IN THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

IN RE: MCP NO. 185: FEDERAL COMMUNICATIONS COMMISSION, IN THE MATTER OF SAFEGUARDING AND SECURING THE OPEN INTERNET, DECLARATORY RULING, ORDER, REPORT AND ORDER, AND ORDER ON RECONSIDERATION, FCC 24-52, 89 FED. REG. 45404, PUBLISHED MAY 22, 2024

Case Nos. 24-7000 (lead), 24-3449, 24-3450, 24-3497, 24-3504, 24-3507, 24-3508, 24-3510, 24-3511, 24-3517, 24-3519, 24-3538

On Petition for Review of an Order of the FEDERAL COMMUNICATIONS COMMISSION

BRIEF AMICUS CURIAE OF FORMER FCC CHIEF TECHNOLOGIST SCOTT JORDAN IN SUPPORT OF RESPONDENTS AND DENIAL OF PETITION

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STATEMENT OF IDENTITY AND INTEREST IN CASE

Amicus curiae Scott Jordan served as the FCC's Chief Technologist from September 2014 through December 2016. He is currently a Professor of Computer Science at the University of California, Irvine. His institutional affiliations are provided for identification purposes only.

His research has focused on technological aspects of networking since the 1980s, and on open Internet issues since 2007. He has published over 130 peer-reviewed articles on related topics. His publications on issues surrounding the *Order* on review have appeared in law reviews as well as in computer science journals.

He served as an IEEE Congressional Fellow in the United States Senate during 2006, where he worked on open Internet legislation.

He participated in the proceeding below. He participated in the Commission's 2010 and 2017 proceedings on the open Internet, as well as *amicus curiae* in litigation over the 2017 proceedings.

All parties have consented to the filing of this brief. Further, pursuant to Fed. R. App. P. 29(a)(4)(E), *amicus curiae* states that no party's counsel authored this brief in whole or in part. No party or its counsel, and no person other than *amicus* or his counsel, made a

monetary contribution intended to fund the preparation or submission of this brief.

SUMMARY OF ARGUMENT

Classification of broadband Internet access service turns on "the factual particulars of how Internet technology works and how it is provided." NCTA v. Brand X Internet Servs., 545 U.S. 967, 991 (2005). The factual particulars of how broadband Internet access service works dictates that it be classified as a telecommunications service. See Scott Jordan, Broadband Internet Access Service Is a Telecommunications Service, 71 FED. COMM. L.J., 155 (Jordan FCLJ); see also Cherry and Peha Comments, GN Docket No. 14-28 (December 22, 2014). Petitioners' key error is their failure to pay attention to the factual particulars. This brief thus provides important history and technical detail missing from their arguments.

ARGUMENT

I. PETITIONERS INCORRECTLY CONFLATE DIAL-UP INTERNET ACCESS SERVICE, CABLE MODEM SERVICE, AND BROADBAND INTERNET ACCESS SERVICE.

Petitioners consistently conflate three different types of Internet access service: (1) dial-up Internet access service, (2) cable modem

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service, and (3) broadband Internet access service. Petitioners use this conflation as the basis for their assertions that all forms of Internet access service were classified as information services prior to 2015. These assertions are incorrect as a matter of fact.

In conflating these three types of Internet access service, Petitioners ignore the factual particulars of what each of these three services offers, how each technology works, and how each service is provided. These factual particulars are critical to the regulatory classification of each of these three services.

Dial-up Internet access service was the common method for consumers to access the Internet in the 1990s. See Jordan FCLJ at 193. To use dial-up Internet access service, the consumer separately purchased local phone service and dial-up Internet access service. See Andrew S. Tanenbaum & David. J. Weatherall, Computer Networks (Prentice Hall, 5th ed. 2011) (Tanenbaum) at § 1.5. The dial-up Internet access service provider—for instance, AOL—operated modem banks to receive the data transmitted over the local phone service. Federal-State Joint Board on Universal Service, 13 FCC Rcd 11501 (1998) (Stevens Report) ¶¶ 62-66. Unlike the other types of Internet access, much of the

transmission of information was provided by the separately purchased local phone service. See Tanenbaum at \S 1.5. Dial-up Internet access service also included email, webpage hosting, and customized homepages accessible only to its customers, like weather and stock quotes. Stevens Report \P 76. Both the separately purchased local phone service and the bundled applications were critical to the classification by the Commission of dial-up Internet access service.

