BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Big River Telephone Company, LLC,	)	
	)	
Complainant,	)	
	)	Case No. TC-2012-0284
v.	)	
	)	
Southwestern Bell Telephone Company	)	
d/b/a AT&T Missouri,	)	
	)	
Respondent.	)	

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20 F.C.C.R. 10245, 20 FCC Rcd. 10245, 36 Communications Reg. (P&F) 1, 2005 WL 1323217 (F.C.C.)

NOTE: An Erratum is attached to the end of this document

Federal Communications Commission (F.C.C.)

First Report and Order and Notice of Proposed Rulemaking
****1** IN THE MATTERS OF IP-ENABLED SERVICES

WC Docket No. 04-36

E911 REQUIREMENTS FOR IP-ENABLED SERVICE PROVIDERS

WC Docket No. 05-196
FCC 05-116

Adopted: May 19, 2005

Released: June 3, 2005
Comment Date: [45 days after publication in the Federal Register]
Reply Comment Date: [75 days after publication in the Federal Register]

***10245** By the Commission: Chairman Martin, and Commissioners Abernathy, Copps and Adelstein issuing separate statements.

***10246 I. INTRODUCTION**

1. In this Order, we adopt rules requiring providers of interconnected voice over Internet Protocol (VoIP) service to supply enhanced 911 (E911) capabilities to their customers.[FN1] Interconnected VoIP providers may satisfy this requirement by interconnecting indirectly through a third party such as a competitive LEC, interconnecting directly with the Wireline E911 Network, or through any other solution that allows a provider to offer E911 service. The characteristics of interconnected VoIP services have posed challenges for 911/E911 and threaten to compromise public safety.[FN2] Thus, we require providers of interconnected VoIP service to provide E911 services to all of their customers as a standard feature of the service, rather than as an optional enhancement. We further require them to provide E911 from wherever the customer is using the service, whether at home or away from home.

2. We adopt an immediate E911 requirement that applies to all interconnected VoIP services. In some cases, this requirement relies on the customer to self-report his or her location. We intend in a future order to adopt an advanced E911 solution for interconnected VoIP that must include a method for determining a user's location without assistance from the user as well as firm implementation deadlines for that solution. To this end, we seek comment in the Notice of Proposed Rulemaking (*NPRM*) on possible additional solutions including technical options and possible timelines for implementation.

3. In many ways, our action today is a necessary and logical follow-up to the *Vonage Order* issued late last year.[FN3] In that order, the Commission determined that Vonage's DigitalVoice service -- an interconnected VoIP service -- cannot be separated into interstate and intrastate communications and that ***10247** this Commission has the responsibility and obligation to decide whether certain regulations apply to DigitalVoice and other IP-enabled services having similar capabilities.[FN4] The *Vonage Order* also made clear that questions regarding what regulatory obligations apply to providers of such services would be addressed in the pending *IP-Enabled Services* proceeding.[FN5] Today, in accord with that statement, we take critical steps to advance the goal of public safety by imposing E911 obligations on certain VoIP providers, steps we believe will have support in the public safety community and the industry.[FN6]

****2** 4. The IP-enabled services marketplace is the latest new frontier of our nation's communications landscape. As such, new entrants and existing stakeholders are rushing to bring IP-enabled facilities and services to this market, relying on new technologies to provide a quickly evolving list of service features and functional-

D. The Vonage Order

20. On November 12, 2004, the Commission released the *Vonage Order*, in which it preempted an order of the Minnesota Public Utilities Commission (Minnesota Commission) that applied Minnesota's traditional "telephone company" regulations to Vonage's DigitalVoice service.[FN60] Vonage's DigitalVoice ***10255** service is a portable service that is available anywhere the Vonage customer is able to obtain a broadband connection.[FN61] Vonage does not supply that broadband connection.[FN62] Vonage's DigitalVoice service assigns its users North American Numbering Plan (NANP) numbers and provides them the ability to place and receive calls to and from the PSTN.[FN63] As described more fully in that order, the Commission held that DigitalVoice cannot be separated into interstate and intrastate communications for compliance with Minnesota's requirements without negating valid federal policies and rules.[FN64] Thus, without classifying Vonage's service as either an information service or as a telecommunications service under the Act, the Commission preempted the Minnesota Commission's requirements and ruled that the Minnesota Commission "may not require Vonage to comply with its certification, tariffing or other related requirements as conditions to offering DigitalVoice in that State."[FN65] The Commission expressed no opinion with respect to the applicability to Vonage of Minnesota's general laws governing entities conducting business within the state.[FN66] Appeals of that order were filed before a number of United States Courts of Appeals.[FN67]

E. NENA Standards Development

21. Consistent with the December 2003 agreement between NENA and the Voice on the Net (VON) Coalition, industry participants, state agencies and commissions, public safety officials and PSAPs, and the Association of Public-Safety Communications Officials - International, Inc. (APCO) have been working together under the auspices of NENA to develop solutions that will lead to VoIP subscribers receiving E911 functionality.[FN68] Specifically, NENA is expected to publish within the next few months an "I2" standard designed to allow VoIP providers to deliver 911 calls through the Wireline E911 Network with call back numbers and location information.[FN69] The Commission applauds NENA's leadership and ***10256** industry's efforts in this regard, which will likely play a critical role in the provision of E911 services by interconnected VoIP service providers.

III. DISCUSSION

****7** 22. In this Order, we define "interconnected VoIP service" and require providers of this type of VoIP service to incorporate E911 service into all such offerings within the period of time specified below. We commit ourselves to swift and vigorous enforcement of the rules we adopt today. Because we have not decided whether interconnected VoIP services are telecommunications services or information services, we analyze the issues addressed in this Order primarily under our Title I ancillary jurisdiction to encompass both types of service. We decline to exempt providers of interconnected VoIP services from liability under state law related to their E911 services. Accompanying today's Order is an *NPRM* that addresses a number of issues raised by our decision today.

A. Scope

23. Our first task is to determine what IP-enabled services should be the focus of our concern. We begin by limiting our inquiry to VoIP services, for which some type of 911 capability is most relevant.[FN70] The Commission previously has determined that customers today lack any expectation that 911 will function for non-voice services like data services.[FN71] The record clearly indicates, however, that consumers expect that VoIP services that are interconnected with the PSTN will function in some ways like a "regular telephone" service.[FN72] At least regarding the ability to provide access to emergency ***10257** services by dialing 911, we find these expectations to be reasonable. If a VoIP service subscriber is able to receive calls from other VoIP service users *and* from telephones connected to the PSTN, and is able to place calls to other VoIP service users *and* to telephones connected to the PSTN, a customer reasonably could expect to be able to dial 911 using that service to access appropriate emergency services.[FN73] Thus, we believe that a service that enables a customer to do everything (or nearly everything

[FN74]) the customer could do using an analog telephone, and more, can at least reasonably be expected and required to route 911 calls to the appropriate destination.

24. The E911 rules the Commission adopts today apply to those VoIP services that can be used to receive telephone calls that originate on the PSTN and can be used to terminate calls to the PSTN - "interconnected VoIP services." Although the Commission has not adopted a formal definition of "VoIP," we use the term generally to include any IP-enabled services offering real-time, multidirectional voice functionality, including, but not limited to, services that mimic traditional telephony. [FN75] Thus, an interconnected VoIP service is one we define for purposes of the present Order as bearing the following characteristics: (1) the service enables real-time, two-way voice communications; (2) the service requires a broadband connection from the user's location; [FN76] (3) the service requires IP-compatible CPE; [FN77] and ***10258** (4) the service offering permits users generally to receive calls that originate on the PSTN *and* to terminate calls to the PSTN. [FN78] We make no findings today regarding whether a VoIP service that is interconnected with the PSTN should be classified as a telecommunications service or an information service under the Act. [FN79]

****8 *10259** 25. While the rules we adopt today apply to providers of all interconnected VoIP services, we recognize that certain VoIP services pose significant E911 implementation challenges. For example, the mobility enabled by a VoIP service that can be used from any broadband connection creates challenges similar to those presented in the wireless context. [FN80] These "portable" VoIP service providers often have no reliable way to discern from where their customers are accessing the VoIP service. [FN81] The Commission's past experience with setting national rules for 911/E911 service is informative, and we expect that our adoption today of E911 service obligations for providers of interconnected VoIP service will speed the further creation and adoption of such services, similar to the manner in which the Commission's adoption of E911 service obligations in the wireless context helped foster the widespread availability of E911 services for mobile wireless users, where it formerly was not possible for wireless carriers automatically to determine the precise geographic location of their customers. [FN82] We recognize and applaud the progress that has already been made to ensure that VoIP customers have E911 services. [FN83] ***10260** We stress, however, that should the need arise, we stand ready to expand the scope or substance of the rules we adopt today if necessary to ensure that the public interest is fully protected. Indeed, the *NPRM* that accompanies today's Order seeks comment on whether further intervention is necessary in this area. [FN84]

***10261 B. Authority**

26. We conclude that we have authority under Title I of the Act to impose E911 requirements on interconnected VoIP providers, and commenters largely agree. [FN85] In addition, we conclude that we have authority to adopt these rules under our plenary numbering authority pursuant to section 251(e) of the Act. [FN86] We find that regardless of the regulatory classification, the Commission has ancillary jurisdiction to promote public safety by adopting E911 rules for interconnected VoIP services. This Order, however, in no way prejudges how the Commission might ultimately classify these services. To the extent that the Commission later finds these services to be telecommunications services, the Commission would have additional authority under Title II to adopt these rules.

27. Ancillary jurisdiction may be employed, in the Commission's discretion, when Title I of the Act gives the Commission subject matter jurisdiction over the service to be regulated [FN87] and the assertion of jurisdiction is "reasonably ancillary to the effective performance of [its] various responsibilities." [FN88] Both predicates for ancillary jurisdiction are satisfied here.

28. First, based on sections 1 and 2(a) of the Act, [FN89] coupled with the definitions set forth in section 3(33) ("radio communication") and section 3(52) ("wire communication"), [FN90] we find that interconnected ***10262** VoIP is covered by the Commission's general jurisdictional grant. Specifically, section 1 states that the Commission is created "[f]or the purpose of regulat-

Counsel for VON Coalition, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 4 (filed May 12, 2005) (VON Coalition May 12, 2005 *Ex Parte* Letter); *cf.* EFF Comments at 3-4 (arguing that evaluating consumer expectations is difficult and that at a minimum the Commission should presume that services with no PSTN nexus should be exempt from traditional telecommunications regulation).

FN73. *See, e.g.*, King County Comments at 2 ("The service provider of any device that functions like a telephone and has the ability to connect to the Public Switched Telephone Network (PSTN) to deliver voice calls should be required to provide E911 service to their customers. The public expectation is that any device that can make voice phone calls can call 911.").

FN74. For example, some VoIP services that have full interconnection to the PSTN may not be line powered and so, unlike an analog telephone connected to the PSTN, may not work in a power outage. *See, e.g.*, New Jersey Ratepayer Advocate Comments at 23 (stating that packet switched networks do not have the same built-in power source that circuit switched networks do, and thus are more susceptible to service outages); Sonic.net Comments at 3; Montana Commission Comments at 5; Letter from Kathleen Grillo, Vice President -- Federal Regulatory, Verizon, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. 2 at 4 (filed Apr. 15, 2005) (Verizon Apr. 15, 2005 *Ex Parte* Letter) (stating in Voice Wing's Terms of Service that a power or broadband service outage will prevent all service, including 911 service).

FN75. *See Notice*, 19 FCC Rcd at 4866, para. 3 n.7.

FN76. *Cf. Vonage Order*, 19 FCC Rcd at 22424, para. 32. While we recognize that some kinds of VoIP service can be supported over a dialup connection, we expect that most VoIP services will be used over a broadband connection. We seek comment in the *NPRM* on whether we should expand the scope of the present Order to include VoIP services that do not require a broadband connection. *See infra* Part IV.

FN77. The term "IP-compatible CPE" refers to end-user equipment that processes, receives, or transmits IP packets. Users may in some cases attach conventional analog telephones to certain IP-compatible CPE in order to use an interconnected VoIP service. For example, IP-compatible CPE includes, but is not limited to, (1) terminal adapters, which contain an IP digital signal processing unit that performs digital-to-audio and audio-to-digital conversion and have a standard telephone jack connection for connecting to a conventional analog telephone; (2) a native IP telephone; or (3) a personal computer with a microphone and speakers, and software to perform the conversion (softphone).*See Vonage Order*, 19 FCC Rcd at 22407, para. 6;*see also Petition for Declaratory Ruling That Pulver.com's Free World Dialup Is Neither Telecommunications Nor a Telecommunications Service*, WC Docket No. 03-45, Memorandum Opinion and Order, 19 FCC Rcd 3307, 3308 n.2 (2004) (*Pulver Order*).

FN78. *Cf. Vonage Order*, 19 FCC Rcd at 22407-08, paras. 8-9 (describing the origination and termination of Vonage DigitalVoice calls to and from the PSTN). The instant Order does not apply to providers of other IP-based services such as instant messaging or Internet gaming because although such services may contain a voice component, customers of these services cannot place calls to and receive calls from the PSTN. The rules we adopt today apply to interconnected VoIP services rather than the sale or use of IP-compatible CPE, such as an IP-PBX, that itself uses other telecommunications services or VoIP services to terminate traffic to and receive traffic from the PSTN. The rules we adopt in today's Order also apply only to providers that offer a single service that provides the functionality described above. *But see infra* para. 58 (tentatively concluding that separate service offerings that can be combined by the user should also be subject to our E911 requirements). Thus, the E911 requirements we impose in this Order apply to all VoIP services that are encompassed within the scope of the *Vonage Order*.In the *Vonage Order*, the Commission preempted certain state regulation of Vonage's "DigitalVoice" VoIP service, and indicated that the Commission would preempt similar state regulation of other types of IP-enabled services having basic characteristics similar to DigitalVoice. It is

party. In addition, upon final termination of the proceeding, any notes or other work product derived in whole or in part from the proprietary materials of an opposing or third party shall be destroyed.

§ 8.17 Review.

(a) *Interlocutory review.* (1) Except as provided below, no party may seek review of interlocutory rulings until a decision on the merits has been issued by the Commission's staff, including an administrative law judge.

(2) Rulings listed in this paragraph are reviewable as a matter of right. An application for review of such ruling may not be deferred and raised as an exception to a decision on the merits.

(i) If the staff's ruling denies or terminates the right of any person to participate as a party to the proceeding, such person, as a matter of right, may file an application for review of that ruling.

(ii) If the staff's ruling requires production of documents or other written evidence, over objection based on a claim of privilege, the ruling on the claim of privilege is reviewable as a matter of right.

(iii) If the staff's ruling denies a motion to disqualify a staff person from participating in the proceeding, the ruling is reviewable as a matter of right.

(b) *Petitions for reconsideration.* Petitions for reconsideration of interlocutory actions by the Commission's staff or by an administrative law judge will not be entertained. Petitions for reconsideration of a decision on the merits made by the Commission's staff should be filed in accordance with §§ 1.104 through 1.106 of this chapter.

(c) *Application for review.* (1) Any party to a part 8 proceeding aggrieved by any decision on the merits issued by the staff pursuant to delegated authority may file an application for review by the Commission in accordance with § 1.115 of this chapter.

(2) Any party to a part 8 proceeding aggrieved by any decision on the merits by an administrative law judge may file an appeal of the decision directly with the Commission, in accordance with §§ 1.276(a) and 1.277(a) through (c) of this chapter.

PART 9—INTERCONNECTED VOICE OVER INTERNET PROTOCOL SERVICES

Sec.

AUTHORITY: 47 U.S.C. 151, 154(i)-(j), 251(e), 303(r), and 615a-1 unless otherwise noted.

SOURCE: 70 FR 37286, June 29, 2005, unless otherwise noted.

§ 9.1 Purposes.

The purposes of this part are to set forth the 911 and E911 service requirements and conditions applicable to interconnected Voice over Internet Protocol service providers, and to ensure that those providers have access to any and all 911 and E911 capabilities they need to comply with those 911 and E911 service requirements and conditions.

[74 FR 31874, July 6, 2009]

§ 9.3 Definitions.

ANI. Automatic Number Identification, as such term is defined in § 20.3 of this chapter.

Appropriate local emergency authority. An emergency answering point that has not been officially designated as a Public Safety Answering Point (PSAP), but has the capability of receiving 911 calls and either dispatching emergency services personnel or, if necessary, relaying the call to another emergency service provider. An appropriate local emergency authority may include, but is not limited to, an existing local law enforcement authority, such as the police, county sheriff, local emergency medical services provider, or fire department.

Automatic Location Information (ALI). Information transmitted while providing E911 service that permits emergency service providers to identify the geographic location of the calling party.

