In the Matter of
International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act
A National Broadband Plan for Our Future
Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion

COMMENTS – NBP PUBLIC NOTICE #25
COMMENTS OF AT&T INC. ON THE TRANSITION FROM THE LEGACY CIRCUIT-SWITCHED NETWORK TO BROADBAND

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INTRODUCTION AND SUMMARY

AT&T strongly supports a Commission Notice of Inquiry regarding the transition from the circuit-switched legacy network to broadband and IP-based communications. That transition is underway already: with each passing day, more and more communications services migrate to broadband and IP-based services, leaving the public switched telephone network ("PSTN") and plain-old telephone service ("POTS") as relics of a by-gone era. That transition creates substantial pressure on cornerstones of the regulatory framework that governs much of today’s communications, including in particular universal service and intercarrier compensation. But it also creates enormous opportunity. The Commission has been charged by Congress with formulating a National Broadband Plan that will result in broadband availability for 100% of the United States. That auspicious goal is within reach, but only if the Commission marshals its resources and those of other stakeholders to develop and execute a strategy that enables the deployment of the enormous amount of infrastructure necessary to reach it. As we explain in these comments, a key component of that strategy is the orderly transition away from, and retirement of, the PSTN.

Part I of these comments discusses the importance of that transition, explaining that Congress’s goal of universal access to broadband will not be met in a timely or efficient manner if providers are forced to continue to invest in and to maintain two networks. Broadband is dramatically changing the way Americans live, work, obtain health care, and interact with the government. Congress and the Commission have rightly made universal broadband access a core national priority. But achieving this goal will take an enormous investment of capital. Private investment from network operators has brought broadband access to over 90% of Americans, and these operators will continue to play a pivotal role in bringing broadband to the
remaining 8-10% of citizens who do not currently have broadband access. It is accordingly crucial that the Commission pursue forward-looking regulatory policies that remove disincentives to private investment and encourage operators to extend broadband to unserved areas.

Any such forward-looking policy must enable a shift in investment from the legacy PSTN to newly deployed broadband infrastructure. While broadband usage – and the importance of broadband to Americans’ lives – is growing every day, the business model for legacy phone services is in a death spiral. Revenues from POTS are plummeting as customers cut their landlines in favor of the convenience and advanced features of wireless and VoIP services. At the same time, due to the high fixed costs of providing POTS, every customer who abandons this service raises the average cost-per-line to serve the remaining customers. With an outdated product, falling revenues, and rising costs, the POTS business is unsustainable for the long run. Yet a web of federal and state regulations has the cumulative effect of prolonging, unnecessarily, the life of POTS and the PSTN.

Due to technological advances, changes in consumer preference, and market forces, the question is when, not if, POTS service and the PSTN over which it is provided will become obsolete. In the meantime, however, the high costs associated with the maintenance and operation of the legacy network are diverting valuable resources, both public and private, that could be used to expand broadband access and to improve the quality of broadband service. It is for that reason that one of the most important steps the Commission can take to facilitate an orderly transition to an all-broadband communications infrastructure is to eliminate the regulatory requirements that prolong the life of POTS and the PSTN. A smooth transition to an all-broadband world is essential to attaining the goal of universal broadband service.
In Part II of these comments, we discuss legal and policy issues surrounding the retirement of POTS and the PSTN, and in doing so identify actions the Commission should take now to facilitate the transition to broadband. We explain, first, that perhaps the single most important feature of Commission action at this time is the establishment of a firm deadline at which point the transition will be complete, and we advise the Commission to seek comment on when that deadline should be, taking into account Commission experience in managing the transition to digital broadcasting as well as the retirement of analog cellular networks. Part II also identifies issues that are ripe for decision today – including the scope of federal authority over broadband and IP-based services, as well as intercarrier compensation and federal universal service reform – that the Commission must resolve in order to establish the preconditions for a successful transition to broadband. Finally, Part II identifies additional topics of inquiry – including in particular the actions necessary to ensure that legacy state requirements do not impede the transition to broadband – that the Commission should examine as it puts in place a plan to manage the inevitable transition from the PSTN to broadband.

DISCUSSION

I. PHASEOUT OF CIRCUIT-SWITCHED POTS SERVICE AND THE PSTN IS ESSENTIAL TO ACHIEVING UNIVERSAL ACCESS TO BROADBAND

A. Universal Broadband Access Is a Critical National Priority


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Act of 2009 directs the Commission to create a national broadband plan that seeks to “ensure that all people of the United States have access to broadband capability,”\(^2\) and indeed the promotion of broadband deployment has been a longstanding congressional and Commission objective.

Section 706(a) of the Telecommunications Act of 1996, for example, directs the Commission to “encourage the deployment . . . of advanced telecommunications capability to all Americans” by, among other things, “methods that remove barriers to infrastructure investment.”\(^3\) The Commission previously has recognized that this provision creates a “statutory responsibilit[ie]” to “accelerate broadband deployment.”\(^4\)

Congress’s and this Commission’s objective of robust broadband deployment is well-founded. Widespread deployment of broadband and IP-based services holds enormous potential. As the Commission has explained, “[n]ew, innovative broadband products and applications . . . are fundamentally changing not only the way Americans communicate and work, but also how

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\(^2\) 123 Stat. at 516 (to be codified at 47 U.S.C. § 1305). Congress has also declared that it is “the policy of the United States . . . to promote the continued development of the Internet and other interactive computer services and other interactive media.” 47 U.S.C. § 230(b). Robust broadband deployment directly advances the goal of promoting advanced communications services that depend on broadband Internet access to thrive.