Cable modem service overtook dial-up Internet access as the most common method for consumers to access the Internet during the first decade of the 2000s. See Jordan FCLJ at 199-200. Cable modem service was "a service that uses cable system facilities to provide residential subscribers with high-speed Internet access, as well as many applications or functions that can be used with high-speed Internet access." Internet Over Cable Declaratory Ruling, 17 FCC Rcd 4798 (2002) (Cable Modem Declaratory Ruling) \P 31. In turn, "high-speed Internet access" was a service that "enables consumers to communicate over the Internet at speeds that are many times faster than the speeds offered through dial-up telephone connections." Id. \P 1 n.2. In contrast to dial-up Internet access service, a consumer didn't need to purchase local phone service to

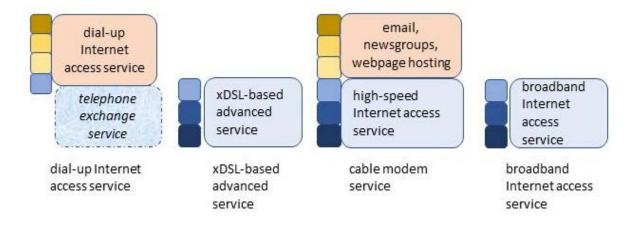
use cable modem service, as the high-speed Internet access service portion of cable modem service provided the necessary transmission. Id. In addition to high-speed Internet access service, cable modem service also included email, newsgroups, and webpage hosting. Id. ¶ 18. As explained below, the bundled applications were critical to the classification of cable modem service.

Broadband Internet access service has been the common method for consumers to access the Internet since roughly 2010. Broadband Internet access service is "a mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up Internet access service." Safeguarding and Securing the Open Internet, FCC 24-52 (2024) (2024 Open Internet Order) ¶ 189. Broadband Internet access service is fundamentally different than both dial-up Internet access service and the cable modem service that predominated in the first decade of the 2000s. Dial-up Internet access service required a separate local phone service to provide transmission. See Jordan Reply Comments, WC Docket No. 23-320 (Jan. 17, 2024)

(Jordan Reply Comments) at 4-9. And both cable modem service and dialup Internet access service included email, newsgroups, webpage hosting, and customized homepages, but broadband Internet access service excludes those applications. Protecting and Promoting the Open Internet, 30 FCC Rcd 5601 (2015) (2015 Open Internet Order) ¶¶ 347-48, 377. See Jordan Reply Comments at 4-9. The lack of a separately purchased local phone service and the exclusion of bundled applications are critical to the classification of broadband Internet access service.

Figure 1: Different types of Internet access service.

These different types of Internet access services are illustrated in Figure 1, along with xDSL-based advanced service (discussed below). See Jordan Reply Comments at 9. The telecommunications components are in blue, and the information service capabilities are in orange.



II. PETITIONERS ARE INCORRECT THAT BROADBAND INTERNET ACCESS SERVICE OFFERS THE CAPABILITIES OF AN INFORMATION SERVICE.

Petitioners assert that "broadband is an 'offering of a capability' to do each of the actions set forth in the statutory definition" of information service. Pet'r Br. at 32. As a factual matter of how Internet technology works, they are wrong.

Broadband Internet access service is "the capability to transmit data to and receive data from all or substantially all Internet endpoints." *2024 Open Internet Order* ¶ 189. This capability is the primary service, namely the end-to-end transmission of IP packets 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. *Id.* ¶¶ 111-121.

Broadband Internet access service also includes "any capabilities that are incidental to and enable the operation of the communications service." Id. ¶ 189. These capabilities include applications that are offered as part of broadband Internet access service and that fall within the telecommunications systems management exception. Id. ¶ 133. These capabilities include IP address assignment, IP address conversion,

domain name to IP address translation provided by a broadband provider's DNS server, caching by a broadband provider, and security functionality that is used for the management, control, or operation of the telecommunications system. 2015 Open Internet Order ¶¶ 373-374; 2024 Open Internet Order ¶¶ 137, 139.

Broadband Internet access service only consists of these two sets of capabilities: the end-to-end transmission of IP packets (the primary service) and applications that under the Order fall within the telecommunications systems management exception (adjunct services). 2024 Open Internet Order ¶ 122.

