

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

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Establishing Just and Reasonable Rates for Local Exchange Carriers)	WC Docket No. 07-135
)	
High-Cost Universal Service Support)	WC Docket No. 05-337
)	
Developing a Unified Intercarrier Compensation Regime)	CC Docket No. 01-92
)	
Federal-State Joint Board on Universal Service)	CC Docket No. 96-45
)	
Lifeline and Link-Up)	WC Docket No. 03-109
)	

**COMMENTS
OF
SPRINT NEXTEL CORPORATION**

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Executive Summary

Sprint in its comments addresses three of the subjects raised in the *FNPRM*.

1. **IP-to-IP Interconnection Issues.** The subject of interconnection between two IP networks for the exchange of voice traffic is *the* most important matter addressed in the *FNPRM*. It is important because such interconnection will promote broadband deployment and adoption, and will benefit the economy, productivity, consumers and small businesses. Among other things, the Wireline Bureau, using “conservative assumptions,” has estimated that, on a per-minute basis, the incremental cost of providing voice over IP networks would be “*0.0256 cents per month*” – *or less than one penny per year*. Sprint demonstrates that:

A. *The FCC has ample authority to adopt and enforce default IP voice interconnection rules.* While many parties want the FCC to decide whether retail voice IP services are telecommunications or information services, the fact is this debate is not relevant to the question of whether the FCC possesses the legal authority to adopt and enforce default IP voice interconnection rules. This is because the FCC possesses such authority *regardless* of the regulatory classification of retail VoIP services.

Sprint encourages the FCC to adopt a handful of default rules that will “affirmatively encourage the transition to IP-to-IP interconnection” and accelerate both the negotiation and execution of interconnection agreements.

B. *The FCC should reject the proposal that an IP network operator can force its rivals to continue to use TDM interconnection simply by paying all TDM conversion costs.* First, the proposal undermines the Commission’s decision to require parties to enter into good faith negotiations for IP interconnection. If an ILEC either “refuses” to consider IP interconnection or simply “fails to respond” to a *bona fide* request for negotiations, it is not engaged in good faith negotiations to establish IP interconnection as required by the Commission.

Second, the conversion of traffic is not the only cost this choice imposes on competitors or the PSTN as a whole. By forcing its rivals to use its TDM network, an ILEC can continue to realize monopoly profits from the above-cost ICC prices it charges its rivals for their use of this network, and increase its rivals’ costs by preventing the implementation of IP networks.

C. *The FCC should reject the RBOC proposal that IP voice interconnection be unregulated.* In 1996, when there were eight major ILECs (7 RBOCs + GTE), the FCC rejected the ILEC argument that it need not adopt national interconnection rules. Instead, the FCC found that such rules were necessary because ILECs had no incentive to negotiate with rivals, and such rules would minimize disputes and accelerate negotiations.

If rules were necessary in 1996, then they are even more necessary today, given that these eight ILECs are now only three. Though acquisitions, AT&T and Verizon in particular have extended their market power to

more markets, and in the process, increased their market power over their rivals.

- D. Negotiations and obligations for an IP voice interconnection agreement should involve the IP network operator and all of its affiliates that provide voice services. The FCC should take two steps to facilitate IP voice negotiations and interconnection: (1) require any IP network operator affiliated with an ILEC to negotiate in good faith in response to a *bona fide* request for IP voice interconnection – including those operators claiming they are “unregulated;” and (2) in these negotiations, require the IP network operator to negotiate interconnection on behalf of all of that operator’s affiliates that provide voice services, so that the requesting carrier can execute a single IP voice interconnection agreement that encompasses all of the affiliates that provide voice services.
- E. The FCC should adopt default IP POI rules that take advantage of the enormous efficiencies of the existing IP network by having IP voice traffic use the same IP network infrastructure used today to transport and interconnect IP data and video. Voice providers can achieve enormous network and cost efficiencies by using for IP voice the same IP network and interconnection points used today for IP data and voice. IP voice will utilize a tiny fraction of the capacity on current IP networks, and it is likely that the incremental cost to add voice is close to zero. Accordingly, the FCC should rule that IP voice POIs should presumptively be located at the places where IP network operators currently exchange their non-voice IP traffic.

The Commission should reject alternative IP POI proposals that are based on use of LATAs, MSAs or state boundaries because they are fundamentally flawed; will delay the availability of IP voice interconnection; and increase – entirely needlessly – the costs of providing voice services.

- F. The FCC should begin a public discussion (via an NPRM) when TDM interconnection should be decommissioned. There will come a point in time when the volume of voice traffic over IP networks will far exceed the volume of traffic over TDM networks. At that point, it would be economically irrational to require all providers to continue to maintain TDM networks. Sprint urges the FCC to seek supplemental comment on the date by which all voice providers must make IP interconnection available, either directly or indirectly via third-party services. The sooner the FCC receives these comments, the sooner it can set such a date – and the more time all TDM network operators will have to plan for this inevitable development.

2. Bill-and-Keep Implementation. Sprint addresses two subjects in this section:

- A. POIs, network edges and other TDM-related interconnection issues. In response to the FCC’s specific questions, Sprint generally supports

CTIA's METE proposal. However, the FCC cannot adopt several of CenturyLink's proposals because they are incompatible with the Act.

The single-POI-per-LATA obligation currently applies to large ILECs only. To improve network efficiency, Sprint urges the FCC to extend this obligation to all TDM network operators.

The FCC has recognized that traffic balance is no longer relevant. The FCC should therefore adopt a 50/50 sharing arrangement for recovering the costs of interconnection facilities, by amending Rule 51.709(b) that instead uses a "proportionate use" standard.

Bill-and-keep changes substantially the economics of how to interconnect with ILECs. Sprint asks the FCC to confirm that carriers are no longer required to maintain inefficient end office connections.

The FCC, consistent with the Supreme Court's recent *Talk America* decision, should confirm that the Act requires large ILECs to provide to all competitive carriers interconnection facilities at cost-based (TELRIC) rates – whether the facilities are used to connect to an ILEC's tandem switch or to an ILEC end office switch.

The FCC should make two clarifications with regard to rural ILECs. First, it should clarify that rural ILECs affiliated with LATA tandem owners are not eligible to invoke the Rural Transport Rule. Second, the FCC should declare that all of an ILEC's affiliates that provide voice services in a LATA may designate only one POI/network edge in the LATA.

- B. *The role of tariffs and interconnection agreements.* The FCC should make three rulings. First, it should establish a specific deadline by which LECs may no longer rely on access tariffs. (Sprint proposes this deadline be set for July 1, 2013, when all access rates are unified at interstate rate levels.) Second, in the meantime, the FCC should confirm that at the request of a competitive carrier, an ILEC must negotiate an agreement that will apply to all traffic the two companies exchange, including access traffic. Finally, the FCC should clarify that LECs in their new "grooming" tariffs may not unilaterally change their obligations under federal law.

3. Transitioning All Rate Elements to Bill-and-Keep. Sprint addresses two subjects in this section:

- A. *Terminating access transport rate elements, including tandem switching.* The FCC should make two rulings. First, it should rule that all price cap ILECs (and their competitors) should be subject to the same transition for their access transport rate elements; there is no basis to treat such ILECs differently based on whether they do, or do not, own a tandem switch in an area. Second, rather than freeze above-cost interstate access transport rates for four years (from July 1, 2013 to June 30, 2017), these rates should be phased down at the same pace these ILECs are phasing down their interstate access termination rates. Given that ILECs access rates for

transport are often higher than their termination rates, the need for a continued phase down of transport rates is even more necessary.

- B. *Transit*. Approximately 20 states have ruled that § 251(c)(2) requires large ILECs to provide transit arrangements at cost-based (TELRIC) rates. The FCC should address this subject so that competitive carriers are not forced to re-litigate the identical federal law issue in the remaining 30 states.

The FCC should also adopt a voluntary “transit rate cap” alternative for those ILECs subject to § 251(c)(2). This approach was successfully used a decade ago when the FCC adopted the ISP rate. Based on the ILEC’s own data, a “transit rate cap” of \$0.00035 would be more than sufficient. ILECs would have the option of adopting this rate cap or preparing a TELRIC cost study.

The transit market is not competitive. This is confirmed by the fact that ILEC transit providers charge much higher prices in those states that have not yet addressed their statutory obligation to provide transit, as compared the TELRIC-based prices used in other states.

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**COMMENTS
OF
SPRINT NEXTEL CORPORATION**

Sprint Nextel Corporation (“Sprint”) submits its comments on Sections XVII.L-R of the Further Notice of Proposed Rulemaking (“FNPRM”) released in conjunction with the *USF/ICC Transformation Order*.¹

I. IP-TO-IP INTERCONNECTION ISSUES (§ XVII.P – ¶¶ 1335-98)

The subject of interconnection between two IP networks (“IP interconnection”), Sprint submits, is *the* most important matter addressed in the *FNPRM*. IP interconnection is important

¹ *Connect America Fund, et al.*, Docket Nos. 10-90, *et al.*, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 11-161 (Nov. 18, 2011), published in 76 Fed Reg. 73830 (Nov. 29, 2011) (“*USF/ICC Transformation Order*”).

because of explicit Congressional mandates, because IP interconnection will promote broadband adoption and use, and because such interconnection will benefit the economy, productivity and consumers/small businesses generally. As the Technology Advisory Council (“TAC”) recognized in December, the FCC needs to stay focused “on the future.”²

Congress specified in § 706 of the 1996 Act that the FCC “*shall encourage* the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans...utilizing...measures that promote competition,” and Congress later made clear this directive includes IP-based voice services.³ The Supreme Court has recognized that interconnection between two networks is important to competition because such interconnection “ensures that customers on a competitor’s network can call customers on the incumbent’s network, and *vice versa*.”⁴ The National Broadband Plan similarly recognized that 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 networks 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 provider, network configuration or location, have been a central tenet of telecommunications regulatory policy for over a century.⁵

The Broadband Plan further noted that IP interconnection for voice services is also important to the deployment of broadband networks:

² See TAC FCC Workshop, *The Telephone Network in Transition*, at 11 (Dec. 14, 2011), available at <http://www.fcc.gov/encyclopedia/technological-advisory-council>.

