

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

In the Matter of)	
)	
International Comparison and Consumer)	
Survey Requirements in the Broadband Data)	GN Docket No. 09-47
Improvement Act)	
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Inquiry Concerning the Deployment of)	
Advanced Telecommunications Capability to)	
All Americans in a Reasonable and Timely)	
Fashion, and Possible Steps to Accelerate)	GN Docket No. 09-137
Such Deployment Pursuant to Section 706 of)	
the Telecommunications Act of 1996, as)	
Amended by the Broadband Data)	
Improvement Act)	

REPLY COMMENTS OF SPRINT NEXTEL CORPORATION – NBP Public Notice #1

I. Introduction.

Sprint Nextel Corporation (“Sprint Nextel”) submits these Reply Comments regarding the Federal Communications Commission’s (“FCC” or “Commission”) August 20, 2009 Public Notice (“*Notice*”),¹ in which the Commission seeks comment on how to define “broadband” for purposes of the American Recovery and Reinvestment Act of 2009² and the national broadband plan (“Plan”). Instead of relying primarily on throughput speed to identify broadband, the Commission should adopt a functional definition focused on whether an end-user can substantially and beneficially access a core “basket” of services and applications, recognizing that the components comprising the basket may need to be different for mobile and fixed offerings in some

¹ *Comment Sought on Defining “Broadband” – NBP Public Notice #1*, Public Notice, DA 09-1842 (rel. Aug. 20, 2009) (“*Notice*”).

² American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) (“*Recovery Act*”).

instances. In addition, the definition of broadband should exclude offerings such as Internet Protocol Television (“IPTV”), a “closed” or “semi-closed” service that is functionally and commercially indistinguishable from cable and satellite television.

II. The Commission Should Define Broadband Based on the End-User Experience.

The Recovery Act requires the Commission to develop a Plan that promotes, among other things, civic participation, education, healthcare, public safety and homeland security, job creation and worker training, private sector investment and entrepreneurship.³ By looking to the end-user experience, the Commission can craft a practical definition of broadband consistent with its statutory directive that best identifies whether networks are offering the critical services and applications that Americans need and want.

A. Broadband Offerings Must Enable Consumers to Use A Critical “Basket” of Services and Applications.

At its core, broadband is an always-on, interactive internet protocol (“IP”) service that permits the rapid transmission of data traffic between any connected points on systems that use a common addressing protocol.⁴ Beyond this core functionality, however, any attempt to squeeze broadband offerings into a narrow, one-size-fits-all definition inevitably will fail to recognize the true number of broadband options available and the extent to which these services provide unique solutions for consumers and businesses. To ensure that its broadband definition reflects this practical variety of options and promotes the Recovery Act’s goals, the Commission should identify a basket of interactive services and applications that are accessible via the core broadband

³ See, e.g., *id.* § 6001 (b), (g), (k)(2)(D).

⁴ For example, broadband services should permit users to access content on, through, or by the Internet as a whole by entering a Uniform Resource Locator (“URL”). Other commenters have endorsed similar core definitions. See, e.g., Comments of Time Warner Cable Inc. – NBP Public Notice #1, GN Docket No. 09-51, 3-4 (filed Aug. 31, 2009) (stating that “any definition of broadband should encompass, first and foremost, services and facilities that enable end users to receive information from, or send information to, the Internet, through an always-on, two-way connection”).

functionality. Networks that allow end-users to substantially and beneficially use this critical basket of services and applications should then be considered “broadband” networks.

The Commission has a variety of tools at its disposal to identify and select the specific services and applications for the basket. For example, it can examine marketplace developments such as usage data and application adoption trends. It can also conduct user surveys or workshops to learn more about end-user expectations and demand. Additionally, the Commission can establish a task force or advisory committee with government, industry, and consumer representatives and seek recommendations for the basket. The broadband basket should include a diverse sampling of interactive services and applications designed to meet the communications needs of today’s consumers and businesses,⁵ and which will further the Recovery Act’s goals by “maximizing utilization of broadband infrastructure and service by the public.”⁶

As other commenters have noted, because different services and applications may be important to business, industrial, and public safety users, the Commission may need to develop a few different baskets that are tailored to specific customer types.⁷ Moreover, there could be different baskets based on the technology selected (*i.e.*, fixed vs. mobile), recognizing that each offers distinct advantages. Alternatively, using a single basket, the Commission could develop a point-based system (with each component in the basket assigned a certain number of points),

⁵ See, e.g., Comments of the MSS ATC Coalition – NBP Public Notice #1, GN Docket No. 09-51, 3 (filed Aug. 31, 2009) (“MSS ATC Comments”) (encouraging the FCC to adopt a flexible definition of broadband that looks, in part, to whether a user has “access to commonly-used broadband applications, including email, web browsing and video”).