Broadband Internet access service does not include email, cloud-based storage, spam protection, newsgroups, webpage hosting, customized homepages, firewalls, parental controls, virtual private network (VPN) services, content delivery networks (CDNs), or hosting or data storage services. 2015 Open Internet Order ¶¶ 340, 347, 373, 377. These applications are not part of broadband Internet access service because they provide neither "the capability to transmit data to and receive data from all or substantially all Internet endpoints" nor

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"capabilities that are incidental to and enable the operation of the communications service." Id. ¶¶ 376-78.

A comparison of broadband Internet access service with cable modem service is particularly informative. Broadband Internet access service is similar to the "high-speed Internet access service" component of cable modem service, but not to the component of cable modem service described as "applications or functions that can be used with" high-speed Internet access service. See Jordan FCLJ at 219-225.

Petitioners assert that "consumers who buy broadband purchase the capability to access websites, post on social media, or store photos in the cloud, not to send IP packets to and from servers." Pet'r Br. at 34. However, it is the factual particulars of how broadband Internet access service works that matters. Brand X, 545 U.S. at 991. And neither websites, nor social media, nor photo storage provide "the capability to transmit data to and receive data from all or substantially all Internet endpoints." That capability is provided by the end-to-end transmission of IP packets. See Jordan FCLJ at 184-193. Also, neither websites, nor social media, nor photo storage provide "capabilities that are incidental to and enable the operation of the communications service." None of these

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applications enable the operation of the end-to-end transmission of IP packets. Thus, neither websites, nor social media, nor photo storage, nor other Internet applications are part of broadband Internet access service.

The capabilities listed in the definition of information service are not offered by broadband Internet access service. They are offered by applications (information services) that utilize broadband Internet access service to transmit and receive data. See Jordan FCLJ at 184-193.

Petitioners' attempt at analogies also fails. It is irrelevant whether or not a library offers the "capability to learn a new subject" or a travel agency offers "the capability to see the world." Pet'r Br. at 35. Neither a library nor a travel agency offers telecommunications. A more apt analogy comes from the days when Netflix made available movies on DVD via the US Postal Service. Petitioners' analogies would have the Court believe that not only was Netflix an information service, but that the US Postal Service was also an information service, and that the US Postal Service offered movies "in conjunction with" Netflix. *Id.* Yet clearly the US Postal Service is common carriage, not an information service. The information service capability was provided solely by Netflix.

III. THE PRECURSORS TO BROADBAND INTERNET ACCESS SERVICE WERE COMMON CARRIER SERVICES.

Petitioners assert that "broadband precursors were not common carriers" under both the Commission's 1980 *Computer II* proceeding and the 1982 *Modification of Final Judgment*. Pet'r Br. at 17, 39-42. They are wrong, because they misrepresent what the precursors to broadband Internet access service were.

A. *Computer II* (1980)

By 1980, distributed computing services were being offered to the public using microcomputers and word processors, which in turn utilized underlying common carrier telecommunication facilities. Second Computer Inquiry, 77 FCC 2d 384 (1980) (Computer II) ¶¶ 19-23. In 1980, the Commission considered regulation of such computer processing services. Id. Two of the issues facing the Commission were (1) the regulatory treatment of computer processing services and (2) the regulatory treatment of common carriers in the provision of such services. Id. ¶ 16. This required a classification of computer processing services and of the underlying transmission service. Id. ¶ 24.

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The policy goals in the proceeding were to "not directly or indirectly inhibit the offering of [computer processing] services" and to "assur[e] nondiscriminatory access to common carrier telecommunications facilities by all providers of [computer processing] services." Id. ¶ 116.

To distinguish between computer processing services and the underlying transmission service, the Commission created two regulatory classifications: basic service and enhanced service. Id. ¶ 92. Basic service the offering of "a pure transmission capability over a was communications path that is virtually transparent in terms of its interaction with customer supplied information." *Id.* ¶ 96. Basic services could be offered to end users and/or to enhanced service providers. *Id*. Enhanced services were "services, offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information." 47 C.F.R. § 64.702(a).

The classification of a service turned on the functionality provided. See Robert Cannon, The Legacy of the Federal Communications Commission's Computer Inquiries, 55 Fed. Comm. L.J., 167 (Cannon) at 186. A basic service offered transmission of a user's information over a communications path. See id. at 183-85. An enhanced service offered an application that provided the user with additional information, transformed information, and/or interaction with information. See id. at 185-6.

