

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20544**

In the Matter of

tw telecom inc. Petition for Declaratory Ruling
Regarding Direct IP-to-IP Interconnection
Pursuant to Section 251(c)(2) of the
Communications Act, As Amended, For The
Transmission And Routing Of tw telecom's
Facilities-Based VoIP Services And IP-In-The-
Middle Voice Services

WC Docket No. 11-119

COMMENTS OF VERIZON AND VERIZON WIRELESS

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Rather than interpreting Section 251 to impose a novel mandate to exchange traffic in IP format, the Commission should deny the tw telecom inc. (“TWTC”) Petition for Declaratory Ruling and allow commercial agreements to govern such interconnection, as they do on the Internet itself in the absence of *any* regulation.¹ Over time, as technologies and networks continue to evolve, the industry as a whole is likely to transition to IP-to-IP interconnection as networks are rebuilt and upgraded to accommodate such interconnection. But that transition is, and should continue to be, market-led. Industry participants — including both CLECs and ILECs — are currently engaged in discussions to identify and resolve the myriad issues associated with IP interconnection, including the need to develop industry standards for exchanging traffic in IP format. Such interconnection standards are best established not through heavy-handed regulation, but through industry bodies and commercial agreements between

¹ See tw telecom, inc., *Petition for Declaratory Ruling That tw telecom inc. Has The Right To Direct IP-to-IP Interconnection Pursuant To Section 251(c)(2) Of The Communications Act, As Amended, For The Transmission And Routing Of tw telecom's Facilities-Based VoIP Services And IP-In-The-Middle Voice Services*, tw telecom inc., WC Docket No. 11-119 (June 30, 2011) (“TWTC Petition”) (requesting declaratory ruling that facilities-based voice services are telecommunications services and that IP-based interconnection is required by the Act).

providers, no different from the voluntary standards and agreements that govern the Internet today.

Given that the industry is steadily migrating toward the widespread use of IP technology for voice traffic, there is no reason to believe that providers will be unable to reach voluntary, mutually beneficial agreements for the exchange of such traffic, once a comprehensive set of standards and technical capabilities are in place. The commercial agreements that should govern IP interconnection will be the most efficient way to address not only technical issues, but also the countless other details — such as administrative and financial responsibility for the necessary facilities and arrangements — that would be difficult to regulate comprehensively through a top-down interconnection mandate.

For these reasons alone, the Commission should deny the TWTC Petition. Even aside from that, and without resolving the regulatory classification of Voice-over-Internet Protocol (VoIP) as an “information service” or a “telecommunications service,” the Commission should deny the TWTC Petition because it seeks interconnection to a superior, as-yet-unbuilt network, which section 251(c)(2) does not require, even for telecommunications services. Over time, marketplace incentives are leading to the development of voluntary IP-to-IP interconnection arrangements, just as they have on the Internet. But until the industry finishes working through the many difficult issues involved in IP-to-IP interconnection, VoIP traffic will continue to be exchanged with the public switched telephone network (PSTN), as it is today, through existing arrangements in TDM format.

Finally, although the Commission should promptly resolve the regulatory classification of VoIP, it should act on this issue in the USF-ICC Transformation Proceeding,² where there is already a fully developed record. Regardless of where the Commission decides the VoIP classification issue, it should find that VoIP is an information service, not a telecommunications service as TWTC claims. Because VoIP is not a telecommunications service — and also is neither telephone exchange service nor exchange access — TWTC’s claimed entitlement to IP-to-IP interconnection under section 251(c)(2) fails for this reason as well.

I. THE COMMISSION SHOULD RELY ON MARKET-LED SOLUTIONS, NOT REGULATORY MANDATES, PRODUCE IP-TO-IP INTERCONNECTION ARRANGEMENTS

The transition from the legacy PSTN to IP networks should be governed by the competitive market. Indeed, the Commission has recognized that the current transition toward increased use of IP-based services in communications is “market-led.”³ When the business case dictates a transition to IP interconnection, providers will move in that direction and will develop the standards that govern interconnections. Although the majority of voice traffic exchanged between carriers continues to be circuit-switched, over time, networks will evolve and providers will have an interest in transitioning to alternative arrangements. That is already happening in some cases. However, industry standards for interconnection for the exchange of voice traffic in IP format are still evolving. The efficient way to allow IP interconnection arrangements to develop would be to follow the tremendously successful example of the Internet, which relies

² *Connect America Fund et al.*, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd 4554 (2011) (“*USF-ICC Transformation NPRM*” and “*USF-ICC Transformation Proceeding*”).