\(^3\) 47 U.S.C. § 157 note.

they are educated and entertained, and care for themselves and each other.”5 Beyond that, broadband is an engine of investment and economic growth in its own right – even in the current downturn6 – as well as a platform for innovation and growth in other sectors of the economy. “Especially in otherwise isolated areas, high-speed Internet access puts people in contact with resources that are physically out of reach, improving individual welfare by increasing access to educational, medical, commercial, and professional resources. Positive externalities resulting from broadband such as increased economic growth and improved government services also improve the community’s overall welfare, benefiting both Internet users and nonusers.”7

The full realization of the enormous benefits of broadband will require aggressive action in both the public and private spheres. The Commission’s deregulatory policies with respect to broadband Internet access service have been remarkably successful in driving the deployment and adoption of broadband services. Between 1999 and 2007, the number of broadband

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7 John M. Peha, The Brookings Institution, Bringing Broadband to Unserved Communities, at 5 (July 2008), available at http://www.brookings.edu/~media/Files/rc/papers/2008/07_broadband_peha/07_broadband_peha.pdf; see also Comments of AT&T Inc., In re A National Broadband Plan for Our Future, GN Docket No. 09-51, at iii (filed June 8, 2009) (“AT&T NBP Comments”) (Broadband “can enable the transportation system to run more smoothly, deliver new efficiencies to the electric grid, expand access to the health-care system while improving its quality, provide new work options that enable us to cut travel and reduce emissions, connect students to expanded educational resources, bring increased effectiveness to government, and otherwise improve the lives of citizens in countless ways that we have only begun to understand.”).
connections in the United States increased from fewer than 3 million to more than 121 million.\(^8\)

Today, broadband services are available to approximately 90% of American households, and 66% of households currently subscribe to a broadband service.\(^9\) Even as usage has expanded, moreover, broadband speeds have increased and prices have fallen.\(^10\)

At the same time – and despite much effort – the national goal of universal broadband service remains elusive. Eight to ten percent of households still do not have access to broadband, and many more than that have access but choose not to subscribe. As the CITI Report makes clear, those figures are the result of realities – such as the high cost of bringing broadband to certain parts of the country, and the correlation between low income and low broadband subscribership – that will not change on their own.\(^11\) Rather, sustained government action is necessary to expand broadband availability in high-cost areas of the country, and to narrow and eventually eliminate the gap between broadband availability and subscription.\(^12\)


\(^11\) See CITI Report, at 7, 70.

These actions, however, will be expensive. Congress’s goal of universal broadband access cannot be achieved without massive new investments in infrastructure. The customers who are easiest to serve already have access to broadband; the remaining unserved customers overwhelmingly live in sparsely populated, high-cost areas that cannot economically be served absent government support. Indeed, Commission staff has estimated that it will take an investment of approximately $350 billion to make available 100 mbps broadband service to all American consumers. Demand-side measures – such as digital literacy programs, free or subsidized computers, and broadband service subsidies – will likewise require the outlay of public funds. Especially in an era of budget deficits and fiscal belt-tightening, universal broadband service is simply too costly to be achieved through government funding alone. Investment from service providers is critical, both for upgrading current networks and providing universal service. As Commission staff observed just last week, a “[g]uiding principle[]” for the Commission as it formulates the National Broadband Plan is that “[p]rivate sector investment is essential.” It is the responsibility of this Commission – as well as state regulators – to pursue

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regulatory policies that will remove disincentives to private investment and encourage operators
to extend service to remaining customers who still lack access to broadband.

B. POTS Service and the Legacy PSTN Are Diverting Critically Needed Funds that Could Be Used for Broadband Deployment

Foremost on the Commission’s agenda for enabling private investment to facilitate
widespread deployment of broadband infrastructure should be the elimination of regulatory
requirements that divert resources from broadband to the PSTN.

1. If broadband and IP-based services represent the future of telecommunications,
the PSTN and POTS are now relics of an earlier era. The business model that sustained circuit-
switched voice service over the last century is dying. For decades, POTS was the primary if not
the exclusive option for voice communications, and nearly all households subscribed. But in
recent years technological change and market forces have made POTS and the PSTN
increasingly obsolete. Those same forces make a full transition to broadband inevitable.

Consumers today have more options for voice services than ever before. Over 99% of
Americans live in areas with cellular phone service, and approximately 86% of Americans
subscribe to a wireless service.15 Many of these individuals see no reason to purchase landline
service as well. Indeed, the most recent data show that more than 22% of households have “cut
the cord” entirely.16 And, as industry analysts have found, this trend away from landline service

15 Thirteenth Report, Implementation of Section 6002(b) of the Omnibus Budget
Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with

16 Stephen J. Blumberg & Julian V. Luke, Division of Health Interview Statistics,
National Center for Health Statistics, CDC, Wireless Substitution: Early Release of Estimates
from the National Health Interview Survey, January - June 2009, at 1-2 (Dec. 16, 2009)
wireless200912.pdf (statistics as of June 2009).
“is accelerating, as secular and cyclical impacts force consumers to rethink the relevance of wireline.”

Demand for VoIP service – from both cable companies and over-the-top providers such as such as Vonage, Skype, and many others – is also booming. At least 18 million households currently use a VoIP service, and it is estimated that by 2010, cable companies alone will be providing VoIP to more than 24 million customers; by 2011, there may be up to 45 million total VoIP subscribers.