⁶ See, e.g., Recovery Act § 6001 (k)(2)(B).

⁷ See, e.g., Comments of AT&T Inc. – NBP Public Notice #1, GN Docket No. 09-51, 1, 5-6 (filed Aug. 31, 2009) (“AT&T Comments”). The Commission might also consider adopting a basket for “private” broadband services.

under which providers would have the flexibility to “mix and match” components to achieve an overall minimum score without having to satisfy every single component in the basket.⁸

To determine whether a particular network allows end-users to substantially and beneficially use the relevant basket of services and applications, the Commission should apply a composite performance benchmark comprised of measurements of the end-user experience across each of the core components. The Commission would identify satisfactory end-user experiences for each of the services and applications in the basket, and broadband services would need to meet or exceed those standards (with possible differences between fixed and mobile technologies where appropriate).⁹ For example, the appropriate benchmark for music and video streaming sites could be whether the end-user is able to view or hear the material at an adequate performance or quality level without delays, gaps, pauses, or jitter. Here again the Commission can look to industry data, technology specifications, and consumer surveys. It can also conduct workshops to learn more about end-user performance expectations, or it can establish a task force or advisory committee to seek recommendations. To determine whether network providers meet the benchmark for end-user performance, the Commission could review network usage data and require providers to obtain certifications from independent third-party testing entities (along the lines of the Telecommunication Certification Bodies model), or it could authorize providers to self-certify that they meet the benchmark.

⁸ For example, if location-based services represent one of the basket components, a wireline provider’s service could still qualify as broadband by achieving the overall minimum score, even if its offering could not be used for location-based services.

⁹ Again, the Commission should recognize that while some services will appear identical whether they are provided by mobile or fixed technologies, in some instances there may be differences based on consumer expectations and needs. For example, in the case of streaming video, end-users may have different expectations based on the screen size of devices typically used on the network (*e.g.*, personal computer monitors have a typical screen resolution of 1280x800, compared to a typical screen resolution of 320x480 for smart phones).

The Commission is well qualified to determine what services and applications should comprise the broadband basket, based in part on customer expectations about those components. For instance, the Commission has used a similar process, involving canvassing the public, its own expertise, and technological developments, in defining what is covered by “universal service.”¹⁰ In some cases, the Commission has decided to accept the determinations of independent bodies in characterizing the performance qualities of a service, such as with broadcast picture quality determinations.¹¹ Given the FCC’s commitment to provide adequate staffing to seek and evaluate a wide range of data and information from various sources as part of its ongoing broadband proceedings, it will have the resources and tools needed to determine what is and is not broadband.

In addition to – but not in place of – the functional basket approach described above, the Commission could also establish safe harbors or “prequalify” certain technologies based on the performance characteristics that are inherent in the technology. Some technologies are so advanced that they can be presumed or easily proven to offer end-users the ability to use the basket of services and applications substantially and beneficially. As CTIA notes, “[c]onsumer demand for these technologies demonstrates their performance in the broadband marketplace to

¹⁰ For example, the FCC decided to include touchtone telephone service as part of its basic service definition (rather than an add-on luxury), recognizing that this feature allowed the phone to be used for a multitude of computer-driven applications. Today, telephone prompts are ubiquitously used – driven in no small part because the FCC included it in the definition of basic service. In a more distant example, the FCC in 1970 adopted detent tuning rules for channel tuners to ensure that UHF stations could be precisely tuned on TV sets, noting the importance of the viewers’ experience. The FCC recognized that its UHF TV station assignments would be more useful if it adopted functional rules to improve reception for the viewing public.