³ 47 U.S.C. § 1302(a) (emphasis added). See also 47 U.S.C. § 153(1) (“The term ‘advanced communications service’ means (A) interconnected VoIP service; (B) non-interconnected VoIP service...”). These terms are defined in 47 U.S.C. §§ 153(23) and (34).

⁴ *Talk America v. Michigan Bell*, 131 S. Ct. 2254, 2258 (2011).

⁵ National Broadband Plan at 49, Recommendation 4.10.

Without interconnection, a broadband provider . . . is unable to capture voice revenues that may be necessary to make broadband entry economically viable.⁶

Moreover, IP interconnection almost certainly will accelerate consumer adoption of broadband services because, between the sizable reduction in the cost of providing voice services and the enabling of new features altogether, consumers will have added incentives to subscribe to broadband services.

Perhaps most importantly of all, consumers will realize real – and sizable – benefits from IP interconnection. The Wireline Bureau has noted that transporting voice over the same IP networks used for data and video would result in a “dramatic reduction” in the cost of providing voice (when compared to continued use of TDM networks), with the Bureau estimating that the incremental cost of providing IP voice would be “*0.0256 cents per month*” – *or less than one penny per year!*⁷

The Commission’s immediate focus should be on IP interconnection for the exchange of basic voice services, so voice service providers can maximize the “dramatic reductions” in cost by using IP networks rather than TDM networks. But as the FCC is likely aware, industry standards bodies are actively working on standards to support interconnection requirements for a new IP Multimedia Subsystem (“IMS”).⁸ IMS is an architectural framework for delivering seamlessly multimedia services among mobile, wireless access and fixed IP networks.⁹

⁶ *Ibid.*

⁷ See 2008 Intercarrier Compensation FNPRM, 24 FCC Rcd 6475, 6613-14 ¶¶ 260-61 (2008).

⁸ Examples include 3GPP, Technical Specification 23.288, “IP Multimedia System (IMS),” Stage 2; GSMA, Permanent Reference Document (PRD) IR.92, “IMS Profile for Voice and IMS;” and GSMA Rich Communications Suite Release 4, “Service Definition v1.0.”

⁹ See generally Wikipedia, “IP Multimedia Subsystem,” available at http://en.wikipedia.org/wiki/IP_Multimedia_Subsystem.

IMS supports the “Rich Communications Suite” (“RCS”), the core features of which include enhanced phonebook, with service capabilities and presence enhanced contacts information; enhanced messaging, which enables the large variety of messaging options including chat and messaging history; and enriched call, which enables multimedia content sharing during a voice call.¹⁰ Standardized applications included within RCS include presence; voice; instant messaging; video and image sharing; short message services; and multimedia messaging services.¹¹ Importantly, because these multimedia applications will use the same Session Initiation Protocol (“SIP”) functionality used for controlling voice communications sessions, the same default rules the FCC develops for simple IP voice applications can later be used with these emerging IP multimedia applications as well.

The record evidence submitted to date demonstrates that the availability of IP voice interconnection has “not kept pace with the deployment of IP in internal networks” and that until “widespread IP interconnection is available, consumers and carriers alike will not realize the full benefits of IP technology.”¹² Sprint is confident that the comments filed today will confirm that although some progress has been made with IP voice interconnection among competitive carriers, no progress has been made with incumbent LECs. There is a reason for this lack of progress. As the National Broadband Plan found, incumbent LECs in particular have adopted an “anticompetitive interpretation of the Act” and have imposed “barrier[s] to broadband

¹⁰ See generally Wikipedia, “Rich Communications Suite,” available at http://en.wikipedia.org/wiki/Rich_Communication_Suite.

¹¹ See *ibid.*

¹² XO USF/ICC Transformation Reply Comments at 5. See also EarthLink USF/ICC Transformation Reply Comments at 2 (“[C]arrier interconnections in IP have lagged internal network deployments due in large part to [ILEC] refusals to negotiate IP interconnection.”).

deployment” by “resisting” IP voice interconnection with their competitors.¹³ The Broadband Plan therefore urged the FCC to “clarify the rights and obligations regarding [IP Voice] interconnection to remove any regulatory uncertainty.”¹⁴

More recently, the Technology Advisory Council recommended that the FCC “take steps to expedite the transition” to all IP networks, noting that a “fast transition” can “generate significant economic activity and at the same time lower the total cost.”¹⁵ The fact is that a transition to all-IP networks cannot meaningfully begin until ILECs acknowledge their basic IP voice interconnection obligations noted in the Broadband Plan and begin to negotiate reasonable IP voice interconnection agreements.

The ILECs, and their affiliates, have ample reason to deny IP voice interconnection with competitors. The largest three ILECs are affiliated with wireless companies (or under contract to market the services of one of these companies) and all large ILECs also provide broadband services that compete with other wireless companies and other providers of wired broadband services. Further, these ILECs collect TDM access charges that are set far above cost while similar termination payments are denied wireless carriers and IP voice providers. These two conditions result in systematic denial of IP interconnection to IP voice providers not affiliated with the ILEC organization. As a result, competitive broadband offerings are chilled as are IP voice offerings and other evolving services involving multimedia.

A large ILEC with wireless and broadband affiliates gains a competitive advantage over its smaller rivals by denying IP interconnection in order to gain access revenues allowing it to

¹³ National Broadband Plan at 49.

¹⁴ *Ibid.*

¹⁵ See Technology Advisory Council, the Critical Legacy Transition Working Group, *Status of Recommendations*, at 10-11 (June 29, 2001), available at <http://transition.fcc.gov/oet/tac/TACJune2011mtgfullpresentation.pdf>.

subsidize its own, exciting, new, multi-media offerings available within its large customer base. By denying competitors IP interconnection, the cutting-edge multimedia and voice offerings of competitors are made unattractive because of the relatively small number of customers that can be addressed by the competitors as compared to the large base of customers that are already controlled by the ILECs and their affiliates. This stifles the adoption of new advanced telecommunications services as the ILECs enforce their interconnection bottleneck and provide advanced services through their preferred affiliates.

The Commission has recognized that “[i]nterconnection among [IP] communications networks is critical.”¹⁶ In response to the FCC’s request,¹⁷ Sprint identifies below several steps the Commission can take to facilitate IP interconnection negotiations, and thereby accelerate IP interconnection agreements and finally, actually begin operating in an “all-IP” world.

**A. THE FCC HAS AMPLE LEGAL AUTHORITY TO ADOPT AND ENFORCE
DEFAULT IP INTERCONNECTION RULES (¶¶ 1351-58)**

Some parties insist that voice applications provided over IP networks (“IP voice”) constitute telecommunications services and as a result, are subject to §§ 251-52 of the Act – even though these statutes were designed for “narrowband” voice (*aka*, TDM circuit-switched) networks that most parties acknowledge are becoming obsolete. Other parties contend that IP voice applications are information services and thus are not subject to §§ 251-52. While this debate is interesting, it is not relevant to the question of whether the FCC possesses the legal authority to adopt and enforce default IP voice interconnection rules.

The FCC unquestionably possesses such authority under Title II of the Act if retail IP voice applications are deemed to be telecommunications services. But as Sprint has previously

¹⁶ See *USF/ICC Transformation FNPRM* at ¶ 1336. See also *USF/ICC Transformation Order* at ¶ 1010.

¹⁷ See *USF/ICC Transformation FNPRM* at ¶ 1341.

demonstrated, if IP voice applications are instead classified as information services, then the FCC still possesses the authority, under its Title I ancillary jurisdiction, to adopt and enforce interconnection rules for the exchange of IP voice traffic.¹⁸ As a result, there is no need for the Commission to rely upon §§ 251-252 of the Act for IP voice interconnection authority; it has the freedom to require IP voice interconnection without declaring retail IP voice to be a telecommunications service.

In addition, § 706 of the 1996 Act can provide an independent source of regulatory authority over IP voice services.¹⁹ In this statute, Congress explicitly specified that the FCC “shall encourage the deployment on a reasonable and timely basis” of IP voice services “to all Americans.”²⁰ The Commission cannot comply with this statutory mandate without ensuring that IP networks interconnect expeditiously for the exchange of IP voice traffic.

So there is no misunderstanding over its position, Sprint would welcome Commission clarification over the regulatory status of retail IP voice applications, as well as the new multimedia applications discussed above. Nevertheless, Sprint submits that the handful of FCC rulings it seeks are all designed to jump start IP interconnection negotiations (by eliminating controversies that will almost certainly arise and that will stall negotiations while the parties ask the FCC to resolve the controversy) and would do far more to facilitate IP interconnection than could clarification of the regulatory status of retail IP voice applications.