In view of the range of alternatives for voice service – many of which offer distinct advantages over traditional landline service – it is not surprising that the POTS business model is in a precipitous decline. The numbers speak for themselves. Today, less than 20% of Americans rely exclusively on POTS for voice service. Approximately 25% of households have abandoned POTS altogether, and another 700,000 lines are being cut every month. From 2000

17 Jason Armstrong, et al., Goldman Sachs, The Quarter in Pictures: 3Q2009 North America Communications Services Review, at 20 (Nov. 2009); see also Blumberg & Luke, at 1 (in addition to the 22.7% of customers who have already abandoned wireline service, another 14.7% of households now make all or nearly all of their calls on wireless phones).

18 The National Cable Television Association estimates that 16 million customers obtain VoIP service from a cable company, and Vonage alone serves an additional 2.6 million customers. See Comments of AT&T, In re High-Cost Universal Service Support, WC Docket No. 05-337, CC Docket No. 96-45, at 26 (filed Nov. 26, 2008) (“AT&T Universal Service Comments”).

19 See Jessica Reif Cohen, et al., Bank of America/Merrill Lynch, Battle for the Bundle: The Internet Goes Negative, at 13, Table 12 (Aug. 19, 2009) (estimating 24.2 million subscribers at YE10); see also AT&T Universal Service Comments, at 28 (citing estimates of 45 million VoIP customers by 2011).

20 See Ex Parte Letter from Mary L. Henze, AT&T, to Marlene Dortch, FCC, GN Docket No. 09-51, at 6 (filed Nov. 24, 2009) (“AT&T ex parte filing”) (citing National Center for Health Statistics data).

to 2008, the number of residential switched access lines has fallen by almost half, from 139
million to 75 million.22 Non-primary residential lines have fallen by 62% over the same period;
with the rise of broadband, few customers still need a second phone line for dial-up Internet
service. Total interstate and intrastate switched access minutes have fallen by a staggering 42%
from 2000 through 2008.23 Indeed, perhaps the clearest sign of the transformation away from
POTS and towards a broadband future is that there are probably now more broadband
connections than telephone lines in the United States.24

And the customers who keep POTS are using it less. Wireless phones, email, instant
messaging, blogs, and social networking sites have greatly reduced the need for legacy voice
services, even for customers who retain POTS service. Between 2000 and 2008, aggregate
switched access minutes per line declined by 13.2%.25

These trends are exacting a substantial toll on ILEC revenue from POTS service, which
fell from $178.6 billion in 2000 to $130.8 billion in 2007, a 27% decrease.26 This revenue trend,
moreover, is irreversible for the reasons identified above. One industry analyst has noted that

22 See AT&T ex parte filing, at 4 (citing Table 8.2 of the Trends in Telephone Service
report, supplemented with AT&T model data).

23 See id. at 3 (citing Tables 10.1 and 10.2 of Trends in Telephone Service report,
supplemented with AT&T model estimates).

24 See AT&T NBP Comments, at iv & n.5 (citing High-Speed Services for Internet Access,
Dec. 31, 2007, at Table 1 (showing 121,165,311 high-speed lines as of December 2007, with
an annual rate of increase over 30 percent); FCC, Wireline Competition Bureau, Industry Analysis
and Technology Division, Local Telephone Competition: Status as of December 31, 2007, at
Table 1 (Sept. 2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-
285509A1.pdf (showing 158,436,758 end-user switched access lines as of December 2007, with
an annual rate of decrease over 5 percent)).

25 See AT&T ex parte filing, at 3 (citing Tables 10.1 and 10.2 of Trends in Telephone
Service report, supplemented with AT&T model estimates).

26 See id. at 2 (citing Table 2 of the Telecommunications Industry Revenue Report,
released Sept. 2009).
“wireline voice revenues are likely to decline into perpetuity with the only question being at what pace.”\textsuperscript{27} Another was more blunt: focusing on consumers’ increasing reliance on wireless and cable VoIP, he predicted that within five years only 36\% of households will subscribe to POTS, and described the resulting revenue loss as “a death sentence.”\textsuperscript{28}

The decline in POTS revenues is of course only half the picture, but the other half is equally grim. While POTS revenues are plummeting, costs are not. Every time a household or business cuts its landline, the fixed costs of providing POTS must be spread over a smaller customer base, thus raising the average cost of serving the remaining customers. “[P]erhaps more than any other business in the world, the wireline TelCo is a fixed cost business.”\textsuperscript{29} According to one estimate, the average per-line cost of maintaining the legacy network has risen from $43 per year in 2003 to $52 per year today.\textsuperscript{30}

\textbf{2.} These trends have profound implications for broadband deployment. The legacy PSTN network – which is rapidly hemorrhaging customers and revenue – is now diverting much-needed funds from investments in broadband networks. By one estimate, in 2008, traditional ILECs spent in the aggregate approximately $28 billion on capital expenditures, with over fifty percent of this sum (52.2\%) going to the legacy network.\textsuperscript{31} In other words, a huge proportion of the capital resources available to some of the largest telecommunications providers in the


\textsuperscript{28} Moffett, \textit{Weekend Media Blast}, at 2.

\textsuperscript{29} Id.


\textsuperscript{31} See CITI Report, at 29-30.
country is being directed, not towards improving broadband speeds or bringing broadband to more customers, but rather towards maintaining an increasingly obsolete network that is no longer capable of providing the services and features that American consumers and policymakers demand.