¹¹ See, e.g., *Application of Ponce Television Corporation (WLUZ-TV)*, Memorandum Opinion and Order, 1 FCC Rcd 1167 (1986) (relying on a six-level picture quality scale developed by the Television Allocation Study Organization which described the qualitative characteristics associated with broadcast pictures ranging from “unusable” to “excellent”).

deliver the applications that consumers need and want.”¹² In the mobile context, for example, the FCC could prequalify the major wireless data technologies in use or being deployed by carriers.¹³

Because broadband services and applications continue to evolve, the Commission will need to update the basket of applications from time to time. Contrary to suggestions from a few commenters for exceptionally rapid updates,¹⁴ the Commission should not modify the composite benchmark more frequently than every five years, so that any changes to the availability, scope, and deployment of “broadband” can occur gradually over time.¹⁵ An overly dynamic definition of broadband, with updates occurring more frequently, would not provide adequate time for network investment decisions to be made and implemented and would have consequent negative implications for the financial health of carriers, thereby jeopardizing broadband service quality, continuity, and expansion. Moreover, frequent updating could lead to wild swings in the reported availability of broadband services,¹⁶ and new technologies do not become available to all network providers simultaneously.¹⁷

¹² See generally Comments of CTIA – The Wireless Association® – NBP Public Notice #1, GN Docket No. 09-51, ii, 6 (filed Aug. 31, 2009).

¹³ See generally *id.* at ii, 6-7, 9-11, 15-21 (supporting the inclusion of GPRS, EDGE, EV-DO, WCDMA/HSDPA, LTE, and WiMAX in the definition of broadband); see also, e.g., Comments of Qualcomm Incorporated – NBP Public Notice #1, GN Docket No. 09-51, 14-16 (filed Aug. 31, 2009) (encouraging the Commission to include 3G mobile broadband networks, their evolution paths, and 4G networks in the definition of broadband).

¹⁴ See Comments of Free Press – NBP Public Notice #1, GN Docket No. 09-51, 18-19 (filed Aug. 31, 2009) (supporting annual updates to the definition of broadband); Comments of Comcast Corporation – NBP Public Notice #1, GN Docket No. 09-51, 8-9 (filed Aug. 31, 2009) (supporting biennial updates).

¹⁵ See, e.g., Comments of the Center for Democracy & Technology – NBP Public Notice #1, GN Docket No. 09-51, 6 (filed Aug. 31, 2009) (supporting updates to performance thresholds every three to five years).

¹⁶ See also Comments of Verizon and Verizon Wireless – NBP Public Notice #1, GN Docket No. 09-51, 20 (filed Aug. 31, 2009) (noting that frequent changes to the definition “would complicate data collections and comparisons, confuse consumers, and create potential inconsistencies with other federal government broadband programs”).

¹⁷ See Comments of the Rural Cellular Association – NBP Public Notice #1, GN Docket No. 09-51, 6 (filed Aug. 31, 2009) (“RCA Comments”).

B. A Definition Focused on Throughput Speeds Fails to Capture the Variety of Valuable Broadband Solutions for Consumers and Businesses

Commenters advocating a narrow, speed-based definition of broadband overlook the wide-ranging needs of end-users; accordingly, this approach would not advance the Recovery Act's goals. End-users typically are more concerned about whether they can access and interact with a variety of online content than the specific uplink and downlink throughput speeds on a network.¹⁸ As Sprint Nextel and others have asserted, a continued focus by the Commission on network speeds (*e.g.*, an "arbitrary data rate"¹⁹) to the exclusion of other key performance-enhancing measures, such as improved encoding and decoding, improved device performance, enhanced buffering, reduced latency, or more robust backhaul, could inadvertently exclude existing broadband services that meet the needs of many consumers.²⁰

Focusing too heavily on throughput speed could also lead broadband providers to misallocate resources. Carriers could invest single-mindedly in measures to improve nominal network speeds even though investing in innovations or improvements in network architecture, software, backhaul, or devices could give end-users a demonstrably better broadband experience for the same expense. It could also lead carriers to over-invest in limited network hardware and under-invest in new technologies or improved coding, thereby curtailing innovation, increasing costs, and stifling new entry in the broadband marketplace. In addition, speed-based thresholds could curtail deployment in rural, unserved, and underserved areas, contrary to the Recovery Act's ubiquitous broadband goals.

¹⁸ *See, e.g.*, MSS ATC Comments at 3.

¹⁹ *See id.* at 3.

²⁰ *Id.* (stating that the broadband definition should not exclude satellite-delivered services); *see also* RCA Comments at 4 (stating that the Plan should favor broadband deployment programs "that do not handicap services providers utilizing broadband infrastructure that currently provides capacity that is less than that available from other technologies").