CMRS. Commercial Mobile Radio Service, as defined in § 20.9 of this chapter.

Interconnected VoIP service. An interconnected Voice over Internet protocol (VoIP) service is a service that:

(1) Enables real-time, two-way voice communications;

(2) Requires a broadband connection from the user's location;

(3) Requires Internet protocol-compatible customer premises equipment (CPE); and

(4) Permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.

PSAP. Public Safety Answering Point, as such term is defined in § 20.3 of this chapter.

Pseudo Automatic Number Identification (Pseudo-ANI). A number, consisting of the same number of digits as ANI, that is not a North American Numbering Plan telephone directory number and may be used in place of an ANI to convey special meaning. The special meaning assigned to the pseudo-ANI is determined by agreements, as necessary, between the system originating the call, intermediate systems handling and routing the call, and the destination system.

Registered Location. The most recent information obtained by an interconnected VoIP service provider that identifies the physical location of an end user.

Statewide default answering point. An emergency answering point designated by the State to receive 911 calls for either the entire State or those portions of the State not otherwise served by a local PSAP.

Wireline E911 Network. A dedicated wireline network that:

(1) Is interconnected with but largely separate from the public switched telephone network;

(2) Includes a selective router; and

(3) Is utilized to route emergency calls and related information to PSAPs, designated statewide default answering points, appropriate local emergency authorities or other emergency answering points.

[70 FR 37286, June 29, 2005, as amended at 74 FR 31874, July 9, 2009]

§ 9.5 E911 Service.

(a) *Scope of Section*. The following requirements are only applicable to providers of interconnected VoIP services. Further, the following requirements apply only to 911 calls placed by users whose Registered Location is in a geographic area served by a Wireline E911 Network (which, as defined in § 9.3, includes a selective router).

(b) *E911 Service*. As of November 28, 2005:

(1) Interconnected VoIP service providers must, as a condition of providing service to a consumer, provide that consumer with E911 service as described in this section;

(2) Interconnected VoIP service providers must transmit all 911 calls, as well as ANI and the caller's Registered Location for each call, to the PSAP, designated statewide default answering point, or appropriate local emergency authority that serves the caller's Registered Location and that has been designated for telecommunications carriers pursuant to § 64.3001 of this chapter, provided that ''all 911 calls'' is defined as ''any voice communication initiated by an interconnected VoIP user dialing 911;''

(3) All 911 calls must be routed through the use of ANI and, if necessary, pseudo-ANI, via the dedicated Wireline E911 Network; and

(4) The Registered Location must be available to the appropriate PSAP, designated statewide default answering point, or appropriate local emergency authority from or through the appropriate automatic location information (ALI) database.

(c) *Service Level Obligation*. Notwithstanding the provisions in paragraph (b) of this section, if a PSAP, designated statewide default answering point, or appropriate local emergency authority is not capable of receiving and processing either ANI or location information, an interconnected VoIP service provider need not provide such ANI or location information; however, nothing in this paragraph affects the obligation under paragraph (b) of this section of an interconnected VoIP service provider to transmit via the Wireline E911 Network all 911 calls to the PSAP, designated statewide default answering point, or appropriate local

emergency authority that serves the caller's Registered Location and that has been designated for telecommunications carriers pursuant to § 64.3001 of this chapter.

(d) *Registered Location Requirement.* As of November 28, 2005, interconnected VoIP service providers must:

(1) Obtain from each customer, prior to the initiation of service, the physical location at which the service will first be utilized; and

(2) Provide their end users one or more methods of updating their Registered Location, including at least one option that requires use only of the CPE necessary to access the interconnected VoIP service. Any method utilized must allow an end user to update the Registered Location at will and in a timely manner.

(e) *Customer Notification.* Each interconnected VoIP service provider shall:

(1) Specifically advise every subscriber, both new and existing, prominently and in plain language, of the circumstances under which E911 service may not be available through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service. Such circumstances include, but are not limited to, relocation of the end user's IP-compatible CPE, use by the end user of a non-native telephone number, broadband connection failure, loss of electrical power, and delays that may occur in making a Registered Location available in or through the ALI database;

(2) Obtain and keep a record of affirmative acknowledgement by every subscriber, both new and existing, of having received and understood the advisory described in paragraph (e)(1) of this section; and

(3) Distribute to its existing subscribers warning stickers or other appropriate labels warning subscribers if E911 service may be limited or not available and instructing the subscriber to place them on or near the equipment used in conjunction with the interconnected VoIP service. Each interconnected VoIP provider shall distribute such warning stickers or other appropriate labels to each new subscriber prior to the initiation of that subscriber's service.

(f) *Compliance Letter.* All interconnected VoIP providers must submit a letter to the Commission detailing their compliance with this section no later than November 28, 2005.

§ 9.7 Access to 911 and E911 service capabilities.

(a) *Access.* Subject to the other requirements of this part, an owner or controller of a capability that can be used for 911 or E911 service shall make that capability available to a requesting interconnected VoIP provider as set forth in paragraphs (a)(1) and (a)(2) of this section.

(1) If the owner or controller makes the requested capability available to a CMRS provider, the owner or controller must make that capability available to the interconnected VoIP provider. An owner or controller makes a capability available to a CMRS provider if the owner or controller offers that capability to any CMRS provider.

(2) If the owner or controller does not make the requested capability available to a CMRS provider within the meaning of paragraph (a)(1) of this section, the owner or controller must make that capability available to a requesting interconnected VoIP provider only if that capability is necessary to enable the interconnected VoIP provider to provide 911 or E911 service in compliance with the Commission's rules.

(b) *Rates, terms, and conditions.* The rates, terms, and conditions on which a capability is provided to an interconnected VoIP provider under paragraph (a) of this section shall be reasonable. For purposes of this paragraph, it is evidence that rates, terms, and conditions are reasonable if they are:

(1) The same as the rates, terms, and conditions that are made available to CMRS providers, or

(2) In the event such capability is not made available to CMRS providers, the same rates, terms, and conditions that are made available to any telecommunications carrier or other entity for the provision of 911 or E911 service.

(c) *Permissible use.* An interconnected VoIP provider that obtains access to a capability pursuant to this section may use that capability only for the

purpose of providing 911 or E911 service in accordance with the Commission's rules.

[74 FR 31874, July 6, 2009]

EFFECTIVE DATE NOTE: At 74 FR 31874, July 6, 2009, §9.7(a) was added. This paragraph contains information collection and recordkeeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

PART 10—COMMERCIAL MOBILE ALERT SYSTEM

Subpart A—General Information

Subpart B—Election to Participate in Commercial Mobile Alert System [Reserved]

Subpart B—Election to Participate in Commercial Mobile Alert System

Subpart C—System architecture

Subpart D—Alert message requirements

Subpart E—Equipment requirements

AUTHORITY: 47 U.S.C. 151, 154(i) and (o), 201, 303(r), 403, and 606; sections 602(a), (b), (c), (f), 603, 604 and 606 of Pub. L. 109–347, 120 Stat. 1884.

SOURCE: 73 FR 43117, July 24, 2008, unless otherwise noted.

Subpart A—General Information

§ 10.1 Basis.

The rules in this part are issued pursuant to the authority contained in the Warning, Alert, and Response Network Act, Title VI of the Security and Accountability for Every Port Act of 2006, Public Law 109–347, Titles I through III of the Communications Act of 1934, as amended, and Executive Order 13407 of June 26, 2006, Public Alert and Warning System, 71 FR 36975, June 26, 2006.

§ 10.2 Purpose.

The rules in this part establish the requirements for participation in the voluntary Commercial Mobile Alert System.

§ 10.10 Definitions.

(a) *Alert Message.* An Alert Message is a message that is intended to provide the recipient information regarding an emergency, and that meets the requirements for transmission by a Participating Commercial Mobile Service Provider under this part.

(b) *Common Alerting Protocol.* The Common Alerting Protocol (CAP) refers to Organization for the Advancement of Structured Information Standards (OASIS) Standard CAP–V1.1, October 2005 (available at *http://www.oasis-open.org/specs/index.php#capv1.1*), or any subsequent version of CAP adopted by OASIS and implemented by the CMAS.

(c) *Commercial Mobile Alert System.* The Commercial Mobile Alert System (CMAS) refers to the voluntary emergency alerting system established by this part, whereby Commercial Mobile Service Providers may elect to transmit Alert Messages to the public.

17 F.C.C.R. 26901, 17 FCC Rcd. 26901, 2002 WL 31890210 (F.C.C.)

Federal Communications Commission (F.C.C.)

Ninth Annual Report
****1** IN THE MATTER OF ANNUAL ASSESSMENT OF THE STATUS OF COMPETITION IN THE MARKET FOR THE DELIVERY OF VIDEO PROGRAMMING

MB Docket No. 02-145
FCC 02-338

Adopted: December 23, 2002

Released: December 31, 2002

***26901** By the Commission:

***26902 I. INTRODUCTION**

1. This is the Commission's ninth annual report ("*2002 Report*") to Congress on the status of competition in the market for the delivery of video programming.[FN1] Section 628(g) of the Communications Act of 1934, as amended ("Communications Act"), requires the Commission to report annually to Congress on the status of competition in the market for the delivery of video programming.[FN2] Congress imposed this annual reporting requirement in the Cable Television Consumer Protection and Competition Act of 1992 ("1992 Cable Act")[FN3] as a means of obtaining information on the competitive status of the market for the delivery of video programming.

A. Scope of this Report

2. The *2002 Report* updates the information in our previous reports and provides data and information that summarize the status of competition in the market for the delivery of video programming. The information and analysis provided in this report are based on publicly available data, filings in various Commission proceedings, and information submitted by commenters in response to a ****26903*** *Notice of Inquiry*(*"Notice"*) in this docket.[FN4] To the extent that information provided in previous annual reports is still relevant, we do not repeat that information in this report other than in an abbreviated fashion, and provide references to the discussions in prior reports.

3. In Section II, we examine the cable television industry, existing multichannel video programming distributors ("MVPDs") and other program distribution technologies and potential competitors to cable television. Among the MVPD systems or techniques discussed are direct broadcast satellite ("DBS") services and home satellite dishes ("HSD" or "C-Band"), wireless cable systems using frequencies in the multichannel multipoint distribution service ("MMDS"), private cable or satellite master antenna television ("SMATV") systems as well as broadcast television service. We also consider other existing and potential distribution technologies for video programming, including the Internet, home video sales and rentals, local exchange carriers ("LECs") and electric and gas utilities, and broadband service providers ("BSPs"). In Section III of this report, we examine market structure and competition. We evaluate horizontal concentration in the multichannel video marketplace and vertical integration between cable television systems and programming services. We also address technical issues, including cable modems, navigation devices, and emerging services.

B. Summary of Findings

4. In the *2002 Report*, we examine the status of competition in the market for the delivery of video programming, discuss changes that have occurred in the competitive environment over the last year, and describe barriers to competition that continue to exist. Overall, although competitive alternatives continue to develop, cable television still is the dominant technology for the delivery of video programming to consumers in the MVPD marketplace. As of June 2002, 76.5% of MVPD subscribers received their video programming from a franchised cable operator, compared to 78% a year earlier.

Voluntary Industry Actions to Speed the Digital Television Transaction) (Apr. 4, 2002) ("*Voluntary DTV Plan* "); *see also* Letter from Robert Sachs, President NCTA, to Chairman Powell, May 1, 2002.

FN120. Comcast Reply Comments at 4; Comcast Corp., *Comcast To Debut HDTV In Major Markets By End of 2002* (press release), Mar 14, 2002.

FN121. Comcast Corp., *Comcast Launches HDTV* (press release), Oct. 29, 2001; Comcast Corp., *Comcast To Debut HDTV In Major Markets By End of 2002* (press release), Mar 14, 2002; *AT&T-Comcast Merger Application*, at 10.

FN122. NCTA Comments at 33; AOL Time Warner, Inc., *SEC Form 10-K for the Year-Ended December 31, 2001*, at 10.

FN123. Cox Communications, Inc., *Cox Communications Launches HDTV in Phoenix* (press release), Sept. 4, 2002.

FN124. *Id*.

FN125. Charter Communications, Inc., *Charter High Definition Service Debuts n Five Markets* (press release), May 29, 2002.

FN126. JP Morgan estimates that as of year-end 2001, 81.5% of Internet households used dial-up connections. Morgan Stanley estimates that as of year-end 2001, 80% of Internet households used dial-up connections. Spencer Wang and John Blackledge, *Media Markets: Back to* Basics, JP Morgan Securities, Aug. 19, 2002 ("JP Morgan Aug. 19th Report"), at 155; Richard Bilotti, Benjamin Swinburne, Megan Lynch, and Scott Babka, *NUTS! The Last One Standing Wins*, Morgan Stanley, July 10, 2002 ("Morgan Stanley July 10th Report"), at 65.

FN127. JP Morgan estimates that as of year-end 2005, 44% of Internet households will use dial-up connections, while 55.5% will use broadband connections. Morgan Stanley estimates that as of year-end 2006, 48% of Internet households will still use dial-up connections while 52% will use broadband connections.*Id*. Broadband technologies include cable modem, telephone company digital subscriber line ("DSL"), broadband wireless, and broadband satellite. Broadband technologies allow users to access the Internet at much greater speeds than are available over traditional dial-up connections. *See 1999 Report*, 15 FCC Rcd at 1003-04.

FN128. *See* Morgan Stanley Oct 4th Report, at 46-7. Cable's share of the broadband market remained relatively stable between year-end 2001 and June 2002, and some analysts expect cable's share will increase slightly at year-end 2002, though it is expected to remain over ten percentage points below 1999 levels. *Id*.

FN129. Based on information from five top cable operators, Bear Stearns estimates more than 50 million marketable homes as of year-end 2001. Cable modem service is likely available to many more homes than that. Raymond Lee Katz, Gloria Radeff, and Bryan Goldberg, *Cable TV & Broadband*, Bear Stearns, May 2002 ("Bear Stearns May Report"), at 14. JP Morgan estimates that as of year-end 2001, there were 6.9 million cable modem subscribers. Bear Stearns estimates that as of year-end 2001, there were more than 7.35 million cable modem subscribers, and Morgan Stanley estimates that as of year-end 2001, there were more than 7.38 million cable modem subscribers. Bear Stearns May Report, at 14; JP Morgan Aug. 19th Report at 155; Morgan Stanley July 10th Report, at 65. Bear Stearns estimates that as of year-end 2001, there were 3 million residential DSL subscribers, and Morgan Stanley estimates that as of year-end 2001, there were more than 3.3 million residential DSL subscribers. Bear Stearns May Report, at 14; Morgan Stanley July 10th Report, at 65.

FN130. JP Morgan estimates that as of year-end 2001, there were 200,000 subscribers to satellite and wireless broadband technologies. Bear Stearns estimates that as of year-end 2001, there were 225,000 subscribers to satellite and wireless broadband technologies. Bear Stearns May Report, at 14; JP Morgan Aug. 19th Report. at 155.

FN131. Many cable providers offer cable modem service through proprietary ISPs. *See 2001 Report*, 17 FCC Rcd 1266-67;*see also Inquiry Concerning High-Speed*

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act	)	GN Docket No. 11-121

EIGHTH BROADBAND PROGRESS REPORT

Adopted: August 14, 2012 **Released: August 21, 2012**

By the Commission: Chairman Genachowski and Commissioners Clyburn and Rosenworcel issuing separate statements; Commissioners McDowell and Pai dissenting and issuing separate statements.

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I. INTRODUCTION

1. This is the Commission's Eighth Broadband Progress Report issued under section 706 of the Telecommunications Act of 1996.[1] Section 706 requires the Commission to determine and report annually on "whether advanced telecommunications capability [(ATC)] is being deployed to all Americans in a reasonable and timely fashion."[2] Over the past year, the private and public sectors have taken significant and substantial steps to accelerate the deployment and availability of broadband; all the while, the utility of and demand for broadband continue to grow as Americans find benefits in devices, applications, and services that use broadband in their homes, schools, businesses, and on the road. The Commission adopted transformative changes to the high-cost universal service program to propel deployment of broadband networks and initiated a Lifeline pilot to promote broadband adoption by low-income Americans. Implementation of these changes is underway. But as of now, our analysis of the best data available—the data collected by the National Telecommunications and Information Administration (NTIA) for the National Broadband Map—shows that approximately 19 million Americans live in areas still unserved by terrestrial-fixed broadband.[3] For these and other reasons, we must conclude that broadband is not yet being deployed "to all Americans" in a reasonable and timely fashion.

