

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

In the Matter of)
)
Comment Sought on Transition from) **GN Docket Nos. 09-47, 09-51, 09-137**
Circuit-Switched Network to)
All-IP Network)

COMMENTS – NBP PUBLIC NOTICE # 25

COMMENTS OF JOHN STAURULAKIS, INC.

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EXECUTIVE SUMMARY

John Staurulakis, Inc. (“JSI”) submits these comments in response to the FCC’s NBP Public Notice #25. Overall, JSI recommends that the FCC remain technology-neutral in its policy-making and regulations. JSI recognizes the FCC’s history of making technology-neutral policy and regulations and would like to recommend that the FCC stay on this course through the industry transition to a broadband world. The FCC should be mindful of its policy impacts on industry players and should work to ensure its policies and regulations will not encourage service providers to choose a particular technology for the provision of broadband service. The FCC should regulate all technologies within a service on par with other technologies within the same service in order to create a level playing field for providers of the same services. Just as the FCC has treated telecommunications providers the same regardless of the technologies used to provide voice services, the FCC should take the same approach in regulating broadband service.

If the FCC releases a Notice of Inquiry in order to investigate policy issues relating to an industry transition, it should focus its investigation on the transition to broadband policy and recognize that IP technology is just one type of technology available to providers for use with a broadband platform. Any FCC inquiry on the transition should look toward developing a comprehensive policy and comparable regulation for all providers so that there is no advantage to a provider choosing one broadband technology over another. The FCC should also explore any policy or regulatory inequities that might discourage providers from migrating to broadband service or the use of IP technology. Since

broadband is a platform for voice, data and video services that have converged and are, at times, provided using a single technology in one package, the FCC should incorporate practices that it has used in the past to consolidate policies and regulations applicable to other converging services and technologies.

Finally, the FCC should consider more broadly how a migration to broadband could be impacted by existing regulations in areas such as interconnection, network addressing, consumer protections and net neutrality, and it should seek to modify its policies and regulations to prevent any unfair advantages or to one type of provider or technology.

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COMMENTS OF JOHN STAURULAKIS, INC.

John Staurulakis, Inc (“JSI”) responds to the Public Notice released by the Federal Communications Commission (“FCC” or “Commission”) in which the FCC is requesting input as to whether the Commission should consider issuing a Notice of Inquiry (“NOI”) “relating to the appropriate policy framework to facilitate and respond to the market-led transition in technology and services, from a circuit-switch Public Switched Telephone Network (“PSTN”) to an IP-based communications network.”¹ These comments focus on one of the questions raised in the NBP Public Notice #25, specifically, “which policies and regulatory structures may facilitate, and which may hinder, the efficient migration to an all IP world.”²

JSI is a consulting firm offering regulatory, financial and business development services

¹ Comment Sought on Transition From Circuit-Switched Network to All IP Network, DA 09-2517, GN Docket Nos. 09-47, 09-51, 09-17, NBP Public Notice #25, DA 09-2517 (Dec. 1, 2009) (“NBP Public Notice #25”) at 1.

² *Id.* at 2.

to more than two hundred rate-of-return rural incumbent local exchange carriers (“LECs”) throughout the United States, most all of whom provide broadband services. The NBP Public Notice #25 acknowledges that broadband is not merely another service but is a growing platform over which consumers may access a multitude of services including voice, data, and video in an integrated way across different applications and providers.³ JSI agrees with this understanding of broadband as a platform for many services but cautions the FCC not to equate broadband *service* with IP *technology* in promulgating new policies and modifying existing policies to accommodate this industry transition. Historically, the FCC has regulated services, not technologies, in order to allow equal regulatory benefits and obligations to all providers of a single service. But, as individual services converge onto the broadband platform, JSI recommends that the FCC continue to take a technologically neutral approach in creating policy and regulations. Unfortunately, however, in its NBP Public Notice #25, the FCC appears to treat broadband service as synonymous with IP technology. In these comments, JSI urges the FCC to recognize the distinction and to not move away from its fundamental technology-neutral regulatory foundation.

I. Historically, in the Context of Other Transitions, the FCC Has Ensured that Technology Neutral Policies Remain in Place

As the Commission has acknowledged in NBP Public Notice #25, the market has seen other transitions such as from analog mobile service to digital mobile service or from analog broadcast television to digital broadcast television.⁴ Policy played an important

³ *See Id.* at 1.

⁴ *See Id.*

role in these previous transitions because spectrum migration occurred on a large scale and it was necessary for the FCC to implement regulation to manage the spectrum.

