

The Nebraska Companies agree that a full and complete record is essential upon which to base sound legal and policy conclusions. However, the Nebraska Companies do not believe that IP-enabled services, which are the focus of this proceeding, have been sufficiently defined to allow for the development of such a record. For example, the Commission states that IP-enabled services “. . . includes services and applications relying on the Internet Protocol family.”⁴ The Commission further continues with a discussion of IP-enabled services and IP-enabled applications, indicating what “could” be encompassed within the definition of these terms.⁵ While it appears that the Commission realizes the imprecision of this definition by making the statement “[r]ecognizing the broad scope entailed by this definition. . . .” it also goes on to say that “. . . we invite comment below on how we might more rigorously distinguish those specific classes of IP-enabled services, if any, on which we should focus our attention.”⁶ While the Nebraska Companies will endeavor in their comments to develop a meaningful framework for defining and regulating IP-enabled services, they do not believe that the record created by numerous commenting parties, each using its own definition of IP-enabled services, will be full and complete, as the various parties may be presenting different proposals for regulation based on different definitions. Therefore, the Nebraska Companies recommend that the Commission issue a Further Notice of Proposed Rulemaking (“FNPRM”) after receiving comments and reply comments on the *IP NPRM*, in order to ensure that all commenting parties are addressing a common, precise

⁴ Id. at footnote 1.

⁵ Ibid.

⁶ Ibid.

definition of IP-enabled services. The Nebraska Companies believe that such a process is necessary to develop a sufficient record on which to base sound legal and policy conclusions.

II. The “Layered” Approach To Regulation Should Be Adopted For IP-Enabled Services, As Well As For Other Services Under The Commission’s Regulatory Authority.

A Layered Approach To Regulation Would Regulate Similar Functions In the Same Manner, Regardless Of The Underlying Facilities And Protocols Used To Provide The Service.

The Commission asks how it should differentiate, if at all, between various IP-enabled services in order to apply appropriate regulations to such services.⁷ The Commission provides a list of functional and economic factors that might be used to divide IP-enabled services into categories for distinct treatment.⁸ The Nebraska Companies believe that the “layered” approach to regulation, which the Commission describes as “Facility Layer vs. Protocol Layer vs. Application Layer”⁹ is appropriate, both for IP-enabled services as well as ultimately for all other services under the Commission’s regulatory authority.

Communications services regulation has been developed by viewing each service as being inextricably linked with the network technology providing it.¹⁰ For example, copper (and later fiber) carried voice telephone service and data, coaxial cable carried broadcast video service, and radio spectrum carried over the air broadcasting and two-

⁷ Id. at para. 35.

⁸ Id. at para. 36.

⁹ Id. at para. 37.

¹⁰ See letter from Gil M. Strobel, Lawler, Metzger & Milkman, LLC to Marlene H. Dortch, Secretary FCC, Re: Written Ex Parte Presentation, IP-Enabled Services, WC Docket No. 04-36, et al., March 29, 2004, Attachment at p. 2.

way mobile services. This linking of the service provided with its underlying medium resulted in a “silo” model of regulation, in which each service, and its associated network and technology, was regulated separately from other services. Thus, today wireline telephony services are regulated under Title II of the Communications Act of 1934 as amended (the “Act”), wireless telephony services are regulated under Title III of the Act, and cable television services are regulated under Title VI of the Act.¹¹

The advent of IP has significantly eroded the distinct association between services and the networks that provide them. IP now allows multiple services to be provided over a single network, and any given service to be provided over multiple media or networks.¹² Because the link between the services and the networks that provide them has been weakened, the current “silo” approach to regulation will not achieve public policy objectives in the future. In fact, there is evidence that this model is already artificially distorting business decisions. For example, interexchange carriers (“IXCs”) have routed a significant portion of their traffic which originated and/or terminated on the public switched telephone network (“PSTN”) over IP networks in order to try to avoid the payment of access charges.¹³

