

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Petition for Declaratory Ruling That)	
tw telecom inc. Has The Right To Direct)	
IP-to-IP Interconnection Pursuant To)	WC Docket No. 11-119
Section 251(c)(2) Of The Communications Act,)	
As Amended, For The Transmission And)	
Routing Of tw telecom's Facilities-Based VoIP)	
Services And IP-In-The-Middle Voice Services)	

REPLY COMMENTS OF SPRINT NEXTEL CORPORATION

Charles W. McKee
Vice President, Government Affairs
Federal and State Regulatory
900 7th Street, NW, Suite 700
Washington, DC 20001
(703) 433-4503

W. Richard Morris
Senior Counsel, Government Affairs
6450 Sprint Parkway
Overland Park, KS 66251
(913) 315-9176

August 30, 2011

EXECUTIVE SUMMARY

The National Broadband Plan encourages broadband deployment and adoption of IP services to foster National competitiveness, reduce costs, and provide consumers new and improved services. Adoption of an all-IP world for broadband voice services requires that IP networks interconnect with each other. The Commission should adopt IP voice interconnection obligations to accelerate the transition to an IP-based network, harvest the immense cost savings inherent in IP networks, and bring about the widespread availability of the myriad of new and exciting services that IP technology facilitates.

Sprint agrees with tw telecom that the Commission should act to ensure that ILECs provide IP voice interconnection, especially when they provide VoIP services to their own customers. Classification of VoIP as a telecommunications service or an information service, however, is not required and debates over the appropriate jurisdictional vehicle should not slow the Commission's action on this critical interconnection point. The issue of IP voice interconnection is severable from the regulatory classification of VoIP traffic because the Commission possesses ample authority to require ILECs to negotiate IP voice interconnection agreements regardless of the regulatory classification applied to broadband voice services.

tw telecom, Sprint, and others have been unsuccessful in securing IP voice interconnection from ILECs, demonstrating that the ILECs are exercising their market power over interconnection with the PSTN and denying reasonable IP voice interconnection. Government oversight is needed to curb this exercise of ILEC market power. The absence of government oversight will only permit the ILECs to exploit their market power by either denying IP interconnection altogether or by requiring monopoly rents for that interconnection. Either

outcome is unacceptable. In effect, the ILECs want the authority to determine unilaterally the pace and development of the broadband voice services market.

ILECs are also playing a game of “hide the pea” with their IP interconnection facilities. The ILECs place those facilities in “affiliates” and claim that the ILEC does not have IP interconnection facilities. Yet the ILECs offer VoIP services to customers and perform IP interconnection functionality for the voice traffic among their customers and their affiliate’s customers. The Commission should also assert authority over the ILECs in this regard and not allow ILECs to deny IP voice interconnection through the creation of a corporate structure that they claim is beyond the jurisdiction of the Commission.

IP voice interconnection need not be delayed while interconnection standards are developed. Sprint and many other companies have IP voice interconnection arrangements with one another even in the absence of standards. The ILECs already interconnect with their affiliates for the provision of IP voice services. These ILECs possess media gateways and other IP infrastructure for use in providing their own VoIP services and their own intra-company IP voice interconnection. Those facilities can and should be used to perform the same functionality for IP Voice traffic exchanged with others. Companies have sufficient experience to accomplish IP voice interconnection without delaying such interconnection while standards are slowly developed through a process involving reluctant ILECs.

Broadband deployment will be accelerated by IP voice interconnection. As AT&T has pointed out, money diverted to preservation of the less efficient TDM network only reduces investment in broadband deployment. The Commission should speed the development of IP networks and address the ILEC’s inherent market power over interconnection.

Table of Contents

I. INTRODUCTION.....	1
II. TW TELECOM’S PETITION RAISES TWO DISCRETE ISSUES: THE APPROPRIATE REGULATORY CLASSIFICATION OF VOIP SERVICES AND THE OBLIGATIONS TO PROVIDE IP-TO-IP INTERCONNECTION.....	2
III. THE FCC SHOULD ADDRESS SEPARATELY THE ISSUE OF WHETHER VOIP COMMUNICATIONS SHOULD BE PROPERLY CLASSIFIED AS A TELECOMMUNICATIONS OR INFORMATION SERVICE.....	4
IV. CONSUMERS WILL REALIZE ENORMOUS BENEFITS AS THEIR VOICE CALLS ARE INTERCONNECTED ON AN ALL-IP BASIS.....	6
A. End-to-End IP Connectivity Would Enable Industry to Introduce and Make Widely Available to Consumers a Robust Set of New Capabilities.....	6
B. IP-to-IP Connectivity Would Enable Industry to Remove More Than \$1 Billion Annually in Current TDM Transport Costs.....	7
V. THE INCUMBENT LEC OBJECTIONS TO IP VOICE INTERCONNECTION LACK MERIT.....	9
A. Competitive IP Network Operators Do Not Seek Access to “Unbuilt, Superior” Networks.....	10
B. AT&T and Verizon Take an Unreasonable Position Regarding the Costs of IP-to-TDM Protocol Conversions.....	12
C. Industry Standards Are Not a Necessary Precondition to IP Voice Interconnection Agreements.....	14
D. IP Voice Interconnection Will Promote, Not Hinder, Broadband Deployment and Use.....	15
E. Verizon’s “Business Case” Defense Is Not Legitimate.....	16
VI. CONCLUSION.....	17

