Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Petition for Declaratory Ruling	)	RM-_____
That Facilities-Based Interconnected	)	
VoIP and Nomadic Interconnected	)	
VoIP Are Title II Services	)	

PETITION OF PUBLIC KNOWLEDGE, COMMUNICATIONS WORKERS OF AMERICA, CENTER FOR RURAL STRATEGIES, NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES, NEXT CENTURY CITIES, THE PUBLIC UTILITY LAW PROJECT OF NEW YORK, AND THE UTILITY REFORM NETWORK

Harold Feld
Sr. Vice President
Nicholas P. Garcia
Policy Counsel
Kathleen Burke*
Policy Counsel
**Admitted to the Bar under D.C. App. R. 46-A (Emergency Examination Waiver)*
Public Knowledge
1818 N Street, NW
Suite 410
(202) 861-0020
Washington, DC 20036

March 2, 2022

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Pursuant to Rule 1.2,[1] Public Knowledge, Communications Workers of America, Center for Rural Strategies, National Association of State Utility Consumer Advocates, Next Century Cities, the Public Utility Law Project of New York, and the Utility Reform Network submit this Petition for Declaratory Ruling.

SUMMARY

The time has come for the Federal Communications Commission ("FCC" or "Commission") to make the classification decision it has put off for over 15 years. The FCC's failure to classify interconnected Voice over Internet Protocol ("VoIP") has already frustrated the ability to effectively address the scourge of robocalls, and created confusion among the states over whether the Commission has preempted their authority to regulate interconnected VoIP services. Now, as Local Exchange Carriers ("LECs") terminate their remaining legacy services and move entirely to interconnected VoIP, the FCC's failure to classify interconnected VoIP

[1] 47 C.F.R. § 1.2.

threatens the ability of the FCC to fulfill the most basic responsibilities entrusted to it by Congress.

VoIP is a broad term that encapsulates a variety of technologies that allow for the transmission of real-time voice communication. To an ordinary consumer, there is no discernible difference between a call that uses interconnected VoIP, traditional copper wire landline, or a mobile wireless network. From the consumer's perspective, regardless of what voice service they use, they are simply making a phone call, connecting to and talking with another party in real-time on their phone. Yet, despite the lack of any meaningful difference between interconnected VoIP and traditional telephone services, the Commission continues to treat interconnected VoIP services differently. Why? Because the Commission refuses to adopt a specific classification of interconnected VoIP service; instead, for over 15 years, the Commission has primarily relied on ad hoc application of rules based on its ancillary authority under Title I of the Communications Act to regulate interconnected VoIP.

As part of the Telecommunications Act of 1996, Congress defined "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."[2] Since the passage of the Act in 1996, voice telephone communication—whether wired or wireless—has served as the prototypical exemplar of telecommunications, and thus voice telephone service has been the prototypical "telecommunications service." At the same time, however, Congress deliberately used expansive terms that focused exclusively on the service

[2] P.L. 104-104, codified at 47 U.S.C. § 153(50). Telecommunications Service is the offering of telecommunications, for a fee, to the public. 47 U.S.C. § 153(53).

provided, not the technology used to provide the service. These technology-neutral definitions implicitly recognize that services are defined by what they do and how they are used—not by a hyper-technical examination of underlying technologies. Thus, while traditional telephone service may be the exemplar of telecommunications, it was never intended to be the ***only*** telecommunications service. At a minimum, Congress intended the FCC to regulate any service that behaves like a traditional telephone service—regardless of the underlying technology—as a telecommunications service.[3]

Interconnected VoIP services[4] are at this point virtually indistinguishable from other forms of telephone service. Interconnected VoIP services are used like any other telephone service: for real-time, bidirectional voice communication to one or more called parties specified by the user, without change in form or content that any end-user can discern.[5] VoIP service providers hold themselves out to the public as providers of voice communications services for a

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[3] *See Virgin Islands Tel. Corp. v. FCC*, 198 F.3d 121 (D.C. Cir. 1999) (Congress intended "telecommunications service" to have traditional meaning of "common carrier"). *See also Ad Hoc Telecommunications Users Committee v. FCC*, 680 F.2d 790 (D.C. Cir. 1982) (like services, with consumer perception as "lynchpin," should be regulated alike). By contrast, where Congress intended to limit application of a statute to "telephone service," Congress had no trouble doing so explicitly. *See* 47 U.S.C. § 153(54) (defining "telephone exchange service"); § 153(55)(defining "telephone toll service").

[4] 47 U.S.C. § 153(25) defines "interconnected VoIP" as having the same meaning as Rule 9.3. Where appropriate, the Petition distinguishes between the types of interconnected VoIP using the definitions established by the Commission.

[5] By contrast, VoIP applications that do not use traditional telephone numbers, so called "over-the-top" services such as Zoom, are easily distinguished by consumers from traditional phone services. *See Petition for Declaratory Ruling That Pulver.com's Free World Dial Up Service Is Neither Telecommunications Nor A Telecommunications Service*, WC Docket No. 03-45, Memorandum Opinion and Order, 19 FCC Rcd 3307 (2004) ("*Pulver Petition*") (distinguishing between services that require an Internet connection and do not use North American Numbering Plan ["NANP"] phone numbers and those that mimic traditional phone service).

fee, and the technical details of how it might differ from traditional telephone service remain entirely opaque to their customers. As such, interconnected VoIP clearly meets the functional definitions of telecommunications and telecommunications service laid out by the Telecommunications Act, yet it has languished in an unclassified twilight state for many years. That can no longer remain the state of regulation for this service.

As carriers phase out the antiquated copper loop infrastructure of the traditional wired telephone network, classifying and regulating interconnected VoIP as a telecommunications service are now imperative. Without definitively incorporating interconnected VoIP service into the telecommunications service regulatory framework, the Commission faces three distinct kinds of problems: (1) technical problems, related to lack of—or type of—interconnection, which will degrade service quality and hamper regulatory goals like the prevention of spoofed robocalling; (2) competition problems stemming from lack of regulations to ensure affordable access to infrastructure for competitive carriers; and, perhaps most critically; (3) a crisis of legal authority to maintain even the existing regulations of VoIP service, which have been pieced together through ad hoc rulings and reliance on ancillary authority.

As the physical structures and technologies that provide telecommunications services to the American people change and modernize, the Commission must act to ensure that, no matter what the physical substrate is or technical implementation details are, it is able to effectively regulate the essential communication services that people rely upon. Congress created a sweepingly broad, technology-neutral definition of "telecommunications" precisely so that the Commission could continue to maintain oversight of our national critical infrastructure. A functional and competitive telephone system relies on rules that require interconnection between

networks and access to infrastructure for competing providers. Without these regulations, service degrades and competition decreases, causing consumers to suffer the consequences.

Until now, the Commission has primarily relied on its "ancillary jurisdiction" over the legacy phone network to exercise necessary regulatory oversight over interconnected VoIP services. The Background section defines key terms and concepts while detailing this history. This section provides the historical context necessary to understand all of the issues that are impacted by the FCC's failure to reclassify VoIP as a Title II service. It essentially sets the stage for this Petition by illustrating the "ancillary jurisdiction" approach the Commission has historically taken.

The Argument Section explains why the Commission must act now to reclassify VoIP as a Title II service. Part I.A explains why the current approach will no longer suffice. Legacy telephone service providers are quickly phasing out their legacy telephone service. When carriers complete the "sunset" of traditional legacy telephone service, the Commission will no longer have a basis in Title II to regulate interconnected VoIP services through ancillary jurisdiction. When that occurs, the FCC will lose its jurisdiction over interconnected VoIP services.[6]

Part I.B explores the impact of the failure to classify interconnected VoIP as a Title II service on the Commission's existing regulations and on state authority to oversee our communications infrastructure and protect the public in light of other developments in the telecommunications ecosystem. Because Title II jurisdiction over Commercial Mobile Radio Services ("CMRS") depends on the presence of a separate Title II "public switched network" with which to interconnect, the "sunset" of the Public Switched Telephone Network ("PSTN")

[6] *See American Library Association v. FCC*, 406 F.3d 689, 702-05 (D.C. Cir. 2005).

will end significant Commission authority over mobile service as well. Unless the Commission reverses its classification of broadband and SMS texting as Title I services and restores their Title II classification, all mobile services will become "private mobile radio services" immune to any regulation as a common carrier.[7] Part I.B also lists the extensive number of regulations the Commission has already found necessary to impose on interconnected VoIP and wireless providers—ranging from application of the FCC's Customer Proprietary Network Information ("CPNI") Rules, to network outage reporting rules, Universal Service Fund ("USF") contributions, and pole attachment rules.

In addition, Part I.C explores how the Commission's failure to classify interconnected VoIP has already created significant issues. As discussed below, the inability of carriers to obtain IP-based interconnection is making it impossible for them to fully implement STIR/SHAKEN protocols to prevent robocalling. Additionally, some states find themselves struggling with conflicting court opinions over whether, and to what extent, the FCC has preempted states from regulating intrastate VoIP services or imposing necessary safety obligations. These problems will continue to worsen until the Commission resolves the regulatory status of interconnected VoIP once and for all.

Finally, in Part II, the Petition applies the relevant law to modern interconnected VoIP technology. Using the well-established definitions embraced by the Communications Act and the Commission, there is no doubt that interconnected VoIP is a Title II telecommunications service. From a user perspective, it is indistinguishable from traditional telephone service. While

[7] 47 U.S.C. § 332(c)(2). *See also Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014) ("*Verizon*"); *Cellco Partnership v. FCC*, 700 F.3d 534 (D.C. Cir. 2012) ("*Cellco*").

opponents of classification have relied on "protocol conversion" within the network as reason to ignore the plain meaning of Section 3(50), even this flimsy rationale breaks down as the need to convert IP-telephony to traditional phone service diminishes with the elimination of legacy service.

For these reasons, the Commission must act swiftly to classify VoIP services as telecommunications services and exercise its authority under Title II to ensure a stable, reliable, and competitive future for voice telecommunications.

BACKGROUND

I. KEY TERMS AND CONCEPTS

Understanding the complex history of voice telecommunications, and why the Commission risks losing authority over our nation's information infrastructure by failing to classify interconnected VoIP as a Title II service, requires understanding several different terms and how they relate to each other.

A. Public Switched Telephone Network

Public Switched Telephone Network ("PSTN") is a term of art that describes the common carriers that interconnect to create a national and international network of common carriers.[8] The original telephone network structure required wireline connections between every telephone within the network.[9] Under such a structure, each new telephone would need a wireline connection to every other phone within the network, which would be impractical and overly expensive.

[8] 47 C.F.R. § 20.3; *see also* 47 U.S.C. § 153(11).
[9] Jerry Kang and Alan Butler, *Communications Law and Policy*, 6th Ed., 70 (2018).

To avoid this problem, telecommunications providers developed the PSTN.[10] There are three basic components to the PSTN: (1) telephones; (2) switches; and (3) lines (like the local loop).[11] Instead of connecting each phone in a network with every other phone in the network, the PSTN uses a local wireline loop.[12] Each phone on the network uses a local switch to connect to this loop.[13] These switches were originally maintained by human operators who connected parties by name but were quickly replaced by telephone numbers.[14] Over time, legacy phone providers replaced physical switches with software-defined "soft switches."[15]

Based on the prevailing technology, the FCC defined "interconnected with the public switched network" in 1994 as essentially synonymous with interconnection with the "public switched telephone network," a definition that remains in effect today.[16] Currently, the definition of the PSTN is limited to the legacy TDM phone service (whether offered over copper lines or over fiber lines).[17]

B. Circuit Switching

From its initial deployment at the end of the 19th Century, the telephone network depended on completing an electric circuit between the originating caller and the receiving caller. As the network evolved, this circuit-switching grew more sophisticated. The network involved

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[10] *Id.*
[11] *Id.*
[12] *Id.*
[13] *Id.*
[14] *Id*.
[15] Both legacy TDM networks and IP-based networks use "soft switches." *See* https://en.wikipedia.org/wiki/Softswitch.
[16] As discussed in greater detail below, this is with the exception of the period covered by the *2015 Open Internet Order* (which expanded the definition of PSN to include a network using either NANP numbers or IP addresses).
[17] *See RIFO* at ¶¶ 73-76.

an ever-increasing number of switches to connect the multitude of telephone networks that emerged to serve different customers and, ultimately, different competing networks. Nevertheless, closed circuit switches ("switching") remained central to the operation of the network, with every voice line requiring a series of circuit switches to send voice traffic from one place to another.[18]

C. Time Division Multiplexing

Because telephone communications required sending an electric signal across the network, the telephone network was built on copper lines which can carry electric signals. To enhance efficiency, telephone providers developed a technology called time-division multiplexing ("TDM"). TDM allowed providers to create channels within the copper lines so that multiple calls could travel along the same physical line.[19] By 1990s, with the termination of the last "party line" telephones,[20] TDM over Signaling System 7 ("SS7") became the dominant means of making phone calls and thus the general technology referred to as the PSTN.

But the 1990s also saw the introduction of two new technologies—VoIP and mobile wireless—that have supplanted TDM. Additionally, fiber lines and hybrid-fiber-coax have emerged as the superior materials/technology for the transmission of voice and data by wire,

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[18] Ultimately, mechanical switches were replaced by virtual or "soft" switches. As discussed below, there is no reason why packet-switched networks should not qualify as "switched" networks. Nevertheless, the *Restoring Internet Freedom Order* explicitly rejected this interpretation. *See Restoring Internet Freedom,* WC Docket No. 17-108, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd 311 at ¶¶ 73-76 (2018) ("*Restoring Internet Freedom Order*" or "*RIFO*").

[19] *See Time Division Multiplexing (TDM)*, Techopedia (Oct. 13, 2014), https://www.techopedia.com/definition/9669/time-division-multiplexing-tdm

[20] *See Party Lines*, AT&T Archives (June 6, 2012), https://techchannel.att.com/play-video.cfm/2012/6/6/at&t-archives-party-lines.

instead of copper lines. VoIP uses the session initiation protocol ("SIP") rather than TDM.[21] For calls originating on a VoIP network to reach a TDM network or vice versa, the traffic must pass through a connecting "bridge" that converts the signal from one protocol to the other.

Copper wire and TDM are now regarded as legacy technologies. Copper wire can support interconnected VoIP, and fiber can support TDM. This is an important distinction because the process for retiring copper lines and the process for terminating TDM service are different.[22] They also have different impacts on consumers and competitors. What is most relevant here is that as a consequence of this history, at the beginning of the 1990s the PSTN was defined as: wireline copper networks running TDM within an SS7 architecture. As a result, the PSTN and the wireline copper TDM network are now definitionally interlinked.