Even throughout these migratory events, however, the Act and its resultant regulation, including specific rules governing mobile radio service and broadcast television, have remained technology-neutral. JSI recommends that the FCC continue this technology-neutral course as we enter the next historic migration from the circuit-switched network to the IP network even in the midst of the public policy concerns surrounding the migration to the multiservice broadband platform.

The regulated network, which includes the PSTN, a circuit-switch-based network, is continually implementing new technologies, to take advantage of cost savings, and new features for customers. Within this evolution, the regulated network has migrated from an analog network to a digital network and voice signaling has moved from in-band to out-of-band using an SS7 packet network. In addition, the high capacity of fiber optics has driven the network architecture from a tree and branch structure to a redundant ring architecture. Circuit switching was first supplemented with ATM and Frame Relay packet switching and now many circuit switches have been replaced with packet based soft switches. This technological evolution is occurring through market forces and the drive to efficiency. But, to date, this evolution has occurred without changes in public policy.

The FCC notes that broadband is becoming a platform for multiple services. This is not a new concept. Cable systems' hybrid fiber coax technology, as well as telephone systems'

fiber-to-the-home and digital-loop carrier technologies allow voice, data and video service to utilize the same facilities. In many cases the bandwidth is dynamically shared between the services. This bandwidth-sharing has happened using ATM and frame relay technologies. The IP format is now the most common for accomplishing this type of sharing because IP is the basis for the data network and more applications have been developed to communicate between the voice, data and video applications. The software is what integrates the services, not the basic broadband facility. The FCC should recognize that IP is not the only technology that accommodates multiple services sharing the same facilities. Public policy, therefore, should not treat one of these multiservice technologies, such as IP, differently than another non-IP multiservice technology.

II. The FCC Should Continue this Practice and Avoid Making Policies that Will Encourage Providers to Select a Particular Technology

The FCC seems to be promoting an overall transition to IP technology. But, although IP technologies have been in existence for decades, it is by no means the ultimate technology. New methods of transferring voice, data, and video are being developed every day. The first IP technologies did not envision the security requirements needed to complete the transition to a broadband network. IP did not initially contemplate support for streaming video. Changes to the technology are needed in order to accommodate full implementation of these services. The FCC should not predetermine which technology should be used. Any FCC action to select a technology will distort the implementation of other technologies. If the FCC provides less regulation on one technology over another,

service providers will flock to the technology with less regulation regardless of which technology is more efficient.

A. The FCC Has Taken a Technology-Neutral Approach in its Regulation of Telecommunications Providers

Under current regulation based on the provisions of Communications Act of 1934, as amended (“Act”), there is a structural framework tending toward the regulation of services, not technologies. To date, the FCC has taken a technology-neutral approach to regulating telecommunications networks. For example, section 251 of the Act and Part 51 of the Commission’s rules require telecommunications carriers to “interconnect directly or indirectly” at a technically feasible point.⁵ These requirements apply to all telecommunications providers whether circuit switched, packet switched or IP technology are used. Because all telecommunications carriers are required to provide access to their networks for interconnection regardless of technology, every voice customer has the ability to call any other customer that has a voice service irrespective of the type of voice technology.

Telecommunications interconnection requirements are one of the most permeating regulatory platforms for all telecommunications carriers, including incumbent LECs, competitive LECs and Commercial Mobile Radio Service providers. Not only do these interconnection laws and rules govern the extent to which carriers have an obligation to provide access to their networks, they also prescribe the provision of such services and facilitating arrangements as number portability, dialing parity, and reciprocal compensation. Each provision of the Act, and each rule, was promulgated with the

⁵ See 47 U.S.C. § 251(a); 47 C.F.R. § 51.100(a)(1).

intention of facilitating the provision of telecommunications without regard to the technologies used to provision the services.⁶

B. Rather than Regulating Technology, the FCC Has Relied on Standards Organizations

Instead of regulating technology, the FCC has relied on standards organizations such as the Alliance of Telecommunications Industry Solutions (“ATIS”) for technological specifications for interconnection and other industry standards. ATIS derives industry consensus on technology standards that change when new technologies are developed. They also protect each provider’s network against harm so a network with 99.999% reliability is available to all customers. ATIS develops specification for both network-to-network and customers-to-network (i.e., customer premises equipment (“CPE”)) interfaces. With ATIS, the technological standards and distinctions can remain with the standards body separate from policy and regulations.

If the FCC is to continue technological neutrality through regulation and policy-making, it should avoid making policies that will encourage providers to select a particular technology. Rather, it should continue to make policies that support and positively impact the services provided over different technologies. Each service provider would then be able to compete equally for customers. JSI strongly encourages the FCC to regulate all voice service platforms in the same manner and not treat one differently than another.

