STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Docket No. 7316

Investigation into regulation of Voice over Internet Protocol ("VoIP") services	

Order entered: 04/05/2021

ORDER MODIFYING FINAL ORDER

I. INTRODUCTION

On March 7, 2018, Comcast Phone of Vermont, LLC ("Comcast") filed a motion requesting that the Vermont Public Utility Commission ("Commission") alter or amend its February 7, 2018, Order ("Final Order") in this proceeding. Comcast asserts that the Commission's Order contains legal errors that Comcast had previously identified. Comcast further argues that the Final Order does not address legal developments that occurred after the Hearing Officer's Proposal for Decision ("PFD"). On March 23, 2018, AT&T Services, Inc., Verizon Access, and the Voice on the Net Coalition[1] filed comments in support of Comcast's motion. No other party filed comments.

In this Order, the Commission grants Comcast's request to modify the Final Order. Our previous orders in this proceeding found that Voice over Internet Protocol ("VoIP") service was a telecommunications service under both state and federal law, although we did not resolve the question of to what degree the Commission would exercise this jurisdiction.[2] We have reviewed the recent actions by the Federal Communications Commission ("FCC") and federal courts and considered the arguments put forth by Comcast and the entities who have filed in support of Comcast's motion. As we explain below, although we do not find any error in our analysis of Comcast's VoIP service under existing FCC precedent, we are persuaded that we should modify

[1] The latter two parties are participating as *amici curiae* pursuant to a previous Commission Order.

[2] These orders were the Final Order issued February 7, 2018, and the Phase I Order issued October 28, 2010. We refer to the latter Order as the "Phase I Order" because the title of the Order was "Board Order re Phase I" and we used this reference in the Final Order. This creates some minor confusion as the Final Order of February 7, 2018, reflected final disposition of Phase I issues. Also, in its motion, Comcast refers to the Final Order as the "Phase I Order."

the conclusion reached in the Final Order and decline to resolve the status of VoIP under federal law to be consistent with the FCC's current regulatory policy for VoIP services.

II. BACKGROUND

Comcast's Motion cites to two decisions that occurred after the Hearing Officer's PFD: the FCC's *Restoring Internet Freedom* decision,[3] and the ruling by the United States District Court for the District of Minnesota in *Charter Advanced Services (MN), LLC v. Lange*.[4] Comcast argues that those decisions are not adequately addressed in the Final Order. Comcast contends that "these authorities make clear that the information service category, under federal law, is more expansive—and the telecommunications management exception to that definition considerably more restrictive—than the versions of those federal standards applied by the [Final Order] and by the PFD it partially incorporates and adopts."[5]

On September 11, 2018, Comcast filed a letter advising the Commission of additional relevant authority. Specifically, Comcast noted that the United States Court of Appeals for the Eighth Circuit issued an opinion affirming the decision of the federal District Court in *Charter Advanced Services*.[6] On December 4, 2018, Comcast filed another letter advising the Commission that the Eighth Circuit had denied a motion for rehearing *en banc*.

III. DISCUSSION

The Commission initiated this proceeding more than ten years ago to examine the regulation of VoIP service generally, including the jurisdictional issues.[7] As a first step, the Commission considered the question of whether VoIP service was a telecommunications service under Vermont law. The Commission's Phase I Order, issued in 2010, concluded that VoIP was a telecommunications service under Section 203(5) of Title 30 of the Vermont Statutes.[8] As we explained in the Final Order, this ruling was appealed to the Vermont Supreme Court, which upheld the Commission's determination that VoIP was a telecommunications service under state

[3] *Restoring Internet Freedom*, WC Docket No. 17-108, 2018 WL 305638 (FCC Jan. 4, 2018) ("*RIF Order*").
[4] 259 F. Supp. 3d 980 (D. Minn. 2017).
[5] Comcast Motion at 2.
[6] *Charter Advanced Services (MN), LLC et al. v. Lange et al.*, 903 F.3d 715 (8th Cir. 2018), *cert. denied* 104 S.Ct. 6 (2019).
[7] Order of 5/16/07.
[8] Order of 10/28/10.

law, but remanded the proceeding for the Commission to decide whether VoIP service was also a telecommunications service under federal law.[9]

While the majority of the arguments in this case have focused on the technical details of Comcast's VoIP service and the FCC's precedent, we think it is important to remember the broader context here. Comcast is offering a service that is designed to look and act exactly like traditional telephone service to its customers. Comcast relies on technology to connect its cable network with the traditional telephone network to provide a marketable telephone service. Without that connection, customers of Comcast's VoIP service would not be able to call traditional telephone numbers and Comcast's VoIP service would be considerably less desirable to someone considering whether to replace their traditional telephone service with VoIP.