A layered model of regulation based on the Open System Interconnection (“OSI”) reference model would allow for rational regulation of IP-enabled services. This is due

¹¹ The Commission asks if the provision of IP-enabled services using a wireless technology under Title III requires that such services be treated differently from other IP-enabled services. *See IP NPRM* at para. 68. The Commission also asks “[w]hat effect, if any, does Title VI of the Act have on any potential regulation of cable-based IP-enabled services?” *IP NPRM* at para. 70. As explained below, the Nebraska Companies believe that regulation of IP-enabled and other services should be based on the functionality such services provide, and not on the particular network used to provide the services.

¹² *Ibid.*

¹³ *See generally Petition for Declaratory Ruling that AT&T’s Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, WC Docket No. 02-361, Order, FCC 04-97 (rel. Apr. 21, 2004).

to the fact that it would allow for regulation of similar functions in the same manner, regardless of the underlying facilities and protocols used to provide the service. This is especially important in an IP environment, since IP technology can be used to provide comparable services over a variety of facilities.

The OSI model was developed by the International Organization for Standardization to help vendors create interoperable network implementations, in order to help move information between computers of diverse design. As such, it seeks to group similar network functions into layers, the functions of which can be universally understood based on the model. The Nebraska Companies believe that layers 1-5 of the OSI reference model respectively (the physical, data link, network, transport, and session layers) are necessarily associated by their nature with the provision of telecommunications and should be subject to regulation. This is because the definition of telecommunications includes “. . . transmission, between or among points specified by the user, of information. . . .”¹⁴ and layers 1 through 5 are used to facilitate the transmission of information. Layers 6-7 (the presentation and application layers), respectively of the OSI reference model are associated with applications, and should be regulated only to the extent necessary to ensure public safety and national security.

The Nebraska Companies believe that the regulation applied at the various layers should to be tied to the economic power and/or potential barriers to market entry associated with each of the layers. In general, the lower layers, and the facilities used for communication which are not included within the OSI model but rather are located beneath the physical layer, should be subject to more regulation than the upper layers of

¹⁴ See 47 U.S.C. Section 153(43).

the model. This is because the lowest layers of the OSI model, and especially the facilities used for communication underlying the model, are much more capital intensive than the provision of functions located at higher levels of the model. As such, the need for more capital to provide the functions implies greater economic power for current providers in the lower layers and greater barriers to entry. Therefore, the Nebraska Companies recommend that regulation governing both the duty to interconnect and the rates for interconnection are appropriate for the facility underlying IP-enabled communications, and for layers 1 and 2, the physical and link layers, respectively. Also, as will be discussed in more detail below, given that IP-enabled services sever the link between the service and the network providing the service, in the future it will be critically important to target universal service support to the facility that is used to provide universal service (including layers 1 and 2 of the OSI model), instead of the service itself. In addition, regulation may be needed for layers 3, 4, and 5 respectively (network, transport, and session) in order to ensure that there is efficient and unimpeded interoperability across all protocol layers.

The Commission notes that “. . . in some cases, IP-enabled services are offered by companies that also own the underlying transmission facilities, thus raising the question of how to regulate entities that provide multiple layers.”¹⁵ The Nebraska Companies believe that in cases in which an entity owns the facilities and/or lower layers (1 and/or 2) along with a retail Internet Service Provider (“ISP”), the Commission should be especially vigilant in enforcing the regulations for both the duty to interconnect and the rates for interconnection recommended above. This is due to the fact that an entity that

¹⁵ *IP NPRM* at para. 37.

provides both retail and wholesale services will be capable of using its control of the wholesale facilities/service provider to advantage its retail service provider (the ISP) relative to other ISPs in the market.

Peer-to-Peer Communications Vs. Network Services Is Not A Valid Method To Distinguish Between IP-Enabled Services For Purposes Of Regulation.