The collapsing POTS business model and the related diversion of funds from broadband efforts raise questions of public, not private, priorities. In most industries, a dramatic fall in demand for an outdated product would lead firms to stop producing the old product and focus their investment and resources on newer ones. No one prevented horse-drawn carriage manufacturers from switching to automobiles the moment it became clear that the antecedent technology was obsolete. But many network operators do not have this luxury. ILECs were historically parties to a regulatory compact that involved exclusive franchises in exchange for a commitment to offer service to all customers in a serving area at reasonable rates. That commitment was codified in an overlapping regime of federal and state regulations, including tariff requirements, obligation-to-serve rules, and carrier-of-last-resort obligations.32 And, while the exclusive franchises that formed the **quid** of that regulatory **quid pro quo** have long since vanished, the core obligations on ILECs largely remain in place and preclude service providers from abandoning POTS in response to technological change and market demand. The combined effect of these legacy regulations is to require ILECs to dedicate substantial resources to an antiquated network and outdated service, thus hindering their ability to make the investments necessary to achieve ubiquitous broadband deployment.

32 *See* Notice of Proposed Rulemaking, *In re High-Cost Universal Service Support*, 23 FCC Red 1495, ¶ 23 (2008) (“Historically, only incumbent LECs received universal service support and had the obligation to serve customers subject to rates and terms specified by state regulatory authorities: so-called “carrier of last resort” obligations.”).
The Commission has faced a similar dilemma before. In 2002, the Commission phased out longstanding rules that required wireless carriers to provide service in accordance with certain analog standards. In abandoning those rules, the Commission explained:

[T]he analog requirement places a financial burden on cellular licensees who would prefer to use their spectrum and other resources on digital technology rather than setting aside a portion to support their analog facilities. Cellular licensees that deploy digital technologies must also maintain a minimum scale analog network. These cellular licensees incur operation and maintenance costs for two mobile telephony networks in order to comply with Commission rules. Also, by maintaining two networks, operation and maintenance costs associated with the digital network may be higher because the carrier is not able to optimize the system as efficiently as it would if there was only one network. . . . The analog requirement prevents cellular licensees from choosing to efficiently utilize their spectrum by installing an all-digital network and potentially providing additional advanced services.33

The same considerations apply here. ILECs are presently forced to maintain two networks, driving up costs and diverting resources from the advanced broadband network that is undoubtedly the future of communications. It makes no sense to require service providers to operate and maintain two distinct networks when technology and consumer preferences have made one of them increasingly obsolete. For precisely this reason, a coalition of independent LECs has already recognized the inevitability of a transition to broadband and the retirement of the PSTN, and it has formulated a strategy for accomplishing that transition with minimal disruption.34 The Commission should promptly do the same.


34 See Letter from Stuart Polikoff, OPASTCO, to Marlene H. Dortch, FCC, GN Docket No. 09-51, at 2 (filed Oct. 5, 2009) (proposing a seven-year transition of high-cost universal service support from POTS to broadband, after which “the public switched telephone network is fully converted to a broadband network”).
II. THE COMMISSION SHOULD TAKE SEVERAL STEPS TO FACILITATE THE TRANSITION TO BROADBAND

As the above discussion makes clear, market forces and innovation are already making POTS and the PSTN obsolete; the only question is whether the transition will be accomplished efficiently and with minimal disruption, or whether instead POTS and the PSTN (and the obligation to maintain that network) will continue to drain resources from broadband investment for years to come. The Commission can play a crucial role in this transition by establishing a date-certain for the sunset of the PSTN and setting the ground rules for an orderly transition to an all-broadband communications infrastructure. In this Part, AT&T outlines key actions that the Commission should take now in order to effectuate a smooth transition to broadband.

A. Setting a Firm Deadline for Sunset of the PSTN

Perhaps the most important question relating to the logistics of phasing out the PSTN involves setting a deadline for the sunset of the PSTN and POTS. To that end, the Commission should issue a Notice of Inquiry that explains the importance of a firm deadline for the phaseout of POTS service and the PSTN, and it should ask what that deadline should be.

The Commission’s past use of deadlines in effecting similar transitions should provide a wealth of data for comments. The transition from analog to digital broadcasting, for example, was “decades in the making and . . . s[aw] a number of [purported] deadlines come and go.”\(^\text{35}\) In October 2005, however, Congress finally set a firm deadline of February 2009 for the completion of the transition.\(^\text{36}\) Many commenters believed at the time that this deadline was too ambitious,

\(^{35}\) John Eggerton, Ready or Not, Here Comes DTV, Broadcasting & Cable (Feb. 18, 2008), at http://www.broadcastingcable.com/article/112503-Ready_or_Not_Here_Comes_DTV.php.

and that the transition would be plagued with logistical problems. But the use of a firm deadline galvanized all stakeholders, and the transition was widely regarded as a success. As then-Acting Chairman Copps explained the day after the transition: “Five years ago, no one knew when the DTV transition would end. And yet yesterday broadcasters, cable and satellite providers, consumer electronics manufacturers and retailers – and, most importantly, consumers – were by-and-large ready to turn off full-power analog signals for good.” Just four years after Congress established a firm date for the transition – and with only one minor extension of the deadline – all Americans now have access to digital television, and the Commission has reclaimed billions of dollars worth of valuable spectrum.