³ *Comment Sought on Transition from Circuit-Switched Network to All-IP Network*, Public Notice, 24 FCC Rcd 14272, at 2 (2009) (“*NBP Public Notice #25*”).

upon voluntarily negotiated commercial agreements developed over time and fueled by providers' strong incentives to interconnect their networks.⁴

In contrast, government-imposed rules regarding IP-to-IP interconnection would lead to arrangements that are economically and technically suboptimal, or even unviable. Indeed, the transition to IP interconnection is a textbook example where government should avoid prescribing the terms that will govern complex and evolving relationships among private sector actors. Regulatory history amply demonstrates that, especially in industries marked by rapid technological change, rules based on static assumptions about technology and markets quickly become obsolete—and worse, can lead to unintended negative consequences such as stifling investment and innovation. Policymakers “are often wrong both in their predictions of how the market will develop and in their judgments of what regulatory measures will best promote consumer welfare.”⁵ Guessing wrong about the “right” IP interconnection requirements at this early stage in the industry’s transition to IP could profoundly retard the industry’s future development and slow the speed at which consumers receive the benefits of next-generation technologies.⁶ And any regulatory mandate requiring carriers to divert funds prematurely to establish brand new interconnection arrangements for IP voice traffic would reduce the funds available to deploy broadband more widely.

⁴ See Comments of Verizon and Verizon Wireless, USF-ICC Transformation Proceeding, at 12-13 (April 1, 2011).

⁵ Jonathan E. Neuchterlein & Philip J. Weiser, *Digital Crossroads: American Telecommunications Policy in the Internet Age* (2005), at 428.

⁶ Economic literature is replete with findings that inappropriate regulation can substantially reduce consumer welfare by harming innovation and delaying the expansion of output. For example, one study concluded that delays in the introduction of voice messaging services due to line-of-business restrictions and delays in the introduction of cellular telephone service each imposed multi-billion dollar losses in consumer welfare. See Jerry Hausman, *Valuing the Effect of Regulation on New Services in Telecommunications*, in *Brookings Papers on Economic Activity, Microeconomics* (Martha V. Gottron & Anne Lesser, eds. 1997).

Although today there is no comprehensive set of industry standards for IP-to-IP interconnection for voice traffic, the industry is working on guidelines. The Alliance for Telecommunications Industry Solutions (ATIS), which has members from more than 250 communications companies working to develop standards addressing new products and services, has implemented a Task Force on Next Generation Carrier Interconnection. This Task Force is charged with, among other things, developing an IP network-to-network interconnection guideline based on ATIS standards that will provide physical configuration, protocol suite profile, operational information to be exchanged between carriers, and test suites to support conformance and interoperability testing. The Task Force, chaired by Verizon representatives and supported by IP-based carriers and equipment manufacturers, intends to recommend standards for domestic voice inter-operability, including specifying the appropriate information for providers to exchange, developing protocol suites to configure network-to-network IP interconnection, and developing test cases for IP interconnection configuration testing. In fact, ATIS plans to work with the industry to validate these specifications via test events, in order to facilitate interoperable exchange of traffic between networks in the future. Industry-based standards and guidelines are essential to maintaining the future interoperability of critical communications infrastructure.

A regulatory mandate to require IP-to-IP interconnection would hamper the efficient rollout of IP interconnection nationwide. Without standards, Verizon and other providers would be forced to develop individualized technical requirements to meet each requesting provider. Not only would this divert resources from projects that actually do promote broadband access for all, it would require Verizon and others to expend capital to develop a patchwork of interconnections that likely would remain in place only until industry-wide standards eventually

are developed. Under these circumstances, there is no reason to require carriers to divert funds to prematurely establish brand new interconnection arrangements for IP traffic: any such regulatory mandate would certainly undermine the ongoing efforts to develop IP-to-IP interconnection.

Furthermore, the best known example of IP-to-IP interconnection — the Internet — relies upon voluntarily negotiated, arms-length agreements developed over time, in the absence of regulation mandating interconnection terms or even requiring interconnection in the first place.⁷ Owners of IP networks have entered into voluntarily negotiated, arms-length agreements that specify where and how traffic will be exchanged, and whether and how compensation will be paid for the exchange of traffic. Different arrangements may contain significantly different terms, based on the needs of the networks involved.