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Petition for Declaratory Ruling That)	
tw telecom inc. Has The Right To Direct)	
IP-to-IP Interconnection Pursuant To)	WC Docket No. 11-119
Section 251(c)(2) Of The Communications Act,)	
As Amended, For The Transmission And)	
Routing Of tw telecom's Facilities-Based VoIP)	
Services And IP-In-The-Middle Voice Services)	

REPLY COMMENTS OF SPRINT NEXTEL CORPORATION

Sprint Nextel Corporation ("Sprint") hereby respectfully submits its Reply Comments in response to tw telecom inc.'s Petition for Declaratory Ruling seeking clarification of IP interconnection rights and obligations.¹

I. INTRODUCTION

Sprint agrees with tw telecom and other parties that IP voice interconnection is critically important to consumer welfare. In fact, Section 706 of the 1996 Act requires the Commission to take actions to promote adoption of advanced technologies, including broadband voice services over all-IP networks.² Sprint further agrees that ILECs have shown an unwillingness to accept an obligation to establish IP-voice interconnection.

IP voice interconnection must be accomplished as a matter of right, must be done efficiently, and must be based on reasonable terms. Sprint agrees with tw telecom that this cannot be accomplished without government oversight due to the market power that ILECs

¹ See, *tw telecom inc. Petition for Declaratory Ruling Regarding Direct IP-to-IP interconnection Pursuant to Section 251(c)(2) of the Communications Act ("tw telecom Petition")*, Public Notice, WC Docket No. 11-119, DA 11-1198, July 15 2011.

² See, 47 U.S.C. § 1302.

possess. While Sprint agrees with tw telecom’s goal of establishing IP voice interconnection rights, Sprint believes the Commission should address the IP voice interconnection issue and use its authority to require such interconnection without addressing the regulatory classification of VoIP traffic. These issues are severable and the Commission need only address the interconnection issue to provide the real relief that tw telecom and other competitive IP network operators seek.³

II. TW TELECOM’S PETITION RAISES TWO DISCRETE ISSUES: THE APPROPRIATE REGULATORY CLASSIFICATION OF VOIP SERVICES AND THE OBLIGATIONS TO PROVIDE IP-TO-IP INTERCONNECTION

The tw telecom petition asks the FCC to make two rulings: (1) its “facilities-based VoIP services fall squarely within the subset of telecommunications services . . . in the Act;” and (2) it therefore has “the right under Section 251(c)(2) to interconnect with incumbent LECs at an IP-to-IP interface at cost-based rates for purpose of transmitting and routing facilities-based VoIP traffic.”⁴ But, as Google and others correctly note, tw’s petition raises “two important but entirely separate issues: carrier interconnection rights and the appropriate classification of certain VoIP services.”⁵ Notably, “a Commission decision classifying tw telecom’s facilities-based VoIP offering as a telecommunications service does not necessarily lead to the legal conclusion

³ Today, the preponderance of voice traffic uses the TDM PSTN for either origination or termination. Soon the crossover point where there are more VoIP customers than TDM customers is expected to be reached. (*See, infra*, fns. 17 and 18 and associated text). As additional broadband facilities are deployed and more voice traffic moves to IP-based services, the bulk of voice traffic will be IP-based and the TDM PSTN will decrease in importance. The Commission, however, must ensure that voice traffic is exchanged on reasonable prices, terms, and conditions whether the network providing the exchange is TDM PSTN, an all IP network, or a combination of the two.

⁴ *tw telecom Petition* at 15.

⁵ *See, Comments of Google Inc.* at 15.

that IP-to-IP interconnection involving different VoIP services falls within the purview of Title II of the Communication Act.”⁶

Other parties recognize that the FCC need not address the regulatory classification issue as a precondition to grant of IP voice interconnection rights. For example, the cable industry argues that incumbent LECs are subject to the interconnection obligations of § 251(c)(2) regardless of whether tw telecom’s particular services are classified as telecommunications services or not.⁷ Furthermore, as Sprint has previously demonstrated, the FCC has ample authority under its Title I ancillary authority to require IP voice interconnection even if IP voice is deemed to be an information service.⁸

Consequently, it is not necessary for the FCC to determine the regulatory classification for IP voice services before addressing the interconnection obligations of IP network operators. As discussed below, the FCC can – and should – address the regulatory classification of IP voice services separately from the issue of the interconnection obligations that should be imposed on IP network operators.⁹

⁶ See, *Comments of Google Inc.* at 15. See also, *Opposition of the Voice on the Net Coalition (“VON Opposition”)* at 6.