D. Commercial Mobile Radio Service and Private Mobile Service

During the 1980s, the rise of competing wireline networks and the development of wireless mobile services added both confusion and urgency to distinguishing between common carriers subject to Title II of the Communications Act, and non-common carriers generally falling outside the scope of Commission authority. As the House Report on the amendment of Section 332 in 1993 observed,[23] mobile wireless voice services classified as Title II common carriers were eligible for access to phone numbers under the North American Numbering Plan ("NANP"), and mandatory interconnection with landline providers.[24] Case-by-case adjudication

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[21] *See How VoIP Works*, HowStuffWorks (April 13, 2021), https://computer.howstuffworks.com/ip-telephony.htm.
[22] Section II.B explains this distinction in further detail.
[23] This Amendment to Section 332 was included in the Omnibus Reconciliation Act of 1993, which had both a House and a Conference Report. H.R. Rep. 103-111 (1993); H.R. 103-213 (1993) (Conf. Rep.).
[24] H.R. 103-111, at 240 (1993).

of wireless services by the FCC, unfortunately, resulted in similar services being "subject to inconsistent regulatory schemes."[25] In some cases, the FCC permitted wireless carriers to retain private carrier status while enjoying the benefits of interconnection and access to NANP numbers. In other cases, wireless carriers were classified as common carriers, or denied requests for interconnection or phone numbers.[26]

As part of the Omnibus Reconciliation Act of 1993, Congress sought to end this confusion.[27] In the initial House bill, Congress classified any mobile service "interconnected with the public switched network" as a "commercial mobile radio service" ("CMRS"),[28] and mobile services that did not interconnect with the public switched telephone service as a "private land mobile service" ("PLMS" or "PMS").[29] The initial House bill automatically classified any CMRS service as a Title II service, and any PMS service as decidedly ***not*** a Title II service.[30]

As explained in the Conference Report, the Senate altered the House definition in several important ways.[31] The Senate altered the definition of CMRS, as the Report explained "under the House definition, only one aspect of the service needs to be interconnected, whereas, under the

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[25] *Id.*
[26] *Id.* at 244-246.
[27] Omnibus Budget Reconciliation Act of 1993, Pub. L. 103-66, 107 Stat. 312-685, Stat. 1025 (1993).
[28] H.R. 2264, 103 Cong. §5205(d)(1)(B) (1993) (as reported by the House).
[29] The initial House bill used the phrase "private land mobile service." The Senate eliminated the word "land" but this change had no effect on the definition. Essentially, "private land mobile service" and "private mobile service" are the same. PMS is the term that is still in effect today. Compare H.R. 2264, 103 Cong. §5205(d)(2) (1993) (as reported by the House) with 47 U.S.C. § 332(d)(3).
[30] H.R. 2264, 103 Cong. §5205(c)(1-2). The statutory definition of "information service" was added in1996. *See* Telecommunications Act of 1996, P.l. 104-104, §3(a)(41). PMRS services were classified as Title III wireless services.
[31] H.R. 103-213, at 491-92 (1993) (Conf. Rep.).

Senate language, the interconnected service must be broadly available."[32] Additionally, the Senate "expressly recognize[d] the Commission's authority to define the terms used in defining 'commercial mobile service' which included the terms 'interconnected' and 'public switched network.'"[33] The Conference adopted the Senate version.

E. Voice over Internet Protocol

In the mid-1990s companies started offering alternative voice communication services using VoIP technology.[34] This technology allows users to make voice calls over a broadband internet connection instead of a phone.[35] VoIP services can vary significantly in how they function and allow users to connect with one another.

From 2004 to 2005, the FCC invented a set of new regulatory terms to differentiate VoIP offerings for regulatory classification purposes. Specifically, the Commission distinguished between "plain VoIP" services and "interconnected VoIP." Plain VoIP services use broadband to enable real-time communications among users through some sort of directory service.[36] Plain VoIP services do not have their own facilities and do not provide transmission. Nor do they use phone numbers distributed pursuant to the North American Numbering Plan ("NANP"). Interconnected VoIP services can receive and terminate calls on the PSTN.[37] Even within

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[32] *Id.* at 492.
[33] *Id.*
[34] Jerry Kang and Alan Butler, *Communications Law and Policy*, 6th Ed., 365 (2018).
[35] FCC, *Voice Over Internet Protocol (VoIP)*, (last accessed Dec. 9, 2021), https://www.fcc.gov/general/voice-over-internet-protocol-voip.
[36] *Pulver Petition* at ¶ 6. These services are sometimes also referred to as "over the top" VoIP, because they rely on standard internet routing and do not have the independent capacity to reach NANP numbers through traditional telephone networks. Many services offer "hybrid" models where customers can pay to add interconnection with the public switched network, or where a primarily plain VoIP service can be accessed through a telephone call from the PSTN.
[37] 47 C.F.R.§ 9.3(1)(iv).

interconnected VoIP, the Commission has further divided services between "facilities-based" VoIP, which provide actual facilities and transmission capacity, and "nomadic" VoIP. Nomadic VoIP permits a subscriber to use the same 10-digit NANP phone number anywhere without a set facility.[38]

II. THE CURRENT REGULATORY LANDSCAPE

One of the important elements of the Telecommunications Act of 1996 was that it took several concepts that the Commission had developed over decades—such as mandatory interconnection for competing carriers, Customer Proprietary Network Information ("CPNI"), and the Universal Service Fund—and cemented them in statutory form. This had the paradoxical effect of both reinforcing traditional authority in some ways while limiting it in others.[39] In particular, Congress made two fundamental changes that tied the Commission's authority to the classification of the service. First, the 1996 Act defined "telecommunications," "telecommunications service," "telecommunications carrier," and "information service" (formerly "enhanced service"). Second, as part of the definition of "telecommunications carrier," Congress limited the authority of the Commission to regulate telecommunications carriers as common carriers "only to the extent that it is engaged in providing telecommunications services."[40]

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[38] These services are not referred to as "mobile" services, since mobile voice service has a statutory definition tying it to wireless. 47 U.S.C. § 153(33).

[39] For example, Congress codified and expanded the CPNI rules to include substantial consumer privacy protection, but limited their application to "telecommunications services." Harold Feld, et al., Protecting Privacy, Promoting Competition: A Framework for Updating the Federal Communications Commission Privacy Rules for the Digital World 16-17 (2016).

[40] 47 U.S.C. § 153.

These changes amplified the importance of defining a service in the exercise of the Commission's authority. The 1996 Act imposed virtually no regulatory obligations on information services beyond the definition; even sections dealing with internet transmission did not generally employ the term.[41] As subsequently interpreted by the courts, a service defined as an "information service" not only escaped the obligations of Title II (and Title VI), it acquired a protective shield against the application of "common carrier regulation" through any other source of Commission authority.[42] In theory, the Commission still retained "ancillary jurisdiction" over information services, at least when "engaged in communications by wire and wireless,"[43] but the scope of this ancillary jurisdiction remained undefined.

A. Early Disputes Over Classifying Cable Modem Service and VoIP as Title I or Title II Services

Unsurprisingly, disputes over how to classify services started almost immediately after the Telecommunications Act became law. Two services in particular attracted attention: cable modem services and VoIP. Then-Senator Ted Stevens expressed alarm that Title I VoIP services would replace Title II voice services, and required the FCC to report on the issue in 1998.[44] Examining the existing VoIP services, the FCC maintained that as long as the underlying transmission of packets remained classified as a Title II service, the substitution of Title I VoIP

[41] *See* 47 U.S.C. § 230(a)(1) (definition of "interactive service."), 47 U.S.C. § 706(c)(1) (definition of "advanced telecommunications services.").
[42] *See e.g. United States Telecom Ass'n v. FCC*, 855 F.3d 381, 395 (2017); *see also Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 994-95, n. 2 (2005).
[43] *See American Library Assoc. v. FCC*, 401 F.3d 489 (D.C. Cir. 2005).
[44] *In the Matter of Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report to Congress, FCC Rcd 11501 (Rel. April 10, 1998) ("*Stevens Report*").

services would not undermine the future of universal phone service or the financial stability of the USF.[45]

Initially, the Commission regulated IP transmission services offered by telecommunications providers as Title II telecommunications services, while declining to classify cable modem service.[46] In 2002, with the *Cable Modem Order*, the FCC began an aggressive policy of classifying all broadband services as Title I information services.[47] In 2005, the FCC reclassified DSL from a tariffed Title II service to a Title I service.[48] In 2007, the FCC classified mobile broadband service as a Title I information service.[49]

Almost immediately after classifying cable modem service as a Title I service, the FCC received several petitions to classify various VoIP services as Title I.[50] VoIP was rapidly evolving away from the services analyzed by the Commission in 1998, and consumers and providers were adopting a variety of VoIP technologies. In 2004, the Commission classified plain VoIP services—VoIP services that require a subscription to a separate broadband service, did not use

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[45] *Id.* at FCC Rcd 11545.
[46] *See Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 979 (2005).
[47] *In the Matter of 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 (rel. March 15, 2002) ("*Cable Modem Order*").
[48] *In the Matter of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, CC Docket No. 02-33, Report and Order, 20 FCC Rcd 14853 (2005).
[49] *In the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, WT Docket No. 07-53, Declaratory Ruling, 22 FCC Rcd 5901 (2007).
[50] *See Pulver Petition*; *Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, WC Docket No. 02-361, Petition of AT&T, 19 FCC Rcd 7457 (2004) ("*AT&T Petition"*); *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC 03-211, Petition of Vonage, 19 FCC Rcd 22404 (2004) ("*Vonage Petition*").

traditional phone numbers, and could not reach the telephone network—as "unregulated" Title I information services.[51] The Commission explicitly reserved the question of how to classify interconnected VoIP for a general proceeding, called the *IP-Enabled Services Proceeding*.[52] Seventeen years later, the Commission has still declined to clarify the classification of interconnected VoIP.

B. The Open Internet Order and Restoring Internet Freedom Order's Impact on the FCC's Regulatory Authority

Despite using NANP numbers for originating and terminating calls, interconnected VoIP networks are not currently part of the PSTN, as defined, because they are not classified as Title II common carriers.[53] Recognizing that there is nothing inherent in the packet switching used by VoIP that makes this service different from existing virtual switches used in the existing TDM network, the Commission changed the definition of PSN in the 2015 *Open Internet Order* ("OIO") to include any network using NANP or IP numbers.[54]

Unfortunately, this change was short-lived. Just two years later, under the new Trump administration, the FCC reversed the *OIO* with the *Restoring Internet Freedom Order* ("RIFO"). The *RIFO* restored the 1994 definition, equating the "public switched network" with the "public switched telephone network" and excluding broadband networks that do not use NANP numbers.

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[51] *Pulver Petition*.
[52] *In the Matter of IP-Enabled Services*, WC Docket No. 04-36, Notice of Proposed Rulemaking, 19 FCC Rcd 4863 (2004) ("*IP-Enabled Services Proceeding*").
[53] *See* 47 C.F.R. § 20.3. "Public Switched Network. Any ***common carrier*** switched network, whether by wire or radio, including local exchange carriers, interexchange carriers, and mobile service providers, that uses the North American Numbering Plan in connection with the provision of switched services." (emphasis added)
[54] *Preserving the Open Internet, Broadband Industry Practices,* GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd 17905 (2010) ("*Open Internet Order*" or "*OIO*").

[55] In the *RIFO*, the Commission declined to address the consequences of reclassifying the "public switched network" to mean only the "public switched telephone network" as understood by the Commission in 1994 in light of the policy of phasing out TDM-based switched networks in favor of VoIP-based networks.[56] The logical consequence of the *RIFO* reemergence of the 1994 public switched telephone network definition is the end of Title II authority over both wireless and wireline voice networks once the last legacy networks that make up the PSTN disappear. This is because the Commission's authority over wireless and wireline voice networks is intertwined with the PSTN. Importantly, this consequence is a result of the Commission's policy choices to date, not a result of any difference in technology between packet-switched voice networks and traditional circuit-switched voice networks.

C. Retiring Legacy Telecommunications Services Complicates the Classification Question.

Today, five years after the *RIFO*'s adoption, the regulatory landscape is more complex, and the Commission's authority to regulate VoIP more tenuous, due to ongoing efforts to retire legacy telecommunication networks.[57] This section describes the process of retiring a legacy network and provides an overview of the FCC's own efforts to analyze the impact of retiring the PSTN.

1. Discontinuing service and retiring copper loop networks

Section 214 requires a telecommunications provider to obtain permission from the FCC before discontinuing, reducing or impairing service to a community or part of a community, and

[55] *RIFO* at ¶¶ 73-76.
[56] *See RIFO* at n. 296.
[57] A process colloquially referred to as the "sunset of the PSTN."

requires the FCC to make an affirmative finding that this discontinuance will serve the public interest.[58] The FCC rules generally allow for a streamlined discontinuance process as long as at least one provider of voice service remains to serve the area.[59] During the *Tech Transition Proceedings*,[60] the Commission recognized the unique importance of incumbent local exchange carriers ("ILEC") legacy TDM service and how discontinuance of all legacy TDM service would impact the FCC's authority over telecommunications infrastructure.[61] Once TDM service ends, the Commission's Title II authority likewise concludes. The FCC, therefore, adopted specific rules governing the discontinuance of TDM service by ILECs.[62]

Separately, Section 251 of the Communications Act requires ILECs to provide public notice of any changes to their networks necessary "for the transmission and routing of services using that local exchange carrier's facilities or networks."[63] FCC rules require that ILECs provide public notice of the retirement of any copper lines telephone lines, regardless of whether the retirement will also result in a discontinuance of service.[64] Unlike discontinuances, ILECs do not need affirmative permission to retire their copper lines. Competing local exchange carriers ("CLECs") may object to the retirement of the copper loop if they cannot accommodate the change within the time specified by the ILEC, but they cannot delay retirement indefinitely.[65]

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[58] 47 U.S.C. § 214(a).
[59] *See* 47 C.F.R. §§ 63.60-63.90.
[60] *Technology Transitions*, GN Docket No. 13-5, ("*Tech Transitions Proceeding*"). The *Tech Transition Proceeding* is discussed in greater detail in Section II(C)(2), below.
[61] *Technology Transitions*, GN Docket No. 13-5, Second Report and Order, 31 FCC Rcd 8283, at ¶ 2 (2016) ("*Tech Transitions Second Order*").
[62] 47 C.F.R. §§ 63.60(i), 63.71(h).
[63] 47 U.S.C. § 251(c)(5).
[64] 47 C.F.R. § 51.333.
[65] As a practical matter, even delays of copper loop retirement are rarely granted.

Carriers may decide to retire copper loops in favor of some other medium of delivery, such as fiber or fixed wireless. This requires the carrier to file a notice of copper loop retirement with the Commission.[66] However, if the carrier will continue to provide Title II TDM service over the new medium, the Commission's rules do not require the carrier to submit a request for discontinuance under Section 214 to the Commission. This may impact the availability of competing services by eliminating the underlying network elements leased to competitors, but does not otherwise impact consumers or end Title II jurisdiction over the service offered.

Alternatively, carriers may keep their copper lines in place, but decide to terminate their TDM service in favor of VoIP or other packet-switched technology. This does not necessarily require a network change notice, since the copper loop remains available for competitors.[67] It does, however, require a Section 214 application for discontinuance, and application of the technology transition rules.[68] Once TDM service ends, the Commission's Title II authority likewise concludes.[69] To the extent that the FCC retains jurisdiction over the replacement VoIP service, it does so only through its Title I ancillary authority and any other applicable statute.

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[66] 47 U.S.C. § 214(a).