The negotiated, commercial agreements between IP network owners, which result from networks' strong incentives to interconnect, have been tremendously successful and have been credited for the rapid growth in the capacity of the Internet. These agreements have ensured that the Internet is always fully interconnected — any end-user connected to the Internet can communicate with any other end-user — regardless of whether any particular pair of networks is directly interconnected. As a result of the availability of connection points and the architecture of the Internet, there is virtually no possibility that a network could find itself disconnected from the Internet, even if it is unable to reach agreement on interconnection terms with one (or even many) other networks.

⁷ See generally Comments of Verizon, *Developing a Unified Intercarrier Compensation Regime*, Further Notice of Proposed Rulemaking, CC Docket No. 01-92 at Attach. A, Declaration of Lyman Chapin (May 23, 2005).

As IP technologies are more widely deployed for voice communications, providers will follow the market-based incentives that drove the Internet's development and move toward IP-to-IP interconnection through voluntarily negotiated interconnection arrangements, once industry standards are agreed upon and providers have deployed the requisite capability. As it did in the Internet backbone context, the Commission should continue to allow the market to lead the transition here, so that the industry can deal collectively with the complex transition from TDM interconnection to IP interconnection. This very point was reinforced by Level 3, a competing carrier that has invested in an IP-based network. Level 3 pointed out that, in the IP world, network operators have market-driven incentives to interconnect with one another. "Unnecessarily injecting any government mandate," Level 3 explained, "may skew the marketplace. . . . History shows that once a section of an industry is invested in the economic regime established by regulation, it will fight [and] oppose all attempts to eliminate or reduce that revenue component."⁸

Pending the industry-led development of standards and processes for IP-to-IP interconnection, information service providers will continue to interconnect with and exchange traffic with Verizon and other local exchange carriers, as they do today, under existing arrangements in TDM format.⁹ These interconnection arrangements, which are the industry norm, have enabled companies like TWTC and other IP-enabled providers to flourish. Today,

⁸ Comments of Level 3 Communications, *NBP Public Notice #25*, GN Docket Nos. 09-47, 09-51, & 09-137, at 6 (Dec. 22, 2009).

⁹ Indeed, the Commission has long held, as a matter of federal policy, that enhanced and information service providers should be able to interconnect and exchange traffic with all local exchange carriers. *See, e.g., Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as Amended*, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 21905, ¶ 251 n.625 (1996) ("*Non-Accounting Safeguards Order*") (subsequent history omitted) (describing the Commission's orders); *MTS and WATS Market Structure*, Memorandum Opinion and Order, 97 F.C.C.2d 682, ¶¶ 75-76 (1983).

the majority of traffic exchanged over those existing interconnection arrangements continues to be circuit-switched traffic originated and terminated in TDM format. Traffic that is originated or terminated in IP format is converted to TDM format before or after it is routed over these interconnection arrangements. Those industry-standard existing arrangements work well to exchange today's mix of traffic, as newer, IP networks begin to interconnect with the largely circuit-switched networks of ILECs and CLECs.

For these reasons alone, the Commission should abide by the longstanding policy against regulating arrangements between IP networks and the services that ride over these networks (including voice)¹⁰ and should allow the transition to IP-to-IP interconnection to continue to be led by the industry.

II. SECTION 251(c)(2) DOES NOT REQUIRE IP-TO-IP INTERCONNECTION

A. Irrespective of the Regulatory Classification of VoIP, Section 251(c)(2) Does Not Grant CLECs the Right to Demand Interconnection with a Superior Network

The TWTC Petition is not about the right to interconnect, which it unquestionably has today as IP-to-PSTN traffic travels freely across networks under existing interconnection arrangements. The TWTC Petition instead is a request to interconnect with a superior, interconnected IP-based network that does not yet exist and to shift onto ILECs the cost of necessary IP-to-TDM conversions. But section 251(c)(2) gives CLECs no right to insist on interconnection with a superior network. Therefore, the Commission can deny the TWTC Petition without reaching the question of the regulatory classification of VoIP services — a

¹⁰ See, e.g., 47 U.S.C. § 230(b)(2).

question TWTC acknowledges the Commission must resolve in TWTC's favor for it to prevail on its petition.¹¹