C. Under Any Definitional Framework, IPTV Is Not a Broadband Service.

The Commission's definition of broadband should not include offerings that fail to provide the core functionality described above. Thus, despite the suggestion by AT&T to the contrary, IPTV is not broadband.²¹ IPTV is a video entertainment broadcast medium that uses packet technology to enhance system performance and offer a degree of interactivity, such as fast-forwarding, pausing, and time-shifting live television.²² IPTV content cannot be accessed on, through or by the Internet as a whole by, for instance, typing a URL. In addition, IPTV does not allow for the universal accessibility of information or permit the transmission of data traffic between any pair of connected points. Instead, IPTV functions as an end-to-end video signal broadcast system that is geographically bound by the limits of the service provider's deployment area. For these reasons, IPTV is often advertised in the marketplace as a competitor to, and replacement for, traditional cable, satellite, or broadcast television delivery systems.

AT&T's U-verse TV service is an example of a non-broadband, IPTV technology.²³ U-verse TV relies on IP to deliver digital television services to its customers via phone lines, fiber-to-the-node ("FTTN") or, in some cases, fiber-to-the-premises ("FTTP"). U-Verse TV distributes video content through an IP multicast only to those subscribers located within a specific geographic service area. Even for customers who might otherwise be willing to pay a subscription fee, U-verse TV's sports, entertainment, video programming and ancillary services are not accessible by ordinary web users. In addition, U-verse TV's marketing materials do not position

²¹ Comments of AT&T Inc., GN Docket No. 09-51, 13 (filed June 8, 2009) ("AT&T Broadband Plan Comments").

²² See generally Robin Good, *IPTV v. Internet Television: Key Differences* (June 4, 2005), http://www.masternewmedia.org/2005/06/04/iptv_vs_internet_television_key.htm.

²³ See generally AT&T Web site, U-Verse, https://uverse1.att.com/un/launchAMSS.do?target_action=landingPage.

the service as broadband, but as an alternative to cable and satellite television that is “cooler than cable” and more content-filled than satellite television services.²⁴

Although an IPTV provider may offer access to ancillary services such as television guides or other proprietary content, IPTV is fundamentally a “closed” or “semi-closed” signal carriage broadcast network that is functionally and commercially indistinguishable from cable and satellite television.²⁵ The essential element of broadband is not the mere presence of IP technology in a common facility; it is the delivery of a bucket of always-on interactive services and applications. Nor does the bundling of IPTV with true broadband services transform this closed or semi-closed proprietary video transfer system into a broadband service. Thus, even when bundled with offerings that can access the Internet, IPTV is not in and of itself a broadband service.²⁶

Unlike broadband Internet access services provided by wireline and wireless companies, and unlike cable modem services, IPTV is not “inextricably intertwined” with broadband.²⁷

Defining broadband to include IPTV would ignore the easily identified and meaningful functional distinction between a semi-closed, video transport system that happens to use IP and an open

²⁴ See, e.g., AT&T, *Can Your Current Provider Do This?*, https://uma.att.com/assets/files/top_reasons.html (discussing the HD-ready receiver, digital video recorder, video on demand, and access to 110 HD channels).

²⁵ Compare AT&T Broadband Plan Comments at 13 (filed June 8, 2009).

²⁶ If Congress had wanted the Commission to adopt a national pay television plan that seeks to ensure ubiquitous pay television services to all Americans, it would have used more conventional Title VI language. See, e.g., 47 U.S.C. Title VI.

²⁷ See, e.g., *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, Declaratory Ruling, 22 FCC Rcd 5901 (2007) (declaring that a wireless provider’s offering of broadband as part of a “functionally integrated Internet access service offering” was not a telecommunications service subject to Title II regulation, but was an information service subject to discretionary regulation under Title I); *Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (finding that cable companies were information service providers because they, like non-facilities-based ISPs, do not offer telecommunications services to the end-user but use such service to provide users with cable modem service); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005) (classifying wireline broadband Internet access, which uses telephone network facilities to provide subscribers with Internet access capabilities, as an information service).

network of networks that can transmit data freely between any two points. While broadband will remain an evolving concept, its core functionality involves an end-user's active participation in a dynamic system of interconnected networks accessible over a common addressing protocol, not the largely passive consumption of a closed system of video entertainment accessible within limited geographic or technical boundaries. Therefore, the Commission should ensure that its definition of broadband is not so expansive as to include IPTV.

III. Conclusion.

The Commission should avoid focusing on data throughput speeds to define broadband and should instead adopt a practical, functional definition based on whether an end-user can substantially and beneficially access a core basket of applications. Moreover, because IPTV does not provide core broadband functionality, it should be excluded from the broadband definition.

Respectfully submitted,

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