[67] Other network changes that impact the ability to use the leased network elements would, of course, require a network change notification – simply not a notice of copper loop retirement.

[68] 47 U.S.C. § 214(a); 47 C.F.R. §§ 63.60(i), 63.71(h).

[69] As discussed in greater detail below, the limits the Communications Act imposes on Commission authority do not apply to the states unless expressly stated. *See ACA Connects v. Bonta*, No. 21-15430 (9th Cir. 2022) (petition for rehearing en banc pending). Nevertheless, some federal and state courts have found that the FCC has expressly preempted state regulation of VoIP, including interconnected VoIP. *See Charter Advanced Servs. (MN), LLC v. Lange*, 903 F.3d 715 (8th Cir. 2018); *In re Investigation into Regulation of Voice Over Internet Protocol (VoIP) Services*, 70 A.3d 997, 1006–08 (Vt. 2013). As discussed below, resolving this confusion is an important reason for the FCC to grant this Petition.

While these two processes are separate, they frequently take place simultaneously. For example, AT&T has announced it will retire its remaining copper-only networks (i.e., those networks that do not have at least a fiber-to-the-curb component).[70] This requires both a notice of copper loop retirement and a separate Section 214 discontinuance application. Although AT&T may have the right to retire the copper once it satisfies the notice requirement, it cannot discontinue its TDM service (and therefore, as a practical matter, may not retire the copper) until the Commission approves its application to discontinue TDM service.

2. The end of TDM and the PSTN sunset

In the National Broadband Plan proceeding, the FCC opened the door to gradually shut down (or "sunset") the PSTN.[71] In 2011, the FCC's Technical Advisory Committee ("TAC") considered the likely technical and regulatory consequences of the PSTN sunset, noting that the Commission would need to take regulatory steps to protect consumer protections such as privacy and competition requirements such as interconnection.[72] In 2012, the FCC started the "Technologies Transitions Task Force" to examine the implications of the end of the TDM-based

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[70] *AT&T Copper Retirement*, AT&T Support (Sept. 7, 2018), https://www.att.com/support/smallbusiness/article/smb-internet/KM1241817/.

[71] *In the A National Broadband Plan for Our Future,* GN Docket No. 09-51, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, at ¶¶ 15-16, (rel. Oct. 27, 2011) ("[F]ederal and state regulators must reconsider how legacy regulatory obligations should evolve as service providers accelerate their transition from the Public Switched Telephone Network (PSTN) to an all IP world.") ("*National Broadband Plan Report & Order*").

[72] *See* Memorandum from Tom Wheeler, Chairman, Technical Advisory Council to Chairman Genachowski, Commissioners Copps, McDowell, Cyburn and Baker, Recommendation 7 (Apr. 22, 2011), https://apps.fcc.gov/edocs_public/attachmatch/DOC-306065A1.pdf. ("*2011 TAC Memo*"); *see Sun-setting the PSTN*, Memorandum from Critical Legacy Transition Working Group to Technical Advisory Council (Sept. 27, 2011), https://www.fcc.gov/oet/tac/2011#block-menu-block-4.

PSTN. At the same time, Verizon's application to end TDM service on Fire Island, NY and Mantoloking, NJ following Superstorm Sandy raised significant questions as to what level of basic phone service customers could expect in a post-PSTN world.[73]

From 2013 to 2016, the Commission embarked on a multi-year proceeding to analyze the likely impacts of the end of the PSTN. The Commission concluded that absent Commission action, customers faced several dangers.[74] First, the retirement of copper loops would potentially eliminate the rules supporting competitive entry and resale.[75] Second, customers would potentially lose access to important functions supported by TDM networks, such as alarm services, fax machines, and medical device sensors.[76] Third, and most importantly, the FCC

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[73] *See Comments Invited on Application of Verizon New Jersey Inc. and Verizon New York Inc. to Discontinue Domestic Telecommunications Services*, WC Docket No. 13-149, Public Notice, 28 FCC Rcd 9193, 9195 (2013); *Comments Invited on Application of Verizon New Jersey Inc. and Verizon New York Inc. to Discontinue Domestic Telecommunications Services*, WC Docket No. 13-150, Public Notice, 28 FCC Rcd 9198, 9202 (2013) (collectively, "*Verizon Discontinuance Applications*").

[74] *See, e.g.*, *Technology Transitions*, GN Docket No. 13-5, Order, Report and Order and Further Notice of Proposed Rulemaking, Report and Order, Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative, 29 FCC Rcd. 1433 at ¶¶ 1-8 (Rel. Jan. 31, 2014) (describing potential positive and negative impacts of technology transition ("*First Tech Transitions Order*"); *Ensuring Customer Premises Equipment Backup Power for Continuity of Communications Technology Transitions Policies and Rules Governing Retirement Of Copper Loops by Incumbent Local Exchange Carriers Special Access for Price Cap Local Exchange Carriers AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, GN Docket No. 13-5, Notice of Proposed Rulemaking and Declaratory Ruling, 29 FCC Rcd. 14968 ¶¶ 1-6 (rel. Nov. 25, 2014) ("*Second Tech Transitions Order*").

[75] *See, e.g., Technology Transitions*, *Policies and Rules Governing Retirement of Copper Loop Lines by Incumbent Local Exchange Carriers*, GN Docket. No. 13-5, RM-11358, Report and Order, Order on Reconsideration, Further Notice of Proposed Rulemaking, 30 FCC Rcd. 9372 ¶¶ 8-13, 131-180 (2015) ("*Third Tech Transitions Order*").

[76] *See e.g., Technology Transitions*, GN Docket. No. 13-5, Declaratory Ruling, Second Report And Order, and Order On Reconsideration, 31 FCC Rcd. 8283 ¶¶ 69, 126, 159-166 (Rel. July 15, 2016) ("*Fourth Tech Transitions Order*"); *Third Tech Transitions Order* at ¶¶ 207-232; *Second Tech Transitions Order* at ¶ 9.

found that customers in rural areas—particularly areas dependent on legacy ILECs as carriers of last resort—risked losing even basic voice service absent Commission action.[77] Indeed, the Commission found substantial evidence of what it termed "de facto abandonment," the practice of failing to maintain or repair copper-based phone lines so that the quality of local service declined to the point that it was effectively non-existent.[78]

Rather than address these concerns directly by classifying facilities-based VoIP as a Title II telecommunications service, the Commission used its authority over TDM providers pursuant to Section 214 to impose standards on carriers that seek to terminate their legacy TDM service. The Commission adopted rules to prevent de facto abandonment by legacy carriers and created standards for replacement services that carriers would need to provide when terminating their TDM service.[79] In addition, the Commission imposed obligations on carriers retiring copper loops to make comparable facilities available to competitors that lease unbundled network elements[80] to provide competing services. But, none of these short-term protections addressed the long-term issue of Commission authority over interconnected VoIP services in a world where the

[77] *Fourth Tech Transition Order* at ¶ 126.
[78] *Third Tech Transitions Order* at ¶¶ 89-99. This dynamic is also a concern at the state level. In California, the California Public Utilities Commission ordered a service quality examination of the networks of AT&T and Verizon (now Frontier). The study demonstrated a failure by both carriers to adequately maintain their networks. California Public Utilities Commission, *Examination of the Local Telecommunications Networks and Related Policies and Practices of AT&T California and Frontier California: Study conducted pursuant to R.11-12-001, D. 13-02-023 and D. 15-08-041* (April 2019).
[79] *See Fourth Tech Transition Order* at ¶¶ 179-86.
[80] *See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 14 FCC Rcd 15550 at ¶ 306, 313 (rel. Sep. 9, 1999) ("*UNE Remand Order*").

PSTN no longer exists. Instead, they simply prevented significant loss of competition or disruption of existing consumer service during the transition.[81]

ARGUMENT

I. THE COMMISSION MUST CLASSIFY INTERCONNECTED AND FACILITIES-BASED VOIP AS A TITLE II SERVICE.

Without Title II classification over VoIP, the Commission will lose its jurisdictional hook to regulate virtually all telecommunications services as the PSTN sunsets. This reality poses several significant harms. The Commission's ability to prevent discriminatory service practices, review license transfers, protect network resiliency, regulate USF funding, require interconnection, impose consumer protections, promote accessibility, manage service discontinuances, and provide continuity to the states relies on the Commission's Title II authority. The risks posed by the Commission's inability to assert Title II regulatory authority are not just speculative, they are already starting to impact our nation's telecommunications network. Ambiguities around VoIP's classification have complicated and broken STIR/SHAKEN protocols, opened the door to anti-competitive behavior amongst service providers, and created confusion for local and state regulators. The only solution is to affirmatively classify both interconnected and facilities-based VoIP as Title II services.

A. Without Title II Authority Over Interconnected and Facilities-Based VoIP, the FCC Risks Losing All Oversight Authority Over Virtually All Communications Infrastructure.

Since the *Pulver Petition*, the FCC has explicitly declined to classify interconnected VoIP. When the Commission has imposed regulatory obligations on interconnected VoIP providers, it

[81] In any event, the Commission subsequently repealed the bulk of these rules in 2017 and 2018. *2017 Reclassification Order*; *RIFO*.

has done so contingent on either classifying them as Title II providers in the future, or through ancillary authority if it does not. As the D.C. Circuit has made clear, the exercise of ancillary authority must be ancillary to some explicit authority provided under Title II, Title III, or Title VI (or other clear statutory authority).[82] Title I defines the subject matter jurisdiction of the Commission, all communications by wire and wireless, but does not itself serve as a source of independent authority.[83] The Commission has generally identified its Title II authority as the anchoring source for ancillary authority. Accordingly, when the PSTN sunsets, ancillary authority over interconnected VoIP will terminate as well. There will be no Title II service to which the exercise of ancillary authority is "ancillary to."[84]

But the loss of FCC oversight authority does not end with the loss of all wireline voice services. The end of the PSTN, combined with the ongoing shutdown of 3G networks, will significantly diminish the FCC's oversight of wireless voice networks. To date, when regulating interconnected VoIP, the FCC has focused on fixed/wireline service. The FCC has generally regulated mobile voice service pursuant to Section 332.[85] Section 332(d) defines commercial mobile radio service ("CMRS") as "any mobile service (as defined in section 153 of this title) that is provided for profit and makes *interconnected service* available (A) to the public or (B) to such classes of eligible users as to be effectively available to a substantial portion of the public, as specified by regulation by the Commission." The same section defines "interconnected service" as "interconnected with the *public switched network*" as that term is defined by the

[82] *Mozilla Corp. v. FCC*, 940 F. 3d 1, 76 (D.C. Cir. 2019).
[83] *Comcast Corp. v. FCC*, 600 F. 3d 642, 644 (D.C. Cir. 2010).
[84] *Motion Picture Ass'n of America, Inc. v. FCC*, 309 F. 3d 796, 806 (D.C. Cir. 2002).
[85] 47 U.S.C. § 332.

Commission.[86] All other services are classified as "private mobile service" ("PMS").[87] Section 332(c)(2) prohibits regulation of PMS as a Title II common carrier service. Without the PSTN, as defined in Section 332, the Commission's authority over CMRS unravels quickly.

To answer the question as to whether CMRS continues to exist as a service after the sunset of the PSTN, we must therefore turn to the definition provided by the Commission's rules. Pursuant to 47 C.F.R. § 20.3 defines the "public switched network" as "[a]ny common carrier switched network, whether by wire or radio, including local exchange carriers, interexchange carriers, and mobile service providers, that uses the North American Numbering Plan in connection with the provision of switched services. This definition was changed in the 2015 *Open Internet Order* to include services that provided the capability to reach all NANP numbers regardless of whether they did so or not, and to include mobile broadband service as part of the public switched network.[88] In 2017, however, the Commission reversed course and explicitly rejected the broader definition of the *Open Internet Order.* In re-adopting the pre-2015 definition of PSN, the *2017 Reclassification Order* was at pains to reject any reading of Rule 20.3 as applying to any network beyond the traditional public switched telephone network.[89] The *2017 Reclassification Order* went so far as to question whether services such as VoLTE and Wi-Fi calling—calling services offered without passing through the traditional telephone

[86] 47 U.S.C. § 332(d)(2).
[87] 47 U.S.C. § 332(d)(3)
[88] *Open Internet Order* at ¶ 48.
[89] *2017 Reclassification Order* at ¶ 75. ("Based on this history of usage of the term, the Commission, in 1994, tied its definition of the term 'public switched network' to the traditional switched telephone network.")

network—would meet the definition of CMRS.[90] As a result, the Commission definition of "PSN" is once again identical to the traditional PSTN.

Even if the definition of PSN under Rule 20.3 could be read to include a non-Title II service with access to NANP numbers, the *2017 Reclassification Order* expressly precludes such an interpretation. Nor can the existing classification of 3G networks as CMRS networks sustain a CMRS definition. Even assuming existing CMRS networks on their own could meet the *2017 Reclassification Order* definition as a "public switched network,"—therefore extending CMRS status to LTE networks that do not interconnect with a traditional landline "public switched telephone network"—carriers are phasing out the existing 3G CMRS networks. The recent controversies surrounding the phase out by AT&T and other carriers of their wireless 3G networks illustrates the upcoming quagmire caused by the FCC's failure to act. AT&T announced it would phase out its legacy 3G network on February 22, 2022.[91] Doing so threatened to disconnect a substantial number of alarm systems, personal health monitoring alarms, and other systems related to safeguarding life and property. Because of the Covid-19 pandemic and associated supply chain disruptions, the Alarm Industry Communications Committee ("AICC") filed a Petition asking the FCC to require AT&T to delay the shutdown of

[90] *Id.* at ¶ 81 n. 302.
[91] IEEE Communications Society, *AT&T to shut down 3G network in 2022; Verizon at end of 2019*, IEEE Technology Blog (pub. Feb. 22, 2019), https://techblog.comsoc.org/2019/02/22/att-to-shut-down-3g-network-in-2022-verizon-at-end-of-2019/.

AT&T's 3G network.[92] Among other arguments, AT&T argued that the Commission had no authority to issue such an order because "Internet of Things" (IoT) traffic is Title I, not Title II.

Fortunately, because AT&T's 3G wireless *network* is still a Title II CMRS network, the FCC retains adequate authority over operation of the network to act as needed to protect safety of life and property.[93] But this illustrates both the confusion over FCC authority and the danger of losing that authority. AT&T's 3G wireless network is only Title II because it is a CMRS network interconnected with the PSTN.[94] Absent any change in circumstances, the last major 3G network will shut down by December 31, 2022.[95] Although it is impossible to say how soon after that the last legacy networks will last, major carriers have already begun earnestly retiring their copper lines and phasing out their legacy TDM networks.[96] Once TDM networks are no more, the Commission's primary authority over the nation's communications infrastructure will simply cease to exist. This is a risk the Commission need not, and should not, take.

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[92] *In the Matter of Petition for Emergency Relief Due to COVID-Related Delays in 3G Sunset Transition for Central Station Alarm Subscribers*, Alarm Industry Communication Committee Petition for Emergency Relief, WC Docket No. GN 21-304 (filed May 10, 2021) ("*AICC 3G Sunset Petition*").