III. If the FCC Decides to Adopt an NOI, it Should Focus its Investigation on Transition to Broadband Service not to IP Technology

⁶ See 47 U.S.C. § 251.

Broadband is a service not a technology, and is actually technology-neutral. It can be provided over wireless, fiber optics, hybrid fiber coax, digital subscriber line, satellite, ATM, Frame Relay, and IP systems. Broadband provides the underlying foundation to support multiple services: voice, data, video, fixed and mobile. Accordingly, if the FCC decides to adopt an NOI, it should focus its investigation on the industry transition to broadband *service* rather than any transition to IP *technology*. JSI contends that the immediate transition should be framed in terms of migrating to a broadband world, not to an IP world.

A. Because Broadband Service Allows For Multiple Integrated Services, an NOI Should Focus on Developing Comprehensive Policies that Allow All Providers to Compete on a Level Playing Field

Broadband service creates many new areas for policy development. The FCC currently regulates voice, data and video services separately. A broadband platform could support them all. Because of broadband and the increasing role of software in the network, the services are becoming more integrated. CPE devices allow customers to use all three services on a single device. The customer is not aware that there are different regulations that apply to each of the services.

The challenge is for the FCC to meld the various regulations for each of these services into a comprehensive policy that allows all competitors of voice, data, and video to compete on a level playing field. For example, there should be comprehensive regulations for all services that require providers to work cooperatively with other carriers when moving a subscriber from one carrier to another. Yet, under current

regulation, such requirements exist for a telecommunications carrier, but not for a multiple video programming distributor (“MVPD”). Thus, unlike rules for telecommunications carriers, when a video customer changes their video service to a new provider, there are no rules ensuring a smooth transition to the new service provider. A video customer is likely to be required to make its own calls to the old provider to disconnect its video and data services. Under rules governing telecommunications carriers, however, a new carrier is able make that call for the customer to initiate termination of the old service.

B. In the NOI, the FCC Should Consider Incorporating Processes That it Has Previously Used to Consolidate Regulations Applying to Different Services

The FCC has attempted to consolidate some of its regulations to ensure that they are equally applied to various service providers. One example is in the area of inside wire. Part 68 of the Commission’s rules has governed the connection of inside wiring and CPE to the public switched telephone network.⁷ Regulations under Part 68 refer to, and govern in association with, the public switched telephone network.⁸

In a 1995 rulemaking proceeding, the FCC considered the issue of whether to make “cable home wiring rules the same as those governing telephone inside wiring.”⁹ In that proceeding, the FCC acknowledged that, although telephone companies and cable

⁷ *Telecommunications Services Inside Wiring; Customer Premises Equipment; Implementation of the Cable Television Consumer Protection and Competition Act of 1992; Cable Home Wiring*, Report and Order and Second Further Notice of Proposed Rulemaking, 13 F.C.C.R. 3659, ¶ 4 (Oct. 17, 1997) (“*Inside Wiring Report & Order*”); *see also* 47 C.F.R. § 68.2.

⁸ *See, e.g.*, 47 C.F.R. §§ 68.2, 68.3, 68.7, 68.100, 68.106, 68.108, 68.110, 68.112, 68.201, 68.211, 68.215, 68.218 & 68.604.

⁹ *Telecommunications Services Inside Wiring; Customer Premises Equipment*, Notice of Proposed Rulemaking, CS Docket No. 95-184, ¶ 1 (Jan. 26, 1996) (“*Inside Wiring NPRM*”).

operators offer distinct services, existing dichotomies were dissolving as technologies advanced and the marketplace evolved.¹⁰

In the Inside Wire NPRM, the FCC sought comment on whether it would be technically and competitively desirable to create a uniform set of inside wiring rules that would apply to telephone companies and cable operators alike, or, in the alternative, that would apply according to the technical characteristics of the *service* -- e.g., broadband or narrowband - - or the type of wiring used -- e.g., fiber optics, coaxial cable or twisted-pair wiring.¹¹

The FCC considered whether to revise its rules regarding CPE “to accommodate the possible convergence of technologies used to receive and to interact with network-delivered video programming and telephony.”¹² JSI encourages this approach that brings the regulations that apply to voice, data and video closer together when revising any rules for the transition to broadband service.

C. The NOI Should Address Uncertainties That Discourage Migration to Broadband and IP Technology

The NBP Public Notice #25 requests comment on policies that may discourage migration to broadband and IP technology. JSI believes the perception that IP technology could be treated under a different set of regulations has made carriers hesitant to implement IP technologies on their network-to-network connections. ATM and frame relay are packet technologies that have been in the regulated network for over 20 years. ATM and Frame Relay circuits are provisioned between carries. It is generally known that the same set of

¹⁰ *Id.*, ¶ 2

¹¹ See *Inside Wiring NPRM*, ¶ 4; *Inside Wiring Report & Order*, ¶ 16.