⁷ See, *Comments of Cablevision Systems Corporation and Charter Communications, Inc.* at 4-6.

⁸ See, *Sprint Reply Comments*, Docket Nos. 10-90 *et. al*, Appendix D (May 23, 2011).

⁹ Sprint’s Comments should not be read to imply that tw telecom has not presented a thorough, well-reasoned, and legally supportable method of achieving IP voice interconnection using Title II authority. If the Commission is persuaded to resolve the service classification issue in this proceeding and to use its Title II authority to achieve the objective of IP voice interconnection, then the Commission should concurrently act to ensure that VoIP retail services (both facilities-based and over-the-top) are not subject to heavy Title II regulation. This includes no retail VoIP tariffing requirements, no retail price regulation, and no access charges applied to VoIP services. Because VoIP services have been categorized as interstate (see, e.g. *In the Matter of Universal Service Contribution Methodology*, WC Docket No. 06-122 *et al*. Report and Order and Notice of Proposed Rulemaking, Released June 27, 2006 at ¶ 5) the Commission should continue to exert its primary jurisdiction over VoIP services and preclude the states from onerous, expensive, and service delaying state-by-state arbitration of IP voice interconnection issues.

III. THE FCC SHOULD ADDRESS SEPARATELY THE ISSUE OF WHETHER VOIP COMMUNICATIONS SHOULD BE PROPERLY CLASSIFIED AS A TELECOMMUNICATIONS OR INFORMATION SERVICE

In its petition, tw telecom asks the FCC to rule that two of its “facilities-based VoIP services” – specifically, its “Direct SIP Trunk” service and its “Converged Voice” service – are telecommunications services and thus subject to the requirements in Title II of the Act.¹⁰ Some parties support the Petition.¹¹ Other parties contend that VoIP is instead “an information service, whether it is facilities-based or an over-the-top service.”¹²

With respect to the issue of VoIP service regulatory classification, Sprint believes that the FCC should give careful consideration to three points:

First, and most importantly, the FCC need not classify VoIP service as a precondition to imposing IP voice interconnection obligations, as discussed above. Establishment of interconnection rights and obligations is critical to the development of broadband networks and should not be delayed as a result of debates over the various jurisdictional arguments that may be made. Suffice it to say that the Commission has extensive jurisdiction over voice communications and has clear authority to mandate IP voice interconnection, regardless of how broadband services are classified.

Second, as Alcatel-Lucent correctly observes, it is imperative that the FCC address the regulatory classification subject in “a comprehensive manner” and not in “a piecemeal manner.”¹³ Competition in the provision of broadband services generally, and VoIP services in particular, can only thrive if all providers are subject to consistent regulations. For example, while tw telecom would limit the FCC’s order to tw telecom’s “facilities-based” services, these

¹⁰ *tw telecom Petition* at 8-15. In its Petition, tw telecom provides very little information concerning these two services or how they even differ from each other.

¹¹ *See, e.g., Comments of Public Knowledge in Favor of Granting the Application.*

¹² *See, e.g., VON Opposition* at 3 and *Comments of Alacatel-Lucent* at 6.

¹³ *Comments of Alacatel-Lucent* at 3-5.

and other “facilities-based” services compete with “over-the-top” VoIP services. Obviously, competition cannot thrive if, for instance, facilities-based services are subject to intercarrier compensation when over-the-top services are not. Similarly, IP voice interconnection will facilitate the ability of the industry to promote a whole host of new capabilities that can be provided to consumers. One such likely capability is video calling (similar to Skype’s over-the-top service or the Apple iPhone video calling capability now available through Wi-Fi networks). Again, it is imperative that all such services be subject to the same regulatory regime so government rules do not distort competition.

Third, Sprint urges the FCC to consider the consequences of a finding that VoIP service is a telecommunications service and choose not to subject VoIP to the full panoply of Title II regulation should it choose to order IP voice interconnection based on tw telecom’s analysis. As Alcatel-Lucent correctly notes, “Subjecting facilities-based VoIP services to legacy common carrier regulation . . . would fail to advance this goal” of promoting broadband deployment:

For example, subjecting IP-enabled services to tariffing requirements and economic regulation – a possible outcome if tw telecom’s petition is granted – would have detrimental effects on the industry, as the Commission has recognized in other contexts.¹⁴

It is noteworthy that the Technical Advisory Committee (“TAC”) recently recommended that VoIP service should be subject to “the least restrictive regulatory environment that still protects the public interest.”¹⁵

Nonetheless, Sprint agrees with tw telecom that the FCC should clarify IP voice interconnection rights and obligations “as soon as possible.”¹⁶ Sprint submits that the best way

¹⁴ *Id.* at 11 and fn 25.

¹⁵ See, *TAC Recommendations, Technology Advisory Council, Status of Recommendations (“TAC Recommendations”)* at 17 (June 29, 2011) available at <http://transition.fcc.gov/oet/tac>.