The transition from analog to digital commercial mobile radio service (“CMRS”) standards is also instructive. To facilitate competition and provide uniform standards for the nascent cellular phone market, in the early 1980s, the Commission required all wireless carriers to provide service in accordance with an analog standard known as “Advanced Mobile Phone Service.” By 2002, the Commission concluded that those rules were no longer necessary to promote competition and, indeed, were actually deterring investment in advanced digital

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After deciding to abandon the analog standard, the Commission established a five-year phaseout period to eliminate the obsolete standard quickly while also ensuring that public safety officials, persons with disabilities, and small and rural carriers would have adequate time to adjust to the new technology. The Commission should invite comments on the extent to which this transition, too, could provide a model for the broadband transition.

In addition to the need for inquiry regarding the existence of a firm deadline for the phaseout of the PSTN, the length of the transition period is also a critical consideration. As explained above, the POTS business is in terminal decline. For that reason, it is almost certainly the case that the longer the PSTN must be maintained, the more resources will be diverted away from much-needed investments in broadband. The Commission should therefore seek comment on how quickly the transition can be accomplished. Even if a proposed deadline appears a stretch at first glance, the success of the analog-to-digital transitions for CMRS and broadcast television would appear to support the conclusion that, with proper leadership from the Commission, service providers, consumers, government agencies, equipment manufacturers, the public safety community, and other stakeholders can work together to make the transition happen smoothly and in a timely manner.

**B. Creating the Preconditions for a Successful Transition Through the Resolution of Several Longstanding Issues**

There are additional concrete steps the Commission can and should take now to facilitate the transition to broadband. A central goal of telecommunications regulation at the state and federal level has long been – and remains today – the provision of universal service at affordable rates. Today, that goal is served by a complex morass of state and federal regulatory

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40 See *CMRS Analog Sunset Order* ¶ 12.

41 See *id.* ¶¶ 17, 22-30.
requirements that creates enormous inefficiencies in the industry. The retirement of the PSTN and the transition to broadband and IP-based services represents an opportunity not only to bring the benefits of broadband to all Americans, but also to replace that regulatory morass with a more coherent regulatory framework that enables the Commission to achieve its policy goals. After the transition, implicit subsidies that now enable widespread availability of POTS – while at the same time creating substantial opportunities for arbitrage and consuming resources of providers and regulators alike – will be replaced with explicit support mechanisms that ensure the widespread availability of broadband. The current intercarrier compensation regime – with all the arbitrage and inefficiencies associated with that regime – will be replaced with the unregulated IP-based model that currently characterizes the exchange of Internet traffic. And overlapping (and at times competing) jurisdictional domains will be replaced with coherent federal regulation that is consistent with the any-distance nature of communications today.

Critically, the Commission already has before it proceedings that will enable it to take significant strides towards each of these goals. These proceedings are fully briefed and ripe for decision today, and they must be addressed promptly. Indeed, the resolution of these proceedings, while not sufficient to completing the transition to broadband, is an indispensable first step: unless these issues are resolved promptly, the industry will be ill-prepared to move seamlessly and efficiently to a broadband future.

*Commission Jurisdiction.* The boundaries of state and federal jurisdiction over communications have historically been predicated on the ability to discern the end points of individual telephone calls and to determine whether those calls are intrastate or interstate. That distinction has long been tenuous, and the rapid migration to IP-based and wireless services has pushed it beyond the breaking point. The integrated packages of capabilities and features that
increasingly comprise the communications marketplace undermine the historical understanding that a “call” has only two end points. Customers today can access information and reach individuals in numerous places simultaneously, using numerous applications that are typically offered as part of a single integrated service package. And mobility – long a defining characteristic of wireless service – is increasingly becoming a feature of other business and consumer applications as well, rendering it increasingly impossible to determine where communications begin and end.\textsuperscript{42}

The Commission’s assertion of its own jurisdiction has not kept pace with these rapid technological developments. In the \textit{Vonage Order},\textsuperscript{43} the Commission articulated the importance of a procompetitive, deregulatory environment for the provision of VoIP and concluded that legacy state common-carrier regulation is incompatible with the federal interest in permitting competitive forces to drive the development and deployment of the service (as well as the broadband facilities over which it rides). But, although the Commission made clear in that order that the federal jurisdictional principles it applied in that order would apply not only to nomadic service but also to facilities-based VoIP,\textsuperscript{44} it has not yet followed through on that statement and

\textsuperscript{42} Moreover, the prospect of using telephone numbers to distinguish the end points of a call by assuming they are physically tethered to a particular geographical location is less valid with every passing day, especially since mobile wireless numbers now exceed wireline numbers. See FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, \textit{Local Telephone Competition: Status as of December 31, 2007}, at Tables 1, 14 (Sept. 2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-285509A1.pdf (showing 158,436,758 end-user switched access lines and 249,235,715 wireless subscribers as of December 2007).


\textsuperscript{44} See \textit{id.} ¶ 25 n.93 (stressing that the “integrated capabilities and features” of VoIP “are inherent features of most, if not all, IP-based services having basic characteristics found in DigitalVoice, including those offered or planned by facilities-based providers”); \textit{id.} ¶ 32
expressly foreclosed the states from asserting jurisdiction over such offerings. As a result, states continue to express uncertainty regarding the scope of their jurisdiction over new and evolving IP-based services, thus undermining the regulatory certainty and stability that is necessary to foster deployment of VoIP and the broadband facilities over which it rides.\textsuperscript{45}

The Commission should act promptly to resolve that uncertainty and to expressly establish its jurisdiction over broadband and IP-based services, including facilities-based VoIP. As AT&T and others have explained in detail,\textsuperscript{46} the historical jurisdictional division between state and federal jurisdiction is fundamentally incompatible with IP-based technology and the multiple, simultaneous communications that IP-based technology enables. Recognition of that principle, now, is critical to establishing a proper understanding of the respective roles of this Commission and the states as the industry transitions to broadband and retires the PSTN.