It is important to emphasize that, as a practical matter, the choice for the Commission is simply one of timing: it can adopt a handful of default rules now, or it can wait to address these

¹⁸ See Sprint *USF/ICC Transformation NPRM* Reply Comments, Appendix D, at 3-9 (May 23, 2011). See also *USF/ICC Transformation FNPRM* at ¶ 1397.

¹⁹ See *id.*, Appendix D at 9-12. See also *USF/ICC Transformation FNPRM* at ¶ 1395.

²⁰ 47 U.S.C. § 1302(a).

issues later (after the parties are forced to suspend their interconnection negotiations because they cannot even agree over the fundamental requirements of federal law).

B. THE FCC SHOULD REJECT THE PROPOSAL THAT AN IP NETWORK OPERATOR CAN FORCE A REQUESTING CARRIER TO CONTINUE TO USE TDM INTERCONNECTION SIMPLY BY PAYING ALL TDM CONVERSION COSTS (¶¶ 1361-64)

The Commission seeks comment on a proposal by some parties whereby an IP network operator that “refuses” even to consider IP interconnection, or simply “fails to respond” to a *bona fide* request for IP interconnection, would be “required to bear financial responsibility for the IP-to-TDM conversion.”²¹ The Commission should reject this proposal.

At the outset, however, the FCC should declare unequivocally that the “failure to respond” to a request for IP interconnection or a “refusal” to discuss such interconnection *ipso facto* contravenes the good faith negotiation requirement. The Commission has already ruled that “even while our FNPRM is pending, we expect all carriers to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic”:

[W]e expect such good faith negotiations to result in interconnection arrangements between IP networks for the purpose of exchanging voice traffic.²²

It bears emphasis that the good faith negotiation requirement, as Sprint understands it, applies only to those firms that (a) operate an IP network and (b) use that IP network in transporting some of their own voice traffic. For these firms, IP interconnection not only is technically feasible, but it can also be implemented readily, because the IP network operator has already installed the equipment needed (*e.g.*, SIP functionally) to support IP interconnection.

²¹ See *USF/ICC Transformation FNPRM* at ¶ 1363.

²² *USF/ICC Transformation Order* at ¶ 1011. See also *USF/ICC Transformation FNPRM* at ¶ 1341 (“[W]e expect all carriers to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic, and that such good faith negotiations will result in interconnection arrangements between IP networks.”); *id.* at ¶ 1344 (“[W]e expect carriers to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic.”).

The Commission, as noted above, has observed that “IP interconnection between providers . . . is critical.”²³ Among other things, the Wireline Bureau has found that such interconnection would enable both IP network operators to “dramatic[ally] reduc[e]” their costs of providing voice services.²⁴ Accordingly, there is no legitimate reason why any firm that uses its IP network for some of its own voice traffic should be permitted to “refuse” to discuss IP interconnection – much less “fail to respond” to requests for such interconnection.

The proposal that an IP network operator refusing to provide IP interconnection pay IP-to-TDM conversion costs is a red herring. Most IP network operators have a mix of IP and TDM retail customers (as consumers and business migrate from TDM to IP).²⁵ With IP interconnection, an IP network operator necessarily must assume the cost of any IP-to-TDM conversions so traffic destined to its TDM customers can receive their incoming calls. Thus, an IP network operator will incur TDM conversion costs whether it interconnects with other networks using IP or TDM interconnection.²⁶

What the “TDM cost conversion” proposal would do is empower providers of voice service to increase – unilaterally – the costs of their rivals. For example, if an incumbent LEC can force its competitors to continue to use TDM interconnection, it can then force those

²³ See *USF/ICC Transformation Order* at ¶ 1010.

²⁴ See *2008 ICC Reform FNPRM*, 24 FCC Rcd 6475, 6613-14 ¶¶ 260-61 (2008).

²⁵ Each firm has considerable influence over the speed with which its customers undertake this migration, based on its speed with which it deploys IP equipment in its network, the amount and type of marketing/advertising it pursues, and the pricing decisions it makes relative to its TDM- and IP-based voice services.

²⁶ What the “TDM conversion cost” proposal would also do, as the *FNPRM* recognizes, is create a need to adopt an entirely new set of regulations simply to implement the proposal – with an entirely new set of disputes invariably arising in implementing this proposal. See *USF/ICC Transformation FNPRM* at ¶¶ 1361-64.

competitors to pay its above-cost rates for TDM transport and termination – costs its rivals would not incur if IP interconnection were instead utilized.

It is important to point out that if an incumbent LEC agreed to IP interconnection, its loss of future ICC revenues that would be generated from continued use of its TDM network would be offset by the “dramatic reductions” in cost by using its IP network instead. Thus, the principal reason for an incumbent to refuse to provide IP interconnection would be to achieve an anticompetitive result: increase needlessly the costs incurred by its rivals.

For all of these reasons, the Commission should reject the “TDM conversion cost” proposal. It should further confirm that an IP network operator that uses its network for its own voice services may neither “fail to respond” to *bona fide* requests for IP interconnection nor “refuse” to discuss and provide such interconnection.

C. THE FCC SHOULD REJECT AT&T’S AND VERIZON’S PROPOSAL THAT IP VOICE INTERCONNECTION BE UNREGULATED (¶¶ 1375-77)

The Commission seeks comment on a proposal by the nation’s two largest telecom firms, AT&T and Verizon, that would leave IP voice interconnection subject to unregulated commercial agreements.²⁷ The Commission should reject this “no rules/no regulation” proposal. Sprint finds it significant that while these two ILECs claim that regulation is “unnecessary” because they supposedly have “strong incentives” to negotiate IP voice interconnection agreements, neither ILEC has chosen to provide a list of their respective IP agreements.

The Commission faced a similar situation 16 years ago in implementing the 1996 Act, when ILECs like AT&T and Verizon claimed that rules implementing the 1996 Act were unnecessary. The FCC rejected this argument, noting that negotiations with incumbent LECs are

²⁷ Of course, if the FCC determines that IP voice applications constitute telecommunications services, it would first need to forbear from applying all the provisions contained in Title II of the Act. *See* 47 U.S.C. § 160.

“not analogous to traditional commercial negotiations in which each party owns or controls something the other party desires”:

We find that incumbent LECs have no economic incentive . . . to provide potential competitors with opportunities to interconnect with and make use of the incumbent LEC’s network . . . [I]ncumbent LECs have strong incentives to resist such [interconnection] obligations. The inequality of bargaining power between incumbents and new entrants militates in favor of rules that have the effect of equalizing bargaining power.²⁸

The Commission further noted that national rules would “expedite negotiations and arbitrations by narrowing the potential range of dispute where appropriate to do so, offer uniform interpretations of the law that might not otherwise emerge until after years of litigation, remedy significant imbalance in bargaining power, and establish the minimum requirements necessary to implement the nationwide competition that Congress sought to establish.”²⁹

National interconnection rules were necessary in 1996, and they are even more necessary today. There were in 1996 eight major ILECs: the seven RBOCs and GTE. Today, these eight ILECs are only three: 1) AT&T (having merged with Ameritech, BellSouth, Southwestern Bell, and Pacific Bell); 2) Verizon (formerly known as Bell Atlantic, having acquired GTE and NYNEX); and 3) CenturyLink (having acquired Qwest). Through these acquisitions, the two largest telecom firms have been able to extend their market power to far more markets – and in the process, obtain even more dominant market power relative to their rivals.

There is also a substantial question whether the AT&T and Verizon “no rules/no regulation” position would even be lawful. Congress specified in § 706 of the 1996 Act that the FCC “*shall encourage* the deployment on a reasonable and timely basis of advanced

²⁸ *Local Competition Order*, 11 FCC Rcd 15499, 15528 ¶ 55 (1996). *See also id.* at 15570 ¶ 141 (“Generally, the new entrant has little to offer the incumbent. Thus, an incumbent LEC is likely to have scant, if any, economic incentive to reach agreement.”).

²⁹ *Id.* at 15520 ¶ 41. *See also id.* at 15528 ¶ 56.

telecommunications capability to all Americans...utilizing...measures that promote competition....” and Congress later made clear this directive includes IP-based voice services.³⁰ If it adopted AT&T’s and Verizon’s position, the Commission could no longer ensure that it was complying with this statutory mandate. This is because in granting the deregulatory relief AT&T and Verizon seek, the FCC would effectively be delegating to the nation’s two largest telecom firms the authority to determine unilaterally whether and when IP voice services are made available to “all Americans” on “a reasonable and timely basis.”

It is important to emphasize that Sprint is not proposing the FCC adopt detailed rules like those adopted in 1996; to the contrary, it agrees with the Commission that default IP interconnection rules should be “narrowly tailored to avoid intervention in areas where the marketplace will operate efficiently.”³¹ As Sprint, Google and others advised the FCC last August:

To be clear, we are not calling on the FCC to adopt detailed rules governing IP-to-IP interconnections at this juncture. At this time, we believe the details of IP-to-IP interconnection can be left to the negotiation process, with the FCC serving as a backstop to protect end-users and to allow parties who cannot otherwise agree to have a neutral forum for decision and oversight.³²

If AT&T and Verizon truly had “strong incentives” to enter into IP voice interconnection agreements as they claim, they would report having executed dozens (if not hundreds) of such agreements because of the dramatic cost efficiencies they could achieve. Last year, AT&T was unable to identify a single IP interconnection agreement that its ILEC affiliates had executed, and Verizon reported a total of one such agreement. Sprint submits that AT&T’s and Verizon’s

³⁰ 47 U.S.C. § 1302(a)(emphasis added). *See also* 47 U.S.C. § 153(1) (“The term ‘advanced communications service’ means (A) interconnected VoIP service; (B) non-interconnected VoIP service.”).