[93] Letter from Harold Feld, Senior VP, Public Knowledge, to Marlene H. Dortch, Secretary, FCC, WC Docket No. GN 21-304, WC Docket No. GN 21-304 (filed Feb. 7, 2021).

[94] At this time of filing this Petition, the FCC has not found it necessary to use its regulatory authority. As urged by Public Knowledge and other public interest groups, the FCC has used its offices as an "honest broker" to persuade parties to (so far) avoid disruption of services and work toward a solution. But the Commission's ability to act in this space is predicated on the threat of invoking its regulatory power if needed.

[95] *Plan Ahead for Phase Out of 3G Cellular Networks and Service*, FCC Consumer Guide (updated Oc. 28, 2021), https://www.fcc.gov/consumers/guides/plan-ahead-phase-out-3g-cellular-networks-and-service

[96] *Id*.

B. The Potential Harms of the FCC's Loss of Authority Over Mobile and Wireline Voice Are Significant.

This section lists the areas of Commission jurisdiction most impacted by the end of the PSTN and the resulting termination of the FCC's remaining Title II authority.[97] It is not the purpose of this review to state definitively for each area of jurisdiction listed whether an alternative source of Commission authority could be found, or whether the Commission might, on a case-by-case basis, find some way to deal with emergencies—such as the Commission's securing voluntary pledges from internet service providers ("ISPs") to protect subscribers during the pandemic.[98] Rather, this section emphasizes just how much of the Commission's current oversight of critical communications infrastructure would come under challenge if the Commission does not act and finally answer the VoIP classification question, which the Commission has left pending since 2004.

For example, while the Commission retains Title III jurisdiction over wireless broadband services, the Commission has found its efforts to regulate mobile broadband plagued with uncertainty. In 2011, rather than impose comprehensive regulations to protect consumers from "bill shock," the Commission accepted a set of voluntary best practices from mobile providers.[99] In numerous proceedings where the Commission has sought to improve consumer protections for

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[97] As noted previously, and discussed further below, termination of FCC authority does not mean termination of state authority. To the contrary, termination of FCC authority would eliminate any FCC preemptive effect. *See ACA Connects v. Bonta*, No. 21-15430 (9th Cir. 2022) (petition for rehearing en banc pending).

[98] *See* FCC, *Keep Americans Connected*, (last accessed Feb. 25, 2022) https://www.fcc.gov/keep-americans-connected .

[99] Julius Genachowski, *Chairman Genachowski Remarks at Bill Shock Event*, Brookings Institution, Washington, D.C. (Oct. 17, 2011), (available at https://www.fcc.gov/document/chairman-genachowski-remarks-bill-shock-event).

VoIP or broadband services, it has found itself subject to challenges on the basis of a lack of authority.[100] On occasion Congress has found it necessary to resolve the uncertainty of regulating VoIP, or to address holes in the Commission's authority over IP-based services absent classification of VoIP or broadband as Title II. In each of these cases, it took Congress years to address a single, pending problem. It would be folly to expect Congress to essentially re-enact Title II for VoIP – especially when Congress has already defined "telecommunications services" in a manner that clearly includes facilities based VoIP.

Additionally, the Commission's inconsistent treatment of IP-based services has created confusion at the state level and in the federal courts as to the extent of state authority over VoIP services,[101] or the extent that the authority is shared between the FCC and the states. But, the "common carrier prohibition" limits these sources of Commission authority. Even where the Commission has general direct authority, such as the right to create rules for wireless licensees, the Commission cannot regulate a non-common carrier as a common carrier. This will create new challenges to the current regulatory regime on an as-applied basis, even if the Commission arguably has some limited regulatory authority.

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[100] *See e.g.* Letter from Robert Vitanza, Asst. VP-Senior Legal Counsel, AT&T, to Marlene H. Dortch, Secretary, FCC, WC Docket No. GN 21-304, (filed Oct. 28, 2021); *see also* AT&T 3G Sunset Opposition at 6-9.

[101] *Compare ACA Connects v. Bonta* (no preemption where the FCC has eliminated its own authority), *with Charter v. Lange*, (finding preemption of all state regulatory authority), *and Investigation into Regulation of Voice-Over-Internet-Protocol (VoIP) Services*, *Order Modifying Final Order* VT PUC Docket No. 7316 (rel. April 5, 2021) (detailing 10 year history of proceeding to determine whether Vermont PUC has jurisdiction over interconnected VoIP services).

1. Preventing Telecommunication Providers from Discriminating Against Consumers

The Commission's single most important responsibility is to "make available to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges."[102] The Commission has consistently stated that its core responsibility is to ensure all Americans have access to communication services.[103] The D.C. Circuit recognized this core mission of the Commission when it affirmed the FCC's creation of the original universal service fund in the 1980s.[104]

Title II both reinforces the importance of the Commission's mission to ensure all Americans have access to communication services and plays an essential role in helping the Commission meet this responsibility. Multiple sections of Title II specifically address and provide authority for the Commission to ensure deployment to all Americans, prohibit digital redlining, and ban other forms of discrimination.[105] The Commission has also repeatedly recognized that without a regulatory requirement, carriers would avoid serving high-cost areas and low-income customers.[106] Reports from Minnesota and California confirm that, in the wake of deregulation and decline in enforcement, carriers will not invest in rural communities.[107] The

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[102] 47 U.S.C. § 151.
[103] *See, e.g., Rural Call Completion,* WC Docket No. 13-39, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd. 16155, 16155, ¶¶ 1-2 (2013) ("*Rural Call Completion Order*").
[104] *Nat'l Asso. of Regulatory Util. Comm'rs v. FCC*, 237 U.S. App. D.C. 390 (1984).
[105] *See e.g.* 47 USC §§ 202, 214, 251, 254
[106] *See* FCC, *Universal Service* (last updated Feb. 23, 2022), https://www.fcc.gov/general/universal-service.
[107] *See, e.g.,* California Public Utility Commission, *Network Exam of AT&T and Verizon/Frontier*, (compiling reports from 2010-19 and finding "ongoing deterioration of ILEC

persistence of the digital divide, the lack of reliable cell service in many rural and low-income communities and communities of color, and the re-emergence of "digital redlining" all demonstrate the vital necessity of regulatory authority to ensure service to all Americans, at just and reasonable rates and practices.

Without Title II jurisdiction, the FCC cannot mandate that providers serve all residents, let alone ensure that those terms are reasonable and affordable. Mandating service to all is the quintessential common carrier obligation.[108] The Commission therefore could not obligate interconnected VoIP carriers to serve all persons in their franchise area. Additionally, absent Title II authority, the Commission has no power to prevent communication providers from discontinuing or disconnecting their services. Although the FCC extended the Section 214 discontinuance requirements to facilities-based interconnected VoIP, it did so through its ancillary jurisdiction.[109] Loss of Title II authority would therefore mean that the Commission would have no means of tracking where providers offer service and where they discontinue service. Nor would the Commission have authority to remedy the situation once discovered.

While the Commission can require build out and service requirements under its Title III authority, it may only do so to PMRS consistent with the interpretation of the common carrier

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services" and "persistent disinvestment" in voice service) (available at https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/service-quality-and-etc/network-exam-of-att-and-frontier-verizon); Minnesota Public Utilities Commission, *Commission Inquiry Into the Service Quality, Customer Service, and Billing Practices of Frontier Communication*s, Report of the Minnesota Department of Commerce, Docket No. P-407, 405/CL-18-122 (rel. January 4, 2019); Karl Bode, *American Telephone Companies Are Literally Letting Their Networks Fall Apart*, Motherboard (January 10, 2019), https://www.vice.com/en/article/wj3v5n/american-phone-companies-are-literally-letting-their-networks-fall-apart%C2%A0

[108] *Verizon Communs., Inc. v. FCC*, 535 U.S. 467 (2002).

[109] *Tech Transitions Second Order* at ¶ 60.

prohibition.[110] As noted above, mandating service to all on a nondiscriminatory basis is the "quintessential" common carrier obligation. Loss of Title II authority over wireless would therefore mean the end of the Commission's authority to require service throughout the license area.

In short, absent classification of interconnected VoIP as a Title II service, the Commission will be powerless to do the single most important thing that Congress has charged it to do—ensure that all Americans have access to affordable communications.[111]

2. License Transfer Review to Protect Competition, Quality of Service and National Security

Title II licensing pursuant to Section 214 provides multiple safeguards through the requirement that any assignment of a license serve "the public convenience and necessity." This review covers a wide range of potential harms, as well as the opportunity for the Commission to impose obligations that further the goals of the Communications Act.[112] Notably, merger review protects competition, ensures quality of service, and protects national security. As Commissioner Starks recently noted in regards to the revocation of China Unicom's Section 214 license to offer

[110] *See Cellco Partnership v. FCC at* 546-548.

[111] Section 60506 of the Infrastructure Investment and Jobs Act of 2021 directs the Commission to identify and address "digital discrimination" practices. But the authority of this section is limited to ensuring that all Americans have equal opportunity to subscribe to "robust broadband services" and does not mention voice or other IP-based services. Because the Commission has only just begun to consider its potential authority under Section 60506, Petitioners take no position here on its potential impact on preserving universal access to voice service.

[112] This section applies exclusively to wireline VoIP providers. The Commission would still retain authority to review assignment of wireless licenses pursuant to 47 U.S.C. § 310(d).

phone service in the United States: "even after loss of their section 214 authority, companies like China Unicom Americas can continue to offer data center services to American customers."[113]

Loss of Title II authority over wireline voice services (especially in the absence of Title II classification of broadband) would eliminate any opportunity for the Commission to review mergers or entry of foreign providers into the American market. This would undermine the core obligation of the Commission to ensure quality of service by reviewing potential licensees and verify they have the technical and economic capacity to serve their customers, particularly in rural areas. It would allow carriers that the FCC has determined to jeopardize national security or are otherwise unfit to hold a Section 214 license to offer service—free from FCC oversight.

3. Contributing to and Receiving Funding from the Universal Service Fund

The disappearing PSTN also threatens the Universal Service Fund, the Commission's primary source of funding to bridge the digital divide, in two ways: (1) the Commission can only require Title II services or services ancillary to a Title II service to contribute to the USF; and (2) only qualified services can receive USF funding to build out service to high-cost rural areas and subsidize service plans for low-income Americans.

As part of the 1996 Telecommunications Act, Congress created the USF.[114] Two funds in the statute are designed for the express purpose of ensuring all Americans have access to telecommunications service: (1) the Rural High Cost fund and (2) the Lifeline program. Section 254 limits contributions to "telecommunications carriers" that provide "telecommunications

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[113] Geoffrey Starks, *Statement of Commissioner Geoffrey Starks re China Unicom (Americas) Operations Limited, GN Docket No. 20-110*, (Jan. 27, 2022), available at https://docs.fcc.gov/public/attachments/DOC-379680A4.pdf.
[114] 47 U.S.C. § 254.

services," which are defined as "deployed in" the PSTN. In addition, the Commission may require providers of "telecommunications" to contribute as well. In 2006, the Commission extended the contribution requirement to interconnected VoIP under the theory of ancillary jurisdiction.[115]

The limitation of Title II classification to CMRS, the traditional PSTN, and interconnected VoIP has already created a contribution crisis for USF as these revenues continue to shrink. The proposed contribution rate for the third quarter of 2021 is 31.8%.[116] Or, in other words, telecommunications carriers are required to pay 31.8% of their interstate revenues to the FCC to support USF. Moreover, broadband and SMS, as Title I information services, are currently immunized by statute from inclusion in the USF contribution base, and therefore, do not contribute.[117]

Once the PSTN disappears, this contribution crisis will only increase. Contributions from CMRS and interconnected VoIP will cease as these services will no longer meet the definition of

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[115] *See Universal Service Contribution Methodology; Federal-State Joint Board on Universal Service; 1998 Biennial Regulatory Review Streamlined Contributor Reporting Requirements Associated with Administration of Telecommunications Relay Service, North American Numbering Plan, Local Number Portability, and Universal Service Support Mechanisms; Telecommunications Services for Individuals with Hearing and Speech Disabilities, and the Americans with Disabilities Act of 1990; Administration of the North American Numbering Plan and North American Numbering Plan Cost Recovery Contribution Factor and Fund Size; Number Resource Optimization; Telephone Number Portability; Truth-in-Billing and Billing Format; IP-Enabled Services*, WC Docket Nos. 04-36, 06-122, CC Docket Nos. 90-571, 92-237, 95-116, 96-45, 98-170, 98-171, 99-200, NSD File No. L-OO-72, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518 at ¶ 34 (2006) ("*2006 USF Contribution Order*").
[116] *Proposed Third Quarter 2021 Universal Service Contribution Factor*, CC Docket No. 96-45, Public Notice, 36 FCC Rcd 9446 (rel. June 10, 2021).
[117] *See Petitions for Declaratory Ruling on Regulatory Status of Wireless Messaging Service*, WT Docket No. 08-7, Declaratory Ruling, 33 FCC Rcd 12075 (rel. Dec. 13, 2018).

a "telecommunications service"[118] or qualify as ancillary to an existing telecommunications service. It is doubtful that the revenue from Title II paging services will be sufficient to support the demands of any of the four USF funds, let alone the four supported funds combined.

But even if Congress or the Commission could find additional funding, elimination of the PSTN will also eliminate the ability of carriers to ***receive*** funds—at least from the Lifeline and Rural High Cost Fund programs.[119] This will impact not only the availability of voice services but also the FCC's ability to fund rural broadband deployment through the Rural High Cost Fund and subsidize broadband subscriptions through Lifeline. Since 2011, the FCC has repurposed the Rural High Cost Fund as a rural broadband deployment fund by (a) limiting the fund to eligible telecommunications carriers; and (b) requiring these carriers to continue to offer eligible voice services in addition to broadband. Technically, the FCC does not fund "broadband" but instead requires carriers to offer broadband ***in addition*** to the covered voice service and allows the eligible carriers to use the fund to upgrade their network so they have the capacity to offer broadband.[120] As a result, from the statutory perspective, the funds are disbursed for the covered telecommunications services and not for the ineligible "information service."[121] Absent at least the fig leaf of a covered service in the bundle offered, the would-be recipient is ineligible for those funds.

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[118] 47 USC § 254(c)(1)(C) (requiring the service to be deployed in a PSTN).
[119] *See* 47 U.S.C. § 254(e) ("only an eligible telecommunications carrier designated under section 214(e) of this title shall be eligible to receive specific Federal universal service support").
[120] *Connect America Fund, A National Broadband Plan for Our Future*, WC Docket No. 10-90, GN Docket No. 09-51, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (rel. Nov. 18, 2011) ("*2011 High Cost Fund Order*").
[121] *Direct Communications of Cedar Valley v. FCC,* 753 F.3d 1015 (10th Cir. 2014).