¹⁶ tw telecom Petition at 5.

to achieve this end is for the FCC to address the IP voice interconnection issue directly, without additionally addressing the regulatory classification subject.

IV. CONSUMERS WILL REALIZE ENORMOUS BENEFITS AS THEIR VOICE CALLS ARE INTERCONNECTED ON AN ALL-IP BASIS

The TAC predicts that the number of TDM lines in service in 2014 will be fewer than 42 million¹⁷ and AT&T predicts that 45 million VoIP customers will exist by year-end 2011.¹⁸ Yet, ILECs deny the benefits of end-to-end IP connectivity to their own VoIP customers by requiring VoIP calls to be converted to TDM. The reality is that this situation will not change until the FCC clarifies VoIP interconnection rights and obligations.

Consumers will realize enormous benefits as their VoIP calls are handled between companies on an IP-to-IP basis. Notably, no one, including ILECs which object to providing VoIP interconnection, claim that consumers would not benefit greatly by end to end all-IP connectivity, which necessarily requires IP voice interconnection between IP networks.

A. End-to-End IP Connectivity Would Enable Industry to Introduce and Make Widely Available to Consumers a Robust Set of New Capabilities

The number and type of new capabilities that become possible with all IP connectivity is virtually limitless. As Vint Cerf, one of the founding fathers of the Internet has stated:

It is my honest opinion that we have barely scratched the surface of the various applications to which SIP may be adapted. If we have seen 1% of the applications of SIP so far, then there are still 99% waiting to be invested, developed or deployed. The generality of SIP will make it a major workhorse of the Internet of this century.¹⁹

Moreover, there is a significant positive stimulation, both for the industry and for the U.S. economy as a whole, which can be unlocked by enabling end-to-end IP networks. As noted by

¹⁷ See, *TAC Recommendations* at 10.

¹⁸ See, *Comments of AT&T Inc., On the Transition From Legacy Circuit-Switched Network to Broadband*. In the Matter of A National Broadband Plan for Our Future, GN Docket No. 09-51 *et al.* at 9.

¹⁹ Forward by Vinton G. Cerf to "SIP Beyond VoIP: The Next Step in the IP Communications Revolution," by Henry Sinnreich, Alan B. Johnson, Robert J. Sparks (VON Publishing, October 2005).

Google, “IP networks also allow network providers (and others) to offer new and innovative services to generate fresh sources of revenue, creating economic opportunity, jobs and growth. In fact, growing revenues due to broadband deployment and IP services can outpace falling revenues from transitional PSTN service.”²⁰

B. IP-To-IP Connectivity Would Enable Industry To Remove More Than \$1 Billion Annually In Current TDM Transport Costs

IP technologies reduce costs, make the United States more competitive, and help grow the economy. Clinging to TDM interconnection for VoIP traffic rather than using IP-to-IP interconnection is antithetical to the government policy of capturing the benefits of IP technology and broadband networks.

TDM interconnection is costly, utilizing expensive, splintered, low capacity facilities and points of interconnection that are inefficiently decentralized as compared to much more efficient, modern IP networks. By contrast, IP voice interconnections utilize fewer handoff points and more efficient higher capacity transport facilities which greatly reduce cost. In fact, IP technology lowers essentially all network costs while improving service quality. As Google has correctly observed, “IP networks decrease provisioning and circuit costs, switch costs, space needs, energy costs, signaling costs, and associated overhead while improving network reliability and survivability.”²¹

The illustration in Attachment 1 contrasts IP voice interconnection (the type of interconnection Sprint employs with about a dozen competitive carriers) with TDM interconnection (the type of interconnection Sprint employs with ILECs). As shown in the illustration, the IP voice interconnection arrangement requires only four points of interconnection

²⁰ See, *Comments of Google Inc.* at 4.

²¹ *Id.*

with a major IP voice peering partner to serve areas across the nation. High capacity transport provided by the terminating company moves traffic from these few IP voice interconnection points to anywhere the partner serves in the nation. There is no technical reason ILECs could not participate in a similar arrangement. The ILEC would pick up the IP voice traffic at a handful of IP voice interconnection points and use its existing facilities to deliver calls to its customers and would deliver its IP voice traffic to these points so that carriers it interconnects with could use their IP facilities to deliver IP voice traffic to their customers.

In contrast, TDM interconnection with an ILEC typically involves multiple interconnection networks in each LATA as ILECs routinely require disaggregated interconnection in the form of separate trunking for 1) local interconnection, 2) wireless interconnection, and 3) FGD access interconnection. The interconnection and transport facilities are relatively small capacity – and size matters to unit costs. Further, traffic must be delivered to ILEC tandems and to many end offices that were placed long ago, leading to a “spaghetti plate” of circuits from multiple networks going to multiple points.