Another proposal the Commission listed for consideration in categorizing IP-enabled services for regulation purposes is to distinguish between peer-to-peer communications and network services.¹⁶ The Nebraska Companies do not believe that this is a useful and meaningful distinction in terms of classifying IP-enabled services. The Commission explains the functioning of peer-to-peer communications as “[a]pplications residing on the user’s PC (or other hardware) permit the user to connect directly to another user’s hardware *without the assistance of an Internet Service Provider.*”¹⁷ (emphasis added) This explanation is incorrect unless the users have built a private network to connect to each other and have installed routers within the private network. For example, in cases such as the Free World Dialup (“FWD”) service offered by pulver.com (“Pulver”), which the Commission has indicated is a peer-to-peer service, subscribers of FWD are able to contact and communicate with one another because *FWD acts as a directory or translation service.*¹⁸ Furthermore, Pulver indicated that “. . . members must have an existing broadband Internet access as Pulver does not offer any

¹⁶ Ibid.

¹⁷ Id. at Footnote 30.

¹⁸ *Petition for Declaratory Ruling that pulver.com’s Free World Dialup is Neither Telecommunications Nor a Telecommunications Service*, WC Docket No. 03-45, Memorandum Opinion and Order, FCC 04-27 (“*Pulver Declaratory Ruling*”) (rel. Feb. 19, 2004) at para. 6.

transmission service or transmission capability.”¹⁹ (emphasis added) Thus, peer-to-peer communications still require the services of an ISP to provide transmission. The Commission must correct this fundamental inaccuracy in future proceedings on this matter.

Because the services of an ISP, Internet backbone provider, and other entities which provide facilities and/or services to assist IP-enabled communications can be classified and regulated consistently through the use of layered regulation, the Nebraska Companies suggest that a layered model provides much more clarity in order to appropriately target regulation of IP-enabled services than does the identification of peer-to-peer services vs. network communications. Ultimately, peer-to-peer services still rely on networks. Thus, there is no meaningful distinction for regulatory purposes.

III. Universal Service And Intercarrier Compensation Mechanisms Should Be Modified To Achieve Public Policy Goals In An IP-Enabled Services Environment.

The Universal Service Support Mechanism Should Be Targeted To The Support Of Facilities Instead Of The Support Of Services.

The Commission seeks comment on how potential migration to IP-enabled services will affect its statutory obligations to support and advance universal service.²⁰ The Commission notes that “[i]n some instances, IP-enabled providers reach end-user customers using loops that are currently supported by universal service.”²¹ The Commission then asks “[t]o what extent would classification of IP-enabled services, or

¹⁹ Id. at para. 5.

²⁰ See *IP NPRM* at para. 66.

²¹ Ibid.

specific classes of such services, as information services affect the eligibility of rural and non-rural ETCs for high cost support?”²²

As discussed above, the Nebraska Companies do not believe that IP-enabled services should be classified as information services. IP is a communications protocol and, as such, allows for the provision of a telecommunications service. However, there is a much more critical issue impacting universal service support than the regulatory classification of IP-enabled services. The current method of universal service support provides support to eligible telecommunications carriers (“ETCs”) that receive designation from state regulatory commissions (or the Commission if a state commission does not have jurisdiction) for the provision of a list of services defined as universal service.²³ While the support is provided based upon the provision of the supported services, the rules indicate that “[a] carrier that receives federal universal service support *shall use that support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended.*”²⁴ (emphasis added) Therefore, while universal service support is currently distributed based on the provision of universal service, it is clear that a fundamental purpose of such support is to allow for the provision, maintenance, and upgrading of facilities which are used to provide universal service.

As discussed above, IP-enabled services erode the historical link between services and the networks that provide them. An IP-enabled service provider may provide

²² Ibid.

²³ See 47 C.F.R. Section 54.101(a) for the list of supported services. Additional criteria required for ETC designation can be found in 47 C.F.R. Sections 54.201(c) and (d).