The FCC acknowledged this reality in its order on remand from the D.C. Circuit in *Mozilla v. FCC*.[122] In *Mozilla,* the D.C. Circuit found that the Commission had not adequately considered the impact on Lifeline of its decision to reclassify broadband as an information service.[123] The Commission explicitly reaffirmed the logic of the 2011 USF High Cost Reform Order that eligibility for USF funding is contingent on offering a Title II voice service. The Commission, therefore, reinstated the requirement it had eliminated in 2016 (after classifying broadband as a Title II supported service): Recipients of High Cost and Lifeline USF funds must maintain their status as Eligible Telecommunications Carriers ("ETCs")[124] under Section 214.[125] Although permitting ETCs to offer broadband-only plans to Lifeline recipients, the *2020 Remand Order* made clear that this statutory authority rested on the network also offering a Title II telecommunications service and thus maintaining its status as a common carrier.[126]

Once again, the phase-out of the PSTN removes the common carrier service that supports the entire structure. Even if the Commission includes interconnected VoIP as a supported service without classifying it as Title II as an exercise of ancillary authority—an approach untested in federal court and therefore only assumed *arguendo*—that exercise of ancillary authority must be "ancillary to" authority over an actual Title II service.[127] Without legacy Title II voice *somewhere* in the network, and with broadband and SMS classified as Title I, there is no eligible service to

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[122] *See Restoring Internet Freedom*, WC Docket No. 17-108, Order on Remand, 35 FCC Rcd 12328 at ¶¶ 83-86 (2020) ("*2020 Remand Order*").
[123] *Mozilla Corp. v. FCC*, 940 F. 3d 1, 68 (D.C. Cir. 2019).
[124] *See 2020 Remand Order* at ¶¶ 87-93
[125] 47 U.S.C. § 214(e).
[126] *2020 Remand Order* at ¶ 99.
[127] *Comcast Corp. v. FCC*, 600 F. 3d 642, 644 (D.C. Cir. 2010).

support. Admittedly, the elimination of any network qualified to receive support will go a long way to alleviating the contribution crisis, but this would be a cure far worse than the disease.

4. Public Safety and Network Resilience and Reliability

One of the Commission's core missions is promoting public safety through communications technologies and ensuring a reliable and resilient communications network that can withstand disasters and emergencies.[128] Just as with universal service and the contribution crisis, failing to classify VoIP service in the face of broadband reclassification and the PSTN phase-out will result in a crisis of authority that will leave the Commission unable to safeguard the public and ensure a reliable and resilient communications infrastructure.

The *Mozilla* court addressed this core mission of the FCC when it ordered the FCC to consider on remand the impact of classifying broadband as a Title I service on public safety. As the court observed, when the Commission abdicates its responsibility for public safety, people die.[129] Unfortunately, the Commission's response in the *2020 Remand Order* once again confirms the worst. The *2020 Remand Order* does not identify any source of Commission authority to address the concerns of the public safety and first responder community for a Title I information service. Instead, the *Order* relies on state consumer protection law, the highly limited transparency obligations imposed on ISPs by the Commission, antitrust, and a general assessment that nothing will go wrong. The *Order* underscores the Commission's lack of authority by observing that even if the problems anticipated by the public safety community do

[128] 47 U.S. Code § 151.
[129] *Mozilla v. FCC* at 62.

occur, the supposed benefits of avoiding Title II classification will allegedly offset the potential danger to safety of life and property.[130]

The consequences of the PSTN's phase-out are even worse than the Commission's abdication of responsibility over broadband. At present, the Commission's primary authority for rules maintaining resiliency and reliability derives from its general Title I authority. For example, the Commission used ancillary authority to mandate that interconnected VoIP providers participate in the NORS database.[131] When the Commission sought to impose mandatory backup requirements on wireless services pursuant to its ancillary authority in the wake of Hurricane Katrina, the Commission faced strong resistance from the D.C. Circuit and ultimately abandoned the effort.[132]

While the Commission has some authority based on the statutory mandate to ensure that 911 is the universal emergency number pursuant to Section 251(e),[133] this authority is uncertain and must derive from the explicit purpose of the statute. Additionally, the Commission's experience trying to mandate backup power after Hurricane Katrina demonstrates the limits of

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[130] *2020 Remand Order* at ¶ 20 ("We also find that even if there were some adverse impacts on public safety applications in particular cases—which we do not anticipate—the overwhelming benefits of Title I classification would still outweigh any potential harms.")

[131] *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 16830, 16856 (2004) ("*2004 NORS Part 4 Report and Order*").

[132] *See Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket No. 11-60, Notice of Inquiry, 26 FCC Rcd 5614 at FN. 29 (April 7, 2011) (describing the challenges and procedural disposition of the attempt to mandate backup requirements).

[133] The D.C. Circuit has affirmed some ancillary authority related to this section and Section 1. *See e.g. Vonage Holdings Corp. v. FCC*, 489 F.3d 1232, 1241 (D.C. Cir. 2007) (holding that the Commission has authority through the related section 254(d) to require interconnected VoIP providers to make USF contributions).

the Commission's authority over non-Title II wireless networks. Given the rigid interpretation by some courts of the "common carrier prohibition,"[134] it is uncertain that the Commission would retain the authority to mandate interconnection, roaming, or any other sorts of facilities sharing as part of an emergency framework; nor could the Commission protect consumers from being charged for service after a natural disaster destroys their home.

As discussed in Section I.A, the recent fight between the alarm industry and AT&T over the phase out of AT&T's 3G network illustrates the need for Commission oversight, and why state consumer protection law (assuming it is not preempted) cannot substitute for Commission oversight. In its opposition to the *AICC 3G Sunset Petition*, AT&T argued that the Commission lacked authority to order the continued operation of its 3G mobile network because the data traffic in question was not a Title II service.[135] This illustrates the manner in which ***any*** future exercise of authority will be questioned going forward—even in the face of threats to safety of life and property. Once the last clear Title II service ceases operation, every carrier will be free to thumb its nose at the Commission regardless of the potential consequences. Because AT&T offers the Title I data services over its Title II 3G CMRS network, the Commission does, in fact, have sufficient authority to take whatever action is necessary to protect life and safety here. Once the PSTN is gone, however, the Commission will have no obvious tools with which to protect life and property in a crisis.

It is the Commission's general authority over Title II networks, embodied in Section 201(b), that gives the Commission the necessary authority to create and enforce the rules

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[134] *See e.g. N.Y. State Telecomms. Ass'n v. James*, 2:21-cv-2389 (DRH) (AKT) (E.D.N.Y. Jun. 11, 2021).
[135] *AT&T 3G Sunset Opposition* at 6-9.

necessary to promote public safety, protect customers during emergencies, and ensure that our communications infrastructure remains resilient and reliable in an increasingly dangerous world.

5. Interconnection and Mandatory Call Completion

One of the FCC's most important powers is the authority to order carriers to interconnect their networks. Historically, monopoly networks have refused to interconnect in order to maintain their control over the market. AT&T established its monopoly in the early years of the 20th Century by refusing to interconnect its "long lines" with local competitors.[136] The chief concession of AT&T in the Kingsbury Commitments was an agreement to interconnect with rival telephone companies.[137] Regulating the terms of interconnection was part of the oversight vested in the Interstate Commerce Commission under the Manns-Elkin Act.[138] The power to order interconnection is the ***first*** explicit power given to the FCC in the Communications Act of 1934.[139] Congress found that it was only possible to create a wireless industry by making interconnection between the two phone networks mandatory.[140] Similarly, the FCC has identified the obligation to terminate calls by a Title II service provider as absolute and non-discretionary, even during a commercial dispute.[141]

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[136] Tim Wu, *A Brief History of American Telecommunications Regulation*, Oxford International Encyclopedia of Legal History, Vol. 5, p. 95, 2009 (2007) (available at https://scholarship.law.columbia.edu/faculty_scholarship/1461).
[137] *Id.*
[138] *Id.*
[139] 47 U.S.C. § 201(a).
[140] H.R. 103-213, at 495-96 (1993) (Conf. Rep.).
[141] *In re Establishing Just and Reasonable Rates by Local Exchange Carriers, Call Blocking by Local Exchange Carriers*, Declaratory Ruling and Order, WC Docket No. 07-135 (Rel. June 28, 2007).

History also demonstrates the reason Congress and the Commission have treated the power to order interconnection and call termination as essential to the operation of our communications networks. When networks are of roughly equal sizes, each network gains comparable value from interconnecting with the other. However, when one network is larger—especially if it is a monopoly network facing a new entrant—interconnecting provides a much greater benefit to the rival. As a result, the larger network will invariably either charge higher fees to interconnect and terminate calls on the network or refuse to interconnect altogether. The Commission has repeatedly seen this dynamic as the telephone network has evolved. For example, after the Commission ordered VoIP providers to offer 911 services, it required an act of Congress to ensure that ILECs would provide access to local public safety access points ("PSAPs").[142]

Presently, carriers exhibit this same behavior towards VoIP services, which will only worsen as the PSTN is phased-out. The Commission has consistently refused to apply the mandatory Section 251 interconnection obligation to any form of VoIP service. Consequently, carriers require VoIP services to interconnect at TDM access points rather than enabling more efficient IP-to-IP interconnection. In addition to raising costs to smaller carriers and competitors, the need to interconnect through TDM gateways breaks the STIR/SHAKEN protocol, sharply reducing its usefulness for combatting robocalls and fraud.[143] As the PSTN disappears, so too will these TDM gateways. Without Title II, the Commission will not have the authority to require carriers to continue interconnecting with VoIP services, even in such inefficient ways.

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[142] *See* New and Emerging Technologies 911 Improvement Act of 2008, PL. 110-283, 122 Stat. 2620 (2008) (codified at 47 U.S.C. § 615a) ("NET 911 Improvement Act").
[143] This is discussed further in Part II(C)(1), below.

6. Loss of Privacy, Truth-in-Billing, and Other Consumer Protection Regulations

Once again, eliminating the PSTN also removes any means of exercising Title II authority over the remaining voice networks, including the Commission's authority to impose many consumer protections. The FCC has applied many of the traditional PSTN's consumer protections to interconnected VoIP through ancillary jurisdiction. These protections apply to mobile services to the extent these services are CMRS. By statute, Section 222 protects both customer privacy and the proprietary information of interconnecting carriers or service providers offering service over the network.[144] The Commission has also imposed other consumer protection regulations on carriers, such as truth-in-billing, through its Title II authority to require that carrier practices be "just and reasonable," and prevent "unreasonable discrimination" for both TDM and CMRS.[145] In its pending proceeding to determine whether to apply these consumer protection rules to interconnected VoIP services, the Commission has acknowledged that its authority to do so "derives in large part from section 201(b) of the Act to deter carriers from engaging in unjust and unreasonable practices."[146]

Without legacy TDM Title II, interconnected VoIP is untethered from any Title II service for the exercise of ancillary jurisdiction. If CMRS is no longer interconnected it becomes PMRS, subject to Title III instead of Title II. While Title III may provide a basis for imposing some basic consumer protection regulations on wireless PMRS service, the Commission must comply with

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[144] 47 U.S.C. § 222.
[145] *See Truth-In-Billing and Billing Format*, CC Docket No. 98-170, First Report and Order, Further Notice of Proposed Rulemaking, 14 FCC Rcd 7492 (1999).
[146] *Truth-in-Billing and Billing Format, IP-Enabled Services*, CC Docket No. 98-170, WC 04-36 34, Public Notice, FCC Rcd 12202, 12204 (rel. Dec. 13, 2019).

the common carrier prohibition. Protections based on concepts such as "just and reasonable" business practices and preventing "unreasonable discrimination" are grounded in common carrier regulation—and would therefore violate the common carrier prohibition. As the D.C. Circuit explained in *Cellco*, Title III regulation must allow carriers to make individualized decisions and cannot require that the provider treat all subscribers equally—a hallmark of common carriage.[147]

As the essence of consumer protection law is to ensure that all customers are treated fairly, it is unclear to what extent the common carrier prohibition will limit the Commission's ability to impose consumer protection regulations. In 2010 and 2011, when the Commission conducted its "bill shock" proceeding, wireless carriers raised the common carrier prohibition as a shield to block anti-bill shock regulation.[148] In the *RIFO*, the Commission went even further, finding that consumer protection for Title I broadband service fell entirely outside the FCC's authority, leaving consumers to rely exclusively on the FTC's general Section 5 authority and state consumer protection laws.[149] In any event, whatever residual Title III authority to protect consumers might apply to mobile voice networks, it certainly would not apply to interconnected VoIP providers offered over wireline.

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[147] *See Cellco* at 546.

[148] Comments of CTIA – The Wireless Association®, CG Docket No. 10-207, 35 (January 10, 2011) (available at https://ecfsapi.fcc.gov/file/7021025497.pdf).

[149] *RIFO* at ¶¶ 140-142. As a recent FTC study found, broadband providers took immediate advantage of their freedom from CPNI to surveil their customers and monetize their personal data. *See* FTC Staff Report, *A Look at What ISPs Know About You: Examining the Privacy Practices of Six Major Internet Service Providers* (Oct. 21, 2021), https://www.ftc.gov/system/files/documents/reports/look-what-isps-know-about-you-examining-privacy-practices-six-major-internet-service-providers/p195402_isp_6b_staff_report.pdf.

7. Confusion on Accessibility Regulations

Without the PSTN, the Commission's ability to create accessibility requirements is uncertain. Ensuring that those with hearing impairments can use communications technology with the same freedom enjoyed by others is another one of the Commission's important responsibilities. The Commission has imposed rules requiring compatibility with hearing aid devices on CMRS providers.[150] The Commission has also required telephone network operators to offer access services for the deaf and hard of hearing.[151] In 2007, the Commission extended accessibility requirements to interconnected VoIP providers via its ancillary authority.[152] Congress later ratified, and to some degree altered, the Commission's authority by adopting the 21st Century Communications and Video Accessibility Act of 2010 ("CCVA").[153] The CCVA requires providers of "advanced communications services"—defined as interconnected VoIP, nomadic VoIP, electronic messaging services, and video conferencing[154]—to support IP-based telecommunication relay services for the deaf.[155]

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[150] *See Section 68.4(a) of the Comm'n's Rules Governing Hearing Aid-Compatible Telephones*, WT Docket No. 01-309, Report and Order, 18 FCC Rcd 16753 (2003) ("*2003 Hearing Aid Compatibility Report and Order*").

[151] *Telecommunication Services for Individuals with Hearing and Speech Disabilities, and the Americans With Disabilities Act of 1990*, CC Docket No. 90-571, Report and Order and Request for Comments, 6 FCC Rcd 4657 (1991) ("*TRS I*").

[152] *Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996: Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities; Telecommunications Relay Services and Speech-to-Speech Services for Individuals With Hearing and Speech Disabilities*, WC Docket No. 04-36, WT Docket No. 96-198, CG Docket No. 03-123 & CC Docket No. 92-105, Report and Order, 22 FCC Rcd 11275 (2007) ("*2007 VoIP TRS Order*").

[153] 21st Century Communications and Video Accessibility Act of 2010, Pub. L. 111-260, 124 Stat. 2751 (2010) ("CCVA").

[154] 47 U.S.C. 153.

[155] CCVA, Sec. 103.