In NARUC I and NARUC II, the D.C. Circuit established a two-part test for determining the permissible regulatory treatment of such services. Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 525 F.2d 630 (D.C. Cir. 1976) (NARUC I); Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC, 533 F.2d 601 (D.C. Cir. 1976) (NARUC II). The first part is specific to communications—a communications service is a common carrier service only if the service "be such that customers 'transmit intelligence of their own design and choosing." NARUC II at 609. The second part is general to all common carrier services—a service is a common carrier (or "public") service only if it is offered to the public and the service provider "undertakes to carry for all people indifferently." NARUC I at 641. In

contrast, a noncommon carrier (or "private") service "is distinguished by its being set aside for the use of particular customers, so as not to be generally available to the public." *Id.* at 642. If a communications service passes both tests, it must be classified as a common carrier communications service. *Id.* at 644.

Applying this two-part test, a basic service passed the first test because it offered "a pure transmission capability over a communications path that is virtually transparent in terms of its interaction with customer supplied information." Computer II ¶ 96 (referring to the test in NARUC II). If the basic service was offered to the public, then it passed the second test. See Jordan FCLJ at 161. If so, then it was a common carrier service, by statute regulated under Title II (Computer II ¶ 114), which required that it be offered without unreasonable discrimination. 47 U.S.C. § 202. Basic service providers thus "no longer control the use to which [a basic service] is put," and thus a basic service may be used by a consumer "for voice, data, video, facsimile, or other [applications]." Computer II ¶ 94.

Petitioners assert that "Internet access services obviously meet" the definition of an enhanced service. Pet'r Br. at 40. They are wrong. The

Commission expressly called out data transmission service as a basic service. Computer II ¶¶ 93-94. Precursors to broadband Internet access service were data transmission services, as is broadband Internet access service. Thus, these precursors would have been properly classified under Computer II as common carrier basic services (not enhanced services). See Jordan FCLJ at 162-168. Petitioners confuse broadband Internet access services with separate email and data processing services involving the use of communication facilities, which would have been properly classified under Computer II as enhanced services. Id. ¶ 97. However, broadband Internet access service does not include such separate email and data processing services.

B. Modification of Final Judgment (1982)

Petitioners are also wrong that "broadband precursors were not common carriers" under the 1982 *Modification of Final Judgment (MFJ)*. Pet'r Br. at 17, 39-42.

The MFJ included restrictions on the services that regional Bell Operating Companies (RBOCs) were allowed to offer, in order to "prevent the occurrence or recurrence of anticompetitive conduct." United States v. Am. Tel. & Tel. Co., 552 F. Supp. 131 (D.D.C. 1983) (MFJ) at 186. The

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restrictions were intended to ensure that enhanced service providers could obtain access to basic services and avoid discrimination and cross-subsidization. *Id.* at 142.

To delineate the services that RBOCs were allowed to offer, the MFJ first defined telecommunications service based on the Commission's description of basic service. See Jordan FCLJ at 168-173. The MFJ's definition took the Commission's description of a basic service providing a "pure transmission capability . . . that is virtually transparent in terms of its interaction with customer supplied information" and clarified that the information is of the user's choosing and that telecommunications does not change the form or content of this information. Computer II ¶ 96. The MFJ then defined information service based on the Commission's definition of enhanced service. See Jordan FCLJ at 168-173. The list of functionalities in the MFJ's definition of information service were parallel to those in the Commission's definition of enhanced service. See id.

Thus, the precursors to broadband Internet access service were properly classified under the *MFJ* as common carrier telecommunications services (not information services), just as they were

properly classified under $Computer\ II$ as basic services. $See\ Jordan\ FCLJ$ at 168-173.

Petitioners assert that "internet-access services provide essentially the same functionality" as "[s]ervices that provided a gateway to access third-party databases." Pet'r Br. at 40-41. They further assert that all such gateway services were information services under the *MFJ*. *Id*. They are wrong on both counts.

First, broadband Internet access service does not provide essentially the same functionality as these gateway services did. The gateway services to which petitioners refer were videotex services (e.g., CompuServe's CIS) offered using a combination of local phone service and packet switched networks. United States v. W. Elec., 673 F. Supp. 525, 529 (D.D.C. 1987) (Western Electric 1987). They included file transfer, email, and CompuServe, Wikipedia, newsgroups. See, e.g., https://en.wikipedia.org/wiki/CompuServe. These gateway services were precursors to and functionally similar to dial-up Internet access service, which similarly included email and newsgroups, and which required a separate local phone service. See Julien Mailland & Kevin Driscoll, Minitel: Welcome to the Internet (MIT Press, 1st ed, 2017). These gateway

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services were not precursors to or functionally similar to broadband Internet access service, which does not include email and newsgroups and which itself provides the transmission provided by local phone service for gateway services. *See Jordan FCLJ* at 179-184.