In this real world example, Sprint and its peering partner utilize 4 regionally distributed points of interconnection in the U.S. to exchange voice traffic enabling hundreds of millions of voice conversations annually. The ILEC TDM interconnection depicted in the illustration represents just one major metro area served by an ILEC. The ILEC requires interconnection at a tandem and multiple end offices using 1,108 separate interconnection facilities.. The costly and complex ILEC TDM interconnection network architecture is replicated in each area served by an ILEC tandem – approximately 1000 locations nationwide. This irrational complexity is difficult to manage and expensive for all carriers to maintain. In addition, the rates ILECs are

permitted to apply to TDM transport are far in excess of cost which exacerbates the situation.²² Finally, handling voice traffic separately from all other forms of traffic is inherently and significantly inefficient. When efficient IP networks and interconnection are used, far fewer points of interconnection are required than in the case with current, outmoded TDM networks and the incremental cost of transport becomes miniscule, if not zero.²³

In order for the industry and consumers to benefit from broadband deployment and the adoption of IP technology – the promise of lower costs, competitive advantage, and a growing economy – IP-to-IP interconnection must replace traditional TDM interconnection. ILECs will naturally resist IP voice interconnection because of their interest in maintaining their current transport revenue stream as long as possible. Allowing ILECs to dictate the timing and terms of IP voice interconnection will needlessly delay enormous benefits that are available today.

V. THE INCUMBENT LEC OBJECTIONS TO IP VOICE INTERCONNECTION LACK MERIT

The nation's two largest incumbent LECs, AT&T and Verizon, want the Commission to condone an arrangement whereby they can refuse to negotiate IP voice interconnection with their competitors – and thereby determine when their competitors can offer American consumers the many benefits of end-to-end IP connectivity for their broadband voice calls. AT&T and Verizon offer several reasons why they think they alone should possess the authority to determine when and how the market for broadband voice services should develop, but none of these arguments has merit, as demonstrated below.

²² See, *Comments of Sprint Nextel Corporation*, In the Matter of Developing a Unified Inter-carrier Compensation Regime, CC Docket No. 01-19 *et al.* at 11-16.

²³ *Id.* at 3-6.

More fundamentally, however, none of these arguments is legally relevant. Sprint has previously explained the legal standard that governs the Commission's decision-making on the subject of IP voice interconnection:

Congress has specified unequivocally that the FCC "*shall encourage* the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans," further classifying broadband voice as an advanced communications service." In May, the Commission concluded that broadband is "not being deployed in a reasonable and timely fashion to all Americans." This finding is important because in this situation, Congress has directed the FCC to take "*immediate* action to *accelerate* deployment" of broadband voice and other advanced services.²⁴

Neither AT&T nor Verizon – or for that matter, any other incumbent LEC – has questioned the relevance of this statutory standard to broadband voice services. Nor have they claimed their "no obligation to negotiate" position will "encourage" and "accelerate" the availability to consumers of end-to-end IP voice connectivity. Given these concessions, the Commission need not even consider the excuses AT&T and Verizon make for refusing any obligation to negotiate in good faith with their competitors IP voice interconnection arrangements.

A. Competitive IP Network Operators Do Not Seek Access to "Unbuilt, Superior" Networks

AT&T and Verizon are wrong in claiming that competitive IP network operators seek access to "unbuilt, superior" networks.²⁵ AT&T and Verizon each currently offer their retail customers broadband voice services.²⁶ These ILECs have thus already deployed all of the

²⁴ *Sprint IP Voice Interconnection Ex Parte Letter*, WC Docket No. 10-90, *et. al.*, at 2-3 (July 29, 2011) (supporting citations omitted).

²⁵ *See*, *AT&T Opposition* at 9; *Verizon Opposition* at 8.

²⁶ For example, AT&T offers its U-verse Voice and Internet services for a bundled price of \$39.99/monthly. *See* <http://www.att.com/shop/home-phone/index.jsp?wtSlotClick=1-005XXL-0-2#fbid=6ReeNZrHs0P> ("AT&T U-verse Voice is next generation digital home phone service like you've never heard before. U-verse Voice delivers great sound quality, reliability, and allows you to control how and when you communicate with over 20 features."). Verizon states that with its FiOS Digital Voice

equipment they need to interconnect with other IP networks. Indeed, Verizon has told the FCC it has already executed IP interconnection agreements with Bandwidth.com and Bright House.²⁷

When AT&T and Verizon claim that competitors seek access to an “IP network that does not exist,”²⁸ they are referring to their incumbent LEC subsidiaries. But as AT&T explains, “many (if not most)” ILECs have chosen to place their IP assets in separate affiliates:

ILECs are not themselves offering IP-based based services and have not deployed media gateways and other IP technology in the PSTN to exchange traffic in native IP-format Rather, it is the ILECs’ affiliates . . . that have deployed IP networks and are offering IP-based services (including VoIP services).²⁹

AT&T and Verizon certainly cannot legitimately claim that they should be excused from core interconnection duties simply because they have elected to place their IP assets in one subsidiary rather than another, in effect, playing a game of “hide the pea” with these facilities. The purpose of interconnection, after all, is to ensure that customers served by different networks can communicate with each other. As the National Broadband Plan recognized, for “competition to thrive, the principle of interconnection -- in which customers of one service provider can communicate with customers of another -- needs to be maintained”:

For consumers to have a choice of service providers, competitive carriers need to be able to interconnect their networks with incumbent providers. Basic interconnection regulations, which ensure that a consumer is able to make and receive calls to virtually anyone else with a telephone, regardless of service

service, consumers receive “unbelievably clear calling,” including “wonderfully clear calls, rock solid reliability, and a multitude of intelligent calling features. FiOS is so good, 98% of people who switch to FiOS, stay with FiOS.” <http://www22.verizon.com/Residential/aboutFiOS/Overview.htm>.