²⁴ See 47 C.F.R. Section 54.7.

universal service, however, the IP-enabled service provider may not supply the facilities upon which the service is provided. Because the majority of the cost associated with providing universal service in high-cost areas is for the provision, maintenance, and upgrading of facilities, especially the “last mile” facilities, it is critically important that universal service support funds be targeted to support these facilities. Therefore, it will be necessary to restructure the existing universal service support mechanism to provide support to entities that provide facilities and physical and link layer functions that are used to provide universal service.

A restructure of the existing universal service mechanism is an issue that should be referred to the Federal-State Joint Board on Universal Service (“Joint Board”). The Commission requested that the Joint Board review the Commission’s rules relating to high-cost universal service support in study areas in which a competitive ETC is providing service, as well as the Commission’s rules regarding support for second lines in late 2002.²⁵ In comments and reply comments to the Joint Board, some parties recommended that the Joint Board should also begin to study other universal service issues, such as the use of a forward-looking economic cost (“FLEC”) model to compute support amounts for rural carriers. The Nebraska Companies recommend that the issue of providing support to facilities, instead of services, should be referred to the Joint Board at such time that other universal service issues, such as the possible use of a FLEC model to compute support for rural carriers, are referred. Referring the issue of providing support to facilities instead of services to the Joint Board in the near future will give the

²⁵ See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Order, FCC 02-307 (rel. Nov. 8, 2002)

Commission and the Joint Board sufficient time to consider appropriate policies to migrate the support mechanism to a mechanism designed to support facilities.

The Commission Should Base Intercarrier Compensation Obligations On The Concept Of Retail Service Provider Pays (“RSPP”).

The Commission seeks comment on the extent to which access charges should apply to IP-enabled services, including voice over IP (“VoIP”).²⁶ The Commission states that:

As a policy matter, we believe that any service provider that sends traffic to the PSTN should be subject to similar compensation obligations irrespective of whether the traffic originates on the PSTN, on an IP network, or on a cable network. We maintain that the cost of the PSTN should be borne equitably among those that use it in similar ways.²⁷

The Nebraska Companies agree that carriers which use the PSTN to provide a service should compensate the provider of the facilities and services which the PSTN supplies.

The Nebraska Companies believe that the adoption of the concept of RSPP would provide a framework for intercarrier compensation that would have general applicability to compensation obligations for use of the PSTN as well as for other networks that are used to provide telecommunications services to end users.

The time-tested concept of RSPP requires a retail service provider to compensate a provider of network facilities and/or services when the retail service provider uses the network facilities and/or services to offer a telecommunications service to an end user. In the current environment of the PSTN, this concept means that IXCs should compensate LECs for the use of the LECs’ networks in originating and terminating toll calls. This same obligation applies to other entities that provide toll service, such as VoIP service

²⁶ See *IP NPRM* at para. 61.

²⁷ *Ibid.*

providers, which use LECs' networks in originating and terminating toll calls. In an environment in which an end-user is receiving service through a broadband-capable network service from an ISP, the ISP would be the retail service provider, much as the IXC is for toll service today. The ISP would be responsible for compensating the providers of the Internet backbone facilities which it uses, as well as the LEC or cable company which provides broadband-capable facilities to the end-user's premise.

Adopting the principle of RSPP for intercarrier compensation would require retail service providers to recover any costs that they incur in providing services from the end users to which the services are provided. This compensation mechanism sends the correct economic signals to end users when consuming a scarce resource, as under this mechanism end users would pay for usage of services and networks based upon the services to which they subscribe, linking the service providers pricing to cost causation. This is in contrast to proposals for a "bill and keep" method of intercarrier compensation, in which network providers would be forced to recover their costs from their end users, even though they incur costs to provide their facilities and services to parties other than their end users. Such a mechanism of intercarrier compensation would not send the correct economic signals to end users, as end users would not be paying rates to recover costs that are based upon their individual usage of networks and services, and it would encourage unintended consequences such as "spamming" as witnessed on today's Internet. Nor would such a mechanism enhance sustainable universal service.