The FCC precedent discussed below developed in a world where computers and data processing were increasingly using regulated common carrier telephone lines that had previously been used only for telephone services.[10] As these regulated common carriers began offering their own data processing services, the FCC became concerned about the potential for abuse by the common carriers that both controlled the means for communication and offered new, competing data services.[11] As a result, the FCC's decisions focused on what common carriers could or could not do in an effort to prevent anticompetitive behavior. As data processing continued to be integrated with telecommunications services, the distinction between telecommunications and data services became increasingly difficult to maintain. While the FCC initially characterized the distinction as "relatively clear-cut," it realized just a few years later that the line was not as clear as originally thought.[12]

This proceeding does not involve a regulated telephone company seeking to offer unregulated data processing or information services or add technology to its existing traditional telephone network. Nor does it involve the regulatory classification of broadband Internet service, which the FCC has most recently addressed in the *RIF Order*.[13] Instead, it involves

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[9] *In re Investigation into Regulation of Voice Over Internet Protocol (VoIP) Servs.*, 2013 VT 23.

[10] *See, e.g.*, *Non-Accounting Safeguards Order*, 11 F.C.C. Rcd. at 21905, ¶ 103 (1996).

[11] *In the Matter of Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry)*, 77 F.C.C. 2d 384, ¶ 15 (1980) ("*Computer II Order*").

[12] *Computer II Order*, ¶ 97-99; *In the Matter of Communications Protocols under Section 64.702 of the Commission's Rules and Regulations*, 95 F.C.C.2d 584, ¶ 3 ("*Protocols Order*").

[13] *RIF Order*, 33 FCC Rcd. 311 (2018).

Comcast providing a telephone service—"real time human-to-human oral conversation"[14]—to customers using its cable network. The service looks and works just like a traditional telephone service from a customer's perspective and directly competes with traditional telephone service where offered. Unlike the issues in many of the FCC decisions discussed below, this is not a situation involving questions about data transport, data processing, or interaction with stored data. Instead, it involves questions about whether a telephone service that connects to the traditional telephone network using the Internet protocol should be treated differently than traditional telephone services.

A. Telecommunications Services and Information Services

Resolving the federal-law issues involved in classifying VoIP services presents some challenges. As the Final Order discusses, the distinction between telecommunications services and information services is long-standing. Before the Telecommunications Act of 1996 ("Act"), the FCC used the terminology "enhanced services" rather than information services. The distinction initially addressed issues that arose in the context of certain data services that sought to interconnect with the public switched network. This distinction was embodied in the Act, which defines the terms:

> (24) Information service: The term "information service" means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.
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> (53) Telecommunications service: The term "telecommunications service" means 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.[15]

The FCC has explained that the definitions of telecommunications services and information services are mutually exclusive. A service is either a telecommunications service or an information service.[16]

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[14] *Computer II Order*, ¶ 98.

[15] 47 U.S.C. § 153(24), (53).

[16] *RIF Order*, ¶ 30; *In the Matter of the Federal-State Joint Board on Universal Service*, 13 F.C.C. Rcd 11501, ¶ 13 (1998) ("Stevens Report").

The statutory definitions of information service and telecommunications service were developed against a backdrop of evolving computer and telephone technology. The FCC has acknowledged that its precedent provides guidance on the proper regulatory classification of VoIP service, but maintains that the precedent does not resolve the issue.[17] The Commission and the parties have relied on that FCC precedent to characterize VoIP services as telecommunications or information services throughout this proceeding.