Unfortunately, rather than anchoring disability access on firm grounds post-PSTN sunset, the statute creates additional confusion. The CCVA exempts "telephones used with private radio services" from its accessibility requirements. As noted above, the PSTN's phase-out will transform existing CMRS services to PMRS, as these mobile services will no longer be "interconnected with the PSTN."[156] In other words, unless the Commission preserves the existence of the PSTN by reclassifying interconnected VoIP as a Title II service, the CVAA will arguably prohibit the application of the hearing aid compatibility rules to mobile services.

The CCVA also states, "The requirements of this section shall not apply to any equipment or services, including interconnected VoIP service, that are subject to the requirements of section 255 of this title on the day before October 8, 2010."[157] Instead, such services "shall remain subject to Section 255."[158] However, without the PSTN, there is no ancillary authority to apply Section 255 to interconnected VoIP providers. This would, arguably, leave interconnected VoIP exempt from both the more rigorous Section 255 regulations and the obligations imposed by Section 717.

To be clear, this is not the definitive interpretation of the statute. Rather it is another example of how removing the foundational authority of Title II removes the certainty of Commission authority despite the legislative action directly addressing interconnected VoIP. Whatever the ultimate outcome, the failure of the Commission to classify interconnected VoIP as Title II will undermine the Commission's ability to protect the rights of vulnerable users.

[156] 47 U.S.C. 610(b)(2)(A)(ii).
[157] 47 U.S.C. § 617(f).
[158] 47 U.S.C. § 617(f).

8. Loss of Access to Pole Attachments

The failure to classify interconnected VoIP as Title II also deprives providers of voice services of access to utility poles under Section 224. Section 224 provides access at regulated rates to providers of Title VI cable services and providers of Title II telecommunications services to utility poles.[159] Congress recognized that access to utility poles at affordable rates is critical to providers of wireline services, and that requiring providers of wireline services to build new poles along the same routes to service created a significant barrier to entry. As the Commission recognized in the *2020 Remand Order*, the statute does not authorize access for providers of Title I information services.[160] Thus, without Title II classification VoIP providers cannot command mandatory access to utility poles at regulated rates.

9. Impact on States, Including Possible Preemption of Public Safety and 911

The end of FCC jurisdiction over interconnected VoIP will only aggravate the already existing confusion in the states over their authority to regulate interconnected VoIP. In the *Vonage Order*, the FCC preempted the application of "common carrier regulation" to nomadic interconnected VoIP services by the states. The Commission justified this exercise of preemption authority on the grounds that Vonage traffic intermingled both intrastate and interstate traffic and that it was impractical to separate the two given the nomadic nature of the Vonage service.[161] The

[159] 47 U.S.C. § 224.
[160] *2020 Remand Order* at ¶¶ 68-70.
[161] *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 03-211, Memorandum Opinion and Order, 19 FCC Rcd. 22404 (rel. Nov. 12, 2004) ("*Vonage Order*").

8th Circuit upheld the Commission's reasoning and preemption.[162] Although the FCC's *Vonage Petition* ruling applied only to "common carrier regulation" of nomadic interconnected interstate VoIP, state and federal courts – and state PUCs – have arrived at conflicting results as to whether this preemption applies to facilities-based interconnected VoIP. The state of California for example, has rejected the argument that the FCC has preempted state authority over intrastate regulation of interconnected VoIP services.[163] At the other extreme, the 8th Circuit has found the FCC has entirely preempted state regulation of all VoIP services.[164] The state Supreme Court of Vermont occupied a middle ground, finding that the state could regulate interconnected VoIP but not impose "common carrier" regulation and remanded the matter back to the Vermont PUC to determine the extent of the preemption.[165] After initially finding in 2018 that it could regulate interconnected VoIP,[166] the VT PUC reversed itself in 2021 and found no authority to regulate any aspect of intrastate interconnected VoIP services.[167]

Federal courts are now split over whether the FCC has preemption power over Title I information services, and to what extent preemption of "common carrier" services impacts a state's ability to regulate these services to protect public safety. In California, in part as a response to Verizon throttling the Santa Clara fire department for exceeding their data cap during

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[162] *Minnesota Public Utilities Commission, et al. v. FCC, et al.*, No. 05-1069 (8th Cir. Mar. 21, 2007).
[163] *See* Order Instituting Rulemaking Regarding Emergency Disaster Relief Program, Decision 20-09-012, Rulemaking 18-03-011, 20-21, 24-25 (CPUC Sep. 15, 2020).
[164] *Charter Advanced Servs. (MN), LLC v. Lange*, 903 F.3d 715 (8th Cir. 2018).
[165] *In re Investigation into Regulation of Voice Over Internet Protocol (VoIP) Services*, 70 A.3d 997, 1006–08 (Vt. 2013).
[166] *In re Investigation Into Voice over Internet Protocol (VoIP) Services*, VT PUC, Docket No. 7316 (rel. Feb. 7, 2018).
[167] *In re Investigation Into Voice over Internet Protocol (VoIP) Services*, VT PUC, Docket No. 7316 (rel. April 5, 2021).

a major wildfire, the state legislature prohibited blocking or throttling of internet traffic.[168] ISPs have challenged this provision in federal court, arguing that the RIFO preempts these provisions even with regard to public safety.[169]

Other states have likewise struggled to understand the impact of the FCC's preemption of state law and how classification as a Title I information service impacts the ability to require emergency backup power and access to 911.[170] As of this writing, the 8th Circuit has found that the FCC's classification of interconnected VoIP as an information service completely preempts states from regulating these services.[171] The SDNY has found similar broad preemption based on Title I classification.[172] By contrast, the 9th Circuit in California found that classification as a Title I service removed the FCC's power to preempt and that the Communications Act limits the FCC but not the states unless explicitly stated.[173]

Therefore, absent FCC action to classify interconnected VoIP and address the question of state authority, this confusion (and circuit split) will persist, with potentially fatal results. As

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[168] California Internet Consumer Protection and Net Neutrality Act of 2018, CA SB-822, Cal. Stats. 2018, ch. 976 (2018).
[169] *See ACA Connects v. Bonta*, No. 21-15430 (9th Cir. 2022) (petition for rehearing en banc pending).
[170] *See e.g.* Vermont Public Utility Commission, *Provider Compliance with 911 Backup-Power Obligations of 47 C.F.R. § 12.5 and Best Practices for Minimizing Disruptions to 911 Services During Power Outages* (Dec. 13, 2019) available at https://puc.vermont.gov/sites/psbnew/files/doc_library/911%20Battery%20Report.pdf; *see also* Dana A. Scherer, *Potential Effect of FCC Rules on State and Local Video Franchising Authorities*, Congressional Research Service Report R46077 (rev. Jan. 9, 2020) ("In addition, the FCC ruled that local franchise authorities could not regulate nonvideo services offered by incumbent cable operators, such as broadband internet service, business data services, and Voice over Internet Protocol [VoIP] services.").
[171] *Charter Advanced Servs. (MN), LLC v. Lange*, 903 F.3d 715 (8th Cir. 2018).
[172] *N.Y. State Telecomms. Ass'n v. James*, 2:21-cv-2389 (DRH) (AKT) (E.D.N.Y. Jun. 11, 2021).
[173] *ACA Connects v. Bonta*, No. 21-15430 (9th Cir. 2022).

noted above, the failure to resolve the classification of interconnected VoIP threatens to eliminate the FCC's authority over network resiliency and reliability. The uncertainty with regard to state authority will prevent some states from filling this gap and, as the *Mozilla* Court observed, when these networks fail people die.[174] The FCC's inaction risks eliminating federal and some states' authority to protect public safety operations and emergency communications.

10. Loss of Discontinuance Orders

Without Title II classification, the Commission will not have the authority to require that VoIP providers apply to the FCC for permission to discontinue service. Section 214 of the Communications Act requires that a telecommunications provider receive permission from the Commission before it can "discontinue, reduce, or impair service to a community, or part of a community."[175] In the *2009 IP-Enabled Services Order*, the Commission found that it was "critically important" to extend the discontinuance requirements to interconnected VoIP services and providers. The Commission reasoned that "if customers were to lose their telephone service without sufficient notice, they would also lose access to 911 service—possibly with disastrous consequences."[176] As the Commission issues discontinuances for legacy TDM service, the only non-wireless service an increasing number of Americans have is interconnected VoIP, making the Section 214 protections even more essential.

The Commission relied on its ancillary authority to apply the Section 214 discontinuance requirements to interconnected VoIP providers.[177] The loss of ancillary authority over

[174] *Mozilla v. FCC* at 62.
[175] 47 U.S.C. § 214(a).
[176] *2009 IP-Enabled Services Order* at ¶ 8.
[177] *2009 IP-Enabled Services Order* at ¶ 9.

interconnected VoIP services will also result in the loss of Section 214's discontinuance protections. Without these protections, carriers will have no obligation to notify subscribers before terminating service. Nor will the Commission have the authority to require providers to continue service when subscribers do not have access to a suitable replacement service.

C. There Are Harms Already Occurring Due to the FCC's Continued Delay in Classifying VoIP as a Title II Service.

The problems facing the Commission are not merely speculative. Harms from the Commission's unwillingness to classify VoIP as a telecommunications service are already accruing. First, the difficult implementation of STIR/SHAKEN protocols is a microcosm of other technical problems related to the lack of digital interconnection, which ultimately stems from the lack of regulatory action. Second, as the traditional TDM networks are retired in the absence of regulations governing IP-based service replacements, the anti-competitive impacts of failing to protect affordable access to infrastructure for competitive carriers have already started. Finally, the Commission's noncommittal approach to regulating VoIP services has created considerable confusion for some states, which has hampered state actions to protect consumers from some of the above-described harms.

1. Unregulated interconnection policies break STIR/SHAKEN protocols intended to prevent caller identification spoofing.

The implementation of STIR/SHAKEN protocols, an important—and legally mandated—consumer protection framework, is hampered by a lack of regulations surrounding interconnection with IP-enabled services like VoIP. STIR/SHAKEN protocols are a collection of

standards intended to provide trusted call authentication information.[178] The implementation of this framework is intended to protect consumers from unwanted automated "robocalls" and caller identification spoofing that enables fraud. These protocols rely on the transmission of digital call information at each and every step in the call's path. Unfortunately, TDM networks cannot implement these protocols. Many service providers continue to only provide non-digital TDM gateways to interconnect with IP-enabled providers. When call information arrives at these TDM gateways the digital "token" carrying the necessary information is lost, even if the call is reconnected to a digital network later in the routing path.

Historically, large carriers have used interconnection to extort monopoly fees from smaller rivals, or deny them access altogether. This is why Congress made mandating interconnection and ensuring that terms for interconnection are "just and reasonable" one of the core goals of the Communications Act and a key responsibility of the Commission.[179] Without Title II classification, VoIP carriers seeking to interconnect with larger competitors have not had the same right to "just and reasonable" interconnection terms. When the Commission required interconnected VoIP providers to offer 911 services, ILECs in control of the public safety access points ("PSAPs") refused to negotiate PSAP interconnection on reasonable terms until required to do so by Congress.[180]

The failure of providers to connect to one another through digital gateways is inextricably related to the lack of regulations surrounding IP-enabled services due to the Commission's

[178] FCC, *Combating Spoofed Robocalls with Caller ID Authentication*, (last accessed Feb. 28, 2022), https://www.fcc.gov/call-authentication.
[179] *See* 47 U.S.C. §§ 201(a); 251(a).
[180] *See* NET 911 Improvement Act.

failure to properly classify VoIP as a telecommunications service. Industry stakeholders have warned that without "rules of the road" to govern VoIP and IP interconnection, implementation of a framework like STIR/SHAKEN is effectively impossible.[181] In the absence of mandatory interconnection obligations for interconnected VoIP, larger carriers have simply refused to provide IP-based interconnection to smaller providers. Even where IP-based interconnection is available or otherwise feasible, larger carriers routinely require smaller carriers to use TDM-based interconnection gateways. This prevents system-wide implementation of STIR/SHAKEN, frustrating the effort to eliminate spoofing and robocalls.

Moreover, without guarantees of affordable digital interconnection, even if the smallest service providers build state-of-the-art modern digital networks, the tokens required for call authentication will still be lost at the first interconnection point to another provider. The end result is that incumbent providers will force smaller service providers to negotiate expensive one-off agreements for digital interconnection to comply with regulatory requirements. Such extortionate agreements represent one species of the anticompetitive behavior that results from the current environment. Standards like STIR/SHAKEN are not intended to serve as competitive roadblocks or technical challenges for providers of any size, yet without regulatory guidance, such technical projects aimed at protecting consumers from fraud and networks from abuse are rendered impossible.

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[181] *In the Matter of Call Authentication Trust Anchor, Implementation of TRACED Act Section 6(a)—Knowledge of Customers by Entities with Access to Numbering Resources*, WC Docket No. 17-97, WC Docket No. 20-67, Comments of NTCA–The Rural Broadband Association (filed May 15, 2020) ("*NTCA STIR/SHAKEN Comments*"); *see also* North American Numbering Council's Call Authentication Trust Anchor Working Group, *Deployment of STIR/SHAKEN by Small Voice Service Providers* (adopted Oct. 13, 2021), (available at https://docs.fcc.gov/public/attachments/DOC-377426A1.pdf).

This problem, and others like it, can be effectively averted by the exercise of Title II authority over VoIP services as telecommunications services. As an initial matter, classification of interconnected VoIP as Title II would impose the general responsibility under 47 U.S.C. § 251(a) to provide interconnection to other Title II carriers. Additionally, by classifying VoIP as a telecommunications service and using its authority under Title II, the Commission will be able to create the "rules of the road" necessary to ensure network interconnection on just and reasonable terms, just as it has historically done with traditional telephone service and CMRS.

2. The lack of a Title II regulatory framework for VoIP and digital telecommunications services results in anticompetitive behavior.

A functional and competitive telephone system relies on rules that require interconnection between networks and affordable access to infrastructure for competing service providers. Without these regulations, service degrades, competition decreases, and consumers suffer the consequences. Unfortunately, in the absence of clear regulations to protect competition, service providers have already demonstrated—through both words and actions—their willingness to engage in anticompetitive practices that harm the American consumer.

Currently, VoIP service providers can provide competitive service packages by relying on regulations that allow them to obtain reasonably priced wholesale TDM-based services from incumbent service providers. These regulations are inextricably tied to the traditional TDM-based copper loop networks, and there is no equivalent for new fiber optic digital networks. As a result, when these wholesale packages are unavailable, because of retirement of

old infrastructure or for other reasons,[182] the incumbent service providers can force their competitors to purchase interconnection at exorbitant prices. Other than a notice requirement for the retirement of copper networks, there are no regulatory safeguards to avert the anticompetitive effect of the transition to digital networks. This is not a speculative concern but observable in the current market.[183]

Relatedly, incumbent service providers have indicated that absent regulation to the contrary, they intend to develop relatively few geographically disparate access points for digital interconnection. Limiting access points will force competitive carriers to build out expensive and redundant infrastructure in order to interconnect with incumbent carriers, creating considerable market entry barriers.[184]

Both aforementioned competition issues emerge from the lack of regulation concerning VoIP interconnection. If the Commission continues to ignore the need to apply Title II economic regulations to VoIP services in appropriate circumstances, competition for those services will suffer. End-user customers, including many federal and state governments, that have long benefited from competitive resale in the provision of TDM-based telephone service, will experience unnecessarily high prices and degraded service quality for interconnected VoIP service.