Second, not all services that provided a gateway to access thirdparty databases were information services under the MFJ. The Western *Electric* Court considered whether RBOCs should be allowed "to acquire" and operate the infrastructure necessary for the transmission of information services generated by others." Western Electric 1987 at 587. The court found that gateway service included an information service only if it included "protocol conversion services that manipulate content beyond that which is necessary for the transmission of [information] services." Id. at 594. Broadband Internet access service does not include such protocol conversion, since more sophisticated end-user devices (e.g., personal computers) using standardized communications protocols (TCP-IP) obviated the need for protocol conversion. See James F. Kurose & Keith W. Ross, Computer Networking: A Top-Down Approach (Pearson ed., 7th ed. 2017) at § 4.1.2. The D.C. Circuit furthermore found that the bundling of a telecommunications service with a separable information

service does not convert the bundle into an information service. *United States v. W. Elec.*, 907 F.2d 160 (D.C. Cir. 1990) (Western Electric 1990) at 163.

IV. PETITIONERS' READING OF THE SCOPE OF TELECOMMUNICATIONS SERVICES IS UNREASONABLY NARROW.

Petitioners assert that "[t]he 1996 Act does not provide the requisite clear congressional authorization for the Order." Pet'r Br. at 30. They would seem to have the Court believe that telecommunications service consists solely of telephone service. Such a reading is unreasonably narrow. In fact, the history of classification of communications services by the Commission, the courts, and Congress makes it clear that Congress spoke clearly in the 1996 Act that telecommunications includes the transmission of all types of information, not only of voice information. Congress spoke clearly that telecommunications service includes the offering of all types of telecommunications, not only of telephone service. Congress spoke clearly that *information service* includes the offering of delineated capabilities via all types of telecommunications, not only via telephone service.

The principal purpose of the 1996 Act was "to provide for a procompetitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition." S. Rep. No. 104-230 (1996) at 113. It thus had similar goals to Computer II. Computer II ¶ 15. The 1996 Act placed into statute revisions to the MFJ's definitions of telecommunications service and information service. See Jordan FCLJ at 173-177.

The 1996 Act first adapted the MFJ's definition of telecommunications, which had in turn been based on the Commission's description of a basic service:

The term "telecommunications" means 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.

47 U.S.C. § 153(50).

It then adapted the *MFJ*'s definition of *telecommunications service* (which had in turn been based on the Commission's definition of enhanced service) and embedded the two *NARUC* tests:

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.

47 U.S.C. § 153(53).

Finally, it adapted the *MFJ*'s definition of *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.

47 U.S.C. § 153(24).

An information service is an offering "via telecommunications." Id. The list of capabilities is the same as in the MFJ's definition.

As with the MFJ's definitions of telecommunications service and information service — and as with the Commission's prior classifications of basic service and enhanced service — telecommunications service offers transmission of a user's information and management of such transmission, while an information service offers an application that provides the user with additional information, transformed information, and/or interaction with information. $Brand\ X$, 545 U.S. at 992-993.

Petitioners assert that telecommunications service offers *only* pure transmission. Pet'r Br. at 34. They are wrong. The 1996 Act excludes from an information service "any use of any [capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information for the management, control, or operation telecommunication of system the management orservice"—commonly telecommunications referred the to as telecommunications systems management exception. 47 U.S.C. § 153(24). Thus — as under Computer II and the MFJ — routing, addressing, address translation, storage, and protocol conversion are part of a telecommunications service when used facilitate to that telecommunications service and are part of an information service when used to facilitate that information service. See Jordan FCLJ at 173-177. Under Computer II, such computer processing was called adjunct-tobasic service and regulated in the same fashion as the basic service. *Cannon* at 189; *Third Computer Inquiry*, 104 FCC 2d 958 (1986) ¶ 7.