²⁷ See, *Verizon Reply Comments*, WC Docket No. 10-90, at 10-11 (May 23, 2011). It is unclear how AT&T can legitimately claim that IP voice interconnection is “flourishing today” (AT&T Opp. at 2), when no ILEC other than Verizon has even alleged it has such an interconnection agreement with any competitive carrier.

²⁸ *Verizon Opposition* at 8. See also *AT&T Opposition* at 9 (“[M]andating IP-to-IP interconnection would require ILECs to create new functionalities or capabilities that do not currently exist in their networks.”).

²⁹ *AT&T Opposition* at 9.

provider, network configuration or location, have been a central tenet of telecommunications regulatory policy for over a century.³⁰

The Broadband Plan urged the FCC to “clarify interconnection rights and obligations and encourage the shift to IP-to-IP interconnection where efficient.”³¹ Given the positions that AT&T and Verizon take, it is essential that the Commission act expeditiously on this recommendation.

B. AT&T and Verizon Take an Unreasonable Position Regarding the Costs of IP-to-TDM Protocol Conversions

AT&T and Verizon object to providing IP voice interconnection because, they claim, competitive IP networks want to “shift to ILECs the cost of converting the transmission protocol of [their] VoIP traffic to TDM.”³² AT&T and Verizon are wrong, and they misstate the position of the competitive industry.

It is important for the Commission to understand AT&T’s and Verizon’s position. They first argue that IP voice interconnection is “wholly unnecessary” because competitive IP network operators can “continue to interconnect with and exchange traffic with Verizon and other [ILECs] as they do today, under existing arrangements in TDM format.”³³ But then, having decided unilaterally which interconnection arrangements they will (and will not) make available, AT&T and Verizon further expect that their competitors should pay all such IP-TDM conversion costs. Specifically, under the AT&T and Verizon position, competitive IP network operators would pay for the conversion costs for *all* traffic they deliver to the ILECs and for *all* of the traffic they receive from the ILECs.

³⁰ *Connecting America: The National Broadband Plan* at 49.

³¹ *Id.*, Recommendation 4.10.

³² *AT&T Opposition* at 2. *See also, Verizon Opposition* at 11-12.

³³ *AT&T Opposition* at 2 and *Verizon Opposition* at 7.

Conversion costs, such as IP-TDM protocol conversions, arise whenever industry is in the middle of a transition from one technology to another. Congress has specified that the FCC “shall encourage” the deployment and use of broadband voice services, which necessarily includes IP voice interconnection.³⁴ Under this mandate, the Commission could reasonably determine that to encourage IP deployment, those networks still using the legacy TDM technology should pay all inter-networking conversion costs – in other words, adopt a rule completely the opposite of AT&T’s and Verizon’s position.

This is not Sprint’s position, however. Any network that has been providing voice services for more than a few years necessarily has a mix of TDM and IP voice customers. For example, when an AT&T IP customer calls an AT&T TDM customer, AT&T must convert the call from IP to TDM so the intra network call can be completed. Competitive neutrality would suggest when two networks interconnect on an IP basis, each network would assume responsibility for converting to TDM any IP traffic delivered to it that requires such a conversion for completion. In other words, Sprint’s proposal is competitively neutral because the costs of any needed IP-TDM conversions would be shared.

The AT&T and Verizon position is unreasonable for another reason. Not only would it impose unnecessary IP-TDM conversions, it would, with some calls, preclude broadband voice customers from enjoying the enhanced capabilities that can be provided in an all IP-world. All networks can dramatically reduce their transport costs by interconnecting with other networks on an IP basis,³⁵ and AT&T and Verizon have already deployed IP transport networks to transport their IP voice traffic. With IP voice interconnection, for calls destined to one of their IP

³⁴ See 47 U.S.C. § 1302(a).

³⁵ Indeed, AT&T has already agreed with Sprint that IP voice traffic will likely consume less than one percent (1%) of all traffic handled over existing facilities that transport other non-voice IP traffic. See, *AT&T Reply Comments*, Docket No. 10-90 *et. al.* at 9 n.4 (May 23, 2011).

customers, there would be no need for any IP-TDM conversions – and without such conversions, both the calling and called parties would enjoy all of the new capabilities that all-IP connectivity enables. Conversely, under the AT&T/Verizon position, the originating and terminating networks would have to perform two IP-TDM conversions³⁶ – conversions that not only would be completely unnecessary but also conversions that would preclude the calling and called parties from enjoying any of the enhanced capabilities that can be introduced with end-to-end IP connectivity.