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[182] *Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and NextGeneration Networks*, WC Docket No. 18-141, Memorandum Opinion and Order, 34 FCC Rcd 6503 (2019).
[183] *See Petition of USTelecom for Forbearance Pursuant to 47 U.S.C. § 160(c) to Accelerate Investment in Broadband and Next-Generation Networks,* WC Docket 18-141, Opposition of Granite to USTelecom's Forbearance Petition at 25-29 (filed Aug. 6, 2018).
[184] *See NTCA STIR/SHAKEN Comments*.

3. The failure to classify VoIP service as a telecommunications service has created regulatory confusion that hampers consumer protection at the state and local levels.

While the foregoing sections may seem to suggest that the Commission has entirely ignored the pressing need to regulate VoIP services, this is not the case. To the contrary, in many circumstances, the Commission has imposed obligations on VoIP services consistent with the analysis that VoIP is a telecommunications service. For instance, the Commission has required VoIP service providers to supply 911 and enhanced emergency calling services,[185] make universal service fund contributions,[186] and applied various other consumer protection obligations and regulations normally applied to traditional wireline telephone services.[187] Nevertheless, despite taking regulatory actions that suggest that the Commission recognizes that VoIP is functionally equivalent to other telephone services, the Commission has never classified VoIP service as a telecommunications service, nor invoked its Title II authority over VoIP. Instead, the Commission has always relied upon its ancillary authority under Title I to regulate VoIP services. Further complicating matters, in some cases, the Commission has chosen to explicitly forbear from regulating VoIP in certain areas while preempting state authority in other

[185] *In the Matters of IP-Enabled Services, E911 Requirements for IP-Enabled Service Providers*, WC Docket No. 04-36, WC Docket No. 05-196, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd. 10245, 10246 (June. 3, 2005) ("*2005 IP-Enabled Services Order*"); *In the Matter of IP-Enabled Services*, WC Docket No. 04-36, Report and Order, 24 FCC Rcd. 6039, 6041 (2009) ("*2009 IP-Enabled Services Order*").
[186] *2006 USF Contribution Order.*
[187] *See e.g. 2005 IP-Enabled Services Order.*

areas.[188] This patchwork regulatory regime sends mixed and inconsistent messages to the judiciary and state regulators.

Some state governments have endeavored to fill some of the gaps in the Commission's current regulatory scheme. But, confusion regarding the extent to which they are preempted complicates these efforts. Similarly, as described above, courts that have grappled with the piecemeal regulatory scheme for VoIP have also struggled with the Commission's lack of clear and obvious intent, leading to conflicting and contradictory decisions. These issues arise primarily from confusion and ambiguity, and they are easily resolved if the Commission explicitly classifies VoIP service as a telecommunications service—thereby firmly grounding any further questions regarding the scope of its authority in the robust jurisprudence surrounding its Title II authority and regulation of other telecommunications services.[189]

Confusion around VoIP's classification also acts as an additional burden to local governments seeking to participate in the Lifeline, Emergency Broadband Benefit, and Affordable Connectivity Program. As local governments deploy infrastructure and begin offering service for the first time, ample clarity about VoIP's classification provides municipalities with assurance that their services meet the definition of an Eligible Telecommunications Carrier ("ETC"). A clear and consistent policy around VoIP's classification could help local

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[188] *See Charter Advanced Servs. (MN), LLC v. Lange*, 903 F.3d 715 (8th Cir. 2018); *2005 IP-Enabled Services Order* at ¶ 3 (explaining difference between "economic" regulation and non-economic "social" regulation to protect consumers and preempting the first while imposing the later "as necessary").

[189] Classification of VoIP as something other than as a telecommunications service, if the Commission intends to keep the bulk of its existing VoIP regulatory scheme, would likely only enhance, rather than resolve, confusion regarding the Commission's intent given the considerable parallels in its limited regulation of VoIP services and traditional telecommunications services.

governments that lack the resources to research the question on their own or hire experts to explain the distinction.

II. INTERCONNECTED VOIP MEETS THE STATUTORY DEFINITION OF A TELECOMMUNICATIONS SERVICE.

In the Telecommunications Act of 1996, Congress provided a broad definition of a telecommunications service.[190] It was technology-agnostic, based only on the nature of the service and the way consumers used it. The lack of any reference to a specific technology was deliberate. Congress recognized that a narrow and technology-specific definition would quickly become outdated and instead wanted to create room for future technological advancements that would improve the quality, capacity, and efficiency of basic telephone service. It stands to reason that any service that enables real-time bidirectional and multi-point voice communication services while interconnecting with the PSTN to allow inbound and outbound calls should be classified as a telecommunications service.

To analogize with an automobile, a new model may have several enhancements in space, comfort, and efficiency over an older model of the same automobile. Its propulsion system may even change from an internal combustion engine to an electric battery. Despite these technological advancements, consumers still regard the new model as an automobile, using it for all the same purposes as the old model. And, regulators continue regulating the new model as an automobile, any under-the-hood changes notwithstanding. The same should be true for voice services: whether the connection is circuit-switched or packet-switched, and whether the underlying network is TDM-based or Internet Protocol-based, as long as consumers use the

[190] 47 USC § 153(53).

service for real-time, bidirectional voice communication with parties of their choosing, the service should qualify as a telecommunications service subject to the same regulatory scheme as other telecommunications service.

A. With VoIP no longer in its infancy, the FCC should exercise its full Title II regulatory authority over the technology by properly classifying it as a telecommunications service.

With the VoIP services market having reached a far higher level of maturity today than in the early days of the internet, the time has come for the FCC to resolve the pending issue of classification of VoIP. Whatever the merits of the initial FCC decision at the turn of the century, the time for "wait-and-watch" has long passed. Today, consumers use VoIP services as a substitute for traditional telephone services. Given the straightforward and basic telephone service-analogous use of interconnected VoIP services, and regardless of the underlying facilities used by the provider to carry the speech, such services squarely fall within the definition of telecommunications service as defined in the Telecommunications Act.

1. The Commission Can No Longer Watch-and-Wait for VoIP to Mature.

The conservative approach taken by the FCC towards VoIP in the early 2000s, when it was still a new technology, is no longer appropriate. In the early 2000s, when VoIP was still an evolving technology, the FCC could afford to take a "wait-and-see" approach by declining to classify it as either a telecommunications service or an information service. At that time, the IP-enabled services marketplace was a "new frontier in our nation's communications landscape,"

with "new entrants and existing stakeholders…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 functionalities."[191] As a result, in its IP-Enabled Services NPRM, the FCC broadly and informally defined interconnected VoIP service as one 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; (3) the service requires IP-compatible customer premises equipment ("CPE"); and (4) the service permits users generally to receive calls that originate on the PSTN and to terminate calls to the PSTN.[192] This definition was highly issue-specific and adopted by the Commission only for the purposes of that NPRM.[193]

Today, VoIP services work differently. First, there is no reason, technical or otherwise, to consider interconnected VoIP services as *requiring* a broadband connection. As the name suggests, "Voice Over Internet Protocol" services relay a user's "voice" using "Internet Protocol," a Layer-3 Network protocol in the OSI stack.[194] This protocol is agnostic to the underlying physical and data link layers and can run on a variety of underlying connections, regardless of whether they are broadband or narrowband. Indeed, when consumers sign up for an unbundled voice calling plan from their ISP without purchasing an accompanying broadband plan, they, in fact, use VoIP service without a broadband connection. Second, those consumers use ordinary telephone equipment rather than IP-compatible CPE to make and receive calls.

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[191] *2005 IP-Enabled Services Order* at ¶ 4.
[192] *Id*. at 10257-58.
[193] *Id*. at 10257.
[194] *OSI model*, Wikipedia (June 25, 2021, 7:52 PM), https://en.wikipedia.org/wiki/OSI_model.

They are blind to any technical requirements such as broadband connection or IP-compatible CPE, which are provided and managed internally by the ISP.

Thus, the broad, informal, and temporary definition of interconnected VoIP services that was adopted by the FCC in the early days of VoIP is now outdated and the Commission should finally and properly exercise its full regulatory authority over VoIP services as they exist today.

2. VoIP services squarely fall within the definition of a telecommunications service under the Telecommunications Act.

VoIP services fall squarely within the definition of a telecommunications service. The Telecommunications Act defines “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."[195] Further, it defines a “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."[196] VoIP services fall within this definition because they (1) work by transmitting information chosen by the user between or among points the user specifies without changing the form or content of the information as sent and received; and (2) are services offered directly to the public for a fee.

VoIP services essentially function as a substitute for basic telephone services. Consumers use VoIP just as they use basic telephone service—for real-time, bidirectional voice communication. VoIP providers carry speech of a user’s choosing through their network to one or more called parties specified by the user, without change in form or content of that speech.

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[195] 47 U.S.C. § 153.
[196] *Id*.

They undoubtedly hold themselves out to the public, or to a subset thereof, as providers of voice communications services for a fee. Further, the facilities, network architecture, and technology used by VoIP providers to transport user speech and faithfully reproduce it at the other end are transparent to users, who expect the service to work like traditional phone service. Thus, interconnected VoIP services fall well within the statutory definition of a telecommunications service.

B. The FCC should classify Interconnected VoIP services as telecommunications services because the specific technological choices providers make are invisible to end-users.

Regardless of whether a call is placed from an ordinary telephone and transported over a carrier's "IP-in-the-middle" network, whether it is placed from one IP-compatible CPE to another or whether it is placed from an IP-compatible CPE to a PSTN receiver, the technological differences between various flavors of VoIP are entirely invisible to end-users. Users take the same steps to order and use VoIP service regardless of its underlying technology. VoIP services are comparable in cost to traditional circuit-switched service.

1. A VoIP service that provides ordinary telephone calls over an IP-in-the-middle transport network functions as a telecommunications service.

The Commission has already held that a VoIP service that provides ordinary telephone calls over an IP-in-the-middle transport network is a telecommunications service.[197] When users of a service obtain only voice transmission with no net protocol conversion and without having to order a different service, pay different rates, or place and receive calls any differently than

[197] *See Petition for Declaratory Ruling That AT&T's Phone-to-Phone IP Telephony Servs. Are Exempt from Access Charges*, WC Docket No. 02-361, Order, 19 FCC Rcd. 7457 (2004).

they do through a traditional circuit-switched long-distance service, they are using a telecommunications service even if those calls were routed over the carrier's Internet backbone.[198] In its petition regarding Phone-to-Phone IP Telephony, AT&T sought a ruling that access charges did not apply to its specific service.[199] AT&T claimed that such calls were information services because AT&T routed them through a gateway where they were converted to an IP format, then transported over AT&T's Internet backbone.[200] This was the only portion of the call that differed in any technical way from a traditional circuit-switched interexchange call, which AT&T would route over its circuit-switched long-distance network.[201] To get the call to the called party's LEC, AT&T then changed the traffic back from IP format and terminated the call to the LEC's switch through local business lines.[202]

The Commission disagreed with AT&T that the protocol conversion was sufficient to classify the service as an information service, stating that the decision to use its Internet backbone to route certain calls was made internally by AT&T and that the protocol conversions took place within AT&T's network. The Commission held that AT&T's service qualified as a telecommunications service, explaining that the IP conversions were "internetworking" which the Commission had previously determined were telecommunications services.[203]

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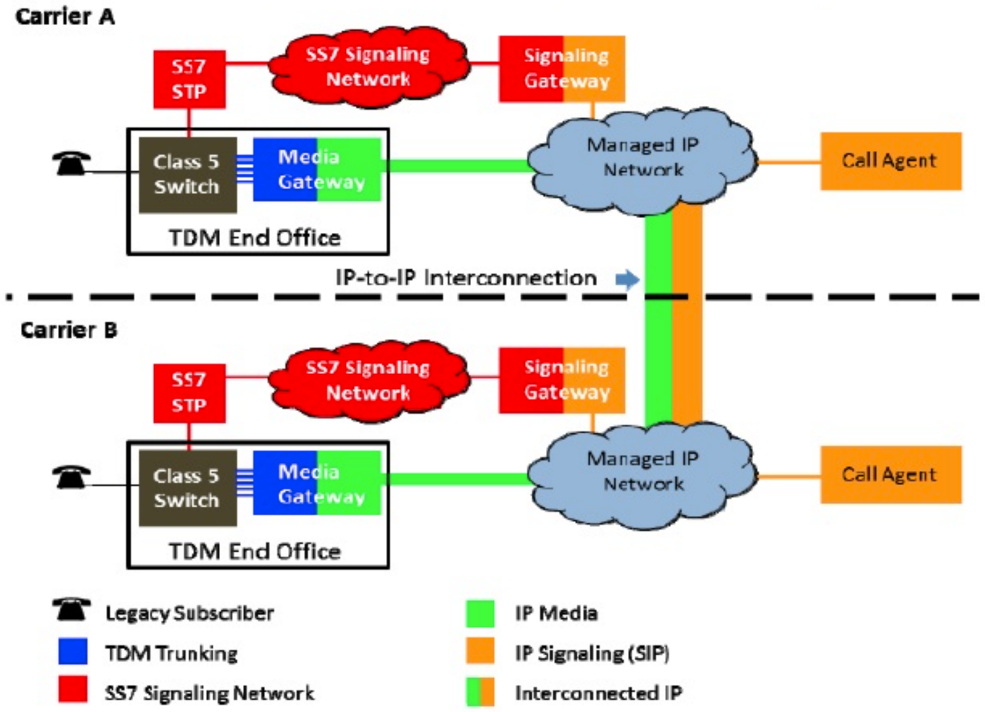
[198] *Id*. at 7457.
[199] *Id*.
[200] *Id*. at 7464.
[201] *Id*.
[202] *Id*.
[203] *Id*. at 7465.

Figure 3: IP in the Middle (with End Points TDM)



Therefore, as per the FCC's own established precedent, a VoIP service that provides ordinary telephone calls over an IP-in-the-middle transport network is a telecommunications service.

2. A VoIP Service that provides end-to-end SIP calling between IP-compatible CPEs functions as a telecommunications service.

A VoIP service that provides end-to-end Session Initiation Protocol ("SIP") calling between IP-compatible CPEs is a telecommunications service because it does so with no net protocol conversion. Calls placed through an IP-compatible CPE require an underlying internet connection. Either an analog telephone adapter ("ATA") into which the user plugs in ordinary telephone equipment or an IP-compatible phone ("IP Phone") can serve as the IP-compatible CPE. The ATA works as an analog-to-digital converter, converting the user's analog voice signal

into digital form, packetizing it and transmitting it over the user's internet connection using SIP and associated protocols over IP.[204] An IP phone looks like a traditional telephone but similarly transmits digitized and packetized voice using SIP and IP.[205] The VoIP service provider neither provides nor controls the transport of the user's voice packets over the internet. Similar IP-compatible CPE at the called party's end converts the received packetized voice back to an analog signal to be played back through a traditional phone connected to an ATA or through an IP phone.[206]

The FCC's technical classification of AT&T's "IP-in-the-middle" service as a telecommunications service is precedential and fully applicable to any VoIP service where a call from an IP-compatible CPE, converted to Internet Protocol and carried over the carrier's Internet backbone as a matter of the carrier's internal technological choice, terminates at another IP-compatible CPE. The heart of the FCC's Order on AT&T's phone-to-phone IP Telephony petition is that the lack of any special requirements from consumers to use the service is dispositive over any internal technological choices made by the carrier. This reasoning is also readily applicable to any IP-based service that mimics traditional circuit-switched telephony, such as end-to-end SIP calling through an IP-compatible CPE, irrespective of the amount and specific legs along the end-to-end route where protocol conversion to IP is employed.