2. The efforts to bring broadband to all Americans are significant, and wireless and wireline broadband providers have made great progress. These providers invest tens of billions of dollars annually in the networks that make broadband possible, and since the 1996 Act, they are reported to have invested more than $1 trillion dollars combined.[4] In addition to various wireline broadband providers offering faster speeds with new technologies, mobile wireless providers have made substantial progress in upgrading their networks with higher-speed technologies and expanding coverage by these technologies so they reach a greater number of Americans and cover more of our country.[5]

3. These industry efforts are complemented by the efforts of the Commission, and other federal, state, and local actors, to expand broadband access. Of particular note, in October 2011, the Commission adopted transformative changes to the high-cost universal service program in the *USF/ICC Transformation Order*.[6] This comprehensive overhaul established a framework to bring broadband to

[1] 47 U.S.C. § 1302. Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (1996) (1996 Act), as amended in relevant part by the Broadband Data Improvement Act (BDIA), Pub. L. No. 110-385, 122 Stat. 4096 (2008), is now codified in Title 47, Chapter 12 of the United States Code. *See* 47 U.S.C. § 1301 et seq.

[2] *Id*. § 1302. For purposes of this report, we use the term ATC synonymously with the term "broadband."

[3] *See infra* Section IV.C.1.

[4] *See* AT&T Comments at 1–2 (adding that broadband deployment and investment—in both wireline and wireless technologies—continue to be robust, even as the economy overall languishes); MetroPCS Comments at 9; USTelecom Comments at iii, 5; *see also Announcement of Members on Open Internet Advisory Committee*, GN Docket No. 09-191, WC Docket No. 07-52, Public Notice, 27 FCC Rcd 5779 (2012) (stating that in 2011, investment in wireline and wireless network infrastructure rose 24 percent and citing to TELECOMMUNICATIONS INDUSTRY ASSOCIATION, TIA'S 2012 ICT MARKET REVIEW AND FORECAST 1–3 (2012)); *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services,*, WT Docket No. 10-133, Fifteenth Report, 26 FCC Rcd 9664, 9791, para. 207 (2011) (*Fifteenth Mobile Wireless Competition Report*), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-103A1_Rcd.pdf.

[5] *Fifteenth Mobile Wireless Competition Report*, 26 FCC Rcd 9664, 9735–40, paras. 108–15.

[6] *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform—* (continued….)

national broadband inventory map that was first made public in February 2011 and most recently updated March 2012.[124] In accordance with the Recovery Act, this map allows consumers to determine broadband deployment in any region of the nation through a website that is interactive and searchable. As we did in last year's *2011 Seventh Broadband Progress Report*, we rely on these data as key inputs into our analysis of broadband deployment and availability.[125]

III. BENCHMARKING BROADBAND

18. Section 706(d)(1) defines "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[126] In each of the reports the Commission has conducted under section 706, it has relied on a speed benchmark for determining whether a service satisfies this statutory definition.[127] In the *2010 Sixth Broadband Progress Report*, the Commission updated this speed benchmark from 200 kbps in both directions[128] to services that offer actual download (i.e., to the customer) speeds of at least 4 Mbps and actual upload (i.e., from the customer) speeds of at least 1 Mbps (4 Mbps/1 Mbps, or "speed benchmark").[129]

19. In this report, we continue to rely upon this speed benchmark, which the Commission has used in the two most recent broadband reports.[130] We find that this speed benchmark still reflects the

(Continued from previous page)
Notice of Funds Availability; Clarification, 74 Fed. Reg. 40569 (Aug. 12, 2009); *see also* NTIA, STATE BROADBAND INITIATIVE, http://www2.ntia.doc.gov/SBDD.

[124] NATIONAL BROADBAND MAP, http://broadbandmap.gov/; Press Release, Moira Vahey, NTIA Unveils National Broadband Map and New Broadband Adoption Survey Results (Feb. 17, 2011) (*NTIA National Broadband Plan Press Release*), *available at* http://www.ntia.doc.gov/press-releases/2011/commerce%C3%A2%E2%82%AC%E2%84%A2s-ntia-unveils-national-broadband-map-and-new-broadband-adoption-survey; Anne Neville, *New Data for the National Broadband Map* (NATIONAL BROADBAND MAP) BLOG (Mar. 2, 2012), http://www.broadbandmap.gov/blog/2712/new-data-for-nbm/.

[125] *See infra* Section IV.B; *see also 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8017–18, 8078, para. 13, App. F.

[126] 47 U.S.C. § 1302(d)(1).

[127] *See 1999 First Broadband Progress Report*, 14 FCC Rcd 2398, 2406, para. 20 (defining "broadband" as a service capable of supporting upstream and downstream speeds in excess of 200 kbps in the last mile); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, CC Docket No. 98-146, Second Report, 15 FCC Rcd 20913, 20919–21, para. 10 (2000); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, CC Docket No. 98-146, Report, 17 FCC Rcd 2844, 2850, para. 9 (2002); *Availability of Advanced Telecommunications Capability in the United States*, GN Docket No. 04-54, Fourth Report to Congress, 19 FCC Rcd 20540, 20551-52 (2004); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 07-45, Fifth Report, 23 FCC Rcd 9615, 9616, para. 2 (2008); *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9563, para. 11; *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8019, para. 15.

[128] *See 2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9559–64, paras. 5–10 (discussing the 200 kbps symmetrical standard).

[129] *Id.* at 9563, para. 11. As discussed below, we believe the 3 Mbps/768 kbps tier in our SBI Data is the best proxy for 4 Mbps/1 Mbps for purposes of this report. *See infra* para. 29.

[130] *See 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8019, para. 15; *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9563, para. 11. The benchmark we adhere to in this report refers to actual speeds, not advertised or "up to" speeds. We rely on SBI Data to estimate fixed broadband deployment. The SBI Data provides information about areas where broadband has been deployed and the maximum advertised speed that a broadband service provider can deliver within a typical service interval (7 to 10 business days). *See 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8078, App. F para. 1. As we explained in the last report, the SBI Data on advertised (continued….)

requirements in section 706(d)(1) and generally "enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[131] For instance, broadband service offering 4 Mbps/1 Mbps enables users to stream high-definition video and engage in basic video conferencing.[132] Maintaining the speed benchmark from prior years also simplifies the measurement of progress from the prior two years.[133]

20. We are cognizant that demand changes over time. Usage trends are driving up demand for bandwidth and services, and users are attaching multiple Internet-enabled devices to a single, shared household broadband connection.[134] The 2010 National Broadband Plan recommended the 4 Mbps/1 Mbps speed benchmark we are using for this report,[135] but also recommended that the Commission should "review and reset" this benchmark every four years.[136] We will seek comment on the broadband speed benchmark in the next Inquiry to ensure that our analysis keeps pace with evolving consumer demand and technologies.[137]

(Continued from previous page)

speed may not accurately represent consumers' actual broadband speed. *Id*. at 8083–85, App. F paras. 16–19. As explained above, *First Measuring Broadband America Report*, among other things, established for the first time that the majority of residential wireline broadband consumers are receiving performance close to the level advertised by their providers. *See infra* Section IV.F.2; FIRST MEASURING BROADBAND AMERICA REPORT at 4.

[131] 47 U.S.C. § 1302(d)(1).

[132] *See* 2010 OBI BROADBAND PERFORMANCE at 9 (listing types of online content and services and the broadband data rates required by that content or service); OFFICE OF ENGINEERING AND TECH. & CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU, FCC, BROADBAND SPEED GUIDE (2011), *available at* http://www.fcc.gov/guides/broadband-speed-guide; *see also* FIRST MEASURING BROADBAND IN AMERICA REPORT at 6–7.

[133] *See infra* Section IV.B; *2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8019, para. 15 (stating that "[w]e continue to believe that the benefits of having a consistent yardstick to gauge progress in the broadband market outweigh any benefits that might be achieved by revising the threshold this year"); *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9565, para. 13 (adding that "[o]ur present goal in selecting a benchmark to measure broadband availability is one shared with prior Commissions: to 'giv[e] us a relatively static point at which to gauge the progress and growth in the advanced services market from one Report to the next'"). For the reasons above, we decline to adopt any of the recommendations in the record to modify the broadband benchmark at this time. *See, e.g.*, AT&T Comments at 24 (benchmark should be decreased from 4 Mbps/1 Mbps to 3 Mbps/768 kbps to reflect the fact that consumers are able to access the services they currently demand with less bandwidth); CTIA Comments at 18 (recommending that the Commission revise its definition of broadband to account for mobility); FTTH Council Comments at 5–6, 7–9 (suggesting that the Commission should adopt a "tiered-approach," Minimum: 384 kbps/1.5 kbps, Average: 12 Mbps/2.5 Mbps, Maximum: 101 Mbps/20 Mbps, with 100 Mbps/50 Mbps to 100 Million Homes by 2020; measure peak hours as an appropriate measure of consumer demand; and consider the increase in cloud computing); NATOA Comments at 3 (urging the Commission to adopt a symmetric 10 Mbps at peak times).

[134] OFFICE OF ENGINEERING AND TECH. & CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU, FCC, HOUSEHOLD BROADBAND GUIDE (2011), *available at* http://www.fcc.gov/guides/household-broadband-guide; *see also* FTTH Council Comments at 8 (stating that the majority of families that have home wireless networks are now using them for multiple uses with multiple devices and more than 70 percent are doing so five to seven days a week).

[135] *See* 2010 NATIONAL BROADBAND PLAN at 135; *see also 2011 Seventh Broadband Progress Report*, 26 FCC Rcd at 8019, para. 15 n.86 (citing 2010 NATIONAL BROADBAND PLAN at 135); *2010 Sixth Broadband Progress Report*, 25 FCC Rcd at 9566, para. 15 n.64 (same).

[136] *See* 2010 NATIONAL BROADBAND PLAN at 135.

[137] For instance, consumers are also beginning to want broadband to be "[a]lways on, always available—just like your electricity or water supplies—broadband is ready, steady, communication power." *See* EBS, WHITEPAPER: THE BUSINESS BENEFITS OF BROADBAND 2, *available at* www.e-b-s.co.uk/_EBS2/File/TheBusinessBenefitsOfBroadband.pdf. There is evidence that consumers want to both access the Internet at home, as well as on the go. *See* John Horrigan, *Broadband Adoption and Use in America* 24 (OBI (continued….)

21. As discussed, the 2010 National Broadband Plan also recommended that the Commission set a goal of 100 million U.S. homes having affordable access to actual download speeds of at least 100 Mbps and actual upload speeds of at least 50 Mbps by 2020, to create the world's most attractive market for broadband applications, devices, and infrastructure.[138] In this report, we provide additional data about the availability of broadband at high speeds. In the Inquiry, we propose that the Commission identify multiple speed tiers in future reports to assess the country's progress for our universalization goal, as well as additional goals—such as affordable access to 100 Mbps/50 Mbps to 100 million homes by 2020—to ensure that we remain forward thinking and are prepared to satisfy future needs as well as immediate demands.

22. In the *USF/ICC Transformation Order*, the Commission also considered latency and capacity as core characteristics that affect what consumers can do with their broadband service.[139] Based on these characteristics, the Commission adopted minimum service standards for broadband networks on speed, latency, and capacity because they "reflect technical capabilities and user needs that are expected at this time to be suitable for today and the next few years."[140] The Commission required, as a condition of receiving federal high-cost universal service support, that all ETCs must provide "actual download and upload speeds, latency, and usage limits (if any) [that are] reasonably comparable to the typical speeds, latency, and usage limits (if any) of comparable broadband services in urban areas."[141]

23. Latency is a measure of the time it takes for a packet of data to travel from one point to another in a network and often is measured by round-trip time in milliseconds. For example, real-time VoIP services can be supported with speeds as low as 100 kbps, but require low latency for users to converse normally.[142] High-quality video, by contrast, can be delivered satisfactorily with somewhat higher latencies, but requires higher bandwidth. In the *USF/ICC Transformation Order*, the Commission found that "latency affects a consumer's ability to use real-time applications, including interactive voice or video communication, over the network."[143] Based on this finding, the Commission required ETCs "to offer sufficiently low latency to enable use of real-time applications, such as VoIP" indicating that latency of less than 100 milliseconds would likely be sufficient.[144]

24. Capacity is the total volume of data sent and/or received by the end user over a period of time. It is often measured in gigabytes (GB) per month. The Commission also adopted specific minimum standards with respect to capacity. In the *USF/ICC Transformation Order*, the Commission noted that "a usage limit significantly below" many of the highest monthly data tiers currently offered by broadband providers (e.g., a 10 GB monthly data limit) would not be reasonably comparable to residential terrestrial fixed broadband in urban areas.[145]

25. As discussed in more detail below, the Commission's decision to identify latency and

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Working Paper No. 1, 2010) (Horrigan, *Broadband Adoption and Use in America*), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf.

[138] *See supra* Section I; 2010 NATIONAL BROADBAND PLAN at 9.

[139] *See USF/ICC Transformation Order*, 26 FCC Rcd at 17696–702, paras. 90–104.

[140] *Id*. at 17703, para. 106.

[141] *Id*. at 17696, para. 91.

[142] *Id*. at 17698, para. 96.

[143] *Id*.

[144] *Id*.

[145] *Id*. at 17703, paras. 99–100. The Commission also noted that "250 GB appears to be reasonably comparable to major current urban broadband offerings." *Id.* at 17698, para. 96.

Before the
Federal Communications Commission
Washington, D.C. 20554

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

SIXTH BROADBAND DEPLOYMENT REPORT

Adopted: July 16, 2010 **Released:** July 20, 2010

By the Commission: Chairman Genachowski and Commissioners Copps and Clyburn issuing separate statements; Commissioners McDowell and Baker dissenting and issuing separate statements.

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market."[33] The *Sixth Broadband Deployment NOI* contains a more detailed discussion of background information relevant to the present inquiry.[34]

III. STATUS OF BROADBAND DEPLOYMENT

A. Benchmarking Broadband

9. Section 706 defines "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[35] Over a decade ago in the *1999 First Broadband Deployment Report*, the Commission determined that "advanced telecommunications capability" and "advanced services"—and, in effect, "broadband"—are services and facilities with an upstream (customer-to-provider) and downstream (provider-to-customer) transmission speed of more than 200 kbps.[36] At that time, the Commission rightly predicted "that as technologies evolve, the concept of broadband will evolve with it: we may consider today's 'broadband' to be narrowband when tomorrow's technologies are deployed and consumer demand for higher bandwidth appears on a large scale."[37] Nevertheless, all of the Commission's subsequent broadband deployment reports have been based on the broadband speed threshold the Commission adopted in the *1999 First Broadband Deployment Report*.

10. After considering the evidence in the record,[38] we conclude that the Commission's broadband speed threshold has not kept pace with the evolution of technology and consumer expectations. Although we continue to treat advanced telecommunications capability and broadband as synonymous terms in this report,[39] we find that 200 kbps simply is not enough bandwidth to enable a user, using current technology, "to originate and receive high-quality voice, data, graphics, and video telecommunications," as section 706 requires of such services.[40] Today, Americans increasingly are using their broadband connections to

[33] 47 U.S.C. § 1302(b).

[34] *See Sixth Broadband Deployment NOI*, 24 FCC Rcd at 10505–21, paras. 1–32 (discussing the nation's evolving broadband goals, improvements in broadband data collection, and the actions the Commission, Congress, and other governmental entities have taken concerning broadband that are relevant to the present report).

[35] 47 U.S.C. § 1302(d)(1).

[36] *1999 First Broadband Deployment Report*, 14 FCC Rcd at 2406, para. 20. The Commission has used the term "high-speed" to describe services with over 200 kbps capability in at least one direction. *See 2000 Second Broadband Deployment Report*, 15 FCC Rcd at 20920, para. 11; *2002 Third Broadband Deployment Report*, 17 FCC Rcd at 2850–51, para. 9; *2004 Fourth Broadband Deployment Report*, 19 FCC Rcd at 20551.

[37] *See supra* note 12.

[38] In the *Sixth Broadband Deployment NOI* and throughout this proceeding, we asked for comment on how the Commission should define broadband. *See Sixth Broadband Deployment NOI*, 24 FCC Rcd at 10523–25, paras. 36–41; *National Broadband Plan NOI*, 24 FCC Rcd at 4346–48, paras. 15–22; *Comment Sought on Defining "Broadband" NBP Public Notice # 1*, GN Docket Nos. 09-47, 09-51, 09-137, Public Notice, 24 FCC Rcd 10897 (2009).

[39] *See, e.g.*, CTIA Comments at 28 (stating that Congress apparently used "broadband" and "advanced telecommunications capability" interchangeably and that the two terms, in fact, mean the same thing); Time Warner Cable Comments at 4 (same); Western Telecommunications Alliance Comments at 4–5; NASUCA June 8, 2009 Comments in GN Docket 09-51 at 12–13.