In summary, the AT&T/Verizon position regarding IP-TDM conversions is not consistent with the mandate in Section 706 of the 1996 Act, is not competitively neutral, would be incompatible with sound network practices and most importantly, would prevent consumers from realizing the full benefits that end-to-end IP connectivity can provide.³⁷

C. Industry Standards Are Not a Necessary Precondition to IP Voice Interconnection Agreements

Verizon (but not AT&T) claims that it should be excused from negotiating IP interconnection agreements until “a comprehensive set of standards” is in place.³⁸ Of course, industry standards are not a necessary precondition to the execution of an IP voice interconnection agreement, as confirmed by Verizon’s own IP agreements with Bandwidth.com

³⁶ Under the ILEC position, (1) the originating network would convert an IP call into TDM for delivery to the ILEC (or its affiliate); and (2) the ILEC (or its affiliate) would then reconvert the call to IP for delivery to its broadband customers.

In IP-TDM calls, the ILEC position would result in three conversions (two paid for by the terminating carrier) when only one such conversion is needed: (1) the originating network would convert an IP call into TDM for delivery to the ILEC (or its affiliate); (2) the ILEC (or its affiliate) would then reconvert the call to IP for transport over its IP transport network; and (3) the terminating ILEC (or its affiliate) would reconvert the call to TDM for delivery to its TDM customers.

³⁷ Sprint’s position would not, as AT&T claims, have any impact on the market for standalone IP-TDM conversion services. *See, AT&T Opposition* at 11. Under the AT&T/Verizon proposal or Sprint’s proposal, each IP network operator will determine whether it is better to self provision such conversions or use the services of third parties for such functions.

³⁸ *See, Verizon Opposition* at 2. *See also id.* at 7 (Verizon will entertain requests for IP voice interconnection “once industry standards are agreed to”).

and Bright House. Sprint has been able to successfully negotiate and establish approximately a dozen IP voice interconnections (none with ILECs), even though, as Verizon states, industry standards are “still evolving.”³⁹

To be clear, Sprint supports the development of industry standards for the interconnection of broadband voice services, because such standards undoubtedly will help facilitate additional interconnection agreements and IP services. In addition, industry standards will likely be essential for IP networks to interconnect indirectly with each other, and such indirect interconnection is important for the exchange of IP voice traffic with smaller IP network operators. It is precisely for this reason that Sprint has urged the Commission to ask the TAC to identify the steps the FCC can take to facilitate the efficient indirect interconnection between IP networks.⁴⁰ But as Verizon’s own IP interconnection agreements with Bandwidth.com and Bright House confirm, industry standards, while helpful, are not necessary to reach such agreements.

D. IP Voice Interconnection Will Promote, Not Hinder, Broadband Deployment and Use

In perhaps their most incredible argument, AT&T and Verizon claim that negotiating IP voice interconnection agreements with their competitors will hinder the deployment of their own broadband services. AT&T asserts that requiring it to negotiate IP voice interconnection agreements would “undermine the Commission’s ambitious objectives of encouraging deployment of broadband services to all Americans.”⁴¹ Verizon states that a negotiation requirement would “reduce the funds available to deploy broadband more widely.”⁴² Indeed,

³⁹ See, *id.* at 5.

⁴⁰ See, *Sprint IP Voice Interconnection Ex Parte Letter*, Docket Nos. 10-90, *et. al.*, at 9-10 (July 29, 2011).

⁴¹ *AT&T Opposition* at 2 and 11.

⁴² *Verizon Opposition* at 4.

Verizon goes so far as to assert that a negotiation requirement would “certainly undermine the ongoing efforts to develop IP-to-IP interconnection.”⁴³

These claims are a ruse. AT&T and Verizon already offer broadband voice services to their retail customers. They already have deployed the equipment they need (*e.g.*, IP-TDM conversion gateways, IP transport facilities) to interconnect with their competitors on an IP basis. IP voice interconnection would not only reduce their current cost of service, it would also enable their broadband voice customers to enjoy with more people the significant and numerous benefits of having their voice traffic handled exclusively by IP networks. AT&T and Verizon each have scores of employees whose only job is to negotiate interconnection agreements, so their incremental cost to engage in IP voice interconnection negotiations is zero.

In no circumstances can AT&T and Verizon legitimately claim that negotiation of IP voice interconnection agreements would be contrary to the public interest – or for that matter, contrary to the interests of their own retail broadband voice customers.

