, this would be necessary only in exceptional circumstances and to address difficult fiscal issues; most technical issues should be resolvable through meetings of the technical staffs of AT&T and the affected CLECs.

Potential PSCW Assistance

The PSCW suggests that some limited trials in particular wire centers would help identify problems and serve as laboratories for solutions. Any trials would need careful structure, implementation and monitoring. As noted by NECA and OPASTCO:

. . . [T]he Commission should consider carefully how it would obtain meaningful data from trials. As noted above, a critical threshold question is what, exactly, would be tested. Examples of specific areas of inquiry may include network performance, impacts on demand for specific services, effects on competition,

service adoption rates among differing communities, impacts on connecting carriers and a myriad of other potential concerns. Since virtually all such effects can likely be measured in some way, it seems logical to require carriers submitting test plans to include outcome measurement methods.¹²

The PSCW believes that “ideal” trial wire centers should have a wide mix of customers, so the impact of the IP transition on all typical services is tested. The trial wire center should also be interconnected with other providers, to determine what impact the change to IP might have on EAS (or ECC) interexchange trunk arrangements, connections with 911 public safety answering points, etc. At least one test wire center should include a tandem with connections to subtending rural ILECs and to wireless providers to determine what issues the change to IP might create in such cases. Finally, the chosen wire centers should have some, but not too many, interconnected CLECs. The ideal number, the PSCW submits, would be enough to identify most common conflicts, but few enough that a “work group” of AT&T and CLEC subject matter experts would not be unwieldy.

The PSCW notes that AT&T serves several wire centers in Wisconsin that meet the requirements suggested above. If the Commission wishes to choose a Wisconsin wire center for a trial, the PSCW would be strongly interested in assisting in this matter.¹³ The PSCW has the experience and capability to (a) handle customer inquiries, (b) convene stakeholder

¹² Comments of NECA and OPASTCO dated January 28, 2013, at page 12.

¹³ Several parties, including the National Association of Regulatory Utility Commissioners (NARUC) (of which the PSCW is a member), have raised jurisdictional, pre-emption and forbearance arguments about the ability of the FCC to take the actions requested by AT&T. At page 4 of its January 28, 2013, comments, NARUC states, “If the FCC chooses to proceed to consider forbearance of *federal* requirements, coordination with State counterparts is crucial to avoid unintended consequences that undermine State legal mandates as well as State consumer interest.” Wisconsin is in a situation that underscores its qualifications as a trial location. With passage of 2011 Wisconsin Act 22 (effective June 9, 2011), the telecommunications regulatory landscape in Wisconsin was changed significantly; the PSCW no longer regulates retail telecommunications, and carrier of last resort obligations will expire April 30, 2013. Wis. Stat. § 196.503. Thus the development of a trial in Wisconsin (though certainly needing to carefully address a variety of issues, like consumer protection and unintended consequences) could proceed without raising pre-emption concerns that may well be more serious and have greater traction in other states.

meetings and work groups to identify and resolve technical issues, and (c) mediate and facilitate discussions between affected providers.

Conclusion

The PSCW believes that the time has come to engage in a well-planned and timely transition to an all-IP network. The AT&T trial proposal—carefully crafted—presents a reasonable starting framework for engaging the relevant stakeholders, and the PSCW submits that it and other state commissions can materially assist the process in coordination with the Commission.

Dated at Madison, Wisconsin, this 22nd day of February, 2013.

By the Commission:



Sandra J. Paske
Secretary to the Commission

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