Computer II had addressed the regulatory status of telecommunications when a facilities-based information service provider did not wish to offer the underlying telecommunications to the public. It

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recognized that "enhanced services are dependent upon the . . . offering of basic services." Computer II ¶ 231. The 1996 Act similarly recognized that an information service is an offering "via telecommunications," and set forth the purpose of "ensur[ing] the ability of . . . information providers to seamlessly and transparently transmit and receive information between and across telecommunications networks." 47 U.S.C. § 256(a)(2). In Computer II, the Commission required that the underlying basic service be offered to all other enhanced service providers on the same terms and conditions as it offered the basic service to itself. Computer II ¶¶ 229-231. The 1996 Act similarly requires that a telecommunications service be a common carrier service under the Communications Act. 47 U.S.C. § 153(51). The 1996 Act thereby requires that the underlying telecommunications service be available to nonfacilities-based information services on the same terms and conditions as the corresponding telecommunications is available to the carrier's facilities-based information service. 47 U.S.C. § 251(g). Thus, under the 1996 Act, information services are competitive, because the underlying telecommunications offered by a facilities-based information service

provider is available with common carriage protections. See Jordan FCLJ at 173-177.

This history makes it clear that Congress intentionally and clearly addressed all types of telecommunications in the 1996 Act. The history from Computer II through the MFJ to the 1996 Act is concerned with all types of telecommunications. It is not limited to telephone service, but explicitly includes data transmission. The history is concerned with discriminatory access for information services to all types of telecommunications. It is not limited to information services offered via telephone service, but explicitly includes and indeed is focused on information services offered via data transmission, including distributed computer services, email, and data processing services.

Throughout this history, the Commission has applied the factual particulars of a wide variety of services to classify them. It did so during the *Computer II* era. It continued to do so after 1996, when Congress incorporated the Commission's earlier regulatory service classifications into the 1996 Act's statutory service classifications. It did so in accordance with Congress's requirement to apply these statutory classifications to new and evolving services. See H.R. Rep. No. 104-458 at

114-115 ("The Senate intends that the Commission would have the continued flexibility to modify its definition and rules pertaining to enhanced services as technology changes.")

V. PETITIONERS' READING OF THE POST 1996 ACT CLASSIFICATION ORDERS IS WRONG.

Petitioners badly misread the post-1996 Act classifications of various Internet access services. They would have the Court believe that all forms of Internet access service are the same. They would also have the Court believe that all were regulated as information services. They are wrong on both counts.

A. Non-Accounting Safeguards Order (1996)

Following passage of the 1996 Act, the Commission examined the relationship between enhanced services (defined in Computer II) and information services (defined in the 1996 Act). Implementation of the Non-Accounting Safeguards of Sections 271 and 272, 11 FCC Rcd 21905 (1996) (Non-Accounting Safeguards Order) ¶¶ 99-107. It concluded that "all of the services that the Commission has previously considered to be 'enhanced services' are 'information services." Id. at 102. Services previously classified as adjunct-to-basic under Computer II are now classified as telecommunications services under the telecommunications

systems management exception. Id. at 107. The classification of protocol processing services thus depends on whether any protocol conversion is observable by the end user. End-to-end protocol conversion which "enables an end-user to send information into a network in one protocol and have it exit the network in a different protocol" is an information service. Id. at 104. However, protocol processing services that "result in no net protocol conversion to the end-user," including "communications between an end user and the network itself (e.g., for initiation, routing, and termination of calls) rather than between or among users," are telecommunications services under the telecommunications systems management exception. Id. at 106. As a result, precursors to broadband Internet access service remained classified as common carrier services because they were data transmission services, as is broadband Internet access service. See Jordan FCLJ at 177-179.

B. Universal Service Order (1997)

The 1996 Act directed the Commission to establish an "evolving level of telecommunications services" that shall be supported by the federal universal service system. 47 U.S.C. § 254(c)(1). In doing so, the *Universal Service Order* briefly examined the classification of dial-up

Internet access service. Federal-State Joint Board on Universal Service, 12 FCC Rcd 8776 (1997), ¶¶ 789-90. It found that the underlying telephone service is a telecommunications service and is separable from dial-up Internet access service. Id. It found that packet switched services, such as those later used in broadband Internet access service, may also be classified as telecommunications. Id. ¶ 780. It observed that dial-up Internet access service may also include protocol conversion and interaction with stored data that may render it an information service, but postponed a decision about the classification of dial-up Internet access service until a future proceeding. Id. ¶¶ 789-90.