E. Verizon’s “Business Case” Defense Is Not Legitimate

Verizon (but not AT&T) states that it will begin negotiating IP voice interconnection agreements “[w]hen [its] business case dictates a transition to IP interconnection.”⁴⁴ In fairness to Verizon, this explains the real motivations of AT&T’s and Verizon’s refusal to negotiate more efficient interconnection arrangements with their competitors:

1. While all networks would enjoy significant cost savings in transporting voice traffic over their new IP networks, the savings ILECs would realize from maintaining their existing TDM facilities that they use for the traffic they exchange with competitors may not be as significant because in most circumstances, those legacy facilities were fully depreciated long ago;

⁴³ *Id.* at 6.

⁴⁴ *Verizon Opposition* at 3.

2. ILECs have no incentive to stop requiring their competitors to use their existing TDM facilities because they make enormous profits from such use – profits they want the FCC to guarantee in full for the next six years; Sprint has already documented that ILECs realize a 100 profit from the very high prices they charge for these legacy interconnection facilities;⁴⁵ and
3. By requiring their competitors to continue to use highly inefficient TDM interconnection facilities, ILECs can continue to inflate the costs their competitors incur in providing their competing services, thereby giving themselves a sizable cost advantage in the market;

The ILEC position may further the interest of AT&T's and Verizon's shareowners, but it certainly does not promote the public interest – much less the statutory mandate specifying that the FCC “shall encourage” IP voice interconnection.

VI. CONCLUSION

tw telecom should be commended for bringing to the FCC's attention the critically important issue of IP voice interconnection. In this regard, the NBP specifically recommended that the FCC “clarify interconnection rights and obligations and encourage the shift to IP-to-IP interconnection where efficient”:

For competition to thrive, the principle of interconnection—in which customers of one service provider can communicate with customers of another—needs to be maintained.⁴⁶

Sprint agrees with Google that “the promise of IP networks could be significantly undermined unless the FCC makes clear that the interconnection obligations established by the Act will not be simply left behind in the ongoing transition to all-IP networks. This is especially necessary since it appears that eventually all interconnection arrangements ultimately will be for IP traffic.”⁴⁷ Accordingly, Sprint respectfully supports the tw telecom petition and requests that the Commission (a) clarify that ILECs (and any of their affiliates) that provide VoIP services must

⁴⁵ See, *Sprint Comments*, Docket 10-90 *et. al.*, at 14 (Aug. 24, 2011).

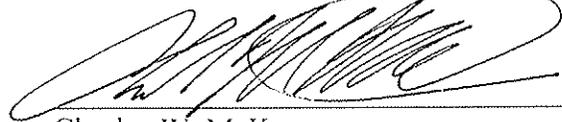
⁴⁶ *Connecting America: The National Broadband Plan*, Recommendation 4.10.

⁴⁷ *Comments of Google Inc.*, at 5.

negotiate in good faith IP voice interconnection agreements upon receiving a bona fide request for such interconnection, and (b) confirm that it will entertain complaints to resolve disputes that may arise during such interconnection negotiations.

Respectfully submitted,

SPRINT NEXTEL CORPORATION



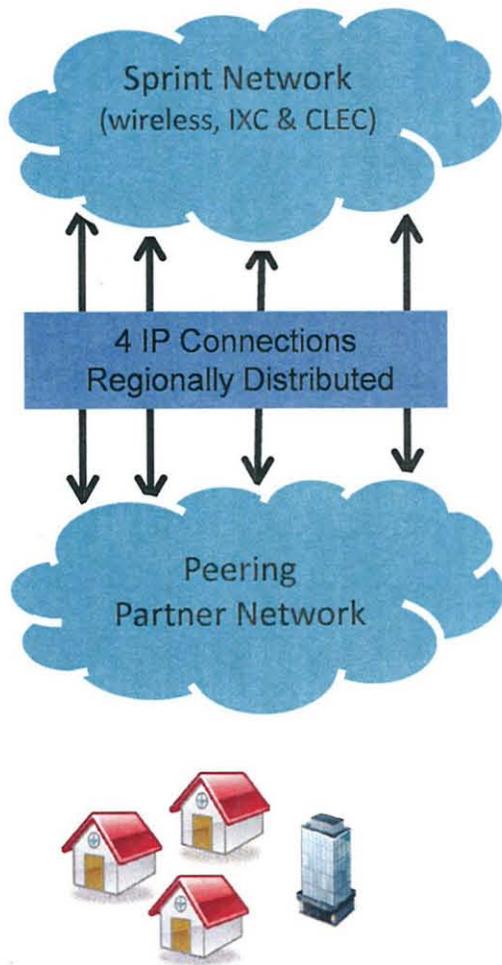
Charles W. McKee
Vice President, Government Affairs
Federal and State Regulatory
900 7h Street, NW, Suite 700
Washington, DC 20001
(703) 433-4503

W. Richard Morris
Senior Counsel, Government Affairs
6450 Sprint Parkway
Overland Park, KS 66251
(913) 315-9176

August 30, 2011

IP Voice Interconnection v. ILEC TDM Interconnection

Nationwide IP Voice Interconnection



ILEC TDM Interconnection (example of a single metropolitan area)