¹² *Inside Wiring Report & Order*, ¶ 256.

regulatory rules apply to these technologies. Yet, when voice carriers consider IP technologies, the perception that compensation and regulatory rules are different for VoIP than for traditional circuit-switched has prevented many small ILECs from considering trying to interface with other carriers using IP technologies. If such a cloud did not hang over VoIP, more regulated carriers would embrace the technology for interconnecting across networks. Instead, carriers utilize VoIP within their own network and change back to circuit switched networks to interface with other carriers. Treating carriers using VoIP technologies the same as carriers using other types of packet technologies such as ATM and frame relay creates regulatory parity, which is consistent with the act and current policy and encourages carriers to implement new technology without the fear of regulatory harm.

D. The NOI Should Consider Policies that Apply to All Competitors in a Market

The NBP Public Notice #25 requests which policies should be considered when developing the requirements for a multiservice broadband platform many of the traditional concepts should be investigated. These concepts should be applied to either all the competitors in the market or to none at all. The following is a partial list of topics that should be investigated in the transition to a broadband world.

- Networks should be arranged to ensure end users can access all other end users or content provider locations. The FCC should consider how carriers should interconnect their networks to accomplish this goal. Interconnection for small carriers should be addressed. Should some providers be able to prevent their customers from accessing small carrier networks because the cost is higher than

larger networks? Should remote areas be off limits because they are difficult to reach?

- Addressing - With traditional voice service the end user has control over their telephone number (public network address) and can take that address between carriers. Should that same situation apply to other addresses that are utilized by an end user in the public arena?
- What consumer protections should apply? Regulated voice has a host of consumer protections from slamming, cramming, truth in billing, etc. that are set by federal regulation. In addition there are consumer protection regulations that are specific to state regulation. Why should these regulations change from carrier to carrier? Is there any reason for them to be different for data and video than for voice? Are not all of these forms of communication important to end users today?
- The American Recovery and Reinvestment Act of 2009 (“ARRA”) has goals of not only making broadband available to all Americans but to also increase actual use of broadband.¹³ To achieve universal availability, a carrier does need to be responsible to serve the areas that typically would not be included in a company’s business such as areas that are typically high cost, low density, or have disadvantaged populations. Historically a single carrier of last resort obligation was required of incumbent LECs by each State to provide service to any customer as well as programs such as Lifeline to encourage adoption.

¹³ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115.

- Non-discrimination/Common carrier obligations. The FCC is addressing concepts in its Net Neutrality NPRM¹⁴ to ensure there is no discrimination in accessing content due to a carrier's network management practices or operational limitations. In the context of migration to a broadband network, access to non-discriminatory transport, interconnection and pricing are also important. In its NOI, the FCC should consider developing policies to ensure that small carriers that do not have market power have access to the facilities and features of middle mile and public Internet connections if these policies are not established in the context of the Net Neutrality NPRM. This access is assured today via common carrier obligations.
- Reporting Obligations – In its efforts to ensure more transparency, voice, data and video providers will likely have more reporting obligations. As these services merge, the accuracy of the current reporting decreases because some customer connections maybe counted multiple times while other are not counted at all. The FCC should review reporting requirements based on the migration to a multiservice platform.

IV. Conclusion

In summary, JSI encourages the FCC to continue to support a fair and level regulatory environment for service providers and technologies. The FCC should continue to develop policies that are technology neutral. This approach allows new technologies to

¹⁴ *In the Matter of Preserving the Open Internet*, GN Docket No. 09-191; *Broadband Industry Practices*, WC Docket No. 07-52; Notice of Proposed Rulemaking, FCC 09-93 (rel. Oct. 22, 2009) (“Net Neutrality NPRM”).

be developed and implemented within the traditional regulatory environment. It also allows carriers to select technologies based on the economics and benefits of the technology not based on the regulatory treatment of that technology. The FCC should also continue to regulate the *services* regardless of the *technology* used.

Further, the FCC should investigate whether there are inconsistencies in how the services are regulated. Migration to a multiservice broadband platform raises some issues of discrepancies in the regulatory treatment of the different voice, data and video services. At minimum, FCC should address how these services are being regulated and create policy that will encourage parity between the services in such areas as consumer protection and carrier-to-carrier requirements relating to the transfer of services for customers.

Respectfully Submitted,

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December 21, 2009

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