Given that RSPP provides the correct economic signals to end users, the Nebraska Companies recommend that the Commission adopt the principle of RSPP for intercarrier compensation. In terms of the instant proceeding, this principle would support the

concept that the cost of the PSTN should be borne equitably among those that use it in similar ways. Because IP-enabled services that use layers 1-5 of the OSI reference model are telecommunications services as explained above, any such services that use the PSTN should be subject to access charges, as that is the current mechanism to compensate LECs for the use of their networks in providing telecommunications services other than local interconnection.

IV. The Commission Should Not Assert Exclusive Federal Jurisdiction Over The Regulation Of IP-Enabled Services.

The Finding In The Pulver Declaratory Ruling That FWD Is Not A Telecommunications Service Should Not Be Extended To Other IP-Enabled Services.

The Commission seeks comment on the appropriate basis or bases for asserting federal jurisdiction over various categories of IP-enabled services.²⁸ The Commission specifically seeks comment on whether it should extend the finding it made in the *Pulver Declaratory Ruling* to other IP-enabled services.²⁹ As explained above, FWD is a directory or translation service. As such, the Commission's finding that FWD is not a telecommunications service³⁰ appears to be appropriate in this limited instance. However, the Nebraska Companies believe that it would clearly be inappropriate to extend the finding it made in the *Pulver Declaratory Ruling* to other IP-enabled services without a thorough examination of IP-enabled services and the functionalities that they provide.

²⁸ Id. at para. 40.

²⁹ Ibid.

³⁰ See *Pulver Declaratory Ruling* at para. 10.

The Commission has devoted an entire section of the *IP NPRM* to the issue of categorizing IP-enabled services for the purposes of applying regulation when appropriate.³¹ The Commission should have a full and complete record regarding the categorization of IP-enabled services and the application of appropriate regulation before it even considers applying its findings in the *Pulver Declaratory Ruling* to all IP-enabled services. In fact, the myriad of IP-enabled services discussed by the Commission in the background section of the *IP NPRM* suggests that all IP-enabled services are not identical to FWD.³² Therefore, the Commission should not extend the finding it made in the *Pulver Declaratory Ruling*, that FWD is not a telecommunications service, to other IP-enabled services without a comprehensive record. Such a record would require a determination of whether other IP-enabled services are identical to FWD in all aspects.

New Applications That Will Migrate To The Internet May Be More Conducive To Jurisdictional Classification.

The Commission asks “[d]oes the end-to-end analysis, designed to assess point-to-point communications, have any relevance in this new IP environment?”³³ The Commission also requests comment on the capabilities of existing Internet geo-location technologies used to ascertain the location of the source of a packet.³⁴ The Nebraska Companies believe that using end-to-end analysis is relevant in an IP environment, as IP may be increasingly used to facilitate point-to-point communications. Furthermore,

³¹ See *IP NPRM* at paras. 35-37.

³² *Id.* at paras. 10-22.

³³ *Id.* at para. 40.

³⁴ *Ibid.*

technologies that ascertain the location of a packet would aid in conducting such an analysis.

The Commission has previously used end-to-end analysis to determine the jurisdiction of traffic bound for ISPs in order to determine whether reciprocal compensation obligations exist for the termination of local traffic.³⁵ Because IP-enabled communications will be facilitated by ISPs in many cases, end-to-end analysis will still be a useful tool to determine the jurisdiction of traffic. In conducting an end-to-end analysis of Internet traffic, the Commission has found that “[m]ost Internet-bound traffic traveling between a LEC’s subscriber and an ISP is indisputably interstate in nature when viewed on an end-to-end basis.”³⁶ It is important to note that the Commission recognized that not all Internet-bound traffic is interstate. Furthermore, this analysis was conducted in 2001, at a time when the Internet was primarily used for web browsing. As IP-enabled applications such as VoIP are more widely utilized, the Internet will likely be used for point-to-point communications much more so than it has in the past. The use of the Internet for point-to-point communications will likely shift the mix of traffic on the Internet to include a larger proportion of intrastate traffic than it does today. Therefore, the Nebraska Companies recommend that the Commission continue to conduct jurisdictional analysis of IP-enabled communications to determine appropriate regulation. The Nebraska Companies suggest that the Commission further investigate how Internet geo-location technologies may assist in jurisdictional analysis.