B. The FCC's Regulation of VoIP

The FCC has not yet applied the statutory definitions for telecommunications and information services, or its own precedent, to resolve the classification of VoIP services. The FCC opened a proceeding to examine IP-enabled services 17 years ago to examine the regulatory status of VoIP, but the proceeding remains open.[18]

The FCC has not left VoIP completely unaddressed. The FCC has found that interconnected VoIP providers are "providers of interstate telecommunications" for purposes of Universal Service Fund contributions because VoIP providers "provide" "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."[19] The FCC, however, distinguishes "providers of interstate telecommunications," which includes VoIP services, from "providers of interstate telecommunications *services*," explaining that the former "do not necessarily 'offer' telecommunications 'for a fee directly to the public.'"[20]

The FCC has also extended various rights and obligations to VoIP providers that are typically associated with telecommunications and cellular providers.[21] Those obligations include federal and state universal service contribution requirements, E911 and public safety requirements, and various reporting requirements.[22] The FCC has also continued to address the telecommunications and information service categories apart from VoIP, including the *Open*

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[17] Brief for the FCC as Amicus Curiae, p.26, *Charter Advanced Services*, 903 F.3d 715 (8th Cir. 2018) ("FCC Amicus Brief").

[18] *In the Matter of IP-Enabled Services*, 19 F.C.C. Rcd. 4863 (2004) ("*IP-Enabled Services NPRM*").

[19] *Interim USF Contribution Order*, 21 FCC Rcd. 7518, ¶ 39 (2006).

[20] *Id.* at ¶ 38 (emphasis added).

[21] *See* Final Order at 30; *In the Matter of Technology Transitions*, WC Docket No. 13-3, Declaratory Ruling, Second Report and Order, and Order on Reconsideration (2016); FCC Amicus Brief at 13-16.

[22] FCC Amicus Brief at 13-16.

Internet Order,[23] which concluded that broadband Internet was a telecommunications service, and the *RIF Order*'s reclassification of broadband Internet as an information service just three years later.

C. Comcast's Arguments

1. The Telecommunications System Management Exception[24]

In the Final Order, we concluded that the IP-TDM conversion capability in Comcast's VoIP service falls within the telecommunications system management exception because it was done for the "management, control, or operation of a telecommunications system."[25]

Comcast argues that the Commission misapplied the telecommunications system management exception as that exception was explained in the *Non-Accounting Safeguards Order*.[26] According to Comcast, the *RIF Order* and *Charter* decision make clear that the telecommunications system management exception is narrow and does not encompass capabilities that add functionality to a service that benefits the service's subscribers. The IP-TDM conversion capability of interconnected VoIP services, Comcast argues, does not fall within the telecommunications system management exception because the conversion benefits subscribers by allowing voice calls to travel over otherwise incompatible networks.

We agree that the FCC has sometimes focused on whether a particular functionality provides benefits to end users when evaluating whether that functionality falls within the telecommunications system management exception. For example, the FCC found in the *RIF Order* that the Domain Name Service ("DNS") benefitted consumers of broadband Internet

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[23] *In the Matter of Protecting and Promoting the Open Internet*, 30 F.C.C. Rcd. 5601 (2015) ("*Open Internet Order*"). This Order was affirmed in *United States Telecom Association v. FCC*, 825 F.3d 674 (D.C. Cir. 2016) ("*US Telecom*").

[24] The "telecommunications system management exception" refers to the definition of "information service," which explains that an information service "does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service." 47 U.S.C. § 153(24).

[25] Final Order at 24-25.

[26] *In the Matter of Implementation of the Non-accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as Amended*, 11 FCC Rcd 21905, 21955, ¶ 102 (1996) ("*Non-Accounting Safeguards Order*"), *modified in part*, 12 FCC Rcd 2297 (1997) ("*Reconsideration Order*").

access services by facilitating information retrieval and that its absence "would fundamentally change the online experience for the consumer."[27]

The *RIF Order* does not preclude the application of the telecommunications management exception to VoIP services. The *RIF Order* focused on whether broadband Internet access service was an information service or a telecommunications service. The FCC concluded that it was an information service, explaining:

> The record reflects that fundamental purposes of broadband Internet access service are for its use in "*generating*" and "*making available*" information to others, for example through social media and file sharing; "*acquiring*" and "*retrieving*" information from sources such as websites and online streaming and audio applications, gaming applications, and file sharing applications; "*storing*" information in the cloud and remote servers, and via file sharing applications; "*transforming*" and "*processing*" information such as by manipulating images and documents, online gaming use, and through applications that offer the ability to send and receive email, cloud computing and machine learning capabilities; and "*utilizing*" information by interacting with stored data.[28]