³¹ *USF/ICC Transformation FNPRM* at ¶ 1344.

³² Joint Ad Hoc Telecommunications Users Committee, Google, Skype, Sprint and Vonage Written Ex Parte Letter, at 9-10 (Aug. 18, 2011).

argument that no rules at all are needed for IP voice interconnection defies credibility, and it urges the Commission to summarily reject this ILEC argument.

D. NEGOTIATIONS AND OBLIGATIONS FOR AN IP VOICE INTERCONNECTION AGREEMENT SHOULD INVOLVE THE IP NETWORK OPERATOR AND ALL OF ITS AFFILIATES THAT PROVIDE VOICE SERVICES (¶ 1388)

The Commission has sought comment on ways to implement its good faith negotiation requirement for IP interconnection involving the exchange of voice traffic so as to “promote IP-to-IP interconnection.”³³ The Commission is right to be “concerned” by the corporate affiliate shell games that certain incumbent voice providers have played.³⁴ For example, Sprint and others advised the FCC last year of the stance AT&T took in Texas:³⁵

- The AT&T ILEC claimed it was “not possible” and “not technically feasible” for it to provide IP voice interconnection with Sprint and other rivals – even though its customers could obtain IP voice services from AT&T;
- AT&T explained that while it has the technical capability to interconnect with other IP networks for the exchange of voice traffic on an IP basis, it has no obligation to do so because AT&T made a corporate decision to place its IP network assets in an “unregulated” affiliate. In other words, AT&T takes the position that it can leverage its terminating monopoly without having any interconnection obligations, simply by placing its IP assets in a subsidiary it claims is “unregulated.”
- As a result of AT&T’s position, the only way Sprint and other rivals can reach AT&T ILEC customers and the customers of other AT&T affiliates that provide voice services:
 1. For AT&T voice customers served by AT&T TDM networks, a competitive IP network operator must send the traffic over the AT&T ILEC’s TDM network, and thereby pay the ILEC’s above-cost prices for using that network – and additionally incur IP-to-TDM conversion costs so AT&T will accept this traffic; and

³³ See *USF/ICC Transformation Order* at ¶ 653. See also *USF/ICC Transformation FNPRM* at ¶ 1348.

³⁴ See *USF/ICC Transformation FNPRM* at ¶ 1388.

³⁵ See, e.g., Sprint *USF/ICC Transformation NPRM* Comments at 20 (April 18, 2011), citing affidavit of Joseph Bailey, AT&T, in Texas PUC Docket No. 26381 (October 21, 2010); *USF/ICC Transformation FNPRM* at n.2537.

2. For AT&T voice customers served by AT&T's IP network, rival IP network operators must agree to whatever terms AT&T unilaterally imposes – no matter how unreasonable those terms may be.

There are legitimate reasons why network owners maintain corporate affiliates in the provision of voice services. A firm the size of AT&T has dozens of such voice affiliates – including multiple state-by-state ILEC legal entities, CLEC, IXC, broadband Internet access and wireless affiliates. Nevertheless, the vast majority of telecom firms operate only one IP network because of the significant network and cost efficiencies that can be achieved as a result. Sprint, for example, maintains multiple affiliates but operates only one IP network. AT&T has similarly acknowledged that it operates only one IP network on behalf of all its affiliates:

AT&T, Inc., through its operating subsidiaries (“AT&T”), seeks to interconnect its IP network with other Internet backbone providers on a settlement-free basis when such interconnection provides tangible benefits to AT&T.³⁶

Consequently, to reach any AT&T affiliate that provides voice services, an IP network operator interested in an IP voice interconnection arrangement must interconnect with the AT&T, Inc., affiliate that operates the single AT&T IP network.

Given this situation, it makes no sense for competitive IP network operators to negotiate separately with each of the dozens of AT&T affiliates that provide voice services. Since all IP voice traffic will be exchanged with the one affiliate that operates the AT&T IP network, interconnection negotiations with that affiliate should include the ability to reach all other AT&T affiliates that provide voice services – so requesting IP network operators need negotiate only one interconnection agreement with all of the affiliates that provide voice services.

³⁶ AT&T Global IP Network Settlement-Free Peering Policy, *available at* <http://www.corp.att.com/peering/>.

Sprint submits the Commission should take two steps to facilitate IP interconnection negotiations and thereby promote and accelerate the availability of IP voice interconnection. Specifically, the FCC should declare that (1) any IP network operator affiliated with an ILEC must negotiate in good faith in response to a *bona fide* request for IP voice interconnection – including those IP network operators claiming they are “unregulated;”³⁷ and (2) in these negotiations, the IP network operator must negotiate IP voice interconnection on behalf of all of that operator’s affiliates that provide voice services, so the requesting carrier can execute a single IP voice interconnection agreement that encompasses all of its affiliates that provide voice services.

AT&T, Inc. states that it *may* consider peering with another IP operator but only if the requesting network (a) agrees to interconnect at “a minimum of three mutually agreeable geographic diverse points” (with “at least one city on the US east coast, one in the central region, and one on the US west coast”); and (b) provides bandwidth of ‘at least 10 Gbps at each U.S. interconnection point.’³⁸ Even a relatively large IP network operator cannot meet these requirements if AT&T demands entirely separate IP interconnection arrangements with the same AT&T IP network operator for each of AT&T’s dozens of voice provider affiliates – many of which provide voice services only in a single state. If AT&T is allowed to take this position, it could attempt to force even large IP network operators to buy (and pay for) AT&T transit arrangements so an IP network operator can reach each of AT&T voice provider affiliates. Such an arrangement would neither be efficient nor equitable.

³⁷ As discussed in Part I.A above, the FCC has ample legal authority to impose such an obligation.

³⁸ AT&T Global IP Network Settlement-Free Peering Policy, *available at* <http://www.corp.att.com/peering/>.

E. THE FCC SHOULD ADOPT DEFAULT IP POI RULES THAT TAKE ADVANTAGE OF THE ENORMOUS NETWORK AND COST EFFICIENCIES BY HAVING IP VOICE TRAFFIC USE THE SAME IP NETWORK INFRASTRUCTURE USED TODAY TO TRANSPORT AND INTERCONNECT IP DATA AND VIDEO (¶¶ 1366-67)

The location and number of POIs, the Commission has observed, have been one of the “most contentious issues in interconnection proceedings.”³⁹ Given this fact, the Commission appropriately asks for comment on “the physical location of IP POIs.”⁴⁰

One year ago, the Commission recognized that it may make “little sense for providers to maintain different interconnection arrangements for the exchange of VoIP and other forms of Internet traffic.”⁴¹ In fact, using different interconnection arrangements for IP voice would be economically irrational, as Sprint demonstrates below. Indeed, as the Wireline Bureau has already found, by using the same IP network infrastructure and interconnection points used today for the transport and exchange of non-voice IP traffic, providers of voice services would realize “a dramatic reduction in the cost of originating and terminating voice traffic in the network.”⁴² The Bureau specifically found that the incremental cost of transporting voice over existing IP networks would be “vanishing small;” and using “conservative assumptions,” it estimated that, on a per-minute basis, the incremental cost of providing voice over IP networks would be “*0.0256 cents per month*” – *or less than one penny per year*.⁴³

The Commission asks whether it needs to “mandate the number and/or location of physical POIs” for the exchange of IP voice traffic.⁴⁴ Sprint does not believe, at least at this

³⁹ See *Intercarrier Compensation FNPRM*, 20 FCC Rcd 4685, 4727-28 ¶ 91 (2005).

⁴⁰ See *USF/ICC Transformation FNPRM* at ¶ 1366.

⁴¹ See *USF/ICC Transformation NPRM*, 26 FCC Rcd 4554, 4773 ¶ 467 (2011)..

⁴² See *2008 Intercarrier Compensation FNPRM*, 24 FCC Rcd 6475, 6613 ¶ 260 (2008).

⁴³ See *id.* at 6614 ¶ 261 (emphasis added).

⁴⁴ See *USF/ICC Transformation FNPRM* at ¶ 1367.

time, that the FCC needs to adopt such detailed rules. Rather, the FCC should rule that the POIs used with IP voice interconnection should presumptively be located at the places where IP network operators currently exchange non-voice traffic (so voice traffic can utilize the same IP facilities that non-voice traffic uses). Sprint submits that such a high-level default rule should eliminate most POI disputes during IP interconnection negotiations, while giving IP network engineers sufficient flexibility to negotiate the IP voice interconnection arrangement that would be most efficient for use between two IP network operators.