\textit{Intercarrier Compensation and Universal Service.} The transition away from POTS and the PSTN also implicates important policy questions with respect to universal service. Despite Congress’s express admonition that implicit subsidies should be eliminated and replaced with explicit universal service funding mechanisms, implicit subsidies remain endemic in today’s communications marketplace, particularly in the intercarrier compensation regime, distorting competition and creating numerous opportunities for arbitrage. At the same time, the federal

\textsuperscript{45} See Letter from Robert W. Quinn, AT&T, to Chairman Kevin Martin, FCC, WC Docket Nos. 04-36 and 06-122, CC Docket No. 96-45, at 2 (July 17, 2008) (providing illustrative examples of state proceedings).

\textsuperscript{46} See, \textit{e.g.}, \textit{id.} at 3-10.
contribution mechanism for the federal Universal Service Fund is badly broken. Due to the downward spiral of the POTS business model, assessments for universal service – which are based on interstate telecommunications revenues – are being drawn from a constantly shrinking revenue base. The contribution factor will shortly exceed 14%, and this number will only increase as POTS revenues continue to fall. Meanwhile, the high-cost Universal Service Fund is being used to support legacy voice services even as universal broadband access remains an elusive goal.

Universal service remains a critically important mechanism for ensuring that all consumers have access to the nation’s telecommunications network. The difficulty, however, is that the network they have access to is increasingly obsolete. The challenge, then, is to transition universal service alongside the transition to a broadband telecommunications infrastructure – *i.e.*, to make universal service policies “flexible enough to adjust to changes in technology and demand for broadband services.” Customers who rely on universal service today should not be left behind as the nation moves to broadband and IP-based services. But the nation *is* moving, and the Commission must therefore act to ensure that universal service remains relevant and achievable. These considerations raise several issues on which the Commission should act now, in order to establish the groundwork for a complete migration to broadband and away from the PSTN.

*First*, the Commission should reform intercarrier compensation. On this topic perhaps more than any other, the time for platitudes is over. As AT&T has explained at length in prior

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48 *NBP Policy Framework*, at 10.
comments, the current intercarrier compensation regime is plagued with inefficiencies and distortions that are undermining competition and deterring investment.\(^4\) One of the many benefits of a transition to broadband and IP-based services would be the mooting of nearly all issues pertaining to intercarrier compensation. If voice service becomes just another application on a high-speed, packet-switched network, then switched access charges, reciprocal compensation, and any other forms of intercarrier compensation will presumably disappear – along with the inefficiencies, regulatory disparities, and arbitrage opportunities that currently accompany these charges. But the Commission needs to start that transition now. If it does not begin the hard work now of moving carriers away from implicit subsidies and arbitrage-based business models through comprehensive intercarrier compensation reform, it will be next to impossible to shift to an IP-based framework for the exchange of all traffic down the road.

Second, the Commission should make clear that it has statutory authority under 47 U.S.C. § 254 and/or Title I to begin an immediate transition of high-cost universal service support from POTS to broadband. Section 254 makes clear that the Commission does possess such authority.\(^5\) Two of the enumerated universal service principles instruct the Commission to promote universal access to “advanced telecommunications and information services”\(^6\) –

\(^4\) See AT&T Universal Service Comments, at 1-7 (“Under today’s intercarrier compensation framework, designed for a pre-Internet and pre-competition era, identical functionalities are priced at dramatically different levels depending upon jurisdiction, technology, and regulatory status. Those regulatory disparities distort competition and investment while promoting arbitrage and sometimes outright fraud.”); see also AT&T NBP Comments, at 83-93.

\(^5\) The Joint Board has already concluded that “[broadband] should be eligible for support under section 254, with the goal of making it available to all.” In re High-Cost Universal Service, Report of the Federal-State Joint Board on Universal Service, 22 FCC Rcd 20477, ¶¶ 55-62 (2007).

evincing Congress’s expectation that the Commission’s universal service priorities would not be limited to legacy voice services. And the definition of “universal service” in Section 254 also rejects a static focus on legacy technologies and services: “Universal service is an evolving level of telecommunications services that the Commission shall establish periodically . . . taking into account advances in telecommunications and information technologies and services.” The current list of supported services – which only includes POTS-based features such as access to the PSTN, access to interexchange service, and access to operator and directory services – does not adequately reflect the technological innovations of recent years: “[M]any of the Commission’s nine supported functionalities and services are obsolete in a broadband world where voice is simply one of many applications.” The Commission should therefore clarify that it has the authority to fund broadband, including broadband information services, pursuant to its authority under Section 254, and it should establish a framework that does so in a meaningful manner.

Third, and relatedly, the Commission should alter its methodology for distributing universal service funds to focus on broadband, thereby facilitating broadband deployment and in the process preparing stakeholders for a complete shift to broadband and away from the PSTN. AT&T has offered a detailed proposal – similar to the programs suggested by the Joint Board – for transitioning high-cost universal service support from legacy services to broadband. That

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52 Id. § 254(c)(1) (emphasis added).