Hence, a VoIP service that provides end-to-end SIP calling between IP-compatible CPEs is a telecommunications service because it does so with no net protocol conversion.

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[204] *See How VoIP Works*, HowStuffWorks (April 13, 2021), https://computer.howstuffworks.com/ip-telephony.htm.
[205] *Id*.
[206] *Id*.

3. An interconnected VoIP service that provides calling between an IP-compatible CPE and the PSTN network functions as a telecommunications service.

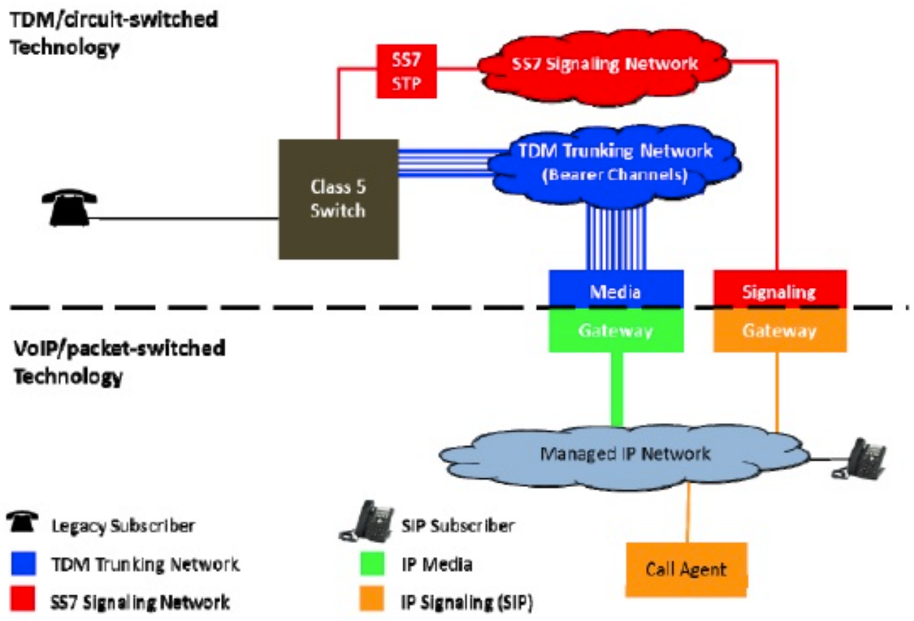
An interconnected VoIP service that provides calling between an IP-compatible CPE and the PSTN network is a telecommunications service. The IP-to-TDM protocol conversion does not change the basic nature and purpose of the service, which is still the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.

When a consumer with IP-compatible CPE makes a VoIP call to another consumer on the public switched telephone network, the VoIP service provider converts the voice packets from IP to TDM protocol to make it compatible with the PSTN network. However, such protocol conversion is done for the purpose of completing the call rather than for the purpose of providing any enhanced services, which the FCC defined as services that combine basic service (i.e. a common carrier offering of transmission capacity for the movement of information) with computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information, or provide the subscriber additional, different, or restructured information, or involve subscriber interaction with stored information.[207] Since a phone call neither provides consumers with additional, different or restructured information nor involves their interaction with stored information, it cannot be considered an enhanced service. Regardless of the technology used to transport the voice, including any protocol conversions within the network, the final leg in the end-to-end call is the recreation of the same speech that

[207] *See Second Computer Inquiry*, Docket No. 20828, Final Decision, 77 FCC 2d 384 at ¶ 5 (1980).

was uttered by the speaker in the first leg. Such a service squarely falls within the definition of a telecommunications service since, in the end, it is 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.

Figure 1: VoIP-to-TDM Interconnection



Thus, regardless of any net protocol conversion that results when a call is placed from an IP-compatible CPE to the PSTN network, such an interconnected VoIP service is still a telecommunications service.

C. Both the FCC and consumers view interconnected VoIP services and traditional phone service as functionally indistinguishable from each other.

Just as traditional phone service is classified as a telecommunications service, interconnected VoIP services should also be classified as telecommunications services because consumers use such services in the same way as they do traditional telephone services. As the

FCC itself acknowledged in its IP-Enabled Services Order, "disparate treatment of entities providing the same or similar services is not in the public interest as it creates distortions in the marketplace that may harm consumers."[208]

1. Consumers use interconnected VoIP services like a traditional telephone service and expect them to function exactly the same.

More than 10 years ago in the *2009 IP-Enabled Services Order*, the Commission itself acknowledged that consumers increasingly use interconnected VoIP service as a replacement for traditional voice service, and as interconnected VoIP service improves and proliferates, consumers' expectations for this type of service trend toward their expectations for other telephone services.[209] In that same Order, the Commission adopted rules imposing discontinuance notification obligations on interconnected VoIP providers on par with similar obligations imposed on traditional phone service providers.[210] In justifying this requirement, the Commission further stated that "we believe that interconnected VoIP service is functionally indistinguishable from traditional telephone service. It is therefore reasonable for American consumers to have similar expectations for these services."[211]

Hence, interconnected VoIP services should be classified as telecommunications services because, to the general public, they are functionally indistinguishable from traditional telephone services, and they use those services in the same way as they do traditional phone service.

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[208] *2009 IP-Enabled Service Order* at ¶ 15.
[209] *Id.* at ¶ 2.
[210] *Id*.
[211] *Id*. at ¶ 12.

2. The FCC has already applied many of the same regulations that are applicable to traditional phone services to interconnected VoIP.

Because the FCC regards interconnected VoIP services to be functionally equivalent to traditional phone service, it has already subjected them to many of the same regulations that are applicable to traditional telephone service. The force of this logic compels the Commission to acknowledge this reality by formally classifying interconnected VoIP as Title II telecommunications.

As previously discussed above, in its *2005 IP-Enabled Services Order*, the FCC adopted rules and initiated rulemaking proceedings to extend a variety of consumer protection obligations that were then applicable to traditional wireline phone service providers to interconnected VoIP providers.[212] This included requiring interconnected VoIP providers to supply enhanced 911 ("E911") services to their customers.[213] In the subsequent *2009 IP-Enabled Service Order*, the Commission imposed the same discontinuance obligations as domestic non-dominant carriers on interconnected VoIP providers.[214] In 2006, the Commission established universal service contribution obligations for interconnected VoIP providers.[215] In 2007, the Commission imposed numerous Title II obligations on interconnected VoIP carriers in recognition that they served the same purpose as traditional telephone service – and that therefore the same "social" policies should apply. It extended the customer privacy requirements of §222 of the Telecommunications Act to interconnected VoIP providers.[216] Separately, the Commission extended the §255

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[212] *2005 IP-Enabled Services Order* at ¶¶ 1-5.
[213] *2005 IP-Enabled Services Order* at ¶ 1.
[214] *2009 IP-Enabled Services Order* at ¶ 8.
[215] *2006 USF Contribution Order.*
[216] *Implementation of the Telecommunications Act of 1996, Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information, IP-Enabled*

disability access obligations to providers of interconnected VoIP services and to manufacturers of specially designed equipment used to provide these services.[217] The Commission also extended the Telecommunications Relay Services ("TRS") requirements to providers of interconnected VoIP services, requiring them to contribute to the Interstate TRS Fund under the Commission's existing contribution rules, and to offer 711 abbreviated dialing for access to relay services.[218] Finally, to promote competition with traditional and mobile voice services, the Commission extended local number portability (LNP) obligations and numbering administration support obligations to interconnected VoIP providers and their numbering partners.[219]

It is clear from this broad range of existing wireline regulations imposed by the Commission on interconnected VoIP providers that the Commission recognizes such services as functionally equivalent to Title II telecommunications services – and understands that consumers treat these services as indistinguishable. As the Commission has long recognized, like services should be regulated in an identical manner. It was precisely this kind of "inconsistent" classification result that prompted Congress to define CMRS in 1993, and to define "telecommunications" and "telecommunications service" in 1996. Unfortunately, the Commission has chosen to repeat the policy Congress explicitly rejected. Instead of simply

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Services, CC Docket No. 96-115, WC Docket No, 04-36, Report And Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 6927 (rel. Apr. 2, 2007) ("*2007 IP-Enabled Services Order*").

[217] *2007 VoIP TRS Order.*

[218] *Id*. at ¶ 1.

[219] *See Telephone Number Requirements for IP-Enabled Services Providers; Local Number Portability Porting Interval and Validation Requirements; IP-Enabled Services; Telephone Number Portability; Numbering Resource Optimization,* WC Docket Nos. 07-243, 07-244, 04-36, CC Docket Nos. 95-116, 99-200, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, 22 FCC Rcd 19531 (2007) ("*VoIP LNP Order*").

regulating functionally identical services as Title II, the Commission has engaged in a series of *ad hoc* decisions that create confusion and promote regulatory arbitrage.

Now, with a legion of burgeoning crises stemming from inaction on classification, the time has come for the FCC to drop the crutches of its Title I ancillary authority and to classify interconnected VoIP services as telecommunications services. Classification is warranted because the Commission already regards VoIP service to be functionally equivalent to traditional phone service, has recognized the importance of applying multiple Title II obligations to interconnected VoIP providers to effectuate its responsibilities under the Communications Act, and has therefore subjected them to the same regulations applicable to traditional telephone services. Classifying VoIP as Title I would clearly be contrary to the statute and would deprive the FCC of the bulk of the authority to fulfill its duties under the Act. This outcome is equally contrary to the public interest when committed as a sin of omission rather than a sin of commission.

CONCLUSION

The Commission's continued inaction on interconnected VoIP is untenable in the face of a changing telecommunications landscape. The Commission has regulated interconnected VoIP through an ad hoc patchwork of rules, stitched together by ancillary authority under Title I. But as the D.C. Circuit made clear, the Commission can only exercise ancillary authority when it is rooted in some other explicit source of statutory authority. Historically, the Commission has relied on its Title II authority to anchor its regulation of interconnected VoIP. As the traditional telephone services that compose the PSTN are phased out, this patchwork of ancillary authority rules will completely unravel.

This crisis of authority will impede the Commission from carrying out its core responsibilities in the regulation of communications services. Universal service, anti-discrimination, consumer protection, intercarrier competition, and even public safety and national security are all threatened by the lack of Title II authority over interconnected VoIP. In fact, the repercussions of FCC inaction have already emerged, as the lack of Title II classification has hindered efforts to combat the scourge of robocalls, fueled interconnection and infrastructure access battles that have harmed intercarrier competition, and cultivated confusion and contradiction among the states over the status of their own authority.

The Commission has the ability to eliminate all of these harms and threats to its regulatory authority by simply classifying interconnected VoIP as the Title II telecommunications service it is. Interconnected VoIP falls squarely within the definition of a telecommunications service under the Telecommunications Act. Two decades ago, when VoIP was still an evolving technology, the FCC could afford to take a "wait-and-see" approach by declining to classify it as either a telecommunications service or an information service. Today, VoIP services work differently than they did in the early 2000s, the infrastructure of the nation is changing rapidly, and interconnected VoIP is increasingly supplanting traditional telephone service. Significantly, there is no discernible difference between a call that uses interconnected VoIP, traditional copper wire landline, or a mobile wireless network. Congress intended the FCC to regulate any service that behaves like a traditional telephone service—regardless of the underlying technology—as a telecommunications service. Yet, the Commission continues to treat interconnected VoIP services differently.

The Commission's continued reliance on its patchwork of rules stitched together by ancillary authority is an unnecessary and increasingly inadequate stopgap measure in light of the pressing need to exercise control over new telecommunications infrastructure and services that clearly fall within the scope of Title II. As carriers continue to phase out legacy services and move entirely to interconnected VoIP, the Commission's failure to classify interconnected VoIP threatens the ability of the FCC to fulfill the most basic responsibilities entrusted to it by Congress. The time has come for the Commission to classify interconnected VoIP as a Title II telecommunications service.

WHEREFORE the Commission should grant the Petition classifying interconnected VoIP as a Title II service.

Respectfully submitted,

/s/ Harold Feld
Harold Feld
Senior Vice President
Public Knowledge
1818 N St., NW
Suite 410
Washington, D.C. 20036
(202) 861-0020
hfeld@publicknowledge.org

On behalf of:

Public Knowledge[220]

Communications Workers of America[224]

[220] Public Knowledge is a non-profit based in Washington D.C. that promotes freedom of expression, an open internet, and access to affordable communications tools and creative works through education and advocacy.

[224] The Communications Workers of America represents working people in telecommunications, customer service, media, airlines, health care, public service and education, manufacturing, tech and other fields.

Center for Rural Strategies[221]

Next Century Cities[222]

The Utility Reform Network[223]

The National Association of State Utility Consumer Advocates[225]

The Public Utility Law Project of New York[226]

[221] Center for Rural Strategies seeks to improve economic and social conditions for communities in the countryside and around the world through the creative and innovative use of media and communications, and to create better opportunities for small towns and rural communities by building coalitions, developing partnerships, leading public information campaigns, and advancing strategies that strengthen connections between rural and urban places.

[222] Next Century Cities works alongside communities of all sizes and political stripes to support local officials who are working to expand broadband access and increase adoption.

[223] The Utility Reform Network (TURN) is an independent, non-profit organization representing the interests of utility consumers throughout the state of California representing the interests of California telecommunications customers, including VoIP customers. TURN advocates on behalf of its 20,000 members and 40 million Californians before the California Public Utilities Commission (CPUC), the California Legislature, the FCC, and Congress. TURN is deeply involved in CPUC proceedings regarding issues such as digital equity, telecommunications network reliability, service quality, consumer protections, universal service programs, incarcerated calling, and fair and reasonable rates, terms and conditions of service.

[225] National Association of State Utility Consumer Advocates ("NASUCA") is a voluntary association of 54 consumer advocate offices in 43 states and the District of Columbia, incorporated in Florida as a non-profit corporation. NASUCA's members are designated by laws of their respective jurisdictions to represent the interests of utility consumers before state and federal regulators and in the courts.

[226] The Public Utility Law Project of New York, Inc. ("PULP") is a nonprofit organization formed in 1981 to represent the interests of low and fixed income residential utility consumers in matters affecting affordability, universal service, and consumer protection. PULP is dedicated to advancing the interests of low income and rural consumers in telecommunications, energy and other utility-related matters. PULP also participates in State of New York and FCC proceedings related to Lifeline rates, develops methods to increase telephone subscribership of low income households, and promotes access to advanced telecommunications services for low income and rural households and communities.