1. Background: the Exchange of Non-Voice IP Traffic Today

Most IP data and voice traffic is exchanged at Internet exchange points (“IXPs”), which are referred to as carrier hotels for IP networks. IXPs facilitate efficient direct interconnections among all IP networks that connect to a particular IXP because, among other things, use of an IXP allows an IP network provider to connect to the IXP – enabling it to exchange IP traffic with dozens (and sometimes hundreds) of IP networks.⁴⁵

There are approximately 35 IXPs in the United States.⁴⁶ Larger IP network operators like Sprint typically connect to 8-to-10 of these IXPs. Although a complete listing of all of the IP networks connected to all of the IXPs is not publicly available, it appears that Sprint and each of the three RBOCs connect to IXPs in the following seven cities:

⁴⁵ There are other benefits by interconnecting directly *via* an IXP, including reduced latency. See generally Wikipedia, Internet Exchange Point, available at http://en.wikipedia.org/wiki/Internet_exchange_point.

⁴⁶ For a list of these IXPs, see <http://www.datacentermap.com/ixps.html>. According to an IP network consultant, “U.S. Tier 1 ISPs generally peer with each other in eight Interconnection Regions across the United States Internet Region.” See William Norton, Director, DrPeering International White Paper, *The Evolution of the U.S. Internet Peering Ecosystem*, available at <http://drpeering.net/white-papers/Ecosystems/Evolution-of-the-U.S.-Peering-Ecosystem.html>.

IXP Location	Sprint	AT&T	CenturyLink	Verizon
Los Angeles	X	X	X	X
San Jose	X	X	X	X
Seattle	X	X	X	X
Chicago	X	X	X	X
Dallas	X	X	X	X
D.C. Metro	X	X	X	X
Miami	X	X	X	X
New York City	X	X	X	X
Atlanta	X	X	X	X

This large overlap in carrier presence in common IXPs supports Sprint’s position that the natural IP voice interconnection POI(s) should presumptively be located where these carriers are already exchanging Internet traffic (*i.e.*, at existing IXPs within the U.S.).⁴⁷ As one IP network consultant has noted, the “most inexpensive and expedient arrangements are the ones made between ISPs that are already located in the same exchange.”⁴⁸

⁴⁷ If the default rule is efficient, network operators will be encouraged to agree to additional or different interconnection arrangements when such arrangements would be even more efficient. Conversely, if the default rule is inefficient, agreement on use of more efficient arrangements may be difficult to achieve, if one network operator believes it can obtain a competitive advantage over its rivals.

⁴⁸ See William Norton, Director, DrPeering International White Paper, *Internet Service Providers and Peering v3.0*, available at <http://drpeering.net/white-papers/Internet-Service-Providers-And-Peering.html>.

This consultant further stated recently that the average monthly cost of peering at an IXP, using a 10 gbps (gigabytes per second) Ethernet facility, is \$11,000 monthly.⁴⁹

The Monthly Cost of Peering at an IXP

<u>Assumptions</u>	<u>Monthly Cost</u>
Transport into the IXP	\$6,000
Collocation Fees	\$1,000
Peering Fees	\$2,000
Equipment (router) Costs	<u>\$2,000</u>
Total Monthly Cost	\$11,000

To put this cost into perspective, the typical price for a DS3 facility, the size of a TDM interconnection facility that is commonly used in connecting to a LATA tandem switch, is approximately \$1,000 monthly for a 10-mile DS3 route. In contrast, a 10 Gbps Ethernet circuit has a capacity of an OC192 – or 192 DS3s. Thus, the cost of a 10 Gbps Ethernet IXP connection is only \$57.29 per DS3 of capacity (\$11,000 / 192), as compared to an average monthly cost of \$1,000 for a standalone DS3. Consequently, on a per-DS3 basis, the cost of a 10 Gbps Ethernet connection is 94 percent less than standalone DS3s. It is thus clear that IP interconnection over an Ethernet connection is much more cost efficient than TDM tandem interconnections over the typical DS3 facilities.

⁴⁹ See William Norton, Executive Director, DrPeering International, *Internet Peering: Connecting to the Core of the Internet*, at 19 (Jan. 18, 2012), available at http://drpeering.net/white-papers/_presos/v5%20Connecting%20To%20The%20Core%20of%20the%20Internet.pdf.

2. The Incremental Cost of Adding Voice to an IP Network Currently Used for Non-Voice IP Traffic Is Miniscule

The Wireline Bureau was correct in concluding that the incremental cost of transporting voice over existing IP networks would be “vanishing small.”⁵⁰ As demonstrated below, IP voice traffic will utilize a tiny fraction of capacity on IP networks. In fact, given current spare capacity on these networks that are engineered to handle heavy bandwidth applications (*e.g.*, video), it is likely that the incremental cost to add voice is nearly zero.

Cisco, based on usage data collected by over 20 of its global IP network customers,⁵¹ has determined that “Voice and Video Communications” traffic – a category that includes phone VoIP, other VoIP, Skype, SIP, and voice & video over instant messaging traffic – constituted only 1.71 percent of all IP traffic in North America during the third quarter of 2010.⁵² Cisco further forecasts that between 2010 and 2015, consumer VoIP traffic in North America will have a compound annual growth rate (“CAGR”) of two percent (2%).⁵³ This CAGR is well below the CAGR of other types of Internet traffic over the same time period (*e.g.*, consumer Internet video traffic (38%); consumer gaming traffic (35%); consumer Internet video communications (33%); consumer managed IP traffic (23%); web, email & data traffic (23%); and file-sharing traffic (18%)).⁵⁴

⁵⁰ See *2008 Intercarrier Compensation FNPRM*, 24 FCC Rcd 6475, 6614 ¶ 261 (2008).

⁵¹ The data was collected using Cisco Service Control Engines that are strategically installed at network peering points and broadband hubs. The network usage data is collected on both an aggregated and anonymous basis.

⁵² See Cisco, *Visual Networking Index: Usage Study* at 3-4, Tables 1 and 2 (Oct. 25, 2010), available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/Cisco_VNI_Usage_WP.html.

⁵³ See Cisco, *Visual Networking Index: Forecast and Methodology, 2010-2015*, at 10-14, Tables 10-16 (June 1, 2011), available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html.

⁵⁴ See *id.* at 10-14, Tables 10-16.

Sprint connects to its equipment in IXP locations using a combination of OC768s and 10 Gbps facilities. IP networks of this size typically operate with a utilization level ranging from 50% to 70% – meaning that the spare capacity to accommodate future traffic growth ranges from 30% to 50%. It is readily apparent that if voice traffic requires two percent (2%) of total capacity, or even four percent (4%) – or for that matter, even eight percent (8%), IP network operators will have sufficient spare capacity to accommodate voice traffic. Even if an IP network operator must install additional equipment (*e.g.*, router and switch ports) to handle the additional voice traffic, these costs are modest: approximately \$3,750 monthly for an additional 10 Gbps Ethernet link.⁵⁵

3. The Proposals by Some Parties to Use Different IP POIs Are Fundamentally Flawed and Would Needlessly Impose Costs on Providing IP Voice Services

Several parties in their *NPRM* comments proposed that the FCC use LATAs, MSAs or states as the location of IP voice interconnection POIs. Notably, none of these parties made any attempt to demonstrate that its proposal is superior (more efficient) than other proposals – including use of the locations where IP network operators currently exchange non-voice IP traffic. All of these alternative proposals are flawed, as demonstrated by the proposal to use state boundaries for IP voice POIs.

Under the proposal to have one IP POI per state, California (with over 37 million residents) would have one POI, while Wyoming (with fewer than 600,000 residents) would also have one POI. But if it is efficient to serve California with one IP POI, it necessarily follows that establishing an IP POI in Wyoming would be grossly inefficient. Indeed, if it is efficient to serve

⁵⁵ This estimate is based on two components. One is the lease of a 10 gbps port on the IXP's Ethernet switch at approximately \$2,500 monthly. The second component is deployment of a 10 gbps port on the IP network operator's own network edge router, a one-time investment of approximately \$50,000. Assuming a 30% annual carrying charge, this equates to a monthly cost of \$1,250 ($\$50,000 * 30\% / 12$).

California with one POI, it should be efficient to serve 13 midwestern and western States (with a collective population of less than 33 million residents) with only one POI.⁵⁶

The use of states, LATAs, or MSAs for IP voice POIs also requires a decision of where within a state the POI should be located. This decision almost certainly will be controversial among affected parties. Who will make this decision and resolve this controversy? How much time will this decision-making process consume? Will the decision-maker consider establishing new IXPs (if none exists today) so IP network operators can realize the efficiencies of direct interconnection *via* an exchange (vs. separate direct interconnection facilities with all other IP networks in the state)? If so, who will build and operate such an IXP – and how will this IXP be funded and how long will it take for this IXP to become operational?

In contrast, none of these issues arises with Sprint's proposal because every IP network has already established locations where it currently exchanges non-voice IP traffic. To be sure, under Sprint's proposal, two IP network operators would need to discuss how to interconnect their respective networks if their current IP POIs are located in different cities. But determining the most efficient interconnection arrangement in this situation should be a straightforward discussion among network engineers from the two IP network operators.

There are other problems with using states, LATAs, or MSAs for IP voice POIs. Construction of new IP interconnection facilities to connect to the new IP POI may be required (and given the ILEC dominance over transport facilities in local markets, competitive IP network operators may be forced to buy the ILEC's over-priced special access facilities). In addition, these new IP facilities would be used to transport IP voice traffic only, which would result in use of much smaller (and much less efficient) interconnection facilities compared to the enormous IP

⁵⁶ The 13 states include Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

pipes that IP networks already use. Much (if not all) of the sizable efficiencies that result by putting voice over existing IP networks would be lost. In short, uses of state, LATA, or MSA boundaries as the basis for IP POIs almost certainly will delay the availability of IP voice interconnection (and all of its attendant benefits) and increase – entirely needlessly – the costs of providing voice services.