[40] 47 U.S.C. § 1302(d)(1); *see, e.g.*, NATIONAL BROADBAND PLAN at 17, Exh. 3-C. The Commission previously has recognized that 200 kbps is insufficient bandwidth to enable the transmission of live video. *See, e.g.*, *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership*, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd 9691, 9700, para. 19 (2008) (*2008 Broadband Data Gathering Order*)

(continued…)

access high-quality video, and we anticipate that this demand will only continue to grow in the future.[41] For example, many Americans now communicate with their families and friends through desktop videoconference calls.[42] Many users also now post their own videos and view others' on such sites as YouTube and Hulu.[43] Instead of reading articles online, Americans often watch videos of today's top stories.[44] The growth and demand for high-quality videos by Americans is substantial, and this demand is expected to grow at over 40 percent and 120 percent per year, respectively, through 2013.[45]

11. Thus, for purposes of this report,[46] we update the Commission's broadband speed threshold. Specifically, we benchmark broadband as a transmission service that actually enables an end user to download content from the Internet at 4 Mbps and to upload such content at 1 Mbps over the broadband provider's network.[47] Of the many possible service characteristics that could be used for this purpose, we

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(explaining that "the range of information transfer capacities included in the current lowest tier of 200 kbps to 2.5 mbps captures a wide variety of services, ranging from services capable of transmitting real time video to simple always-on connections not suitable for more than basic email or web browsing activities"); Order on Reconsideration, 23 FCC Rcd 9800 (2008). Nevertheless, in previous broadband deployment reports, the Commission declined to modify its understanding of broadband to account for this limitation in part because consumer demand for such services was only starting to emerge. *See, e.g.*, *2002 Third Broadband Deployment Report*, 17 FCC Rcd at 2852, para. 12 (stating that "certain applications, such as some video products, require transmission speeds in excess of 200 kbps" and that "[a]s technology continues to evolve, and with it, consumer expectations, it may be appropriate to adopt a higher threshold for advanced telecommunications capability and revisit our analysis of deployment").

[41] NATIONAL BROADBAND PLAN at 17.

[42] *Id.*

[43] *Id*.

[44] *Id.*

[45] *Id*. (stating that "Cisco forecasts that video consumption on fixed and mobile networks will grow at over 40% and 120% per year, respectively, through 2013").

[46] We emphasize that we are benchmarking broadband in this report solely for purposes of complying with our obligations under section 706. We specifically do not intend this speed threshold to have any other regulatory significance under the Commission's rules absent subsequent Commission action. For example, today's report has no impact on which entities are classified as interconnected VoIP providers or what facilities must be provided on an unbundled basis. *See* 47 C.F.R. § 9.3 (defining interconnected VoIP service in relevant part as a service that "[r]equires a broadband connection from the user's location"); 47 C.F.R. § 51.5 (defining "advanced services"); 47 C.F.R. § 51.319(a)(2) (setting forth UNE obligations for hybrid loops). This report also does not prejudge the outcome of possible changes to the Universal Service Fund (USF) or other Commission proceedings. *See, e.g.*, NATIONAL BROADBAND PLAN at 140–51; *Connect America Fund, A National Broadband Plan for Our Future, High-Cost Universal Service Support*, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337, Notice of Inquiry and Notice of Proposed Rulemaking, FCC 10-58 (rel. Apr. 21, 2010) (*Connect America Fund NOI and NPRM*). Similarly, our decision to benchmark broadband by means of a 4 Mbps download and 1 Mbps upload speed threshold does not mean that the Commission will stop collecting and analyzing data on services provided at slower and faster speeds. *See generally* 47 C.F.R. § 1.7000–1.7002 (requiring entities to provide advanced telecommunications capability data to the Commission in accord with the FCC Form 477 instructions).

[47] By increasing the broadband transmission speed threshold, we find a decreased level of broadband availability. This is a natural consequence of consumer expectations and the bandwidth demands of technology rising faster than broadband is being deployed to all Americans. We recognize that broadband providers continue to increase the availability of services that provide lower transmission speeds, including those in excess of 200 kbps in each direction. *See* App. D, INDUST. ANALYSIS & TECH. DIV., FCC, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF DECEMBER 31, 2008, at 3 (rel. Feb. 2010) (February 2010 High Speed Report). The benchmarks we
(continued…)

find this benchmark appropriate for several reasons.[48] First, as discussed above, section 706 requires that broadband services enable users "to originate and receive high-quality voice, data, graphics, and video telecommunications."[49] Our examination of overall Internet traffic patterns reveals that consumers increasingly are using their broadband connections to view high-quality video, and want to be able to do so while still using basic functions such as email and web browsing.[50] Indeed, we expect that it is not uncommon for more than one person to make use of a single Internet connection simultaneously, particularly in multi-member households that subscribe to a single Internet access service. The evidence shows that streaming standard definition video in near real-time consumes anywhere from 1-5 Mbps, depending on a variety of factors.[51] The availability of broadband connections that actually enable an end user to download content from the Internet at 4 Mbps and to upload such content at 1 Mbps over the broadband provider's network is therefore a reasonable estimate of the availability of "advanced telecommunications services" as defined by the statute.

12. We also believe the benchmark is a reasonable point at which to measure broadband availability because it has been updated to reflect current demand patterns. The record shows that approximately half of all broadband consumers today purchase service that is advertised to deliver download speeds of "up to" 7 Mbps (though evidence suggests that the actual speeds of these connections may be roughly half of advertised speeds).[52] In addition, current trends indicate that consumers are likely

(…continued from previous page)
adopt in this report refer to "actual" speeds rather than advertised or "up to" speeds for essentially the same reasons as set forth in the National Broadband Plan. *See* NATIONAL BROADBAND PLAN at 18–22; *but see* Letter from Neil M. Goldberg, Vice President and Counsel for National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-51 (filed Mar. 26, 2010). When referring to the speed of a transmission "over the broadband provider's network," we generally mean the data throughput delivered between the network interface unit (NIU)—i.e., the subscriber's modem or other customer premise equipment (CPE)—and the service provider's Internet gateway that is the shortest administrative distance from that NIU. *See* NATIONAL BROADBAND PLAN at 156 n.2. We may adopt a different understanding of "actual" speed in future proceedings.

[48] *See, e.g.*, ADTRAN Comments at 10 (urging the Commission to assess broadband deployment and availability, not by the speed advertised by providers, but rather by the actual speeds consumers can reasonably expect under ordinary operating conditions); Free Press Comments at 15 (same); NASUCA June 8, 2009 Comments in GN Docket 09-51 at 18–19 (same). Unlike prior broadband deployment reports, we do not adopt a symmetrical broadband speed threshold. The Commission previously has recognized, "given the asymmetric use of most residential subscribers, fast upload rates do not appear to be as necessary as fast download rates." *2004 Fourth Broadband Deployment Report*, 19 FCC Rcd at 20552. We continue to "believe that Congress intended [broadband] to bring to all Americans a two-way, truly interactive medium, rather than one that is passive and entertainment-oriented." *2000 Second Broadband Deployment Report*, 15 FCC Rcd at 20921, para. 12. Symmetrical broadband speeds, however, are not necessarily a requirement for fully interactive broadband service today. At present, symmetrical capacity is rarely offered to residential customers. *See, e.g.*, ADTRAN Comments at 13–14; NCTA Reply at 3–4; Verizon Reply at 16–17.

[49] 47 U.S.C. § 1302(d)(1).

[50] *See* NATIONAL BROADBAND PLAN at 16–17.

[51] *See* FCC Broadband Task Force Status Update at the FCC September Commission Meeting 23 (Sept. 29, 2009), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293742A1.pdf.

[52] Thus, approximately half of all broadband subscribers in the United States purchase broadband service meeting our benchmark today. *See* NATIONAL BROADBAND PLAN at 21 ("Estimates of the average advertised 'up to' download speed that Americans currently purchase range from 6.7 Mbps to 9.6 Mbps, with the most detailed data showing an average of approximately 8 Mbps and a median of approximately 7 Mbps."); *see also id*. (explaining that the broadband speed consumers experience, on average, is about half of the speed to which they subscribe); *id.* at 156 n.3 (stating that the median actual download speed in the United States in the first half of 2009 was approximately 3 Mbps and is expected to exceed 4 Mbps by the end of 2010); *id*. at 135; *see also* February 2010
(continued…)

20 F.C.C.R. 14989, 20 FCC Rcd. 14989, 2005 WL 2347765 (F.C.C.)

Federal Communications Commission (F.C.C.)

First Report and Order and Further Notice of Proposed Rulemaking
****1** IN THE MATTER OF COMMUNICATIONS ASSISTANCE FOR LAW ENFORCEMENT ACT AND BROADBAND ACCESS AND SERVICES

ET Docket No. 04-295
RM-10865
FCC 05-153

Adopted: August 5, 2005

Released: September 23, 2005
Comment Date: (30 Days After Federal Register Publication of this Notice)
Reply Comment Date: (60 Days After Federal Register Publication of this Notice)

***14989** By the Commission: Chairman Martin, Commissioners Abernathy, Copps, and Adelstein issuing separate statements.

I. INTRODUCTION

1. In this Order, we conclude that the Communications Assistance for Law Enforcement Act (CALEA) applies to facilities-based broadband Internet access providers and providers of interconnected voice over Internet Protocol (VoIP) service. This Order is the first critical step to apply CALEA obligations to new technologies and services that are increasingly relied upon by the American public to meet their communications needs.

***14990** 2. Our action today is responsive to a joint petition for expedited rulemaking filed by the Department of Justice, the Federal Bureau of Investigation, and the Drug Enforcement Administration (collectively, DOJ) in March 2004.[FN1] In its petition, DOJ asked the Commission to declare that broadband Internet access services and VoIP services are covered by CALEA.[FN2] Today we respond to that request. This action strikes an appropriate balance between fostering competitive broadband and advanced services deployment and technological innovation on one hand, and meeting the needs of the law enforcement community on the other.

3. In the coming months, we will release another order that will address separate questions regarding the assistance capabilities required of the providers covered by today's Order pursuant to section 103 of CALEA.[FN3] This subsequent order will include other important issues under CALEA, such as compliance extensions and exemptions, cost recovery, identification of future services and entities subject to CALEA, and enforcement. We take this two-step approach to focus debate on the implementation rather than the applicability of CALEA to providers of broadband Internet access services and VoIP services. By clarifying the applicability of CALEA to these providers now, we enable them to begin planning to incorporate CALEA compliance into their operations. We also ensure that the appropriate parties become involved in ongoing discussions among the Commission, law enforcement, and industry representatives to develop standards for CALEA capabilities and compliance. Because we acknowledge that providers need a reasonable amount of time to come into compliance with all relevant CALEA requirements, we establish a deadline of 18 months from the effective date of this Order, by which time newly covered entities and providers of newly covered services must be in full compliance.

II. BACKGROUND

4. In response to concerns that emerging technologies such as digital and wireless communications were making it increasingly difficult for law enforcement agencies to execute authorized surveillance, Congress enacted CALEA on October 25, 1994.[FN4] CALEA was intended to preserve the ability of law enforcement agencies to conduct electronic surveillance by requiring that telecommunications carriers and manufacturers of telecommunications equipment modify and design their

not on the definitions in the Communications Act.[FN73] Equally important, the classification of a service provider as a telecommunications carrier under CALEA's SRP *does not limit* the Commission's options for classifying that provider or service under the Communications Act. We believe that the legal framework we have established in this Order for analyzing the applicability of CALEA to service providers under the SRP provides the clearest path, in a manner most consistent with Congress's intent, for identifying which services and service providers are subject to CALEA under the SRP. In the sections below, we apply this legal framework to providers of facilities-based broadband Internet access and interconnected VoIP services.

B. Applicability of CALEA to Broadband Internet Access Services

24. In this section, we find that facilities-based providers of any type of broadband Internet access service, including but not limited to wireline, cable modem, satellite, wireless, fixed wireless, and broadband access via powerline are subject to CALEA.[FN74] In finding these providers to be subject to CALEA under the SRP, we reiterate that we do not disturb the Commission's prior decisions that CALEA unambiguously applies to all "common carriers offering telecommunications services for sale to the public," as so classified under the Communications Act.[FN75] Thus, to the extent that any facilities-based ***15002** broadband Internet access service provider chooses to offer such service on a common carrier basis, that provider is subject to CALEA pursuant to section 102(8)(A), the Common Carrier Provision.[FN76]

25. Applying the legal framework set forth in section III.A above, we determine that facilities-based broadband Internet access providers satisfy each of the three prongs of the SRP: (1) they are providing a switching or transmission functionality; (2) this functionality is a replacement for a substantial portion of the local telephone exchange service, specifically, the portion used for dial-up Internet access; and (3) public interest factors weigh in favor of subjecting broadband Internet access services to CALEA.[FN77]

1. Broadband Internet Access Service Providers Are "Telecommunications Carriers" Under CALEA

26. *Broadband Internet Access Service Includes Switching or Transmission*. We find that facilities-based broadband Internet access service providers are "engaged in providing wire or electronic communication switching or transmission service" and therefore meet the first prong of the SRP.[FN78] As discussed above, we interpret the "switching or transmission" component of the SRP broadly to capture not only transmission or transport capabilities, but also new packet-based equipment and functionalities that direct communications to their intended destinations.[FN79] No commenter suggests that facilities-based broadband Internet access providers do not provide a transmission or transport function. Indeed, ***15003** commenters providing broadband Internet access service today describe the underlying transport component of their service as "switching and forwarding data."[FN80]

****9** 27. *Broadband Internet Access Service Replaces a Substantial Portion of the Local Telephone Exchange Service*. We next conclude that facilities-based broadband Internet access service providers provide a replacement for a substantial portion of the local telephone exchange service, specifically, the portion of local telephone exchange service that provides subscribers with dial-up Internet access capability.[FN81] We base this conclusion on Congress's understanding of the reach of CALEA's capability at the time the statute was enacted, the purpose for which the statute was enacted, and the support we find in the record for this conclusion.

28. Broadband Internet access service unquestionably "replaces" a portion of the functionality that the traditional local telephone exchange service provides -- namely, the ability to access the Internet. CALEA's legislative history supports our conclusion that broadband Internet access service was intended to be covered by CALEA, as are both dial-up and common carrier DSL transport services. That history explains the distinction between the portion of e-mail service that was subject to CALEA (a service that was accessible only over the Internet)[FN82] and the portion that was not.[FN83] The only way that the "transmission of an E-mail message"

be an 'information service' under the Communications Act, it must also be classified as an information service under CALEA"); Cingular Comments at 3 (arguing that the "restrictive interpretation of the information services exclusion is unduly narrow and is contrary to CALEA's statutory language and legislative history"); EarthLink Comments at 2 (stating that the Commission "reads the information service exemption out of the statute, and it is clear that such an interpretation is contrary to law"); EFF Comments at 11 (stating that the Commission has "no authority to restrict the statutory definition of information services, and the statute's plain language cannot be superseded by the [*Notice*'s] citation to a vaporous tension"); I&P Comments at 27 (arguing that the Commission is redefining "the term information services to not include any service the NPRM wants to deem a telecommunications carrier").

FN69. 47 U.S.C. § 1002(a).

FN70. 47 U.S.C. § 1002(b)(2)(A).

FN71. 2A Norman J. Singer, *Sutherland Statutory Construction* § 46:05 (6th ed. 2000); *see also C.I.R. v. Clark* , 489 U.S. 726, 739 (1989) ("In construing [statutory] provisions ... in which a general statement of policy is qualified by an exception, we usually read the exception narrowly in order to preserve the primary operation of the provision.").

FN72. *See infra* Section III.B.

FN73. *See Notice*, 19 FCC Rcd at 15679, para. 8;*Second Report and Order*, 15 FCC Rcd at 7112, para. 13.

FN74. As we tentatively concluded in the *Notice*, we define "broadband" as those services having the capability to support upstream or downstream speeds in excess of 200 kilobits per second (kbps) in the last mile, *Notice*, 19 FCC Rcd at 15693, para. 36 n.77, but we also include as "broadband" -- for purposes of CALEA only -- those services such as satellite-based Internet access services that provide similar functionalities but at speeds less than 200 kbps. We explained in the *Notice* that "facilities-based" meant entities that "provide transmission or switching over their own facilities between the end user and the Internet Service Provider (ISP)."*Id*. at 15693, para. 37, n.79.

FN75. *See Second Report and Order*, 15 FCC Rcd at 7111, 7114-15, paras. 10, 17; *Notice*, 19 FCC Rcd at 15695, para. 39. CALEA's Common Carrier Provision, section 102(8)(A), applies to any entity that is a telecommunications carrier under the Communications Act. *See*47 U.S.C. § 1001(8)(A) (defining the term "telecommunications carrier" as "a person or entity engaged in the transmission or switching of wire or electronic communications as a common carrier for hire").