54 See Comments of AT&T Inc., In re High-Cost Universal Service Support, WC Docket No. 05-337, at 19-25 (filed May 8, 2009); Comments of AT&T Inc., In re High Cost Universal Service Support, WC Docket No. 05-337 (filed April 17, 2008).
proposal entails the creation of two new funds to promote universal broadband access: a Broadband Incentive Fund for wireline service and an Advanced Mobility Fund for mobile wireless services. Ultimately, all high-cost support would be awarded through these programs, with service providers submitting applications for funds to construct new broadband facilities in unserved areas. Participation in the program would be voluntary, thereby ensuring that funding is adequate to support the planned projects and to ensure that all consumers have access to service. AT&T’s proposal would lay the groundwork for a successful transition of the Universal Service Fund to broadband, and it should be adopted without delay.

*Fourth*, the Commission must fix the universal service contribution regime. As noted above and explained in detail elsewhere, the current methodology – which is based on interstate telecommunications revenues – is not sustainable, forward-looking, or competitively neutral. The Commission should replace it, now, with a telephone numbers and connections-based framework that would fund universal service “in a manner that more closely reflects the changing cast of providers who benefit from the shift to broadband.”\(^{55}\)

**C. Seeking Comment on a Range of Legal and Policy Questions Related to the Transition**

At the same time as it moves promptly to resolve longstanding issues that will establish the preconditions for a successful transition to broadband, the Commission should also set its sights further down the road, to anticipate potential challenges to that transition and to ensure that, after the retirement of the PSTN, the Commission is able to continue to fulfill the policy goals established by Congress. We explained above the importance of establishing a firm deadline for the retirement of the PSTN and recommended including that topic in a Notice of

\(^{55}\) *AT&T NBP Public Notice #19 Comments*, at 3-5.
Inquiry. In this section, we address other issues on which the Commission should seek comment in that Notice of Inquiry.

1. Carrier-of-Last-Resort and Other Potential Legacy Obstacles to the Transition

The Notice of Inquiry should seek comment on whether and the extent to which legacy state legal requirements are an obstacle to universal broadband access. As noted above, incumbent LECs historically provided service pursuant to an exclusive franchise that was coupled with extensive “carrier of last resort” (“COLR”) and other legacy requirements that imposed an obligation to serve all customers, at regulated rates, within a particular area. The exclusive franchise portion of that regulatory compact has long since vanished, but ILECs in many cases remain obliged to provide basic voice service throughout their service areas, including in rural and high-cost areas, often at rates significantly below cost.\(^{56}\) Because these state requirements are not generally imposed on cable companies or competitive providers of voice and data service, they permit competitive providers to focus on the customers who are easiest to serve, while leaving ILECs bound by COLR rules to serve the highest-cost and most-difficult-to-serve customers. Under these circumstances, ILECs may have little incentive to upgrade their networks or invest in broadband in high-cost areas. This investment will continue to lag as long as ILECs are forced to keep providing legacy services at below-cost rates.\(^{57}\)

\(^{56}\) See, e.g., General Order, In re Possible amendments to the “Local Competition Regulations”, Docket No. R-29564, at 22, App. A § 601(A) (La. P.S.C. Dec. 14, 2006) (ILECs “are obligated to provide basic local service to all customers upon request for such service within the ILECs’ historically designated service areas until relieved of this obligation by the Commission”); see also AT&T NBP Public Notice #19 Comments, at 19-20 (providing overview of COLR requirements).

\(^{57}\) Accord United States Telecom Ass’n v. FCC, 290 F.3d 415, 424-25 & n.2 (D.C. Cir. 2002) (“low UNE prices” that result from TELRIC have the “direct effect” of “reduc[ing] the
Equally important, to the extent these requirements require the continued availability of POTS service, they may serve as a legal obstacle to the retirement of the PSTN and, thus, as an impediment to the transition to broadband.

The Commission accordingly should seek comment on whether and the extent to which legacy COLR and related obligations conflict with the federal policy objective of universal broadband deployment and whether such obligations could reasonably coexist with a phaseout of POTS and the PSTN.\textsuperscript{58} In AT&T’s view, the transition away from the PSTN to broadband and IP-based services cannot occur successfully without transitioning away from the legacy state regulatory requirements that force continued investment in and maintenance of the PSTN. That transition will require the elimination not only of all legacy state requirements that mandate the continued provision of POTS, but also any such requirements that hinder the retirement of physical network assets used to provide POTS. The Commission should accordingly seek comment on how best to accomplish that transition. It should ask, for example, whether and the extent to which the Commission must foreclose state regulation of all broadband and IP-based services; what steps the Commission can take to encourage states voluntarily to eliminate legacy requirements that impede the transition; and whether the Commission should make federal incentives for innovation and investment in facilities” and “inherently tend to expand” that effect).

\textsuperscript{58} Accord Vonage Order ¶ 21 & n.78 (noting FCC’s “long-standing national policy of nonregulation of information services” and its unwillingness to apply “public-utility type” regulations to such services); Vonage Holdings Corp. v. Minnesota Pub. Utils. Comm’n, 290 F. Supp. 2d 993, 1002 (D. Minn. 2003) (acknowledging “the recognizable congressional intent to leave the Internet and information services largely unregulated”), aff’d on other grounds, 394 F.3d 568 (8th Cir. 2004); see also Geier v. American Honda Motor Co., 529 U.S. 861, 873 (2000) (state law may not “stand[ ] as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress”).
universal service funding for broadband conditional on states removing legacy POTS obligations.