C. Stevens Report (1998)

In 1997, Congress directed the Commission "to report to Congress on the Commission's implementation of certain provisions of the Telecommunications Act of 1996 regarding the universal service system." Stevens Report ¶ 1. Congress required the Commission to review "the definitions of 'information service,' 'local exchange carrier,' 'telecommunications,' 'telecommunications service,' 'telecommunications carrier,' and 'telephone exchange service," and to review "the application

of those definitions . . . to mixed or hybrid services and the impact of such application on universal service definitions and support." Id. ¶ 13.

Part of the resulting Stevens Report discussed telecommunications, telecommunications services, and information services in general. The "Congress Commission found that intended the categories 'telecommunications service' and 'information service' to parallel the definitions of 'basic service' and 'enhanced service' developed in [the Commission's Computer II proceeding, and the definitions of 'telecommunications' and 'information service' developed in the [MFJ]." *Id.* ¶ 21. It described and did not disturb the classification of protocol conversion and protocol processing in the Non-Accounting Safeguards Order. Id. ¶ 50. It also considered application of those definitions to "mixed or hybrid services." Id. ¶ 56.

Petitioners state that "[t]he Stevens Report concluded . . . that 'Internet access services are appropriately classed as information, rather than telecommunications, services." Pet'r Br. at 8. This is misleading. The part of the *Stevens Report* they refer to is solely about dial-up Internet access service. *See Jordan FCLJ* at 193-199. While the Report acknowledged the existence of both non-facilities-based Internet access

(dial-up Internet access service) and facilities-based Internet access (e.g., cable modem service), the part of the Report to which Petitioners refer addressed only non-facilities-based Internet access. Stevens Report \P 66-72. The Report's findings about dial-up Internet access service do not apply to broadband Internet access service, which explicitly excludes dial-up Internet access service. 2024 Open Internet Order \P 189.

Petitioners further assert that the rationale for classifying dial-up Internet access service as an information service "applies equally today." Pet'r Br. at 8. It does not. Broadband Internet access service does *not* include the capabilities they cite.

D. Advanced Services Order (1998)

Petitioners next assert that the Commission in 1998 classified a DSL-based Internet access service as an information service. *Id.* at 9. They are wrong. The Commission classified *xDSL-based advanced service* as a telecommunications service, not as an information service.

In the Advanced Services Order, the Commission considered an early version of facilities-based Internet access service offered by telephone companies called xDSL-based advanced service. Deployment of Wireline Services Offering Advanced Telecommunications Capability, 13

FCC Rcd 24011 (1998) (Advanced Services Order). The service is the transmission of a "customer's data traffic" between the customer's modem and "the location selected by the customer." Id. ¶¶ 29-31.

The functionality of the service was key to its classification. Whereas dial-up Internet access service included hosting of a subscriber's webpage, newsgroups, and email, which are information services, xDSL-based advanced service did not. *Id.* ¶¶ 36, 76. The Commission had "repeatedly held that specific packet switched services are 'basic services,'" referring to both *Computer II* and the *Non-Accounting Safeguards Order. Id.* ¶ 35. It found that the transmission functionality of xDSL-based advanced service constituted telecommunications, that the service was offered for a fee directly to the public, and hence that it constituted a telecommunications service. *Id.* ¶¶ 34, 36.

Petitioners misread the *Advanced Services Order*. They mislead when they state that the Order "concluded that DSL-based 'Internet access' is an 'information service." Pet'r Br. at 9. The Order clearly concluded that xDSL-based advanced service was a telecommunications service, not an information service. *Id.* ¶ 36. Petitioners erringly refer not to the xDSL-based advanced service itself, but instead to separate email

and webpage hosting services offered via a xDSL-based advanced service. Id. The Commission found that such email and webpage hosting services were information services, but that they were separate and distinct from the xDSL-based advanced service. Id. ¶ 36. The Commission also explicitly rejected the theory that these email and webpage hosting services were "inextricably intertwined" with the underlying xDSL-based advanced service. Id. The Order thereby affirmed that RBOCs offering such information services were obligated to offer nondiscriminatory access to the underlying xDSL-based advanced service to competing information service providers. Id. ¶¶ 37-38.

Broadband Internet access service offers similar functionality to xDSL-based advanced service (a telecommunications service), not to any information service offered via xDSL-based advanced service. *Jordan FCLJ* at 199-204.