In contrast, VoIP service does not have the same "fundamental purposes" identified by the FCC in the *RIF Order*. Instead, as the FCC has stated, interconnected VoIP is telecommunications, which involves "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."[29] VoIP is transmitted between those specified points over packet-switched IP networks, which the FCC has explained are "simply transmission technologies."[30] The conversion from IP to TDM relied on by Comcast facilitates the transmission path used to complete calls from Comcast customers.[31] While Comcast

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[27] *RIF Order* at ¶ 34.

[28] *RIF Order* at ¶ 30 (footnotes omitted).

[29] *Interim USF Contribution Order*, ¶ 39.

[30] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, et al. Memorandum Opinion and Order, And Notice of Proposed Rulemaking, 13 FCC Rcd. 24012, ¶ 35 ("The Commission has repeatedly held that specific packet-switched services are 'basic services,' that is to say, pure transmission services. xDSL and packet switching are simply transmission technologies." (footnotes omitted)).

[31] *See, e.g.*, *Non-Accounting Safeguards Order*, ¶ 107 ("Although the latter services may fall within the literal reading of the enhanced service definition, they facilitate establishment of a basic transmission path over which a telephone call may be completed, without altering the fundamental character of the telephone service."); *Computer II Order*, ¶ 95 ("Use internal to the carrier's facility of companding techniques, bandwidth compression techniques, circuit switching, message or packet switching, error control techniques, etc., that facilitate economical, reliable movement of information does not alter the nature of the basic service.").

characterizes the conversion as a benefit, it is merely part of the operation of the telecommunications system.

Comcast argues that the IP-TDM conversion provides additional benefits by allowing VoIP subscribers to consolidate their voice and broadband connections, eliminating wires and obviating the need for multiple service providers. Comcast also cites to additional features available in its service, such as a mobile application and an online portal.

As the Commission found in the Final Order, incumbent local exchange carriers in Vermont, all of which are classified as telecommunications services under federal and state law, offered functionalities to consumers that are similar to those identified by Comcast. For example, finding 29 of the Final Order states explicitly that "Vermont's independent telephone companies have the technical capability to offer the same features as Comcast offers to complement traditional telephone service. These features are not unique to VoIP services." Later findings point to the availability of features similar to Comcast's Voice2go, advanced call forwarding, online web portals, and the ability to ring at multiple locations.[32] Local telecommunications service providers have also been offering broadband services using Digital Subscriber Lines ("DSL") for years with the same wires that provide their telecommunications services. These companies offer consumers the same ability to consolidate their voice and broadband connections, independent of their classification as a telecommunications service.

As we found in the Final Order, we remain convinced that the IP-TDM conversion relied on by Comcast is an ordinary part of the operation of its network and therefore falls within the telecommunications system management exception of the definition of "information service."

2. ***Non-Accounting Safeguards*** **Second Exception: New Technology**

Comcast argues that the Commission misapplied the "new technology" exception in the *Non-Accounting Safeguards Order*. According to Comcast, the new technology exception only covers the narrow situation "in which a service provider converts the protocol of transmitted information within its network in order to ensure that legacy customer premises equipment ('CPE') used by its subscribers remains compatible with the provider's network technology."[33]

[32] *See* Final Order, findings 29-37.
[33] Comcast Motion at 13.

Comcast contends that the protocol conversion that occurs with its VoIP service is both outside the scope of the exception and outside the exception's policy rationale because Comcast uses the protocol conversion to bridge networks, not maintain compatibility.