* * *

In summary, the Commission should rule that the POIs used with IP voice interconnection should presumptively be located at the places where IP network operators currently exchange non-voice traffic so voice traffic can utilize the same IP facilities that non-voice traffic uses. To implement this default rule efficiently, the Commission should additionally make clear that each IP network operator is responsible for the costs of establishing connection from its network to the IP POI, including any TDM-IP media gateway conversions, ports on its network edge router, port charges on the carrier hotel Ethernet switch, and any carrier hotel “landlord” fees for its collocated equipment, or IP transit costs associated with reaching the IP POI if it does not itself have its own facilities to the IP POI.⁵⁷

F. THE FCC SHOULD BEGIN A PUBLIC DISCUSSION (VIA AN NPRM) WHEN TDM INTERCONNECTION SHOULD BE COMPLETELY DECOMMISSIONED

As the Commission is aware, the Technology Advisory Council – and in particular, its Critical Legacy Transition Working Group (“CLT-WG”) – has been considering numerous issues raised by the rise of IP networks. Last September, CLT-WG concluded that it “makes sense to create an orderly process for sun-setting the role of the PSTN as a system of record,” further noting that such a process may actually create “new economic opportunities”:

⁵⁷ Any additional costs of transit should be tiny, given that IP voice as a percent of total IP traffic is so tiny.

A timely and orderly transition process may also create new economic opportunities by stimulating growth and experimentation within the communications sector and improve our national competitiveness by accelerating the (near) universal adoption of new and more efficient technologies throughout the public and private sectors of our economy.⁵⁸

CLT-WG provided a more detailed analysis at the December 20, 2011 TAC meeting.

The CLT-WG found that the material facts are not in serious dispute:

- The PSTN is “a voice centric network which no longer satisfies all of the interactive communications needs and demands of the citizens of the United States;”⁵⁹
- “[M]arket forces will lead to a significant loss of PSTN utilization by 2018 in preparation for which decisions need to begin today;”⁶⁰
- The use of “voice over analog and/or TDM equipment is going away;”⁶¹
- The “vast array of new services on the new IP network clearly out weighs the PSTN;”⁶²
- Accelerating the transition to IP “will put the United States on a continued course of technical leadership and innovation in communications;”⁶³ and
- “If we do nothing, we will end up with a deep loss of national capabilities.”⁶⁴

There is also consensus that the FCC “needs to facilitate the transition” from TDM to IP.⁶⁵

No one, at least to Sprint’s knowledge, is recommending that any provider of “narrowband” (TDM) voice service be forced to decommission its TDM network by a specified date.⁶⁶ But when thousands of providers of voice services offer such services over more efficient

⁵⁸ CLT-WG, *Sun-setting the PSTN*, at 4 (Sept. 27, 2011).

⁵⁹ See CLT-WG, *Sun-setting the PSTN*, at 33 (Dec. 20, 2011).

⁶⁰ See *ibid.*

⁶¹ See CLT-WG, *The Telephone Network in Transition*, at 10 (Dec. 14, 2011).

⁶² CLT-WG, *The Telephone Network in Transition: FCC Workshop*, at 7 (Dec. 6, 2011).

⁶³ See CLT-WG, *Sun-setting the PSTN*, at 36 (Dec. 20, 2011).

⁶⁴ *Ibid.*

⁶⁵ See CLT-WG, *The Telephone Network in Transition: FCC Workshop*, at 8 (Dec. 6, 2011).

⁶⁶ See, e.g., CLT-WG, *Sun-setting the PSTN*, at 36 (Dec. 20, 2011).

IP networks, it no longer becomes economically rational for all of these providers to continue to maintain TDM capabilities simply because a small number of providers are slow to adopt new technology.

Consequently, it is almost certain that the FCC will need to establish a specific date by which all providers of voice traffic must be willing and capable of exchanging voice traffic *via* IP interconnection – if only by making arrangements with a third-party that is capable of interconnecting on an IP basis with other networks and then converting the incoming IP traffic to TDM. TDM services may continue to be offered but IP interconnection must be universally available.

Sprint urges the Commission to seek supplemental comment on the date when all voice providers must make IP interconnection available (whether directly or indirectly *via* third-party services). The sooner the Commission sets a date, the more time all TDM network operators will have to plan for this development. In the meantime, the FCC should confirm parties may use the FCC complaint procedure to resolve any inability to reach agreement.⁶⁷

II. BILL-AND-KEEP IMPLEMENTATION (§ XVII.N – ¶¶ 1315-25)

Sprint below responds to the Commission’s request for comment on “issues related to the implementation of a bill-and-keep pricing methodology” for traffic exchanged using TDM interconnection.⁶⁸ The Commission has correctly identified the standard it should use in determining how TDM interconnection arrangements should be adjusted to implement bill-and-keep: they should be “efficient and equitable.”⁶⁹ It also correctly identifies the objective for TDM interconnection arrangements during the transition to bill-and-keep: they should “facilitate

⁶⁷ See Sprint Written Ex Parte Letter at 10-11 (July 29, 2011).

⁶⁸ See *USF/ICC Transformation FNPRM* at ¶ 1315.

⁶⁹ See *ibid.*

the transition to all-IP networks.”⁷⁰ The closer TDM interconnection arrangements are to the arrangements that will be used with IP interconnection, the more likely that network operators will move to IP technologies to take advantage of the many benefits of IP – including significant cost reductions in transporting voice traffic. Certainly, the arrangements used with TDM traffic should not dis-incent network operators from deploying and using more efficient IP technology.

A. POIs, NETWORK EDGES AND OTHER TDM-RELATED INTERCONNECTION ISSUES (¶¶ 1316-21)

Sprint below addresses the specific questions the Commission has posed, and raises additional issues that would improve the efficiency of TDM interconnection and, in the process, “facilitate the transition to all-IP networks.”⁷¹

1. Background: POIs, Meet Points and Network Edges

Historically, a Point of Interconnection (“POI”) was limited to describing “the physical location where a carrier’s circuits interconnect for the purpose of interchanging traffic on the [PSTN].”⁷² POIs are similar to “meet point interconnection,” arrangements in which “each . . . carrier builds and maintains its network to a meet point.”⁷³ However, POIs historically played little or no role in determining the financial responsibility for the costs of transport, whereas two carriers with a meet point traditionally exchanged traffic using a bill-and-keep arrangement (not charging the other for any costs on its side of the meet point).⁷⁴

⁷⁰ See *id.* at ¶ 1319.

⁷¹ See *USF/ICC Transformation FNPRM* at ¶ 1319.

⁷² *Number Resource Optimization NPRM*, 14 FCC Rcd 10322, 10342 n.64 (1999).

⁷³ 47 C.F.R. § 51.5 (definition of “meet point interconnection arrangement”). See also *id.* (“A meet point is a point of interconnection between two networks, designated by two telecommunications carriers, at which one carrier’s responsibility for service begins and the other carrier’s responsibility ends.”).

⁷⁴ While the new Rural Transport Rule also uses the term “meet point,” that term now is used in a very different way – namely, the wireless carrier will pay all transport costs for all traffic, including non-

POIs began playing a more important role with the interconnection rules adopted in the 1996 *Local Competition Order*. There, the Commission adopted a calling-party's-network's-pays ("CPNP") regime, imposing on each originating carrier the obligation to pay all of the costs of transporting its calls to the switch serving the called party. With this regime, POIs were used to determine which carrier provided which portion of the transport facilities and how the originating carrier paid for the transport costs in delivering its traffic to the persons being called. Specifically,

- ILECs had been charging wireless carriers to receive the ILEC's traffic at the POI. The FCC adopted Rule 51.703(b) to prohibit this practice;⁷⁵
- A corollary of this Rule is that the originating carrier became responsible not only for delivering its traffic to the POI with the terminating carrier, but also for paying all of the costs of this "pre-POI" transport;⁷⁶
- If the POI was located "upstream" from the terminating switch, then the POI location also identified that portion of the facility that the terminating carrier could bill the originating carrier, with Rule 51.701(c) authorizing the terminating carrier to bill the originating carrier for transport "from the interconnection point between two carriers to the terminating carrier's end office switch that directly serves the called party;" and
- With regard to the interconnection facility – the link connecting the two networks – Rule 51.709(b) specified that the cost of the facility would be shared between the originating and terminating carriers based on the proportion of trunk capacity used to transport each carrier's traffic.⁷⁷

access calls originating on the rate-of-return -regulated rural LEC's ("RLEC's") network, between the RLEC's meet point and the wireless network.

⁷⁵ 47 U.S.C. § 51.703(b) ("A LEC may not assess charges on any other telecommunications carrier for telecommunications traffic that originates on the LEC network."); *Local Competition Order*, 11 FCC Rcd 15499, 16016 ¶ 1042 (1996) ("As of the effective date of this order, a LEC must cease charging a CMRS provider or other carrier for terminating LEC-originated traffic and must provide that traffic to the CMRS provider or other carrier without charge.").

⁷⁶ See, e.g., *MAP Mobile v. Illinois Bell*, 24 FCC Rcd 5582, 5593 ¶ 31 (2009) ("[T]he Act and implementing Commission rules and orders prohibit [the ILECs] from charging MAP for the interconnection facilities and services they provided to MAP, to the extent such facilities and services were used to deliver intraMTA traffic originated on their networks to MAP's point of interconnection.").