Although Verizon and other local exchange carriers have market-based incentives to migrate to IP-to-IP interconnection over time, the Communications Act does not require incumbent local exchange carriers to interconnect in IP format. In particular, the Communications Act imposes no obligation on incumbents to create IP interconnection capabilities that do not currently exist. As the Eighth Circuit made clear more than a decade ago, “[p]lainly, the [federal Telecommunications] Act does not require incumbent LECs to provide its competitors with superior quality interconnection.”¹² The Act requires access “only to an incumbent LEC’s *existing* network — not to a yet unbuilt superior one.”¹³

Although Verizon and other carriers are investing in packetized capabilities for their customers’ voice traffic, Verizon’s ILEC network — and the equipment it uses for its own interconnection — remains primarily TDM-based. To the extent packetized capability exists in a portion of the network today, significant network upgrades and capital investment would be required to activate that capability on a scalable level necessary to permit third party interconnection in IP format. The couple of examples TWTC identifies of IP-to-IP interconnection it has negotiated — none of which is with an ILEC — does not demonstrate that IP-to-IP interconnection is technically available on a large scale. If anything, TWTC’s examples demonstrate that providers have the incentive to negotiate voluntary arrangements to exchange traffic in IP format and that the numerous technical issues that must be addressed — “the optimal

¹¹ In addition, as explained below, the TWTC Petition must be denied if the Commission reaches the regulatory classification of VoIP and other IP services; those services are information services and are neither telephone exchange service nor exchange access.

¹² *Iowa Util. Bd. v. FCC*, 120 F. 3d 753, 812 (8th Cir. 1997).

¹³ *Id.* at 813 (emphasis in original).

method, bandwidth, QoS, [and] traffic management policies”¹⁴ — should be resolved through industry standards.

The Commission has never interpreted section 251(c)(2) to allow a CLEC to dictate the format in which it hands off traffic to an ILEC. TWTC cannot point to any Commission decision so holding, and instead relies heavily on the recent Supreme Court decision in *Talk America*.¹⁵ That case has nothing to do with the question TWTC’s Petition presents. There, the Supreme Court considered a dispute about the price AT&T could charge a CLEC that sought to interconnect using AT&T’s existing entrance facilities. Indeed, the Supreme Court made clear that the only issue before it was whether AT&T “must lease *existing* entrance facilities to competitive LECs at cost-based [*i.e.*, TELRIC] rates.”¹⁶ The Court stated at least a half-dozen other times that the “case[] concern[s] only *existing* entrance facilities.”¹⁷ *Talk America* thus did not deal with a CLEC’s request for interconnection with a superior quality, non-existent network, and the Court expressly did not consider whether an incumbent could be required “to build new entrance facilities for interconnection.”¹⁸ The Court also said nothing about the format — IP or TDM — in which CLECs send traffic over those entrance facilities, which was not raised by any party to the case. In sum, *Talk America*, contrary to TWTC’s representations, simply does not answer the question whether TWTC is entitled to IP-to-IP interconnection.

Finally, it would be unreasonable for the Commission to interpret either provision to mandate IP interconnection. First, section 251 was designed to address the *legacy* PSTN — and,

¹⁴ TWTC Petition at Attach. A, Declaration of Michael E McNamara, ¶ 10.

¹⁵ *Talk America, Inc. v. Michigan Bell Tel. Co.*, 131 S. Ct. 2254 (2011).

¹⁶ *Id.* at 2258 (emphasis added).

¹⁷ *Id.* at 2262 n.4 (emphasis added); *see id.* at 2258, 2260-61.

¹⁸ *Id.* at 2262 n.4.

in section 251(c), the specific regulatory history that led to the existence of incumbent local exchange carriers. IP traffic requires the investment in and deployment of next-generation broadband networks, where — as the Commission has recognized — there is no similar regulatory history. Instead, providers of all stripes are equally well situated to invest in this new technology.¹⁹ Indeed, with respect to IP networks, there are no incumbents; all providers are “new entrants.” There is no reason to interpret section 251 to impose interconnection mandates with respect to broadband networks, thereby subjecting those networks and providers to the kinds of costly and lengthy litigation that for years followed the adoption of the Commission’s rules governing interconnection to the legacy PSTN. Such costs would deter necessary investment in the increased deployment of broadband networks and services.