We continue to disagree with Comcast for the reasons explained in the Final Order.[34] As explained there, the telecommunications service and information service categories evolved from the basic and enhanced service categories developed in the FCC's *Computer II* decision.[35] The distinction attempted to address problems resulting from the increasing "interdependence of computer technology, its market applications, and communications common carrier services."[36] As the Final Order also explained, the FCC has recognized that not all protocol conversions require classifying a service as an information service (or, formerly, as an enhanced service) and has explained that "protocol processing involved in the initiation, routing and termination of calls (or subelements of calls, e.g., packets) is inherent in switched transmission and is not within the definition of enhanced service."[37]

The FCC has also stated that it would grant exceptions to the *Computer II* definition of "enhanced services" to the extent that the definition encompassed protocol changes associated with the implementation of new technology:

> A second area warranting discussion concerns the introduction of new technology in basic service. Oftentimes, such technology is introduced piecemeal, and appropriate conversion equipment is used within the network to maintain compatibility. For example, digital transmission technology has for some time been used within the telephone network to support voice transmission, but the network interfaces to subscriber equipment have continued to be analog. Requisite analog-to-digital and digital-to-analog conversion equipment has been used within the network, but the internal digital signals have not been manifested at subscribers' loop interfaces. However, there is currently a trend towards the use of digital loops which will interface with customer premises equipment using a digital protocol interface. A potential problem might arise if a call were placed between a user of equipment which employs such a digital interface and a user using the more traditional analog interface (with appropriate conversion equipment employed within the network): there would be a net protocol conversion within the network for such a call to proceed, i.e., from a digital to an analog protocol between the ends of that call. This could be thought of as invoking the definition of enhanced service,

[34] *Id.* at 57-58.
[35] *Id.* at 20.
[36] *Computer II Order*, ¶ 14.
[37] Final Order at 57-58 (quoting *Protocols Order* at ¶ 28).

> although the service itself would remain a switched message service otherwise unchanged except for the characteristics of the electrical interface.[38]

When clarifying the scope of the exceptions articulated in the *Non-Accounting Safeguards Order*, the FCC cited to the above passage, explaining that "[p]rotocol conversions that fall within this category include net analog-to-digital and digital-to-analog conversions performed within the network to enable end users using different types of interfaces to communicate with one another."[39]

Comcast is using a new technology to interface with traditional telephone networks. The FCC has explained that it expects IP-based telephone services to replace the current Time Division Multiplexing ("TDM") technology in telephone networks. Consistent with the FCC's expectations, many of Vermont's legacy telecommunications providers have introduced VoIP into their own networks, with companies such as Vermont Telephone Company having extended IP-based services to the majority of its customers.

As we explained in the Final Order, the transition from TDM to IP is similar to the analog-to-digital transition described in the *Protocols Order*. The protocol changes necessary to facilitate the IP-TDM transition are no different than the protocol changes contemplated by the FCC in the *Non-Accounting Safeguards Order* and the *Protocols Order*, and the new technology exception applies.

Comcast also argues that the Department's witness, Fred Goldstein, disagreed with the Commission's application of the new technology exception from *Non-Accounting Safeguards* to Comcast's service. Mr. Goldstein, however, explained that both the "new technology" exception and the "internetworking" exception apply to Comcast's service.[40] Mr. Goldstein explained his view that the new technology exception best applies to the protocol conversion at the eDVA cable modem at the customer premises, while the internetworking exception applies to the media gateway interfaces with traditional TDM telephone networks. Because Comcast's VoIP service involves internetworking and new technology, we consider both exceptions to be appropriate and do not understand Mr. Goldstein's testimony to be inconsistent with that view.

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[38] *Protocols Order*, 95 FCC 2d at 591, ¶ 16.
[39] *Reconsideration Order*, ¶ 2 n.6 (citing *Protocols Order*, 95 FCC 2d at 591, ¶ 16).
[40] Tr. 1/15/14 (Goldstein) at 90:6-24.

3. *Non-Accounting Safeguards* Third Exception: Internetworking

The Commission concluded in the Final Order that the protocol conversions involved in providing fixed VoIP service also fell within the third exception described in the *Non-Accounting Safeguards Order*. The third exception addresses "internetworking" conversions, which are "conversions taking place solely within the carrier's network to facilitate provision of a basic network service, that results in no net conversion to the end-user."[41]

Comcast disagrees with the Commission's reliance on the internetworking exception. Comcast asserts that the IP-to-TDM conversion that occurs in its network when interfacing with traditional telephone networks results in a net conversion to the end-user, and that the Final Order erroneously applied the internetworking exception to Comcast's VoIP service for several reasons.