⁷⁷ See 47 C.F.R. § 51.709(b) ("The rate of a carrier providing transmission facilities dedicated to the transmission of traffic between two carriers' networks shall recover only the costs of the proportion of that

With bill-and-keep, all carriers will be encouraged to be as efficient as possible, as they can no longer pass on to their competitors the costs that are associated with inefficiencies in their own network.⁷⁸

Some have proposed using the term “network edge” to describe the POI in a bill-and-keep regime, with this edge defined as “the point where bill-and-keep applies” and where each network operator “is responsible for carrying, directly or indirectly by paying another provider, its traffic to that edge.”⁷⁹ Sprint does not believe it is particularly important whether the Commission continues to use the term “POI” or instead begins using the term “network edge;” more important is that the FCC define precisely whatever term it prefers to use so as to minimize future controversy.⁸⁰

Several other POI-related rules bear brief mention. First, the FCC has long held that under § 251(c)(2) of the Act, it is the competitive carrier – and not the incumbent – that chooses the location of the POI(s).⁸¹ Second, the FCC has also consistently held that under this

trunk capacity used by an interconnecting carrier to send traffic that will terminate on the providing carrier's network.”).

⁷⁸ As the FCC has correctly observed, with bill-and-keep “success in the marketplace will reflect a carrier’s ability to serve customers efficiently, rather than its ability to extract payments from other carriers.” *USF/ICC Transformation Order* at ¶ 756.

⁷⁹ *USF/ICC Transformation FNPRM* at ¶ 1320.

⁸⁰ Past ILEC “edge” proposals often distinguished between “hierarchical” and “non-hierarchical” networks. Such distinctions contravene the principle of competitive neutrality and would perpetuate the inefficiencies, discrimination and unnecessary complexity engendered by the current intercarrier compensation regime.

⁸¹ See, e.g., *Local Competition Order*, 11 FCC Rcd 15499, 15991 ¶ 997 (1996). Even before the 1996 Act, the FCC held that “a LEC is obligated to provide a CMRS provider with the interconnection of its choice” and that any LEC charges for this interconnection must be “cost-based.” *LEC/Cellular Interconnection Reconsideration Order*, 4 FCC Rcd 2369, 2373 ¶ 30, 2374 ¶ 33 (1989); *Bowles v. United*, 12 FCC Rcd 9840, 9849 ¶ 15 (1997). Thus, a wireless carrier could choose to interconnect at a LEC’s tandem switch (Type 2A), one or more LEC end offices (Type 2B), or some combination of the two.

interconnection statute, an incumbent LEC “must allow a requesting telecommunications carrier to interconnect at any technically feasible point” within the incumbent’s network:

The Commission has interpreted this provision to mean that competitive CLECs have the option to interconnect at a single point of interconnection (POI) per LATA.⁸²

These rules will not change with bill-and-keep; indeed, they cannot be changed because it was Congress that imposed on incumbent LECs the duty to accommodate the interconnection choices made by competitive carriers.

It also bears noting that POIs (or network edges) are relevant for inclusion in an Interconnection Agreement (“ICA”) only if two network operators connect their networks directly with each other. As a practical matter, in a direct connection, the terminating carrier’s switch can be considered the originating carrier’s POI on the terminating carrier’s network; the facility connecting the two POIs is “interconnection”. If two carriers instead interconnect indirectly, the traffic they exchange uses POIs that are located based on the agreement each carrier has with the intermediary (or transit) carrier. This matter is perhaps best explained with an example between a rural LEC, a wireless carrier, and an RBOC acting as a transit provider:

- For mobile-to-land calls, the originating wireless carrier’s POI on the terminating RLEC’s network is based on the network connection arrangements between the RLEC and the RBOC , typically resulting in a meet point POI between the RLEC and RBOC networks, and the wireless carrier has the responsibility to pay the transit carrier to deliver its traffic to this RBOC/RLEC meet point POI; and
- For land-to-mobile calls, the originating RLEC’s POI on the terminating wireless carrier’s network is based on the network connection arrangements between the wireless carrier and the RBOC, typically resulting in an RBOC POI at the wireless carrier’s switch and the RLEC has the responsibility to pay the transit carrier to deliver its traffic to this RBOC POI at the wireless carrier switch.

⁸² *USF/ICC Transformation FNPRM* at ¶ 1316.

Of course, the latter arrangement will change with the new Rural Transport Rule, because under this “interim” rule, the POI for intraMTA land-to-mobile calls will always be located at the “meet point” between the RLEC and the transit carrier, and the wireless carrier will assume all of the cost of transport of such traffic originating on the RLEC’s network – between this RLEC meet point and its wireless network.

2. CTIA’s “METE” and CenturyLink’s NPRM Interconnection Proposals

Sprint below responds to the Commission’s specific request to address two proposals made in the *Transformation NPRM* comments: CTIA’s Mutually Efficient Traffic Exchange (“METE”) proposal, and several proposals made by CenturyLink.⁸³

(a) For the most part, Sprint supports CTIA’s METE proposal. CTIA does not explain its METE proposal in detail.⁸⁴ As Sprint understands the proposal, wireless and other competitive carriers would continue to have the right to send all of their traffic to a single “delivery point from among the terminating carrier’s designated edges in the LATA.”⁸⁵ This proposal is consistent with the FCC’s longstanding “single-point-per-LATA” rule, and Sprint therefore supports this CTIA proposal.

Sprint also agrees with CTIA that originating carriers should be required, at the request of a terminating carrier, to use different channels within a single interconnection facility for “each of the terminating carrier’s terminating switching facilities in the LATA.”⁸⁶ Segregating traffic by a terminating carrier’s switches in a LATA can facilitate the ability of terminating carriers to maximize efficiency within their respective network. For example, with such traffic segregation,

⁸³ See *USF/ICC Transformation FNPRM* at ¶ 1318 and ¶ 1321.

⁸⁴ See CTIA *USF/ICC Transformation NPRM* Comments at 39 (April 18, 2011).

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

a LEC with a tandem switch could decide whether traffic destined to a particular end office should be switched at its tandem or routed directly through the tandem switch location *via* a dedicated channel to the terminating end office without the tandem “switching” function being used. The originating carrier is still only responsible for delivery of its traffic to the tandem switch – the LEC remains responsible for all network facilities necessary to physically transmit the dedicated channel traffic from the LEC tandem to the terminating end office.

CTIA’s proposal regarding the recovery of the cost of the interconnection facility between the originating carrier and terminating network is less clear. It states that under its METE proposal, “the originating carrier would be responsible for assuming the costs of delivering a call, including securing any necessary transport services, to the terminating carrier’s network edge, and could determine how to do so.”⁸⁷ Carriers typically interconnect using a single facility over which they establish two-way trunk groups, which means the same facility is used to both send and receive traffic. To the extent that such two-way functionality is used, CTIA’s proposal appears merely to restate the proportional use standard set forth in Rule 51.709(b).

Rule 51.709(b) made sense in a calling-party’s-network-pays (“CPNP”) regime, which the Commission has now correctly determined is flawed because calling and called parties both benefit from a call.⁸⁸ In this new environment, as the FCC has recognized, traffic balance is “no longer . . . relevant.”⁸⁹ Accordingly, as Sprint discusses below (*see* Subpart A.4), the cost of interconnection facilities should instead be shared equally, 50/50.

⁸⁷ *Ibid.*

⁸⁸ *See, e.g., USF/ICC Transformation Order* at ¶¶ 744-47.

⁸⁹ *See id.* at ¶ 756.

(b) The Commission must reject two of CenturyLink’s proposals because they are incompatible with the Act. CenturyLink has made several proposals that it claims are necessary to prevent interconnecting carriers from getting a “free ride” on its network.⁹⁰ But as the Commission has squarely (and correctly) held, the use of bill-and-keep does not “somehow result[] in ‘free’ termination”:

[B]ill-and-keep merely shifts the responsibility for recovery from other carrier’s customers to the customers that chose to purchase service from that network plus explicit universal service support where necessary. Such an approach provides better incentives for carriers to operate efficiently by better reflecting those efficiencies (or inefficiencies) in pricing signals to end-user customers.⁹¹

In any event, the Commission cannot grant two of CenturyLink’s proposals because they are flatly inconsistent with the Act.

CenturyLink first asks the FCC to declare that “traffic volumes should dictate the number of POI locations for traffic exchanged with an ILEC.”⁹² Traffic volumes, however, are not the standard that Congress adopted for locating a POI. Rather, Congress has specified unequivocally that the “requesting telecommunications carrier” (*i.e.*, the competitive carrier) will determine where, among “any technically feasible point within the [ILEC’s] network,” it will interconnect with an ILEC.⁹³ In this regard, the FCC has recognized that in determining where to interconnect with an ILEC, competitive carriers can make the decision using “*their* most efficient

⁹⁰ CenturyLink *USF/ICC Transformation NPRM* Comments at 74 (April 18, 2011) (According to CenturyLink, if the FCC does not adopt all of its proposals, “bad actors will no doubt seek to free ride on transport and transit networks.”). CenturyLink’s comments here reflect its desire to maintain “the existing opaque implicit subsidy system under which customers pay to support other carriers’ network costs” (*USF/ICC Transformation Order* at ¶ 738) – that is, a continuation of the system under which competitive carriers like Sprint are forced to subsidize a portion of CenturyLink’s own network.