In addition, given the ubiquity of TDM in the PSTN today, granting the TWTC Petition would simply serve to shift onto ILECs nearly 100 percent of the cost of converting traffic from IP to TDM, or *vice versa*. Currently, the IP service provider bears those costs. For example, when a customer of TDM service calls a TWTC VoIP customer, TWTC has responsibility for converting that traffic from TDM to IP. The same is true when the call travels in the opposite direction. Under TWTC’s proposal, it would be able to avoid those costs, instead relying on the ILEC to perform any necessary conversions. The ILEC would be required to do so both when delivering a call to its own TDM customers as well as when it transits calls to a third-party

¹⁹ See, e.g., *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, ¶ 275 (2003) (“*Triennial Review Order*”) (noting that, with respect to advanced broadband network infrastructure, “entry barriers appear to be largely the same for both incumbent and competitive LECs,” and that incumbent LECs “do not have a first-mover advantage”).

carrier that has TDM customers. Indeed, because the obligations under section 251(c)(2) are not reciprocal, an ILEC could not insist that a third-party carrier accept traffic in IP format.

B. All VoIP and IP-Enabled Services Are Information Services and Are Not Telephone Exchange Service or Exchange Access

1. *The Commission Should Promptly Address the Classification of VoIP and IP-Enabled Services, But Should Do So in the USF-ICC Transformation Proceeding*

The TWTC Petition tees up once again an issue that has been before the Commission for many years — whether VoIP is properly classified as an “information service” or a “telecommunications service.” This question has been before the Commission since at least 2004, when it issued its *IP-Enabled Services NPRM*.²⁰ But also since at least 2004, the Commission has expressly declined to answer the question.²¹

Although the Commission should once and for all confirm that VoIP and all IP-enabled services are information services, the proper place for the Commission to do that is in the USF-ICC Transformation Proceeding, where there is already a fully developed record. There, the Commission can make an immediate decision that VoIP is an information service, without

²⁰ *IP-Enabled Services*, Notice of Proposed Rulemaking, 19 FCC Rcd 4863 (2004).

²¹ See, e.g., *Vonage Holdings Corp. Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, Memorandum Opinion and Order, 19 FCC Rcd 22404, ¶ 14 (2004) (“We reach this decision irrespective of the definitional classification of DigitalVoice under the Act, *i.e.* telecommunications or information service, a determination we do not reach in this Order.”) (“*Vonage Order*”); *E911 Requirements for IP-Enabled Services*, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245, ¶ 26 (2005); (“This Order, however, in no way prejudices how the Commission might ultimately classify these services.”); *Universal Service Contribution Methodology*, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518, ¶ 35 (2006) (“The Commission has not yet classified interconnected VoIP services as ‘telecommunications services’ or ‘information services’ under the definitions of the Act. Again here, we do not classify these services.”); *Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities*, Report and Order, 22 FCC Rcd 11275, ¶ 24 n.99 (“We will address the regulatory classification of IP-enabled services, including VoIP services, in a separate rulemaking proceeding and we make no findings here regarding the appropriate regulatory classification of interconnected VoIP services.”).

waiting to build a new record. Also, because the Commission has for so long expressly declined to classify VoIP as an information service or a telecommunications service, consumers and the industry have faced significant uncertainty about how to deal with the issue, and parties have taken divergent approaches. As a result, when the Commission finally does resolve the issue and classifies VoIP, it should make clear that, to the extent intercarrier compensation or universal service contribution obligations are affected as a result of the Commission's classification, the effect is prospective only. If the Commission resolves the VoIP classification issue in the broader proceeding, it can set intercarrier compensation rates for VoIP traffic and access traffic at the same time. This will create the opportunity for a coherent system of intercarrier compensation and encourage broadband deployment rather than disrupting the market without answering key regulatory questions.²²

Regardless, the Commission should act quickly to resolve the classification of VoIP and should confirm that VoIP is an information service that is not subject to the archaic rules designed for a different world in a different time that govern telecommunications services.²³ The Commission has already addressed certain public interest issues as they relate to VoIP services — including E911, Customer Proprietary Network Information, the Communications Assistance to Law Enforcement Act, disability access, local number portability, and universal service — and

²² On July 29, 2011, Verizon and five other carriers submitted America's Broadband Connectivity Plan ("ABC Plan") in the USF-ICC Transformation Proceeding, a proposal to reform the existing universal service and intercarrier compensation systems. The ABC Plan proposes a transition to a single, low, default terminating intercarrier compensation rate for all traffic exchanged with the PSTN, including VoIP traffic. It is a prospective plan and does not take a position on the appropriate intercarrier compensation treatment of VoIP traffic under the existing, broken intercarrier compensation system.