FN76. 47 U.S.C. § 1001(8)(A); *see also Wireline Broadband Internet Access Services Order*, paras. 87-95 (authorizing providers of facilities-based wireline broadband Internet access service to offer the transmission component of such service on a common carrier basis, a non-common carrier basis, or a combination of the two). We note that the Supreme Court recently affirmed the Commission's decision classifying cable modem service as an information service under the Communications Act rather than as a separate information service and telecommunications service. *NCTA v. Brand X*, slip op. at 14-31. In reaching its decision, however, the Court recognized that cable modem service does contain a telecommunications transmission component that is integrated with the information service capability. *Id*. at 18-19.Thus, cable modem service is subject to CALEA under the SRP. As discussed in detail herein, the underlying transmission component of cable modem broadband Internet access service falls squarely within CALEA's SRP and therefore is subject to CALEA's requirements pursuant to section 102(8)(B)(ii).47 U.S.C. § 1001(8)(B)(ii). Consistent with the Supreme Court's opinion in *NCTA v. Brand X*, the Commission has determined that wireline broadband Internet access services are also information services having a telecommunications component under the Communications Act. *Wireline Broadband Internet Access Services Order*, para. 5. Although facilities-based wireline broadband Internet access providers were formerly required to offer the underlying telecommunications transmission component (*i.e.*, the DSL transport) of their Internet access service to ISPs on a common carrier basis, the

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matters of	)	
	)	
Appropriate Framework for Broadband Access to the Internet over Wireline Facilities	)	CC Docket No. 02-33
	)	
Universal Service Obligations of Broadband Providers	)	
	)	
Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services	)	CC Docket No. 01-337
	)	
Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements	)	CC Docket Nos. 95-20, 98-10
	)	
Conditional Petition of the Verizon Telephone Companies for Forbearance Under 47 U.S.C. § 160(c) with Regard to Broadband Services Provided Via Fiber to the Premises; Petition of the Verizon Telephone Companies for Declaratory Ruling or, Alternatively, for Interim Waiver with Regard to Broadband Services Provided Via Fiber to the Premises	)	WC Docket No. 04-242
	)	
Consumer Protection in the Broadband Era	)	WC Docket No. 05-271

REPORT AND ORDER
AND
NOTICE OF PROPOSED RULEMAKING

Adopted: August 5, 2005 **Released: September 23, 2005**

Comment Date: (90 Days After Federal Register Publication of this Notice)
Reply Comment Date: (135 Days After Federal Register Publication of this Notice)

By the Commission: Chairman Martin and Commissioner Abernathy issuing separate statements; Commissioners Copps and Adelstein concurring and issuing separate statements.

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I. INTRODUCTION

1. In this Order, we establish a new regulatory framework for broadband Internet access services offered by wireline facilities-based providers. Our actions today are essential to attaining the goals set forth in the *Wireline Broadband* proceeding,[1] and are reinforced by and consistent with the Supreme Court's recent opinion in *NCTA v. Brand X*.[2] This framework establishes a minimal regulatory environment for wireline broadband Internet access services to benefit American consumers and promote innovative and efficient communications. First, this Order encourages the ubiquitous availability of broadband to all Americans by, among other things, removing outdated regulations. Those regulations were created over the past three decades under technological and market conditions that differed greatly from those of today. Second, the framework we adopt in this Order furthers the goal of developing a consistent regulatory framework across platforms by regulating like services in a similar functional manner, after a transitional period. Finally, the actions we take in this Order allow facilities-based wireline broadband Internet access service providers to respond to changing marketplace demands effectively and efficiently, spurring them to invest in and deploy innovative broadband capabilities that can benefit all Americans, consistent with the Communications Act of 1934, as amended (the Communications Act or Act).

[1] *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, *Universal Service Obligations of Broadband Providers*, CC Docket No. 02-33, Notice of Proposed Rulemaking, 17 FCC Rcd 3019 (2002) (*Wireline Broadband NPRM*).

[2] *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005) (*NCTA v. Brand X*), *aff'g Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, GN Docket No. 00-185 & CS Docket No. 02-52, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (*Cable Modem Declaratory Ruling and NPRM*).

Rulemaking seeking comment on the need for any non-economic regulatory requirements necessary to ensure that consumer protection needs are met by all providers of broadband Internet access service, regardless of the underlying technology.

II. EXECUTIVE SUMMARY

5. In accordance with our responsibilities under the Act, and in light of the competitive and technical characteristics of the broadband Internet access market today, we take the following actions to establish a comprehensive regulatory framework for facilities-based providers of wireline broadband Internet access service:

- Consistent with the Supreme Court's opinion in *NCTA v. Brand X*, we determine that facilities-based wireline broadband Internet access service is an information service.

- Facilities-based wireline broadband Internet access service providers are no longer required to separate out and offer the wireline broadband transmission component (*i.e.*, transmission in excess of 200 kilobits per second (kbps) in at least one direction) of wireline broadband Internet access services as a stand-alone telecommunications service under Title II, subject to the transition explained below. In addition, the Bell Operating Companies (BOCs) are immediately relieved of all other *Computer Inquiry* requirements with respect to wireline broadband Internet access services.

- Facilities-based wireline carriers are permitted to offer broadband Internet access transmission arrangements for wireline broadband Internet access services on a common carrier basis or a non-common carrier basis.

- Facilities-based wireline Internet access service providers must continue to provide existing wireline broadband Internet access transmission offerings, on a grandfathered basis, to unaffiliated ISPs for a one-year transition period.

- We affirm that neither the statute nor relevant precedent mandates that broadband transmission be a telecommunications service when provided to an ISP, but the provider may choose to offer it as such. We determine that the use of the transmission component as part of a facilities-based provider's offering of wireline broadband Internet access service to end users using its own transmission facilities is "telecommunications" and not a "telecommunication service" under the Act.

6. We also address other important areas relating to the provision of broadband Internet access services including:

- We maintain the *status quo* for universal service during for a 270-day period pending resolution of the *USF Contribution Methodology* proceeding.

- We ensure no adverse impact on public safety through the continued requirement that voice over IP (VoIP) providers using wireline broadband Internet access facilities comply with E911 obligations.

- We confirm that this Order does not affect disability access obligations the Commission has adopted pursuant to its Title I ancillary jurisdiction, and we will continue to exercise our Title

I authority, as necessary, to give full effect to the accessibility policy embodied in section 255.

- Nothing in this Order changes requesting telecommunications carriers' rights to access unbundled network elements (UNEs) under section 251 and our related implementing rules.

7. Finally, we adopt a Notice of Proposed Rulemaking seeking comment on the need for any non-economic regulatory requirements necessary to ensure that consumer protection needs are met by all providers of broadband Internet access service, regardless of the underlying technology.

III. BACKGROUND AND SCOPE

8. As the Supreme Court held in *NCTA v. Brand X*, the Communications Act does not address directly how broadband Internet access service should be classified or regulated.[10] The Act does, however, provide the Commission express directives with respect to encouraging broadband deployment, generally, and promoting and preserving a freely competitive Internet market, specifically.[11] Consequently, the Commission initiated the *Wireline Broadband* proceeding to answer important questions about the appropriate legal and policy framework for wireline broadband Internet access service in furtherance of its obligations under the Act. In undertaking this review, the Commission recognized the differing market and technical characteristics unique to broadband Internet access services.[12] To that end, the *Wireline Broadband NPRM* sought detailed comment on the appropriate regulatory framework for wireline broadband Internet access service.[13] Since commencing this proceeding, the Commission has taken a number of important actions regarding broadband facilities and services.[14]

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[10] *NCTA v. Brand X*, slip op. at 17-25; *see Cable Modem Declaratory Ruling*, 17 FCC Rcd at 4819, para. 32.

[11] *See supra* n.8; *cf. United States Telecom Association v. FCC*, 359 F.3d 554, 580-82 (D.C. Cir. 2004) (*USTA II*), *cert. denied*, 125 S. Ct. 313, 316, 345 (2004) (holding that the Commission reasonably interpreted section 251(c)(3) of the Act as allowing it to withhold unbundling, even in the face of some impairment, where such unbundling would pose excessive impediments to infrastructure investment).

[12] *Wireline Broadband NPRM*, 17 FCC Rcd at 3027, para. 13.

[13] *Id.* at 3040-43, paras. 43-53.

[14] *See*, *e.g.*, *Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c); SBC Communications Inc.'s Petition for Forbearance Under 47 U.S.C. § 160(c); Qwest Communications International Inc. Petition for Forbearance Under 47 U.S.C. § 160(c); BellSouth Telecommunications, Inc. Petition for Forbearance Under 47 U.S.C. § 160(c)*, WC Docket Nos. 01-338, 03-235, 03-260, 04-48, Memorandum Opinion and Order, 19 FCC Rcd 21496 (2004) (*Broadband 271 Forbearance Order*); *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, Order on Reconsideration, 19 FCC Rcd 20293 (2004) (*Fiber to the Curb Reconsideration Order*); *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, Order on Reconsideration, 19 FCC Rcd 15856 (2004) (*Multiple Dwelling Unit Reconsideration Order*); *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17141-53, paras. 272-95, & 17323, para. 541 2003 (*Triennial Review Order*), *aff'd in part, remanded in part, vacated in part*, *USTA II*, 359 F.3d at 564-93.

9. Wireline broadband Internet access service, for purposes of this proceeding, is a service that uses existing or future wireline facilities of the telephone network to provide subscribers with Internet access capabilities.[15] The term "Internet access service" refers to a service that always and necessarily combines computer processing, information provision, and computer interactivity with data transport, enabling end users to run a variety of applications such as e-mail, and access web pages and newsgroups.[16] Wireline broadband Internet access service, like cable modem service, is a functionally integrated, finished service that inextricably intertwines information-processing capabilities with data transmission such that the consumer always uses them as a unitary service.[17] For example, as we explained in the *Wireline Broadband NPRM*, where wireline broadband Internet access service enables an end user to retrieve files from the World Wide Web, the end user has the capability to interact with information stored on the service provider's facilities.[18] To the extent a provider offers end users a capability to store files on the service provider's computers to establish "home pages," the consumer is utilizing the "capability for . . . storing . . . or making available information."[19] In short, providers of wireline broadband Internet access service offer subscribers the ability to run a variety of applications that fit under the characteristics stated in the information service definition.[20] These characteristics distinguish wireline broadband Internet access service from other wireline broadband services, such as stand-alone ATM service, frame relay,

[15] We stress that our actions in this Order are limited to wireline broadband Internet access service and its underlying broadband transmission component, whether that component is provided over all copper loops, hybrid copper-fiber loops, a fiber-to-the-curb or fiber-to-the-premises (FTTP) network, or any other type of wireline facilities, and whether that component is provided using circuit-switched, packet-based, or any other technology. *See Wireline Broadband NPRM*, 17 FCC Rcd at 3020 n.1 & 3026, para. 12. As noted in the *Wireline Broadband NPRM*, some service providers deploying DSL and other wireline broadband technologies may utilize asynchronous transfer mode (ATM) or frame relay transport in their networks. *See Wireline Broadband NPRM*, 17 FCC Rcd at 3026 n.19. The use of ATM or frame relay transport in this context neither expands nor limits the scope of relief, which covers all wireline broadband Internet access services as discussed further below. This Order *does not* implicate the current rules or regulatory framework for the provision of access to narrowband transmission associated with dial-up Internet access services or other narrowband or broadband information services when provided by facilities-based wireline carriers. *See Wireline Broadband NPRM*, 17 FCC Rcd at 3025 n.18. For purposes of this proceeding, we define the line between broadband and narrowband consistent with the Commission's definition in other contexts (*i.e.*, services with over 200 kbps capability in at least one direction). *See*, *e.g.*, *Fourth Section 706 Report*, at 8, 10; *Local Telephone Competition and Broadband Reporting*, CC Docket No. 04-141, Report and Order, 19 FCC Rcd 22340, 22342, para. 3 (2004) (*Form 477 Data Collection Order*); *Communications Assistance for Law Enforcement Act and Broadband Access and Services*, ET Docket No. 04-295, RM 10865, Notice of Proposed Rulemaking and Declaratory Ruling, 19 FCC Rcd 15676, 15692, para. 35 (2004) (*CALEA NPRM*). Although this definition remains in effect today, the Commission has indicated that it may examine the definition and modify it for future purposes. *See Form 477 Data Collection Order*, 19 FCC Rcd at 22347-48, para. 14.

[16] *See Cable Modem Declaratory Ruling*, 17 FCC Rcd at 4821, para. 36; *Wireline Broadband NPRM*, 17 FCC Rcd at 3027 n.27 (*citing Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report to Congress, 13 FCC Rcd 11501, 11516-17, para. 33 (1998) (*Report to Congress*) (Internet access services are services that "alter the format of information through computer processing applications such as protocol conversion and interaction with stored data.")); *see also* 47 U.S.C. § 231(e)(4); *Reno v. American Civil Liberties Union*, 521 U.S. 844, 851 (1997).

[17] *NCTA v. Brand X*, slip op. at 6 (citing *Cable Modem Declaratory Ruling*, 19 FCC Rcd at 4823, para. 38) & 18-19. That is, the transmission component of wireline broadband Internet access service is "'part and parcel' of [that service] and is integral to [that service's] other capabilities." *NCTA v. Brand X*, slip op. at 26 (quoting *Cable Modem Declaratory Ruling*, 19 FCC Rcd at 4823, para. 39).

[18] *Wireline Broadband NPRM*, 17 FCC Rcd at 3031, para. 21.

[19] *Id.*

[20] *Id.* at 3030, para. 20.

22 F.C.C.R. 5901, 22 FCC Rcd. 5901, 40 Communications Reg. (P&F) 942, 2007 WL 1288052 (F.C.C.)

Federal Communications Commission (F.C.C.)

Declaratory Ruling

****1** IN THE MATTER OF APPROPRIATE REGULATORY TREATMENT FOR BROADBAND ACCESS TO THE INTERNET OVER WIRELESS NETWORKS

WT 07-53
FCC 07-30

Adopted: March 22, 2007

Released: March 23, 2007

***5901** By the Commission: Chairman Martin and Commissioners Tate and McDowell issuing separate statements; and Commissioners Copps and Adelstein concurring and issuing separate statements.

I. INTRODUCTION

1. In this Declaratory Ruling, we find that wireless broadband Internet access service is an information service under the Communications Act of 1934, as amended (Communications Act or Act).[FN1] We also find that the transmission component of wireless broadband Internet access service is ***5902** "telecommunications" and that the offering of the telecommunications transmission component as part of a functionally integrated Internet access service offering is not "telecommunications service" under section 3 of the Act. Further, we find that neither the Communications Act nor relevant precedent mandates that broadband transmission be a "telecommunications service" when provided to an Internet Service Provider (ISP) as a wholesale input for the ISP's own wireless broadband Internet access service offering, but the provider may choose to offer it as such. Finally, we find that mobile wireless broadband Internet access service is not a "commercial mobile service" under section 332 of the Act.[FN2]

2. In making these determinations, we provide regulatory certainty regarding the classification of wireless broadband Internet access service.[FN3] This approach is consistent with the framework that the Commission established for cable modem Internet access service,[FN4] wireline broadband Internet access service,[FN5] and Broadband over Power Line (BPL)-enabled Internet access service [FN6] and it establishes a minimal regulatory environment for wireless broadband Internet access service that promotes our goal of ubiquitous availability of broadband to all Americans.[FN7] Addressing the appropriate regulatory classification of wireless broadband Internet access also furthers our efforts to establish a consistent regulatory framework across broadband platforms by regulating like services in similar manner.[FN8]

II. BACKGROUND

A. Commission Classification of Broadband Internet Access Services

3. The Commission has not previously considered the appropriate classification of wireless ***5903** broadband Internet access service. Title III of the Act generally provides the Commission with authority to regulate " radio communications" and "transmission of energy by radio." [FN9] Among other provisions, Title III allows the Commission to make such rules and regulations and prescribe such restrictions and conditions as may be necessary to carry out the provisions of the Act.[FN10] The Act also distinguishes between fixed and mobile services.[FN11] Fixed wireless telecommunications services provided on a common carrier basis are generally subject to regulation under Title II of the Act. Section 332 of the Act provides the regulatory scheme for mobile services, differentiating between private and commercial mobile services and requiring that commercial mobile radio service (CMRS)

wireless fidelity. Wi-Fi networks use unlicensed devices and feature data transfer rates at speeds of up to 11 Mbps for 802.11b and up to 54 Mbps for 802.11a and 802.11g. Wi-Fi networks often must rely on another type of broadband connection, whether wireline, cable, or wireless, for access to the Internet. Wi-Fi allows consumers to extend, for example, the reach of a landline broadband connection ***5908** within their home or to connect to the Internet at public "hot spots," such as restaurants, coffee shops, hotels, airports, convention centers, and city parks, using a laptop computer or smartphone with an internal or external Wi-Fi modem. [FN51] Some mobile telephone carriers use Wi-Fi hot spots to complement their mobile data services provided through the licensed use of spectrum. [FN52]

****6** 16. Wireless broadband service providers offer access to different types of content and applications based on the speed and capabilities of the technology used to provide the service and the type of end user device. For instance, many of the mobile telephone carriers that provide mobile wireless broadband service for mobile handsets offer a range of IP-based multimedia content and services -- including ring tones, music, games, video clips and video streaming -- that are specially designed to work with the small screens and limited keypads of mobile handsets. [FN53] This content is typically sold through a carrier-branded, carrier-controlled portal. Mobile handsets typically enable users to access a limited selection of web sites; in some cases, providers use filters to limit the web sites that a customer can access, and, in other cases, subscribers can enter any URL using a handset but the site may not be viewable due to software, processing, or other constraints of the device. On the other hand, wireless broadband Internet access services for laptop and desktop computers typically allow consumers to access the same applications they would have with a cable or wireline broadband Internet access connection, including full Internet access, e-mail, Internet file downloads, and corporate server access.