⁹¹ *USF/ICC Transformation Order* at ¶ 746.

⁹² CenturyLink *USF/ICC Transformation NPRM* Comments at 75.

⁹³ 47 U.S.C. § 251(c)(2)(B).

technical and economic choices.”⁹⁴ Moreover, the FCC has repeatedly held (including only three months ago), that competitive carriers under this interconnection statute have “the option to interconnect at a single point of interconnection (POI) per LATA.”⁹⁵

It is important to emphasize that enforcing § 251(c)(2) as written does not impact in any way CenturyLink’s ability to manage its network efficiently. If, for example, CenturyLink determines that certain traffic sent to it by a competitive carrier should be routed directly to an end office rather than via one of its tandem switches, CenturyLink would still have the flexibility to adopt the routing alternative it believes is most efficient for *its* network. Indeed, the CTIA METE proposal discussed above specifically would give CenturyLink the tools it needs to maximize the efficiency of its network.

Second, CenturyLink asks the Commission to rule that when “establishing POIs/network edges, competitive carriers are financially responsible for establishing and maintaining direct interconnection facilities.”⁹⁶ In fact, the FCC rejected this very position long ago in holding that an ILEC could not force a competitive carrier to establish additional interconnection points when the competitive carrier preferred to interconnect using a single POI per LATA.⁹⁷ In addition, Rule 51.709(b) specifies clearly that the cost of the interconnection facility is shared between the ILEC and the competitive carrier based on each carrier’s use of the facilities. What is more (as discussed in Subpart I.A.6 below), the Supreme Court has now confirmed that § 251(c)(2)

⁹⁴ See *Local Competition Order*, 11 FCC Rcd 15499, 15991 ¶ 997 (1996) (italics added).

⁹⁵ See *USF/ICC Transformation FNPRM* at ¶ 1316.

⁹⁶ CenturyLink *USF/ICC Transformation NPRM* Comments at 75.

⁹⁷ See *Virginia Arbitration Order*, 17 FCC Rcd 27039, 27064-65 ¶¶ 51-53 (2002).

imposes on ILECs like CenturyLink the duty to provide to competitive carriers interconnection facilities at cost-based (TELRIC) rates.⁹⁸

3. The Commission Should Extend the Default Single-POI-per-LATA Rule to Apply to All Carriers Using TDM Interconnection

The location of POIs, the Commission has observed, has been one of “the most contentious issues in interconnection proceedings.”⁹⁹ It has further noted, again correctly, these disputes often arise “because of a lack of clarity among the various rules governing the costs of interconnection facilities and the relationship of those rules to the single POI rule.”¹⁰⁰ These continuing interconnection disputes neither serve the public interest nor advance the interests of consumers.

Sprint submits it is critically important that the Commission clarify expeditiously the precise scope of the core requirements for TDM interconnection. The sooner the FCC acts, the sooner that most interconnection disputes will end.

One of the most important steps that the Commission can take is to extend the single-POI-per LATA rule to all telecommunications carriers. Such action would improve the efficiency of TDM interconnection, set the stage for the implementation of bill-and-keep, and facilitate the transition of all IP networks.

A single POI/network edge per LATA should be the default interconnection arrangement for all traffic exchanged via TDM interconnection. With such a default rule as the baseline, interconnecting carriers will be encouraged to agree to use additional POIs when it is economically efficient to do so. The problem, as the Commission has correctly observed, is that

⁹⁸ See *Talk America v. Michigan Bell*, 131 S. Ct. 2254 (2011).

⁹⁹ See *Intercarrier Compensation FNPRM*, 20 FCC Rcd 4685, 4728 ¶ 91 (2005).

¹⁰⁰ *Ibid.*

rural ILECs and competitive carriers are not currently subject to the single-POI per LATA rule.¹⁰¹ This is because the FCC adopted this rule pursuant to § 251(c)(2) of the Act, and this statute, as a practical matter, applies to large ILECs only.¹⁰²

Sprint recommends that the FCC base an expanded single POI/network edge-per-LATA rule pursuant to § 251(a) rather than § 251(c)(2). Such a rule would facilitate efficient TDM interconnection among all network providers of voice services, whether the interconnection used is direct or indirect. In contrast, the rights afforded to competitive carriers in § 251(c)(2) have little value as a practical matter when they interconnect with other competitive carriers or with rural ILECs. Congress designed § 251(c)(2) so competitors could interconnect “within” large ILEC networks. Rarely does a competitive carrier have an interest in interconnecting “within” a rural ILEC network or “within” the networks of other competitive carriers. Given the much smaller volumes of traffic exchanged with rural and competitive carriers, an interconnecting carrier’s primary interest is instead connecting at the edge of another carrier’s TDM network.

Adoption of a single POI/network edge default rule applicable to all TDM network operators is critically important to implementation of bill-and-keep, so interconnecting carriers know exactly where each party’s responsibilities end. But such a rule would also improve network and cost efficiencies during the time that the former CPNP regime is being transitioned to bill-and-keep. As noted, such a default rule will encourage all network operators to discuss alternative POI arrangements where they would be more efficient. In addition and as discussed above, IP interconnection invariably will involve even more centralized POIs (or network edges),

¹⁰¹ See *USF/ICC Transformation FNPRM* at ¶ 1317.

¹⁰² While Section 251(c)(2) imposes certain duties on “each incumbent” LEC, most rural ILECs are exempt from these duties because of their § 251(f)(1) rural exemption (although this statute includes a procedure for competitive carriers to have this exemption lifted and thereby subject RLECs to § 251(c) requirements).

so adoption of a single-POI-per-LATA rule as proposed will help “facilitate the transition to all-IP networks.”¹⁰³

4. The Commission Should Also Revise the Default Rule Governing the Recovery of the Costs of the Interconnection Facility Connecting Two Network Edges

The Commission, in addition to applying the default single-POI-per-LATA rule to all network operators using TDM interconnection, should also revise the current default rule governing the recovery of the cost of the interconnection facility connecting one network’s POI/edge with another network’s POI/edge. The modest change Sprint proposes below would be both “efficient and equitable,” the standard the Commission has stated it would use in modifying its current interconnection rules.¹⁰⁴

Currently, recovery of the costs of interconnection facilities has been based on traffic balance, with Rule 51.709(b) providing:

The rate of a carrier providing transmission facilities dedicated to the transmission of non-access traffic between two carriers' networks shall recover only the costs of the proportion of that trunk capacity used by an interconnecting carrier to send non-access traffic that will terminate on the providing carrier's network.

But traffic balance, the Commission recognized in its *Transformation Order*, is “no longer . . . relevant”:

Given the understanding that both the calling and called party benefit from a call, the “direction” of the traffic – *i.e.*, which network is originating or terminating the call – is no longer as relevant.¹⁰⁵

Sprint proposes that the cost of the interconnection facility – the link connecting two network POIs (or edges) for the exchange of traffic destined to the other – be shared equally,

¹⁰³ See *USF/ICC Transformation FNPRM* at ¶ 1319.

¹⁰⁴ See *USF/ICC Transformation FNPRM* at ¶ 1315.

¹⁰⁵ *USF/ICC Transformation Order* at ¶ 756.

50/50.¹⁰⁶ Under Sprint's proposal, each network operator would assume its own costs for connecting to its end of the interconnection facility (*e.g.*, switch ports, DACs, multiplexing, transmission equipment). The 50/50 cost sharing arrangement would therefore be applied only to all non-recurring and monthly recurring charges of the interconnection facility itself, and the monthly recurring cost of the facility undoubtedly will be fixed (*e.g.*, same price each month). If the interconnection is with an incumbent LEC subject to § 251(c)(2), that incumbent's TELRIC prices will establish a price ceiling for the facility (*see* Subpart I.A.6 below).

There are many benefits to Sprint's 50/50 sharing default rule proposal, including:

- It is simple, sensible and straightforward;
- It would facilitate the transition to an all-IP world, as IP interconnection arrangements will be based on overall capacity requirements of interconnectors rather than directionality;
- It should reduce, if not eliminate entirely, future intercarrier disputes (*e.g.*, questions such as whether an interconnection agreement needs to be amended because the traffic balance may have changed from 55%-45% to 65%-35% become irrelevant);
- The elimination of most future disputes will result in little, if any, further government involvement in this area – or to put it another way, Sprint's proposal constitutes a minimally intrusive regulatory solution;
- The cost of billing by the network operators providing the facility would be simplified (*e.g.*, as there would be only one line item for each interconnection facility and that price will not change most months);
- Sprint's proposal is competitively neutral as each interconnecting carrier would contribute the same amount for the facility;
- The proposal would maximize efficiency incentives because if both carriers share the cost equally, both will have strong incentives to minimize the costs; and
- Sprint's proposal would eliminate any danger of the incumbent LEC continuing to exercise its market power over interconnection facilities and

¹⁰⁶ This same 50/50 sharing approach applies when the interconnection facility is used for transit. For example, Sprint would pay 50% of the facility for its use of the facility to send Sprint-originated mobile-to-third party transit traffic to the transit carrier, and the transit carrier would pay 50% for its use of the facility to send third-party originated transit traffic to Sprint. The transit carrier would then recover this portion of its facility costs from its transit customers that send traffic to Sprint.