²³ The TWTC Petition also addresses traffic that originates and terminates in TDM format but is carried as "IP-in-the-middle." As TWTC notes, the Commission has already determined that such traffic, which is not VoIP traffic, is a telecommunications service. See *Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services Are Exempt from Access Charges*, Order, 19 FCC Rcd 7457 (2004).

determined that these requirements apply regardless of how VoIP is classified. But there are a host of outdated rules (*e.g.*, unbundling, tariffing, accounting procedures, and other regulations) that were written to govern telecommunications services in a time that is now passed.

Classifying VoIP and IP-enabled service as telecommunications services — and subjecting these innovative services to those legacy rules — would stifle incentives to invest in new technologies and undermine the Communications Act’s goal of encouraging the further deployment of broadband.²⁴

2. *All VoIP and IP-Enabled Services Are Information Services*

The Communications Act defines “information service” as:

the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.²⁵

For at least two independent reasons, VoIP services — as federal district courts already have found — are information services under federal law.²⁶

First, VoIP service constitutes an information service because it offers the capability to perform a “net protocol conversion”: namely, the conversion from IP protocol to TDM protocol

²⁴ See 47 U.S.C. § 157. Moreover, such a classification would conflict with Congress’s declaration that it is the policy of the United States “to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation.” *Id.* § 230(b)(2).

²⁵ *Id.* § 153(24).

²⁶ See *PAETEC Commc’ns Inc. v. CommPartners*, 2010 U.S. Dist. Lexis 51926, *2 (D.D.C. 2010); *Southwestern Bell Tel., L.P. v. Missouri Pub. Serv. Comm’n*, 461 F. Supp.2d 1055, 1081-83 (E.D. Mo. 2006), *aff’d*, 530 F.3d 676 (8th Cir. 2008), *cert. denied*, 129 S.Ct. 971 (2009); *Vonage Holdings Corp. v. Minn. Pub. Utils. Comm’n*, 290 F. Supp. 2d 993, 999-1001 (D. Minn. 2003), *aff’d*, 394 F.3d 568 (8th Cir. 2004).

used by traditional telephone companies to carry traffic over the PSTN, or *vice versa*.²⁷ TWTC concedes that when its traffic is delivered to an end user on the PSTN, the traffic undergoes this net protocol conversion.²⁸ As the Commission has put it, a service that enables “an end-user to send information into a network in one protocol and have it exit the network in a different protocol clearly ‘transforms’ user information” and thus “constitute[s] [an] information service under the 1996 Act.”²⁹ More than a decade earlier, the Commission similarly explained that a service that “support[s] communications among incompatible terminals (and perform[s] code, format and protocol conversion to support this service with their facilities)” is an “enhanced offering[]” — that is, an information service.³⁰ Similarly, the Supreme Court has recognized that a protocol conversion is the “ability to communicate between networks that employ different data transmission formats.”³¹

Although some VoIP communications may not involve a net protocol conversion — because some VoIP calls originate and terminate in IP format — VoIP services “offer[] [the] capability” to perform that conversion, even if that capability is not used in every communication.³² TWTC, however, claims that the protocol conversion that VoIP services offer falls within the exception for various protocol processing functions that involve “no net”

²⁷ See *Southwestern Bell*, 461 F. Supp. 2d at 1082 (explaining that VoIP “involves a net protocol conversion from the digitized packets of the IP protocol to the TDM technology used on the PSTN” and, therefore, VoIP “is an information service”).

²⁸ TWTC Petition at 12 & n.39.

²⁹ *Non-Accounting Safeguards Order*, ¶ 104.

³⁰ *Application of AT&T for Authority Under Section 214 of the Communications Act of 1934, as amended, to Install and Operate Packet Switches at Specific Telephone Company Locations in the United States*, Memorandum Order, Opinion, and Authorization, 94 FCC 2d 48 (1983).

³¹ *National Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 977 (2005).

³² 47 U.S.C. § 153(24).

protocol conversion” and that accordingly constitute “capabilities used ‘for the management, control, or operation, of a telecommunications system or the management of a telecommunications service.’”³³ Contrary to TWTC’s claims, however, that exception was designed to address situations “involving no change in an *existing* service, but merely a change in electrical interface characteristics to facilitate transitional introduction of new technology.”³⁴ The exception does not apply in the context of VoIP, a *new* service with characteristics in many ways distinct from pre-existing telephone services. As explained in more detail below, and as the Commission has recognized, an “inherent feature[] of most, if not all, IP-based services” is that they “offers customers a suite of integrated capabilities and features that allows the user to manage personal communications dynamically.”³⁵ It is wrong to claim, as TWTC does, that VoIP services are simply more efficient or more flexible versions of traditional TDM-based telephone offerings.