First, Comcast argues that the Commission's analysis disregards the FCC's rules defining the demarcation point between customer-owned and provider-owned infrastructure in cable systems. When the demarcation rules are properly applied, Comcast maintains, the eDVA cable modem that converts telephone signals into IP at a customer's telephone is a part of the customer's network, and is not Comcast's responsibility. Because the cable modem is part of the customer's network, Comcast concludes, the customer converts calls to IP for transmission over the VoIP network, not Comcast.

Second, Comcast disagrees with the Commission's reliance on the user's perspective to assess whether a net protocol conversion has occurred. Even though customers may be unaware that any protocol conversions are occurring when they make a telephone call, Comcast explains, those customers are actually converting the voice signals to and from IP with their cable modems for transmission over the VoIP network. According to Comcast, the only protocol conversion that Comcast performs is the IP-to-TDM conversion necessary to connect with traditional TDM telephone networks.

Third, Comcast argues that the IP-to-TDM conversion results in a net protocol conversion, which precludes the application of the internetworking exception. Comcast states that the Commission's reliance on the FCC's 1998 *Stevens Report* for the premise that no net

[41] Comcast Motion at 15; *Non-Accounting Safeguards Order*, ¶ 106.

protocol conversion occurs in VoIP services is misplaced because the discussion of IP telephony in the *Stevens Report* does not apply to Comcast's VoIP service.[42]

As explained above, the *Non-Accounting Safeguards* exceptions were developed in the context of deciding what common carriers—specifically, the Bell Operating Companies—could or could not do with their regulated entities. Because these entities were all operating the same networks, the protocols used for the connection to each end user of the BOC's telephone service were also the same—TDM and analog to the telephone. Because all end users of basic telephone services were using the same protocol, the FCC focused on protocol conversions to distinguish basic and enhanced services. Any transmission that did not begin and end in the same protocol was likely doing something beyond a basic service.

Against this background, the *Non-Accounting Safeguards Order* explains that the internetworking exception applies to "conversions taking place solely within the carrier's network to facilitate provision of a basic network service, that result in no net conversion to the end-user."[43] Because all end-users were using the same TDM network technology, any protocol conversion that occurred within a carrier's network would have to be undone before reaching the destination.

The circumstances here are different from those that gave rise to the internetworking exception and its "no net conversion" limitation because the assumption that all end users are using the same protocol is no longer accurate. However, the reasoning underlying the internetworking exception applies regardless of whether a net protocol conversion occurs.

In reaching that conclusion, we note that the FCC has discussed the application of the internetworking exception in situations where the internetworking would result in a net protocol conversion. In the *Protocols Order*, for example, the FCC explained that the principle that ultimately developed into the internetworking exception "may have particular applicability in the context of international services" where "there often is a requirement for conversion from the protocols employed nationally to protocols employed by another nation's network."[44]

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[42] In the past, the physical device that Comcast required customers to lease was an "embedded multimedia terminal adapter" or "eMTA"). Customers now can purchase an embedded digital voice adapter or "eDVA" to provide the same functionality. Kowolenko pf. at 3-4.

[43] *Non-Accounting Safeguards*, ¶ 106.

[44] *Protocols Order*, ¶ 23.

Converting between protocols used by two different countries would result in a net protocol conversion. Similarly, the passage quoted above discussing calls between a user with a digital interface and a user with a "more traditional analog interface" was made in the context of introducing new technology, but also describes an example of internetworking between digital and analog networks.[45]

Here, Comcast provides telephone service using an IP network, and a protocol conversion is necessary if Comcast customers wish to interconnect with households on traditional telephone networks. As we concluded in the Final Order, Comcast is using the IP-to-TDM protocol conversion to connect its VoIP telephone network with TDM networks, and the internetworking exception therefore should apply.

We also continue to disagree with Comcast that the placement of the eMTA or eDVA inside customers' homes excludes that device from consideration in the VoIP classification analysis. Comcast reiterates its argument that the FCC definition of the demarcation point for cable networks results in the customer, rather than Comcast, converting the customer's telephone call from analog to IP.