Petitioners assert that the Order only classified the "last-mile' DSL transmission as a distinct telecommunications service." Pet'r Br. at 26. They are wrong. The Order classified the xDSL-based advanced service as a telecommunications service, regardless of whether it was offered to subscribers or to competing ISPs. See Jordan FCLJ at 199-204. This is

consistent with Computer II, the MFJ, and the 1996 Act, all of which applied to telecommunications services offered to consumers and/or to information service providers.

E. Cable Modem Declaratory Ruling (2002)

Petitioners continue their factually incorrect misrepresentation that all forms of Internet access service are the same in their brief discussion of the Commission's regulatory classification of cable modem service.

In 2002, the Commission considered *cable modem service*, a precursor to broadband Internet access service offered by cable companies. Petitioners gloss over the differences between cable modem service (which they refer to as "cable broadband") and broadband Internet access service. However, as described in Section I, cable modem service included both (a) a high-speed Internet access service that "enables consumers to communicate over" the Internet and (b) a service that provides "many applications or functions that can be used with" the high-speed Internet access service. *Cable Modem Declaratory Ruling* ¶¶ 1 n. 2, 31.

Part (a) of cable modem service provides similar functionality to that of xDSL-based advanced service. See Jordan FCLJ at 204-210. Part (b) is similar to the applications bundled in dial-up Internet access service, including "e-mail, access to online newsgroups, and creating or obtaining and aggregating content" as well as a "first screen' or 'home page' and the ability to create a personal web page." Id. ¶ 18. In contrast, xDSL-based advanced service did not include such applications; indeed, such applications were deemed in the Advanced Services Order to be a separable service. Advanced Services Order ¶ 36. Similarly, broadband Internet access service excludes email, newsgroups, webpage hosting, and customized homepages. 2015 Open Internet Order ¶¶ 347-348, 377.

These factual technological differences between cable modem service and broadband Internet access services are key to the regulatory classifications of each service. $Brand\ X$, 545 U.S. $Error!\ Bookmark\ not$ defined. at 991. In the Cable Modem Declaratory Ruling, the Commission looked back to the analysis in the Stevens Report that led to the classification of dial-up Internet access service. Cable Modem Declaratory Ruling \P 36. The Commission noted that the Stevens Report observed that some of the applications included in cable modem service—

hosting of a subscriber's webpage, newsgroups, and email—offer a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information. Id. ¶¶ 37-38. Partly on this basis, the Order concluded that cable modem service was an information service. However, broadband Internet access services excludes such applications.

VI. PETITIONERS' READING OF BRAND X IGNORES THE FACTUAL PARTICULARS OF HOW BROADBAND INTERNET ACCESS SERVICE WORKS.

In *Brand X*, the Supreme Court considered whether the Commission's classification of cable modem service in the *Cable Modem Declaratory Ruling* as an information service involved "a lawful construction of the Communications Act under [the] *Chevron* [framework]." *Brand X*, 545 U.S. at 974.

As Petitioners state, there was no disagreement that the inclusion in cable modem service of applications (including e-mail, newsgroups, webpage hosting, and a customized homepage) meant that cable modem service included an information service. That said, Petitioners would like the Court to believe that broadband Internet access service includes the same information service capabilities as did cable modem service. It does

not. Therefore, Petitioners' assertion that $Brand\ X$ implies that broadband Internet access service includes an information service is factually wrong.

As Petitioners state, there was also no disagreement in Brand X that cable modem service included telecommunications. As Petitioners state, there was a disagreement over whether the telecommunications component and the information service components of cable modem service were separable or inseparable. That said, Petitioners would like the Court to believe that whether or not the telecommunications and information service components of broadband Internet access service are separable turns on consumer perception. Although the Court stated that "[i]t is common usage to describe what a company 'offers' to a consumer as what the consumer perceives to be the integrated finished product", the Court stated that "[t]he question, then, is whether the transmission component of cable modem service is sufficiently integrated with the finished service to make it reasonable to describe the two as a single, integrated offering." Brand X, 545 U.S. at 990. It further stated that "[t]he entire question is whether the products here are functionally integrated (like the components of a car) or functionally separate (like

pets and leashes)" and "[t]hat question turns not on the language of the Act, but on the factual particulars of how Internet technology works and how it is provided." *Id.* at 991.

Petitioners ignore these factual particulars of how Internet technology works and how it is provided. As discussed above, these factual particulars are different for dial-up Internet access service, cable modem service, and broadband Internet access service. They cannot be ignored. These three types of Internet access service do not offer the same functionality.

CONCLUSION

The petitions for review should be denied.

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Respectfully submitted,

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