³⁵ See generally *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, and *Intercarrier Compensation for ISP-Bound Traffic*, CC Docket No. 99-68, Order on Remand and Report and Order, FCC 01-131 (rel. Apr. 27, 2001).

³⁶ *Ibid.*

The Commission And State Regulatory Commissions Should Construct A Cooperative Process To Regulate Interconnection In An IP Environment.

The Commission asks commenters to describe which particular regulatory requirements and entitlements, if any, should apply to each category of IP-enabled service.³⁷ As discussed above, the Nebraska Companies believe that as communications moves from the PSTN to an IP environment, interconnection obligations similar to those imposed in the Act will be necessary to ensure that market power is not exercised in the IP environment. An example of a situation in which market power could be exercised in an IP environment would be the refusal of an Internet backbone provider to interconnect with an ISP at reasonable terms and conditions.

The Nebraska Companies recommend that the Commission begin development of rules for interconnection that would be applicable in an IP environment. Because interconnection obligations under Section 251(b) and 251(c) of the Act are subject to state regulatory authority, the Nebraska Companies believe that it would be appropriate for states to continue this role with regard to interconnection in an IP environment. Maintaining state jurisdiction over interconnection obligations would also ensure consistency of regulation during the period in which both the PSTN and an IP environment are being used for communications.

V. Conclusion

The Nebraska Companies appreciate the opportunity to comment on regulation of IP-enabled services as communications increasingly moves to an IP environment. While the Commission has been hesitant to regulate the Internet as it did not want to hamper the development of a new and emerging service, the Commission should bear in mind that

³⁷ See *IP NPRM* at para. 48.

the same economic principles apply across all markets. As the IP environment may eventually replace much of the existing PSTN, the same opportunity for exertion of market dominance and control will exist in the IP environment, without regulation such as interconnection obligations that currently exist for the PSTN.

The Nebraska Companies recommend that the Commission adopt a layered approach to regulation for IP-enabled services, as well as for other services under the Commission's regulatory authority. Such an approach would regulate similar functions in the same manner regardless of the underlying facilities and protocols used to provide the service.

The Nebraska Companies believe that an IP environment will require the modification of universal service and intercarrier compensation mechanisms in order for such mechanisms to function effectively in an IP environment. The Nebraska Companies recommend that the universal service support mechanism should be targeted to the support of facilities instead of the support of services. The Nebraska Companies also recommend that the Commission should base intercarrier compensation obligations on the concept of RSPP, in which the carrier providing a retail service is responsible for compensating other carriers for the use of their networks and/or services to provide telecommunications service to an end user.

The Commission should not assert exclusive federal jurisdiction over the regulation of IP-enabled services. The Internet may be more frequently used for point-to-point communications than it was in the past, especially with IP-enabled applications such as VoIP. Point-to-point communications are more conducive to jurisdictional classification than are applications such as web browsing. The Nebraska Companies

believe that the Commission and state regulatory commissions should construct a cooperative process to regulate interconnection in an IP environment. As communications moves from the PSTN to an IP environment, interconnection obligations similar to those imposed in the Act will be necessary to ensure that market power is not exercised in the IP environment.

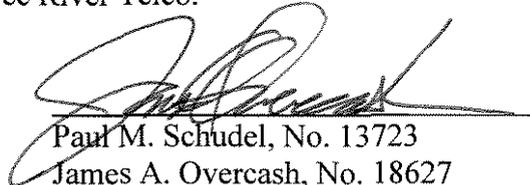
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Respectfully submitted,

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