17. The number of reported subscribers to wireless broadband Internet access service continues to grow. [FN54] Wireless broadband technologies and the business models for their deployment continue to evolve at a rapid pace. There have been significant technical advances in recent years, and more are anticipated over the next few years. Further, we expect that wireless broadband will play a critical role in ensuring that broadband reaches rural and underserved areas, where it may be the most efficient means of delivering these services.

III. DISCUSSION

18. For the reasons discussed below, we classify wireless broadband Internet access service as an information service. We also find that the transmission component of wireless broadband Internet ***5909** access service is " telecommunications" and that the offering of the telecommunications transmission component as part of a functionally integrated Internet access service offering is not "telecommunications service" under section 3 of the Act. Further, we find that neither the Communications Act nor relevant precedent mandates that broadband transmission be a "telecommunications service" when provided to an ISP as a wholesale input for the ISP's own wireless broadband Internet access service offering, but that the provider may choose to offer it as such. We also find that mobile wireless broadband Internet access service is not a "commercial mobile service" under section 332 of the Act. Finally, we conclude that wireless broadband Internet access service is jurisdictionally interstate.

A. Classification of Wireless Broadband Internet Access Service as Information Service

19. *Definition*. For purposes of this proceeding, we define wireless broadband Internet access service as a service that uses spectrum, wireless facilities and wireless technologies to provide subscribers with high-speed (broadband) Internet access capabilities. [FN55] The definition we adopt here is consistent with the definition of broadband Internet access service that the Commission previously has adopted

in the wireline and cable contexts.

****7** 20. In both the cable and wireline contexts, the Commission focused on the end-user's experience in defining cable modem and wireline broadband Internet access service.[FN56] The Supreme Court upheld this approach in *Brand X*.[FN57] In the *Cable Modem Order*, the Commission stated that cable modem service was "a service that uses cable system facilities to provide residential subscribers with high-speed Internet access, as well as many applications or functions that can be used with high-speed Internet access."[FN58] In the *Wireline Broadband Internet Access Order*, the Commission defined wireline broadband Internet access service as "a service that uses existing or future wireline facilities of the telephone network to provide subscribers with [broadband] Internet access capabilities."[FN59]

21. We adopt a similar definition for wireless broadband Internet access and define wireless broadband Internet access service as a service that uses spectrum, wireless facilities and wireless technologies to provide subscribers with high-speed (broadband) Internet access capabilities. As with both cable and wireline Internet access, this definition appropriately focuses on the end user's experience, factoring in both the functional characteristics and speed of transmission associated with the service.

22. *Information Service*.We determine that wireless broadband Internet access service, ***5910** whether offered using mobile, portable, or fixed technologies, is an "information service" under the Communications Act. This finding is consistent with the Commission's classification of broadband Internet access services provided over cable, wireline, and BPL networks, and the Supreme Court's *Brand X* decision.

23. Under the Act, a service is subject to different regulatory frameworks depending on whether it constitutes an "information service" or a "telecommunications service." The Act defines "information service" as the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.[FN60]

24. The Act defines "telecommunications service" as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used" [FN61] and "telecommunications" as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."[FN62]

****8** 25. In the *Cable Modem Declaratory Ruling*, the *Wireline Broadband Internet Access Services Order*, and the *BPL-Enabled Internet Access Services Order*, the Commission addressed the proper classification for broadband Internet access service provided over cable system facilities, wireline facilities, and BPL facilities, respectively.[FN63] In each case, the Commission determined that the broadband Internet access service in question should be classified as an information service.[FN64] The Commission determined that cable, wireline, and BPL providers offered broadband Internet access as a single, integrated service (*i.e.*, Internet access) that inextricably combined the transmission of data over cable or wireline networks with computer processing, information provision, and computer interactivity, enabling end users to run a variety of Internet applications such as email, newsgroups, and interaction with or hosting of web pages.[FN65] These applications, the Commission held, "encompass the capability for 'generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications,' and taken together constitute

Hand: Verizon Wireless Launches "VCast" -- Nation's First and Only Consumer 3G Multimedia Service, Jan. 7, 2005, *available at* http://news.vzw.com/news/2005/01/pr2005-01-07.html.

FN54. As of June 30, 2006, satellite and wireless (both fixed and mobile) and powerline constituted 18.4 percent of high-speed lines, compared to 44.1% for cable, 34.9% for wireline ADSL, 1.5% for other wireline, and 1.1% for fiber. With regard to advanced services, satellite, wireless, and powerline constituted a far lower percentage -- 4.5%, compared to 55.9% for cable, 36.3% for wireline ADSL, 1.9% for other wireline, and 1.4% for fiber. *See* "High Speed Services for Internet Access: Status as of June 30, 2006," Report from the Industry Analysis and Technology Division, Wireline Competition Bureau, (rel. Jan. 2007). The mobile wireless subscriber percentages include some mobile telephone subscribers whose handset is enabled to operate on a high-speed (e.g., EV-DO or WCDMA/HSPDA) wireless network but who do not subscribe to mobile wireless high-speed Internet access service on a month-to-month or longer term basis.

FN55. This proceeding is limited to broadband Internet access services and does not implicate narrowband data services (*e.g.*, one-way paging). For purposes of this proceeding, we define the line between broadband and narrowband consistent with the Commission's definition in other contexts (*i.e.*, services with over 200 kbps capability in at least one direction).*See e.g., Wireline Broadband Internet Access Services Order*, 20 FCC Rcd at 14860 n.15; In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, *Second Report*, 15 FCC Rcd 20913, 20919-20 (2000) (*Second 706 Report*) (defining the term "high speed" to mean infrastructure capable of delivering a speed in excess of 200 kbps in at least one direction). Although this definition remains in effect today, the Commission may examine and modify it for future purposes. *Cf. Wireline Broadband Internet Access Services Order*, 20 FCC Rcd at 14860 n.15.

FN56. *See Cable Modem Declaratory Ruling*, 17 FCC Rcd at 4799;*Wireless Broadband Internet Access Services Order*, 20 FCC Rcd at 14860.

FN57. *NCTA v. Brand X*, 125 S. Ct. at 2703-05.

FN58. *See Cable Modem Declaratory Ruling*, 17 FCC Rcd at 4819. *See Second 706 Report*, 15 FCC Rcd at 20919-20 (defining the term "high speed" to mean infrastructure capable of delivering a speed in excess of 200 kbps in at least one direction).

FN59. *Wireless Broadband Internet Access Services Order*, 20 FCC Rcd at 14860, para. 9.

FN60. 47 U.S.C. § 153(20).

FN61. 47 U.S.C. § 153(46).

FN62. 47 U.S.C. § 153(43).

FN63. *See Cable Modem Declaratory Ruling*, 17 FCC Rcd at 4818-24, paras. 31-41; *Wireline Broadband Internet Access Services Order*, 20 FCC Rcd at 14862-65, paras. 12-17; *BPL-Enabled Internet Access Services Order*, 21 FCC Rcd at 13285-90, paras. 17-15.

FN64. *See Cable Modem Declaratory Ruling*, 17 FCC Rcd at 4822, para 38; *Wireline Broadband Internet Access Services Order*, 20 FCC Rcd at 14862, para. 12;*BPL-Enabled Internet Access Services Order*, 21 FCC Rcd at 13285, para. 8.

FN65. *See Cable Modem Declaratory Ruling*, 17 FCC Rcd at 4822, para. 38;*Wireline Broadband Internet Access Services Order*, 20 FCC Rcd at 14863, para. 14;*BPL-Enabled Internet Access Services Order*, 21 FCC Rcd at 13285-87, para. 9. *See also NCTA v. Brand X*, 125 S. Ct. at 2704 (stating

26 F.C.C.R. 16769, 26 FCC Rcd. 16769, 2011 WL 6288126 (F.C.C.)

Federal Communications Commission (F.C.C.)

Public Notice
****1** FCC ENFORCEMENT ADVISORY

DA 11-1992
Enforcement Advisory No. 2011-12

December 16, 2011

***16769 FCC FORM 477 FILING REQUIREMENTS**

PROVIDERS ARE REMINDED THAT THEY MUST FILE COMPLETE AND ACCURATE FORM 477 REPORTS EVERY SIX MONTHS

To promote compliance with the Commission's Form 477 filing rules, the FCC's Enforcement Bureau is issuing this Enforcement Advisory reminding all providers subject to the Form 477 filing requirement, particularly broadband providers, of the March 1, 2012 deadline for the next round of filings and providing guidance on how to file Form 477.[FN1] The collection of accurate broadband information is a critical tool for the Commission to meet its statutory obligations and to promote the availability of broadband to every American. Accordingly, the Commission reminds all broadband providers subject to Form 477 filing requirements of their obligations and warns that it will take appropriate enforcement action against non-compliant companies.

Who is Required to File Form 477?Four types of entities must file semi-annual Form 477 reports with the Commission: (1) facilities-based providers of broadband connections to end user locations; (2) providers of wired or fixed wireless local exchange telephone service; (3) providers of interconnected Voice over Internet Protocol service; and (4) providers of mobile telephony service.[FN2]

What Recurring Problems Have We Noticed?We have become aware that, in particular, not all facilities-based broadband providers are complying with their filing obligations. Recurring deficiencies include:

(1) failing to file data in a timely fashion, if at all;
(2) failing to have an official of the filing entity (rather than an agent) certify that all statements of fact contained in the Form 477 are true and correct, and failing to include the official's required contact information; and
(3) filing incomplete or inaccurate data, including failing to geocode subscribership data into the correct Census Tract, and re-submitting the same Form 477 filings in successive reporting periods without updating the data.

***16770** Broadband providers should have robust programs to collect and report the required information. The Bureau will take appropriate enforcement action when companies fail to comply with their Form 477 obligations.

What Are the Penalties that Apply?Companies are reminded that failure to comply with the Form 477 reporting requirements may subject them to monetary forfeitures of up to $150,000 for each violation or each day of a continuing violation, up to a maximum of $1,500,000.[FN3] False statements or misrepresentations to the Commission may be punishable by fine or imprisonment under Title 18 of the U.S. Code.

Need More Information?For more information on how to fill out or file Form 477, please contact Ellen Burton in the Industry Analysis and Technology Division, Wireline Competition Bureau, at 202-418-0958 or ellen.burton@fcc.gov, contact 477INFO@fcc.gov by e-mail, or link to http://transition.fcc.gov/form477/. For further information regarding compliance and enforcement of the Form

477 filing requirements, contact William Kehoe in the Investigations and Hearings Division, Enforcement Bureau, at 202-418-7122 or william.kehoe@fcc.gov. Media inquiries should be directed to David Fiske at 202-418-0513 or david.fiske@fcc.gov.

**2 To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), (202) 418-0432 (TTY). You may also contact the Enforcement Bureau on its TTY line at (202) 418-1148 for further information about this Enforcement Advisory, or the FCC on its TTY line at 1-888-TELL-FCC (1-888-835-5322) for further information about the Form 477 filing requirements.

Attachment: Frequently Asked Questions.

Issued by: Chief, Enforcement Bureau

FN1. By this Enforcement Advisory, the FCC's Enforcement Bureau highlights certain obligations under the Commission's Form 477 filing rules. Failure to receive this notice does not absolve a provider of the obligation to meet the requirements of the Communications Act of 1934, as amended, or the Commission's rules and orders. Companies should read the full text of the relevant Form 477 filing rules at 47 C.F.R. §§ 1.7001, 43.11, as well as the corresponding instructions at FCC FORM 477 INSTRUCTIONS FOR LOCAL TELEPHONE COMPETITION AND BROADBAND REPORTING (2011) (regarding filings due March 1, 2012), *available at* http://www.fcc.gov/Forms/Form477/477inst.pdf (*FCC Form 477 Instructions*). We attach a list of Frequently Asked Questions to provide guidance for the most common filing concerns.

FN2. *See*47 C.F.R. §§ 1.7001, 43.11; *FCC Form 477 Instructions* at 5, 14-16, 19.

FN3. 47 U.S.C. § 503(b)(2)(B); 47 C.F.R. § 180(b); *Amendment of Section 1.80(b) of the Commission's Rules, Adjustment of Forfeiture Maxima to Reflect Inflation*, Order, 23 FCC Rcd 9845 (2008).

***16771 ATTACHMENT**
FREQUENTLY ASKED QUESTIONS

The following frequently asked questions are addressed in this Enforcement Advisory:

What is Form 477, and where can I find it?
Who is required to file?
Is there an exemption for small companies?
When must my company file Form 477?
How do I fill out and file Form 477?

What is Form 477, and where can I find it?

FCC Form 477 is the Commission's primary tool for collecting data about broadband and local telephone networks and services. Form 477 collects information about broadband connections to end user locations, wired and wireless local telephone services, and interconnected Voice over Internet Protocol (VoIP) services, in individual states. Form 477 can be found at https://specialreports.fcc.gov/wcb/Form477/, and the Form 477 rules are found at 47 C.F.R. § 1.7001.

****3 Who is required to file?**

Four types of entities must file Form 477: (1) facilities-based providers of broadband connections to end user locations; (2) providers of wired or fixed wireless local exchange telephone service; (3) providers of VoIP service; and (4) providers of mobile telephony service.

For the purposes of Form 477 and the definition of facilities-based providers of broadband connections to end user locations:

> an entity is a "**facilities-based**" **provider** of broadband connections to end user locations if any of the following conditions are met: (1) it owns the portion of the physical facility that terminates at the end user location; (2) it obtains unbundled network elements (UNEs), special access lines, or oth-

er leased facilities that terminate at the end user location and provisions/equips them as broadband, or (3) it provisions/equips a broadband wireless channel to the end user location over licensed or unlicensed spectrum.

broadband connections are wired "lines" or wireless "channels" that enable the end user to receive information from and/or send information to the Internet at information transfer rates exceeding 200 kbps in at least one direction.

a **broadband** "**end user**" is a residential, business, institutional, or government entity that uses broadband services for its own purposes and does not resell such services to other entities or incorporate such services into retail Internet-access services. For purposes of Part I of Form 477, an Internet Service Provider (ISP) is not an "end user" of a broadband connection.

A non-exhaustive list of entities that must file Form 477 includes incumbent and competitive local exchange carriers (LECs), cable system operators, fixed wireless service providers (including "wireless ISPs"), terrestrial and satellite mobile wireless service providers, broadband radio service (BRS) providers, electric utilities, municipalities, and other entities. Such entities do not include equipment suppliers unless the equipment supplier uses the equipment to provision a broadband connection that it offers to the public for sale. Such entities also do not include providers of terrestrial fixed wireless services (*e.g.*, "Wi-Fi" and other wireless Ethernet, or wireless local area network, applications) that only enable local distribution and sharing of a premises broadband facility and do not include air-to-ground services.

Is there an exemption for small companies?

No, there is no exemption for small companies.

When must my company file Form 477?

Semi-annually. By March 1st of each year, providers must file data as of December 31 of the preceding year. By September 1st of each year, providers must file data as of June 30 of the same year.

***16772 How do I fill out and file Form 477?**

FCC Form 477 must be filed electronically using the Form 477 graphical user interface that is available on the Internet at the following address: http://www.fcc.gov/formpage.html. The interface also may be reached via the "Electronic Filing" link on the left-hand side of the "Form 477 Resources for Filers" page at http://www.fcc.gov/form477/. A tutorial on completing and filing Form 477 is also available at http://www.fcc.gov/Forms/Form477/477tutorial.pdf.

26 F.C.C.R. 16769, 26 FCC Rcd. 16769, 2011 WL 6288126 (F.C.C.)

END OF DOCUMENT

55 Rad. Reg. 2d (P & F) 104, 95 F.C.C.2d 584, 1983 WL 182962 (F.C.C.)

Federal Communications Commission (F.C.C.)