2. **ILEC Obligations under Section 251 of the 1996 Act**

The Commission should also use a Notice of Inquiry to seek comment on how the pro-competitive, de-regulatory regime set forth in Section 251 of the 1996 Act would apply after the transition to broadband.

*First*, the Commission should invite comment regarding the role of unbundling under 47 U.S.C. § 251(c)(3) after the sunset of the PSTN and POTS. In light of the development of a competitive broadband market, the Commission has refused to impose unbundling and other legacy common-carrier regulations on next-generation loop architecture. That deregulatory policy has resulted in an enormous amount of investment in broadband and made the goal of universal broadband within reach. The Commission should seek comment on the best ways to build upon those successes as the industry transitions to broadband and phases out the PSTN.

*Second*, the Commission should solicit comment on the proper role of state commission-approved interconnection agreements in connection with the transition from the PSTN to

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60 See, e.g., Comments of AT&T Inc. on Berkman Center Report, at 28-29, GN Docket Nos. 09-47, 09-51, and 09-137 (filed Nov. 16, 2009); *AT&T Comments on CITI Report*, at 9-10.
broadband. Those agreements establish terms and conditions for access to legacy facilities and services that will be retired as the industry transitions to broadband. The Commission should seek comment on how best to ensure that the existence of these agreements does not serve to impede the transition by preventing providers from retiring legacy facilities and services.

3. Public Safety, Law Enforcement, and Accessibility Issues

The Commission should also seek comment on how the transition from the PSTN to broadband will affect a broad range of social policy programs that the Commission administers. In the VoIP context, the Commission has consistently demonstrated its ability to ensure that federal social policy interests – including, for example, law enforcement, privacy, and disabilities access – are not compromised in the course of introducing new technology. The retirement of the PSTN and the transition to broadband will present similar challenges. As the PSTN declines into oblivion and broadband takes its place, consumers are increasingly relying for their communications needs on services and applications that may fall outside the Commission’s traditional regulatory authority. That inevitable migration, which is already underway, requires the Commission to give thought to how best to pursue federal social policy goals in an era when many if not most communications occur using non-traditional services. It makes little sense, for example, to put in place a regulatory structure to serve the needs of law enforcement and public safety but to exclude from that structure IP-based applications that increasingly supplant traditional communications services – doing so would create a law-enforcement-free zone of

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communications that could frustrate national security and public safety, while at the same time compromising competitive neutrality. The Commission should accordingly seek comment on how best to ensure competitive neutrality and sufficiently broad coverage to serve the needs of the public and law enforcement, including how the Commission can meet the needs of law enforcement and public safety in circumstances where most communications occur as applications that run over a broadband network.

The Commission should likewise seek comment on disability issues. As the Commission has recognized, “[p]ersons with disabilities can benefit, perhaps more than any other group of Americans, from advanced services. Advanced services can bring this population significant educational, employment, and recreational opportunities.”62 The Commission accordingly should invite comment on the ways in which persons with disabilities will benefit from the transition to an all-broadband network and steps that would help to ensure a smooth transition for these individuals.

The Commission also should seek comment on how the schools and libraries and rural health care programs would be affected by the phaseout of the PSTN. In particular, comments should address how schools, libraries, and rural health care providers would benefit from the transition, as well as the steps that would have to be taken to ensure a minimally disruptive transition for these entities.

Likewise, the Notice of Inquiry should address how to ensure that the phaseout of the PSTN does not leave individuals who do not use computers without service. There is every reason to believe that such individuals can be accommodated easily in a transition away from the

PSTN; there are, for example, already inexpensive devices that allow VoIP customers to plug
traditional telephones directly into broadband connections. AT&T expects that comments will
demonstrate myriad ways to ensure that the transition to broadband does not negatively affect
consumers without computers.

4. Eliminating the PSTN Regulatory Superstructure

Finally, the Commission should seek comment on how best to facilitate the transition in
light of the plethora of state and federal regulations pertaining to POTS service and the PSTN.
As explained above, AT&T’s view is that the assertion of federal jurisdiction over broadband
and IP-based services is critical to the success of the transition, and that assertion will itself serve
to eliminate certain vestigial aspects of federal and state telecommunications regulations
(including, for example, separations-related requirements). But certain state and federal public-
utility style regulations may remain – e.g., service quality requirements, reporting,
recordkeeping, data collection, accounting, and other requirements – that could impede the
transition. For example, depreciation and amortization rules may hinder the transition by
limiting how quickly carriers may write off retired equipment. The Commission should ask for
comments to identify such regulations and to describe whether and how those regulations could
obstruct the transition. And, to the extent that such legacy regulations are incompatible with a

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63 Vonage provides its customers with a small, portable device that allows existing cord
or cordless phones to be plugged into any broadband connection. See Vonage, Phone Adapter,

64 See, e.g., Vonage Order ¶ 10 (describing Minnesota public utility regulations a state
commission sought to apply to Vonage’s VoIP service); Memorandum Opinion and Order,
Petition for Declaratory Ruling That pulver.com’s Free World Dialup Is Neither
transition away from the PSTN, comments should address how to ensure that such regulations are phased out or displaced so as not to impede that process.

CONCLUSION

The Commission should promptly take the steps discussed above to facilitate a prompt and efficient transition to broadband and retirement of the PSTN.

Respectfully submitted,

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