Classifying a service as a telecommunications service or information service under federal law should not depend on where the provider of that service chooses to place its network equipment. The purpose of the FCC's demarcation definition is primarily to provide rules governing the disposition of the physical wires inside a subscriber's premises after service is ended.[46] As explained in the Final Order, there might be valid reasons why the FCC's demarcation point definition should not control in situations other than disputes over home wiring. For example, when measuring broadband speeds for assessing compliance by recipients of Universal Service Funds, the FCC uses the "end-user interface" to the network, which is "the modem, the customer premises equipment typically managed by a broadband provider as the last connection point to the managed network."[47] Despite being customer premises equipment on the customer side of the demarcation point, the FCC recognizes that the cable modem is still part of Comcast's managed network.

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[45] *Protocols Order*, ¶ 16.

[46] 47 C.F.R. § 76.802.

[47] *Connect America Fund et. al*, WC Docket No. 10-90, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, ¶ 111 (Nov. 18, 2011).

The "end-user interface" is also an appropriate point for evaluating whether there is a net protocol conversion to an end user. Although we disagree that a net protocol conversion precludes the application of the internetworking exception, we also disagree with Comcast's argument that a net protocol conversion occurs in its VoIP service. The conversion from analog to IP occurs at the eMTA or eDVA, which is a part of Comcast's managed network and controlled by Comcast, and those calls are received by others in analog form. As the Final Order states, "VoIP customers use the same telephone to place calls that TDM customers use. The output of the phone call, in the form of an analog signal, is the same. The call to another customer may undergo multiple conversions along the way, but in net, the signal is the same."[48]

D. The FCC Opposes Classifying VoIP as a Telecommunications Service

Despite our conclusion that Comcast's VoIP service is best classified as a telecommunications service under the FCC's precedent, that does not end our inquiry. In 2015, the Minnesota Public Utilities Commission concluded that a VoIP service offered by Charter Communications in Minnesota was a telecommunications service, similar to the conclusion that we reached in our Final Order regarding Comcast's VoIP service.[49] However, the federal district court that reviewed the Minnesota Commission's conclusion disagreed, and found that Charter's VoIP service was an information service under federal law because of its protocol conversion capabilities.[50] The Eighth Circuit Court of Appeals agreed with the district court that Charter's VoIP service was an information service.[51]

In an *amicus* brief filed in the Eighth Circuit in the *Charter Advanced Services* proceeding, the FCC opposed the Minnesota Commission's classification of VoIP services under federal law. The FCC acknowledged that its past pronouncements remain valid and provide guidance, but the FCC argued that none of its precedent definitively resolves the regulatory classification of VoIP service.[52] The FCC unequivocally disagreed with the Minnesota Public

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[48] Final Order at 32.

[49] *In the matter of the Complaint of the Minnesota Department of Commerce Against the Charter Affiliates Regarding Transfer of Customers*, Docket No. P-6716,5615/C-14-383, 2015 WL 5735023 (Minn. P.U.C. 2015). The Maine Public Utilities Commission has also addressed the question and concluded that VoIP is a telecommunications service. 285 P.U.R. 4th 492, 2010 WL 4918159 (Oct. 27, 2010).

[50] *Charter Advanced Services*, 259 F. Supp. 3d at 991.

[51] *Charter Advanced Services*, 903 F.3d at 719.

[52] FCC Amicus Brief at 26-27.

Utility Commission's conclusion that VoIP was a telecommunications service under federal law, explaining that classifying VoIP as a telecommunications service "threaten[ed] to disrupt the national voice services market," "could throw the national voice services market into disarray," was "likely to stifle competition and innovation," and was inconsistent with its current policy of targeted VoIP regulations.[53]

Although the FCC opposed classifying VoIP as a telecommunications service, it did not recommend that the Eighth Circuit reach the alternative conclusion that VoIP is an information service. Instead, the FCC simply questioned whether applying Minnesota's existing regulations for traditional telephone service to VoIP service could be "squared with the federal regulatory scheme."[54]

E. Regulating VoIP Without Classification

The FCC's policy of regulation without classification leaves state commissions in a difficult position. Rather than attempt to resolve VoIP's unknown status as we did in this proceeding, some states have disavowed regulation of VoIP services altogether.[55] Other states have adopted a hybrid approach, retaining some authority to regulate VoIP services but disclaiming others.[56]

Vermont has not adopted legislation addressing the regulation of VoIP, but VoIP telephone service offerings continue to grow. A survey performed by the Vermont Department of Public Service in 2018 reported that 17.8% of Vermonters receive their local telephone service from Comcast.[57] This percentage makes Comcast the second largest provider of wireline telephone service in the state, with only Consolidated Communications being larger. Despite providing a direct substitute for traditional landline service customers in Vermont, Comcast maintains that it should not be subject to the same regulations as its competitors.