Memorandum Opinion, Order, and Statement of Principle s adopted regarding communications protocols under Section 64.702 of Commission's Rules and Regulations. The proceeding is an outgrowth of Second Computer Inquiry, 77 FCC 2d 384 (1979).

—*Communication Protocols*

GEN Docket No. 80-756
FCC 83-510

In the Matter of
Communications Protocols under Section 64.702 of the Commission's Rules and Regulations

Gen. Docket No. 80-756

MEMORANDUM OPINION, ORDER, AND STATEMENT OF PRINCIPLES

(Adopted: November 8, 1983; Released: November 21, 1983)

***584** BY THE COMMISSION: COMMISSIONER RIVERA ABSENT.

A. *Introduction*:

1. This proceeding is an outgrowth of the *Second Computer Inquiry* (hereafter, 'Computer II'), 77 FCC2d 384 (1979) (*Final Decision), aff'd on reconsideration*, 84 FCC2d 50 (1980) ('Reconsideration Decision'), 88 FCC2d 512 (1981), *aff'd sub nom., C.C.I.A.* v. *FCC*, 693 F.2d 198 (D.C. Cir. 1982), *cert. denied sub nom., Louisiana* v. *United States*, 103 S.Ct. 2109 (1983). In *Computer II*, we established a dichotomy between basic communications services which are the subject of regulation under Title II of the Communications Act of 1934 as amended, and enhanced services which are not subject to such regulation. Section 64.702(a) of our rules defines 'enhanced services' as:

> service offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information.

***585** Such services are not regulated under Title II of the Act.

2. The definition of enhanced services is fundamentally predicated on the concept that a basic service is an offering of transmission capacity between two or more points suitable for a user's transmission needs, and subject only to the technical parameters of fidelity or distortion; in offering a basic transmission service, a carrier essentially offers a pure transmission capability over a communications path that is virtually transparent in terms of its interaction with customer supplied information.*Final Decision*, 77 FCC2d at 420.[FN1] An enhanced service does more than this. It alters the subscriber's information or electrical signals, or it involves subscriber interaction with stored information.*Id.*, 420-21.

3. When we adopted the *Computer II* dichotomy, we acknowledged that the enhanced services definition would include not only the type of information alteration which is generally thought of as processing of data, but also alterations of subscribers' transmitted electrical signals. In essence, there is a continuum of possible transmission capabilities which encompasses transmission with no changes in these electrical signals (clearly, a basic service offering) and transmission involving creation, deletion and alteration of information (clearly, a service traditionally thought of as 'data processing', and within the enhanced service definition). Changes of a less clear nature involve changes to control in-

11. Fifth, considerable comment was received on our specific request for information concerning protocol conversion functions which might necessarily be inherent in the ability efficiently to connect packet-switched networks with one another.[FN7] As was pointed out in comments[FN8], if one such network is basic (i.e., produces at the output(s) unchanged information received at the input) protocol conversion issues are not raised in connection with that network; no protocol conversion is involved in such transparent transmission. And, if both such networks and enhanced, any protocol conversion function desired may be included by the vendors of such regulated offerings. However, we were concerned with a related issue, specifically the issue of whether an otherwise basic packet-switched network should, specially for internetwork interconnection, be permitted to generate an output to another network in a different protocol than its normal user inputs and outputs, with its associated intranetwork (or an alternative inter-networking protocol) intact—notwithstanding that such intermediate protocols are not part of the subscriber's transmitted information—to avoid inefficient double protocol conversion. Without this capability, there might be time delays in moving data across the network boundary, added costs, and preclusion of some types of transmission. Firms offering enhanced services which include protocol conversion capabilities were concerned with competitive ramifications of any approach which would permit AT&T to commingle protocol processing with its basic facilities. These firms argued that it is unnecessary to permit commingling of protocol conversion capabilities with the facilities that support the provision of basic services, that protocol processing capabilities are and will remain available from a variety of sources (other than the provider of the underlying basic services) if the existing constraints are maintained, and that to permit any such commingling would be more detrimental to the overall goals of *Computer II* than any benefits which might thereby be achieved.

****5** 12. And finally, the Department of Defense, as executive agent for the National Communications System[FN9] and for its own interests ***590** as a user, argued that it is to the advantage of users for basic services to include all forms of code and protocol conversion, to allow a single service vendor to assume end-to-end responsibility.

C. *Discussion*:

13. As noted, upon review of the comments received in this proceeding and of pertinent comments filed during the course of *Computer II*, we conclude that a change is not warranted in the *Computer II* rules which address protocol processing. In this section we address those limited circumstances where clarification of the *Computer II* rules is desirable, and where flexibility may be desirable.

1. Network Processing

14. In the *Final Decision*, we defined ‘protocols' as follows:

> Protocols govern the methods used for packaging the transmitted data in quanta, the rules for controlling the flow of information, and the format of headers and trailers surrounding the transmitted information and of separate control messages.

77 FCC2d at 420, n. 33. The definition of enhanced service includes, *inter alia*, ‘processing applications that act on the . . . protocol of the subscriber's transmitted information.’On reconsideration, we clarified that the definition of enhanced service does not reach protocol conversions which are performed internally to a carrier's network, and not manifested at the outputs of the network in end-to-end transmission, 84 FCC2d at 60-61.However, there are forms of processing within such networks which might be thought of as cprocessing' or ‘conversions' of protocols within the meaning of the definition of enhanced service, although they are not within the intent of the definition. For example, when the rules or tones corresponding to an MTS dialed number are used to route a call through the network, they are often changed in a variety of ways. The electrical signals (pulses or tones) corresponding to the dialed number might be thought of as part of the

'subscriber's transmitted information.' These signals, which represent the dialed number, are not explicitly transmitted to the dialed party when an MTS call is made.[FN10] Obviously, we did not intend to classify this form of action on subscribers' transmitted dialing (routing) information as enhanced as we stated that processing in the nature of 'functions necessary to route a message throught the network', 77 FCC2d at 418, may properly be associated with basic service. Similar examples of a potential but unintended reach of the literal rule were provided in connection with AT&T's 'control signals' proposal, (*e.g.*, tone-to-***591** pulse dialing signal conversions, and automatic identified dialing arrangements for PBXs), n. 6 above.

15. To reiterate the concept established in the *Final Decision*, a basic switched service may properly include those forms of protocol processing which are necessary for a switched service to be offered. Specifically, the network may accept and utilize premises equipment-generated signals which alert the network that the terminal is ready to generate or to receive a call (i.e., off hook-type signals), signals which tell the network the destination of the call (i.e., dialing-type signals), and signals which alert the network that a call has ended (i.e., on hook-type signals). This principle applies to entire calls made on a switched network (e.g., to MTS and WATS calls in telephony and to TWX and telex calls in telegraphy), and to individual messages which are, in essence, individual calls themselves (e.g., to packets in a packet-switched network). It should be emphasized that these network functions which are intrinsic to the provision of switched services do not involve the creation, deletion, or modification of message information, nor subscriber interaction with stored information. They may properly be associated with basic service without changing its nature, or with an enhanced service without changing the classification of the latter as unregulated under Title II of the Act.

2. Transitional Introduction of Technology

****6** 16. A second area warranting discussion concerns the introduction of new technology in basic service. Oftentimes, such technology is introduced piecemeal, and appropriate conversion equipment is used within the network to maintain compatibility. For example, digital transmission technology has for some time been used within the telephone network to support voice transmission, but the network interfaces to subscriber equipment have continued to be analog. Requisite analog-to-digital and digital-to-analog conversion equipment has been used within the network, but the internal digital signals have not been manifested at subscribers' loop interfaces. However, there is currently a trend towards the use of digital loops which will interface with customer premises equipment using a digital protocol interface. A potential problem might arise if a call were placed between a user of equipment which employs such a digital interface and a user using the more traditional analog interface (with appropriate conversion equipment employed within the network): there would be a net protocol conversion within the network for such a call to proceed, i.e., from a digital to an analog protocol between the ends of that call. This could be thought of as invoking the definition of enhanced service, although the service itself would remain a switched message service otherwise unchanged except for the characteristics of the electrical interface. to ensure that this potential result ***592** does not create disincentives for introduction of new technology. Accordingly, in circumstances involving no change in an existing service, but merely a change in electrical interface characteristics to facilitate transitional introduction of new technology, we are prepared to act favorably and expeditiously on petitions for waiver of the *Computer II* rules to ensure that new technology to implement an existing service can and will be employed.

3. Other Forms of Protocol Conversion

18. Appropriate treatment of other forms of protocol conversion which carriers might seek to associate with basic service is less clear. In the *Notice*, we proposed to retain our *Computer II* treatment of protocol conversion as an enhanced service, but we

20 F.C.C.R. 4826, 20 FCC Rcd. 4826, 35 Communications Reg. (P&F) 72, 2005 WL 433235 (F.C.C.)

Federal Communications Commission (F.C.C.)

Order and Notice of Proposed Rulemaking

****1** IN THE MATTER OF AT&T CORP. PETITION FOR DECLARATORY RULING REGARDING ENHANCED PREPAID CALLING CARD SERVICES

WC Docket No. 03-133

REGULATION OF PREPAID CALLING CARD SERVICES

WC Docket No. 05-68
FCC 05-41

Adopted: February 16, 2005

Released: February 23, 2005
Comment Date: 30 days after publication in the Federal Register
Reply Comment Date: 60 days after publication in the Federal Register

***4826** By the Commission: Chairman Powell and Commissioner Adelstein issuing separate statements; Commissioner Copps concurring and issuing a separate statement.

I. INTRODUCTION

1. On May 15, 2003, AT&T filed a petition requesting a declaratory ruling that intrastate access charges do not apply to calls made using its so-called "enhanced" prepaid calling cards when the calling card platform is located outside the state in which either the calling or the called party is located.[FN1] For the reasons set forth below, we deny the petition. We limit our decision in this Order to the calling card service described in AT&T's original petition.

2. On November 22, 2004, AT&T requested a similar ruling with regard to two new variants to its "enhanced" calling card offering.[FN2] These changes to AT&T's calling card services may be significant for purposes of regulatory classification and jurisdiction. Rather than try to address each possible type of calling card offering through a declaratory ruling, we are instead initiating a rulemaking to consider the classification and jurisdiction of new forms of prepaid calling cards.

II. BACKGROUND

3. Prepaid calling cards provide consumers with the ability to place long-distance calls without presubscribing to an interexchange carrier (IXC) or using a credit card. A calling card customer typically ***4827** dials a number to reach the service provider's centralized switching platform and the platform requests the unique personal identification number associated with the card for purposes of verification and billing. When prompted by the platform, the customer dials the destination number and the platform routes the call to the intended recipient.

4. To date, calling card services have been regulated by the Commission as telecommunications services because they provide transmission of information, without a change in form or content, for a fee directly to the public.[FN3] Consistent with this classification, the Commission requires carriers to report revenues from prepaid calling cards on the forms submitted to the Universal Service Administrative Company (USAC) for purposes of universal service contributions.[FN4]

5. Calling cards have been considered "jurisdictionally mixed" telecommunications services because they enable the caller to make interstate and intrastate calls.[FN5] For purposes of determining the jurisdiction of calling card calls, the Commission has applied an "end-to-end" analysis, classifying long-distance calls as jurisdictionally interstate or intrastate based on the endpoints, not the actual path, of each complete communication.[FN6]

Under the Commission's end-to-end analysis, intrastate access charges apply when customers use prepaid calling cards to make interexchange calls that originate and terminate within the same state, even if the centralized switching platform is located in a different state.

****2** 6. AT&T offers what it calls an "enhanced" prepaid calling card service. During call set-up, the customer hears an advertisement from the retailer that sold the card.[FN7] Only after the advertisement is ***4828** complete can the customer dial the destination phone number.[FN8] Other than the communication of the advertising message to the caller, there is no material difference between AT&T's "enhanced" prepaid calling cards at issue in this Order and other prepaid calling cards.

7. On May 15, 2003, AT&T filed a petition asking the Commission for a declaratory ruling that any call using AT&T's "enhanced" prepaid calling card platform is jurisdictionally interstate, and therefore exempt from intrastate access charges, when the platform is located outside the state in which the calling or called parties are located.[FN9] Specifically, AT&T argues in its petition that when an "enhanced" prepaid calling card customer places a call to someone in the same state, the call should be considered jurisdictionally interstate because it consists of two calls (one between the caller and the platform and one between the platform and the called party), at least one of which is interstate.[FN10] Alternatively, AT&T argues, even if the call is deemed to be a single call, it is jurisdictionally interstate.[FN11]

8. Both of AT&T's arguments are based on the assumption that the "enhanced" prepaid card services platform engages in its own communication with the cardholder, separate from the communication between the calling party and the called party.[FN12] This communication occurs even if the called party does not answer, or if the calling party hangs up before reaching the called party.[FN13] AT&T argues that this first stage of the call creates an endpoint for purposes of the Commission's jurisdictional analysis.

9. AT&T also argues that its "enhanced" prepaid calling card service should be classified as an "information service" within the meaning of the Act and the Commission's rules, and that any underlying telecommunications are jurisdictionally interstate.[FN14] As with its jurisdictional arguments, AT&T's ***4829** classification argument is based on the assertion that each time an "enhanced" prepaid calling card is used, the centralized switching platform engages in its own communications with the cardholder by sending the advertising message.[FN15] AT&T argues that this service falls within the Commission's definition of an information service because it provides "additional, different or restructured information" unrelated to routing or billing and it "involve[s] subscriber interaction with stored information."[FN16]

10. Finally, AT&T notes that prepaid calling cards generally provide an important form of "universal service" to many low-income and minority households.[FN17] AT&T argues that the application of intrastate access charges to its "enhanced" prepaid calling cards might cause it to raise the price of the cards, which would make the availability of this telecommunications service prohibitively expensive to the significant numbers of underprivileged groups that rely on it.[FN18] Similarly, AT&T argues that military personnel often use prepaid calling cards and that they would be adversely affected by a decision denying the petition.[FN19]

****3** 11. On November 22, 2004, AT&T filed an *ex parte* letter amending its petition to request an additional ruling on two new "variants" of its "enhanced" prepaid calling card service. In the first variant, rather than immediately sending the advertising message, the platform provides the caller with a series of options other than making a call (e.g., "press 1 to learn more about specials at ABC stores; press 2 to add minutes to your card").[FN20] AT&T recently added this type of capability to cards it offers through a partnership with Wal-Mart Stores, Inc., including an option for customers to

donate minutes to troops serving overseas.[FN21] When the chosen option is completed, or if no option is chosen, the caller is directed to dial the destination number and at that point the platform transmits the advertising message in the same manner as the original version of the service.

12. In the second variant of the service, the service provided to the customer is the same as the service described in the original petition, but some of the transport is provided over AT&T's Internet backbone using Internet Protocol technology.[FN22] AT&T states that these calls are not dialed on a 1+ basis ***4830** and therefore are not covered by the Commission's prior determination that "IP-in-the-middle" calls are telecommunications services, not information services.[FN23]

III. ORDER

13. In this portion of the item we address the classification and jurisdiction of the "enhanced" prepaid calling service identified in AT&T's petition as filed. In the Notice of Proposed Rulemaking (NPRM) portion of the item we consider issues related to the variants of the service identified in AT&T's November 22 amendment to the petition and other possible types of calling card offerings.

A. Classification of AT&T's Service

14. We find that the "enhanced" calling card service described in AT&T's original petition is a telecommunications service as defined by the Act. AT&T offers "telecommunications" because it provides "transmission, between or among points specified by the user of information of the user's choosing, without change in the form or content of the information as sent and received."[FN24] And its offering constitutes a "telecommunications service" because it offers "telecommunications for a fee directly to the public."[FN25]

15. We are not persuaded by AT&T's claim that inserting advertisements in a calling card service transforms that service into an information service under the Act and our rules.[FN26] As an initial matter, we find that AT&T's service does not meet the statutory definition of an information service because AT&T is not "offering" any "capability" with respect to the advertising message. As noted by Sprint, the packaging materials for AT&T's "enhanced" prepaid calling cards do not even mention their possible use as a device for listening to advertisements.[FN27] Because the advertising message is provided automatically, without the advance knowledge or consent of the customer, there is no "offer" to the customer of anything other than telephone service, nor is the customer provided with the "capability" to do anything other than make a telephone call.

