

Rationales For and Against FCC Involvement in Resolving Internet Service Provider Interconnection Disputes

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I. Introduction

Internet Service Providers (“ISPs”) provide end users with access to and from the Internet cloud.¹ In addition to providing the first and last mile carriage of traffic,² ISPs secure upstream access to sources of content via other ISPs typically on a paid (transit), or barter (peering)³ basis. Because a single ISP operates in two separate segments of traffic routing, both the terms and conditions of network interconnection and the degree of marketplace competition can vary greatly. In this two-sided market,⁴ ISPs typically have many transit and peering opportunities upstream to

¹ The Internet cloud refers to the vast array of interconnected networks that make up the Internet and provide users with seamless connectivity to these networks and the content available via these networks. “The increasing functionality of the Internet is decreasing the role of the personal computer. This shift is being led by the growth of “cloud computing”--the ability to run applications and store data on a service provider's computers over the Internet, rather than on a person's desktop computer.” William Jeremy Robison, *Free at What Cost?: Cloud Computing Privacy Under The Stored Communications Act*, 98 GEO. L.J. 1195, 1199 (April, 2010).

² The first and last mile refers to the link, of any length, provided by a retail ISP to subscribers so they can download and receive content from the Internet cloud and also upload and content and instructions.

³ “Currently, agreements for the exchange of Internet traffic are unregulated and left solely to commercial negotiation between Internet backbone providers. Agreements for the exchange of traffic between operators are called ‘peering agreements’ and depending on the balance of traffic, it may be either free or paid. Other arrangements provide that one network will carry traffic without exchanging traffic on that network link. This will involve payment, and such service is called ‘transit.’” Daniel L. Brenner and Winston Maxwell, *The Network Neutrality and the Netflix Dispute: Upcoming Challenges for Content Providers in Europe and the United States*, 23 INTELL. PROP. & TECH. L.J. 3,5 (March 2011).

⁴ “Informally, a two-sided market can be thought of as a meeting place that brings together two distinct user groups, each of which benefits from the presence of the other. Examples include auctions, credit cards, dating bars, newspapers, video game consoles, and the Yellow Pages. No car auction would be possible without the presence of buyers willing to purchase and sellers willing to sell vehicles; thus, auctioneers must set their commissions to make sure there are a sufficient numbers of buyers and sellers at a given auction. In the case of heterosexual ‘singles’ bars, bar owners must attract both men and women and often set different prices for men and women to

content providers, but downstream end users may have a limited choice of ISP options for first and last mile Internet access. Regardless of the scope of retail Internet access competition, consumers generally select only one ISP to handle all traffic requirements.⁵

The variability of competitiveness in the market for upstream and downstream Internet access has motivated some stakeholders to claim that federal government agencies, such as the Federal Communications Commission (“FCC”), should intervene to remedy market failures and existing or potential anticompetitive practices. The so-called Network Neutrality⁶ debate has focused largely on the potential for ISPs serving end users to favor affiliates in the delivery of traffic to subscribers, or to offer priority content delivery in exchange for additional payments from content providers, subscribers, or both.⁷

attract each gender in the desired proportions. Newspapers derive their revenues from both subscribers and advertisers; thus, the prices that newspapers set for subscribers and the prices they set for advertising space must be calibrated due to the fact that advertisers’ willingness to pay will be determined by subscriber-ship.” Dennis L. Weisman and Robert B. Kulick, *Price Discrimination, Two-Sided Markets, and Net Neutrality Regulation*, 13 TUL. J. TECH. & INTELL. PROP. 81, 87-88 (Fall 2010); *See also*, Marc Rysman, *The Economics of Two-Sided Markets*, 25 J. Econ. Persp. 125, 125 (2009).

⁵ “A broadband provider could force edge providers to pay inefficiently high fees because that broadband provider is typically an edge provider’s only option for reaching a particular end user. Thus broadband providers have the ability to act as gatekeepers.” Preserving the Open Internet, GN Docket No. 09-191, Report and Order, 25 F.C.C.R. 17905, 17919 (2010)[hereinafter cited as Open Internet Report and Order].

⁶ Network neutrality refers to the imposition of nondiscrimination, transparency and other requirements on ISPs designed to foster a level competitive playing field among content providers and to establish consumer safeguards so that Internet users have unrestricted access limited only by legitimate concerns such as ISP network management and national security. *See* Rob Frieden, *A Primer on Network Neutrality*, 43 INTERECONOMICS: REVIEW OF EUROPEAN ECONOMIC POLICY, NO. 1 4-15, 4,5(Jan./Feb. 2008).

⁷ *See* Rob Frieden, *Assessing the Merits of Network Neutrality Obligations at*

The Network Neutrality debate primarily addresses the potential for anticompetitive practices to harm consumers, but occasionally also addresses the potential for ISPs to favor or disadvantage specific content sources.⁸ Advocates for regulatory intervention note that end users have limited broadband access options,⁹ but generally the marketplace for long haul carriage of