Second, even were it not for the net protocol conversion, VoIP is an information service for the separate and independent reason that it otherwise meets the statutory test, which the Supreme Court addressed in *Brand X*: VoIP offers consumers a suite of integrated capabilities and features that allow customers to “generat[e], acquir[e], stor[e], transform[], process[], retriev[e], utiliz[e], or mak[e] available information via telecommunications.”³⁶ Indeed, the Commission has long concluded that VoIP services that do *not* connect to the PSTN at all — and therefore offer no capability to perform a protocol conversion — are nonetheless information

³³ *Non-Accounting Safeguards Order* ¶ 106.

³⁴ *Communications Protocols under Section 64.702 of the Commission’s Rules and Regulations*, Memorandum Opinion, Order, and Statement of Principles, 95 F.C.C.2d 584, ¶ 16 (1983) (emphasis added).

³⁵ *Vonage Order* ¶¶ 7, 25 n.93

³⁶ 47 U.S.C. § 153(24).

services.³⁷ In *Brand X*, the Court considered cable modem service, which includes both a data transport element (telecommunications) and Internet access (information service). The Commission had concluded that cable modem service is a single information service — an integrated whole — rather than separate telecommunications and information services sold alongside each other.³⁸ Reviewing that decision, the Court explained that the test for determining whether such a service is an information service, and not two distinct services, is to look at what the customer perceives as the finished product. If the various features are offered as a single, integrated service, without a “transparent transmission path” to provide telephone service separate from any information processing — as was the case in *Brand X* — the service is properly classified as an information service.³⁹

All VoIP services, including TWTC’s, offer customers a single, integrated service that includes many features that allow them to “generat[e], acquir[e], stor[e], transform[], process[], retriev[e], utiliz[e], or mak[e] available information via telecommunications,” meeting the definition of information service. As the Commission recognized in the *Vonage Order*, these integrated features “are not unique” to any one VoIP service, but “are inherent features” of virtually all VoIP services, including those offered by “cable companies” and other “facilities-based providers.”⁴⁰ VoIP providers, moreover, offer these information-processing capabilities and features as part of a single, integrated service; there is no separate offering to consumers of “telecommunications” within those VoIP services — that is, of a pure “transmission” capacity

³⁷ See *Petition for Declaratory Ruling that pulver.com’s Free World Dialup is Neither Telecommunications Nor a Telecommunications Service*, Memorandum Opinion and Order, 19 FCC Rcd 3307, ¶ 14 n.54 (2004).

³⁸ See *Brand X*, 545 U.S. at 977-79.

³⁹ *Id.* at 967, 990-91, 998-1000.

⁴⁰ *Vonage Order* ¶¶ 25 n.93, 32.

that carries information “without change in the form or content of the information as sent and received.”⁴¹

For example, as Comcast has explained, the VoIP service it offers is an “information service” because it “consists of an ever-expanding series of enhanced IP-enabled communications features that augment and complement its calling features, [and] which are ‘capabilit[ies]’ for ‘generating, acquiring, storing, . . . retrieving, utilizing [and] making available’ information ‘via telecommunications.’”⁴² Comcast’s SmartZone™ offering, for instance, allows Comcast’s VoIP customers to access their voicemail through a secure website and forward digitized voice messages to any e-mail address; route Caller ID information through a traditional Caller ID device, their personal computer or television, and receive notifications of incoming VoIP calls through instant messages or on their television screen; enable, disable and customize voice and video features over the Internet; enable distinctive rings for different callers; and establish rules for the selective handling of incoming calls.⁴³ Similarly, Time Warner Cable has explained that its VoIP service is an information service under federal law because it likewise “offers a suite of integrated capabilities and features” — including many of those also found in Comcast’s VoIP offering, as well as many others — allowing customers to “utilize multiple service features that access different IP addresses during a single communication session and perform different types of communications over the TWC broadband network

⁴¹ 47 U.S.C. § 153(50) (definition of “telecommunications”).

⁴² Brief of Appellant Comcast Phone of Maine, LLC at 22 n.14, *Comcast Phone of Maine, LLC v. Maine Pub. Utils. Comm’n*, No. PUC 11-1 (Maine Sup. J. Ct. Mar. 8, 2011) (quoting 47 U.S.C. § 153(24)).