The FCC appears to recognize that some regulation of VoIP services is necessary and has adopted targeted regulations that resemble the regulations typically applied to traditional

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[53] *Id.* at 18.
[54] *Id.* at 32.
[55] *See, e.g.*, Delaware Code Ann. Title 26, Public Utilities § 202(i)(1); Code of Maryland, Article – Public Utilities, § 8-602(b); Tenn. Code. Ann. § 7-59-307(d); Code of Virginia Stat. § 56-1.3.
[56] *See, e.g.*, NH Rev. Stat. § 362:7.
[57] Appendix 3 to *Vermont Final Draft Telecommunications Plan* (2018), at 7.

common carrier telephone services. The FCC has explained that states also may act within these areas of targeted regulation. For example, the FCC explained in the context of state universal service programs that states may extend contribution obligations to VoIP providers "regardless of their classification, so long as such requirements do not conflict with federal rules and policies."[58]

We remain of the opinion, based on the analysis of FCC precedent in our Final Order, that Comcast's VoIP service would be appropriately classified as a telecommunications service under the existing guidance provided by the FCC. The arguments presented by Comcast in its motion to alter or amend the Final Order do not persuade us that our analysis is incorrect. However, we also recognize that the FCC considers classifying VoIP as a telecommunications service to be inconsistent with the federal regulatory scheme of targeted regulations, which the FCC characterizes as providing "a more measured and appropriate mechanism for regulating VoIP service."[59]

We therefore decline to definitively classify VoIP under federal law at this time given the FCC's stated opposition. However, we do not foreclose the possibility of doing so in the future should additional guidance or clarification of the FCC's classification of VoIP become available or to the extent that a need arises within the scope of the areas where the FCC has authorized regulatory action. Further, we remind Comcast and all other VoIP providers that all of their activities in Vermont remain subject to applicable federal and state consumer protection laws.

As a result, we will not proceed to Phase II of this investigation as initially stated. Phase II, which would have considered the possible statutory and regulatory provisions that would apply to VoIP services in Vermont, was contingent on first determining the appropriate classification of VoIP under federal law.[60] Because we do not resolve the classification question today, consideration of the full scope of the Phase II inquiry is not possible.

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[58] *Universal Service Contribution Methodology*, 25 FCC Rcd. 15651, ¶ 24 n.63 (Nov. 5, 2010).

[59] FCC Amicus Brief at 2, 26.

[60] In its decision remanding the case to the Commission, the Vermont Supreme Court stated that there was no reason for the Commission not to decide the scope of federal law and determine whether that law preempts state regulation. 2013 VT 23, ¶ 31. The Court's statement was premised on the concern that some of the regulations considered in Phase II might be preempted if VoIP service were classified as an information service. Because we will not be proceeding to a full Phase II investigation, we do not interpret the Court's decision as requiring the Commission to classify VoIP service.

IV. CONCLUSION

For these reasons, we grant Comcast's motion for reconsideration of the Final Order. Although we are not persuaded that the analysis of FCC precedent in our previous order was in error, we conclude that a determination that VoIP services are telecommunications services under federal law would conflict with the FCC policy of targeted VoIP regulation. The Commission, however, is not precluded from investigating the extent of Vermont's authority to regulate VoIP services that are permitted by the FCC's existing regulations.

SO ORDERED.

Dated at Montpelier, Vermont, this 5th day of April, 2021.

Anthony Z. Roisman	)	PUBLIC UTILITY
	)	
	)	
Margaret Cheney	)	COMMISSION
	)	
	)	OF VERMONT
Sarah Hofmann	)	

OFFICE OF THE CLERK

Filed: April 5, 2021

Attest: _____
Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov).

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the dale of this decision and Order.

PUC Docket No. 7316 - Service List: **SEE CASE NO. 18-0443-INV for Phase II**

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