****4 *4831** 16. Furthermore, we find that in this case the provision of the advertising message is an adjunct-to-basic service, and therefore not an "enhanced service" under the Commission's rules. Adjunct-to-basic services are services that are "incidental" to an underlying telecommunications service and do not "alter[] their fundamental character" even if they may meet the literal definition of an information service or enhanced service.[FN28] The Commission has found that Congress preserved the Commission's pre-1996 Act treatment of "adjunct-to-basic" services as telecommunications services, rather than information services.[FN29] We find that the advertising message provided to the calling party in this case is incidental to the underlying service offered to the cardholder and does not in any way alter the fundamental character of that telecommunications service.[FN30] From the customer's perspective, the advertising message is merely a necessary precondition to placing a telephone call and therefore the service should be classified as a telecommunications service.[FN31]

17. The cases AT&T cites in support of its argument that the "enhanced" calling card service is an information service all are distinguishable. For example, we reject AT&T's argument that we are compelled to follow the Commission's decision in the *Talking Yellow Pages* case that stored advertisements played from a centralized switching platform create an information service.[FN32] In *Talking*

Re Second Computer Inquiry
Docket No. 20828

Federal Communications Commission
April 7, 1980

ORDER adopting regulations defining ‘basic’ and ‘enhanced’ communications services, deregulating customer-premises equipment, and authorizing communications common carriers to provide enhanced services and customer-premises equipment, subject to commission authority to require certain carriers to furnish enhanced services by resale through a separate corporate subsidiary.

P.U.R. Headnote and Classification

1. SERVICE s433. -- Communications -- Classes -- Basic and enhanced services.
F.C.C. 1980
Communication services should be divided into one of two separate classes: (1) ‘basic’ and (2) ‘enhanced’ services.

Re Second Computer Inquiry 1980 WL 356789 (F.C.C.), 77 F.C.C.2d 384

P.U.R. Headnote and Classification

2. SERVICE s433. -- Communications -- Basic transmission -- Generally.
F.F.C. 1980
A ‘basic’ communications service includes only the offering of transmission capacity between two or more points suitable for a user's transmission needs and subject only to the technical parameters of fidelity or distortion criteria, or other conditioning; memory or storage within the network is used only to facilitate the transmission of the information from origination to destination, but the use of companding techniques, bandwidth compression techniques circuit switching, message or packet switching, or error control techniques that facilitate the economical or reliable movement of information does not alter the nature of a basic service.

Re Second Computer Inquiry 1980 WL 356789 (F.C.C.), 77 F.C.C.2d 384 1980 WL 356789 (F.C.C.), 77 F.C.C.2d 384

P.U.R. Headnote and Classification

3. SERVICE s433. -- Communications -- Enhanced services -- Generally.
F.C.C. 1980
An ‘enhanced’ communications service is any service offering over the telecommunications network which is more than a basic transmission service; computer processing applications may be used to act on the content, code, protocol, or other aspects of a subscriber's information, and additional, different, or restructured information may be provided to the subscriber.

Re Second Computer Inquiry 1980 WL 356789 (F.C.C.), 77 F.C.C.2d 384

P.U.R. Headnote and Classification

4. SERVICE s433. -- Telephones -- Optional services -- Generally.
F.F.C. 1980
Although telephone companies are not foreclosed from providing optional services to facilitate the use of traditional telephone services, such options are subject to the basic-enhanced service dichotomy; for example, voice storage and automatic call answering within the telephone network constitute enhanced services.

Re Second Computer Inquiry 1980 WL 356789 (F.C.C.), 77 F.C.C.2d 384

P.U.R. Headnote and Classification

5. SERVICE s433. -- Communications -- Code and protocol conversion -- Enhanced services.
F.F.C. 1980
Code and protocol conversion constitute enhancements to basic communications transmission services and are appropriately associated with ‘enhanced’ services.

Re Second Computer Inquiry 1980 WL 356789

supports our adopting a basic-enhanced dichotomy for network services. In going forward with a regulatory scheme that distinguishes a carrier's basic transmission services from its enhanced services, it behooves us to make clear our perception of what constitutes a basic service. In so doing we are mindful of the arguments raised by various parties that the basic service category should be broadly construed so as to not limit the scope of regulated services. However, based on our review of the comments and our determination, infra, that enhanced services should not be subject to regulation, we conclude that ***179** the parameters of a basic service should be dictated by the purposes of the act and the statutory scheme set forth in Title II for the regulation of common carrier communications services.

[2] 93. A basic transmission service is one that is limited to the common carrier offering of transmission capacity for the movement of information. In offering this capacity, a communications path is provided for the analog or digital transmission of voice, data, video, etc., information. Different types of basic services are offered by carriers depending on (a) the bandwidth desired, (b) the analog and/or digital capabilities of the transmission medium, (c) the fidelity, distortion, or other conditioning parameters of the communications channel to achieve a specified transmission quality, and (d) the amount of transmission delay acceptable to the user. Under these criteria a subscriber is afforded the transmission capacity to suit its particular communications needs.

94. Traditionally, transmission capacity has been offered for discrete services, such as telephone service. With the incorporation of digital technology into the telephone network and the inclusion of computer processing capabilities into both terminal equipment located in the customer's premises and the equipment making up a firm's ‘network,’ this is no longer the case. Telecommunications service is no longer just ‘plain old telephone service’ to the user. A subscriber may use telephone service to transmit voice or data. Both domestic and international networks allow for voice and data use of the same communications path. FN32 Thus in providing a communications service, carriers no longer control the use to which the transmission medium is put. More and more the thrust is for carriers to provide bandwidth or data rate capacity adequate to accommodate a subscriber's communications needs, regardless of whether subscribers use it for voice, data, video, facsimile, or other forms of transmission.

95. Accordingly, we believe that a basic transmission service should be limited to the offering of transmission capacity between two or more points suitable for a user's transmission needs and subject only to the technical parameters of fidelity or distortion criteria, or other conditioning. Use internal to the carrier's facility of companding techniques, bandwidth compression techniques, circuit switching, message or packet switching, error control techniques, etc., that facilitate economical, reliable movement of information does not alter the nature of the basic service. In the provision of a basic transmission service, memory or storage within the network is used only to facilitate the transmission of the information from the origination to its destination, and the carrier's basic transmission network is not used as an information storage system. Thus, in a basic service, once information is given to the communication ***180** facility, its progress towards the destination is subject to only those delays caused by congestion within the network or transmission priorities given by the originator.

96. In offering a basic transmission service, therefore, a carrier essentially offers a pure transmission capability over a communications path that is virtually transparent in terms of its interaction with customer-supplied information. It is clear that in defining a basic service in this manner, we are in no way restricting a carrier's ability to take advantage of advancements in technology in designing its telecommunications network. Consistent with our Tentative Decision, a carrier maintains its flexibility to structure its communications network such that the network efficiently functions as the basic building block upon which it (in the form of a separate subsidiary in some cases) as well as other service vendors can add computer facilities to perform myriad combinations and permutations of information processing, data processing, process control, and other enhanced services.

[3] 97. Under this scenario, the regulatory demarcation

between basic and enhanced services becomes relatively clear-cut. An enhanced service is any offering over the telecommunications network which is more than a basic transmission service. In an enhanced service, for example, computer processing applications are used to act on the content, code, protocol, and other aspects of the subscriber's information. FN33 In these services additional, different, or restructured information may be provided the subscriber through various processing applications performed on the transmitted information, or other actions can be taken by either the vendor or the subscriber based on the content of the information transmitted through editing, formatting, etc. Moreover, in an enhanced service the content of the information need not be changed and may simply involve subscriber interaction with stored information. Many enhanced services feature voice or data storage and retrieval applications, such as in a 'mailbox' service. FN34 This is particularly applicable in time-sharing services where the computer facilities are structured in a manner such that the customer or vendor can write its own customized programs and, in effect, use the time-sharing network for a variety of electronic message service applications. Thus the kinds of enhanced store and forward services that can be offered are many and varied. FN35

[4] 98. As we stated in Par 90, supra, ***181** the 'voice' category was intended to distinguish traditional telephone service consisting of real time human-to-human oral conversation from other basic and various enhanced services. At footnote 60 of the Tentative Decision, we stated that we are not foreclosing enhanced processing applications from being performed in conjunction with 'voice' service. We indicated that 'computer processing applications such as call forwarding, speed calling, directory assistance, itemized billing, traffic management studies, voice encryption, etc., may be used in conjunction with 'voice' service.'Id. The intent was to recognize that while POTS is a basic service, there are ancillary services directly related to its provision that do not raise questions about the fundamental communications or data processing nature of a given service. Accordingly, we are not here foreclosing telephone companies from providing to consumers optional services to facilitate their use of traditional telephone service. Any option that changes the nature of such telephone service is subject to the basic-enhanced dichotomy and their respective regulatory schemes. For example, voice storage or automatic call answering within the network would be enhanced services. See Par 97, supra. Thus any tariffed optional services must not change the nature of traditional telephone service. FN36

[5] 99. A few comments question the legitimacy of not allowing code and protocal conversion as part of a basic service. While we have concluded that code and protocol conversion are enhancements to a basic service, we recognize that they also increase the utility of the communications channel by allowing disparate terminals to communicate with one another. Because the universe of terminals that can communicate with one another is larger where such capabilities are offered, arguments can be made that these functions should be allowed as part of a communications service. We have weighed the relative merits of permitting code and protocol conversion as part of a basic service and affirm our determination in the Tentative Decision, at Par 69, that these capabilities are more appropriately associated with the provision of enhanced services. This conclusion is premised on two factors. First, there is the likelihood of distorting the regulatory distinction between basic and enhanced services if protocol conversion is performed as part of a basic service. Second and more significant, however, is the fact that this determination has implications only for those carriers that remain subject to resale structure and the maximum separation policy. (See discussion in Part D, infra.)Entities not so subject may offer protocol conversion to all customers regardless of whether it is viewed under our rules as basic or enhanced. The most significant effect our decision will have is to require some carriers to offer protocol conversion and like enhancements to their basic services through separate subsidiaries. No compelling evidence has been submitted in this proceeding that this separation will impose significant efficiency losses on the carrier or the public it serves. If at some future time evidence to the contrary is submitted, we are free to reexamine the public interest ***182** ramifications and regulatory implications of allowing a given protocol conversion as part of basic services. FN37

23 F.C.C.R. 11591, 23 FCC Rcd. 11591, 45 Communications Reg. (P&F) 461, 2008 WL 2553510 (F.C.C.)

Federal Communications Commission (F.C.C.)

Report and Order and Further Notice of Proposed Rulemaking

****1** IN THE MATTER OF TELECOMMUNICATIONS RELAY SERVICES AND SPEECH-TO-SPEECH SERVICES FOR INDIVIDUALS WITH HEARING AND SPEECH DISABILITIES

CG Docket No. 03-123

E911 REQUIREMENTS FOR IP-ENABLED SERVICE PROVIDERS

WC Docket No. 05-196
FCC 08-151

Adopted: June 11, 2008

Released: June 24, 2008
Comment Date: [21 days after publication in the Federal Register]
Reply Comment Date: [36 days after publication in the Federal Register]

***11591** By the Commission: Chairman Martin and Commissioners Copps, Adelstein and Tate issuing separate statements.

***11592 I. INTRODUCTION**

1. In this *Report and Order*(*Order*), we adopt a system for assigning users of Internet-based Telecommunications Relay Services (TRS),[FN1] specifically Video Relay Service (VRS)[FN2] and Internet Protocol (IP) Relay,[FN3] ten-digit telephone numbers linked to the North American Numbering Plan (NANP).[FN4] The numbering system adopted herein will further the functional equivalency mandate by ensuring that Internet-based TRS[FN5] users can be reached by voice telephone users in the same way that ***11593** voice telephone users are called. The measures we adopt today also are intended to ensure that emergency calls placed by Internet-based TRS users will be routed directly and automatically to the appropriate emergency services authorities by Internet-based TRS providers. Consistent with the *Interim Emergency Call Handling Order*,[FN6] we require that the ten-digit numbering plan set forth herein be implemented no later than December 31, 2008. In the accompanying *Further Notice of Proposed Rulemaking* (*Further Notice*), we seek comment on additional issues relating to the assignment and administration of ten-digit telephone numbers for Internet-based TRS.

II. BACKGROUND

2. *Telecommunications Relay Services*.Title IV of the Americans with Disabilities Act of 1990 (ADA) requires the creation of a nationwide TRS program to allow persons with hearing and speech disabilities access to the nation's telephone network.[FN7] Title IV requires that TRS be available to the extent possible and in the most efficient manner,[FN8] and that relay services offer access to the telephone system that is “functionally equivalent” to voice telephone services, as reflected in the TRS mandatory minimum standards.[FN9] The functional equivalency standard serves as the benchmark in determining the services and features TRS providers must offer to consumers.[FN10] TRS is now available nationwide, twenty-four hours a day, seven days a week, so that persons with hearing and speech disabilities can access the telephone system to make calls to, and receive calls from, voice telephone users. In some circumstances, TRS equipment also permits persons with hearing disabilities to communicate directly with each other (*i.e.*, peer-to-peer or deaf-to-deaf calls).

****2** 3. When Congress enacted section 225, relay calls were placed using a text telephone device (TTY) connected to the Public Switched Telephone Network (PSTN). Since then, the Commission has recognized new forms of TRS, including Internet-based forms of TRS such as VRS,[FN11] IP Relay,[FN12] and IP CTS.[FN13]

(urging the Commission "simply [to] amend" section 64.2003(o) of its rules to include TRS providers as "telecommunications carriers" subject to the Commission's CPNI rules for purposes of that subpart).

FN359. Sorenson Rules *Ex Parte* at 2 & Attach. 1 (proposing revisions to the CPNI rules).

FN360. 47 U.S.C. § 225(a)(3) (definition of TRS). In its *ex parte*, Sorenson proposes to define "point-to-point" service as "a video service that facilitates the transmission of non-relay calls in which a video end-user device (*e.g.*, a videophone) connects to another such device via a ten-digit NANP number that has been assigned to the called device, allowing deaf, hard-of-hearing, speech-disabled, and other individuals to communicate directly in real-time via sign language without the assistance of an interpreter."Sorenson Rules *Ex Parte*, Attach. 1, at 2.

FN361. *See United States v. Southwestern Cable Co.*, 392 U.S. 157, 177-78 (1968).

FN362. *EPIC CPNI Order*, 22 FCC Rcd at 6954-57, paras. 54-59. In using ancillary jurisdiction to extend the Commission's CPNI rules to interconnected VoIP providers, the Commission found that: (1) interconnected VoIP service "is increasingly used to replace analog voice service," and that it is therefore reasonable for American consumers to expect that their calls will be private irrespective of whether they are using traditional telephone services or interconnected VoIP services; (2) because the CPNI of interconnected VoIP customers includes call histories to or from traditional phone service users, extending section 222's protection to interconnected VoIP service customers is necessary to protect the privacy of those traditional phone service users; and (3) applying the CPNI protections to interconnected VoIP providers may encourage customer migration to VoIP services and therefore spur technological development in the digital telephone realm. *Id.* at 6956-57, paras. 55-59.

FN363. Because the question of the proper classification of particular services as "telecommunications services" or "information services" under the Communications Act is beyond the scope of this proceeding, we examine our authority to extend the application of the CPNI rules to TRS only under our Title I ancillary authority.

FN364. *See, e.g.*, *2000 TRS Order*, 15 FCC Rcd at 5175, para. 83 (stating that customer profile information "shall not be used for any purpose other than to connect the TRS user, for whom the profile exists, with the called parties [identified] by that TRS user").

FN365. *2007 TRS Rate Methodology Order*, 22 FCC Rcd at 20173-75, paras. 89-94 (internal footnotes omitted); *see also Consumer Contacts Declaratory Ruling*, FCC 08-138, para. 13.

FN366. 47 C.F.R. § 64.2005(a).

FN367. 47 C.F.R. § 64.2005(c)(3). Such "adjunct-to-basic services" may include, among others, "speed dialing, computer-provided directory assistance, call monitoring, call tracing, call blocking, call return, repeat dialing, call tracking, call waiting, caller I.D., call forwarding, and certain centrex features."*Id.*

FN368. 47 C.F.R. §§ 52.17, 52.32 (requiring carrier contributions to support numbering administration and number portability); 47 C.F.R. § 52.33 (setting forth method by which carriers may recover number portability costs).

FN369. 47 U.S.C. § 225(d)(1)(D).

FN370. *See Electronic Filing of Documents in Rulemaking Proceedings*, GC Docket No. 97-113, Report and Order, 13 FCC Rcd 11322, 11326, para. 8 (Apr. 6, 1998).

FN371. *See*47 C.F.R. § 1.49.

FN372. 47 C.F.R. §§ 1.200 *et seq.*

FN373. *See*47 C.F.R. § 1.1206(b)(2).

FN374. *See*5 U.S.C. § 604.

FN375. *See*5 U.S.C. § 603.

FN376. Public Law 107-198, *see*44 U.S.C. § 3506(c)(4)