⁴³ See Appendix at A135-36, *Comcast Phone of Maine, LLC v. Maine Pub. Utils. Comm’n*, No. PUC 11-1 (Maine Sup. J. Ct. Mar. 8, 2011).

simultaneously.”⁴⁴ TWTC’s arguments to the contrary — that its VoIP services offer most of the same features as TDM-based service and that their core functionality is the same — ignores the innovations and new functions that VoIP has brought to consumers.

In sum, VoIP services are information services because they meet the requirements of the plain statutory language.

3. *VoIP Is Not Telephone Exchange Service or Exchange Access*

TWTC argues that its VoIP service is both a “telephone exchange service” and “exchange access,” as defined by the Communications Act.⁴⁵ TWTC is wrong on both counts.

Prior to 1996, the Communications Act defined telephone exchange service as:

service within a telephone exchange, or within a connected system of telephone exchanges within the same exchange area operated to furnish to subscribers intercommunicating service of the character ordinarily furnished by a single exchange, and which is covered by the exchange service charge.⁴⁶

TWTC makes no claim that VoIP service meets this definition, which was adopted in 1934, many decades before the advent of IP-based services. Instead, TWTC claims (at 16-17) that VoIP service is telephone exchange service because it meets an alternative definition, added as part of the Telecommunications Act of 1996:

The term “telephone exchange service” means . . . comparable service provided through a system of switches, transmission equipment, or other facilities (or combination thereof) by which a subscriber can originate and terminate a telecommunications service.⁴⁷

⁴⁴ Brief of TWC Digital Phone LLC at 18-19, *Investigation into Whether Providers of Time Warner “Digital Phone” Service and Comcast “Digital Voice” Must Obtain Certificate of Public Convenience*, Docket No. 2008-421 (Maine Pub. Utils. Comm’n filed Feb. 13, 2009).

⁴⁵ See TWTC Petition at 2-4, 15-20.

⁴⁶ 47 U.S.C. § 153(r) (1995).

⁴⁷ 47 U.S.C. § 153(54).

But this assumes the result — that VoIP is a telecommunications service. Because, as shown above, VoIP service meets the definition of an *information* service, it cannot meet the “comparable service” test, because it is not a service “by which a subscriber can originate and terminate a *telecommunications service*.”⁴⁸

TWTC is equally wrong in suggesting that the Commission has previously held that Congress adopted this alternative definition in 1996 in order to encompass VoIP services. In the same footnote that TWTC cites, the Commission explained that Congress did not “intend[] to extend the telephone exchange definition to encompass carriers that historically have been excluded from common carrier regulation,” such as information service providers.⁴⁹ Therefore, the Commission’s statement in that footnote that the new definition would “encompass the provision of telephone exchange service over facilities separate from the public switched network, such as packet-switching,” must be understood to be limited to the provision of a telecommunications service using packet switching.⁵⁰

VoIP also is not “exchange access” service. The statute defines “exchange access” as “the offering of [1] access to telephone exchange services or [2] facilities for the purpose of the origination or termination of telephone toll services.”⁵¹ VoIP service does not meet the first aspect of this definition, because VoIP does not offer “access to telephone exchange service,” for the reasons set forth above: namely, because VoIP is an information service, not a telecommunications service.

⁴⁸ *Id.* (emphasis added).

⁴⁹ *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Order on Remand, 15 FCC Rcd 385, ¶ 30 n.72 (1999).

⁵⁰ *Id.*

⁵¹ 47 U.S.C. § 153(20).

TWTC claims (at 18-19) that its VoIP service meets the second aspect of the definition because it offers “facilities for the purpose of the . . . termination of telephone toll services”: that is, TWTC’s VoIP customers can receive calls placed by customers of TDM-based long-distance services. But TWTC is not providing for the termination of “telephone toll service,” which is defined in the Communications Act as “telephone service between stations in different exchange areas for which there is made a separate charge not included in contracts with subscribers for exchange service.”⁵² Telephone toll service is thus a communication between two different purchasers of telephone exchange service, who have stations “in different *exchange* areas” and one of whom pays a charge not part of a contract “for *exchange* service.”⁵³ Because TWTC does not provide telephone exchange service, its customers are not in an “exchange area,” nor do they have contracts with TWTC for “exchange service.”

⁵² *Id.* § 153(55).

⁵³ *Id.* (emphases added).

CONCLUSION

The Commission should deny the TWTC Petition.

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