Low, Medium and High Network Layers, 115 PENN STATE LAW REVIEW, No. 1, 49-82 (Summer, 2010); Marvin Ammori, *Beyond Content Neutrality: Understanding Content-Based Promotion of Democratic Speech*, 61 FED. COMM. L.J. 273 (March 2009); Dan G. Barry, *The Effect of Video Franchising Reform on Net Neutrality: Does the Beginning of IP Convergence Mean That It Is Time for Net Neutrality Regulation*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 421 (Jan. 2008); Sascha D. Meinrath & Victor W. Pickard, *Transcending Net Neutrality: Ten Steps Toward an Open Internet*, 12 J. INTERNET L., No. 6, 1 (Dec. 2008); Jennifer L. Newman, *Keeping the Internet Neutral: Net Neutrality and Its Role in Protecting Political Expression on the Internet*, 31 HASTINGS COMM. & ENT. L.J. 153 (Fall 2008); T. Randolph Beard, *Network Neutrality and Industry Structure*, 29 HASTINGS COMM. & ENT L.J. 149 (Winter 2007); Jerry Brito, *A Tale of Two Commissions: Net Neutrality and Regulatory Analysis*, 16 COMMLAW CONSPECTUS 1 (2007); Rob Frieden, *Internet 3.0: Identifying Problems and Solutions to the Network Neutrality Debate*, 1 INT'L J. OF COMM., 461 (2007); Rob Frieden, *Network Neutrality or Bias?--Handicapping the Odds for a Tiered and Branded Internet*, 29 HASTINGS COMM. & ENT. L.J., No. 2, 171 (2007); Brett Frischmann & Barbara van Schewick, *Yoo's Frame and What It Ignores: Network Neutrality and the Economics of an Information Superhighway*, 47 JURIMETRICS J. 383 (2007); Tim Wu and Christopher S. Yoo, *Keeping the Internet Neutral? Tim Wu and Christopher Yoo Debate*, 59 FED. COMM. L.J. 575 (June 2007); Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOMM. & HIGH TECH L. 141 (2005), Christopher S. Yoo, *Beyond Network Neutrality*, 19 HARVARD J. L. & TECH. (Fall 2005); Christopher S. Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. ON TELECOMM. & HIGH TECH. L. 23 (2004); Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925 (2001).

⁸ See Dirk Grunwald, *The Internet Ecosystem: The Potential for Discrimination*, 63 FED. COMM. L.J., 411 (March, 2011).

⁹ “As of December 2009, nearly 70 percent of households lived in census tracts where only one or two wireline or fixed wireless firms provided advertised download speeds of at least 3 Mbps and upload speeds of at least 768 Kbps--the closest observable benchmark to the minimum download speed of 4 Mbps and upload speed of 1 Mbps that the Commission has used to assess broadband deployment. About 20 percent of households are in census tracts with only one provider advertising at least 3 Mbps down and 768 Kbps up. For Internet service with advertised download speeds of at least 10 Mbps down and upload speeds of at least 1.5 Mbps up, nearly 60 percent of households lived in census tracts served by only one wireline or fixed wireless broadband provider, while nearly 80 percent lived in census tracts served by no more than two wireline or fixed wireless

Internet traffic operates more competitively. Notwithstanding such upstream competition, content and software applications eventually route through a single retail ISP to end users.

Recently a long haul ISP, Level 3, sought FCC intervention to resolve a traffic dispute with Comcast.¹⁰ Level 3 had contracted with Netflix to serve as a primary distributor of online movies thereby substantially increasing the volume of traffic that Level 3 needs retail ISPs like Comcast to deliver to their subscribers.¹¹ In response to the increase in terminating traffic generated by Level 3, Comcast imposed a surcharge. Level 3 objected to it being singled out for a surcharge asserting that Comcast had installed an Internet toll booth for only certain traffic that happens to compete with Comcast's pay per view cable television service.

Another interconnection dispute raising Network Neutrality questions occurred when Cablevision, a provider of both broadband Internet access and cable television services, could not meet a deadline for extending a retransmission consent agreement with Fox to continue carrying

broadband providers.” Preserving the Open Internet, GN Docket No. 09-191, Report and Order, 25 F.C.C.R. 17905, 17923-24 (2010) (footnotes omitted).

¹⁰ Level 3, Press Release, Level 3 Communications Issues Statement Concerning Comcast's Actions (Nov. 29, 2010); available at: <http://www.level3.com/en/About-Us/Newsroom/Press-Release-Archive/2010/2010-11-29-level3-statement-comcast.aspx>.

¹¹ See Comcast Corp., Correspondence with FCC Common Carrier Bureau Chief Sharon Gillette, (Nov. 30, 2010); available at: <http://www.comcast.com/MediaLibrary/1/1/About/PressRoom/Documents/Comcastexparte1130.pdf>; see also, Comcast Corp., Comcast Voices Blog, 20 Q's - with Accurate A's - About Level 3's Peering Dispute (Dec. 7, 2010); available at: <http://blog.comcast.com/2010/12/20-qs---with-accurate-as---about-level-3s-peering-dispute.html>; See also, Level 3, Press Release, Level 3 Releases Statement to Clarify Issues in Comcast/Level3 Interconnection Dispute (Dec. 3, 2010); available at <http://www.level3.com/About-Us/Newsroom/Press-Release-Archive/2010/2010-12-03-statement-interconnection-dispute.aspx>.

Fox broadcast television content on Cablevision's New York systems.¹² For a brief period, Fox used techniques to identify inbound traffic coming from Cablevision subscribers via the Hulu World Wide Web site. To secure additional leverage in its cable television retransmission consent negotiations with Cablevision, Fox blocked Cablevision subscribers, including broadband access only customers, from accessing video programming the company otherwise made available to anyone else accessing the Hulu Web site.

The Cablevision-Fox dispute identifies another beachhead in the Network Neutrality debate in light of the fact that blocked or discriminatory access occurred not at the last mile operated by a retail ISP, but far upstream. In this instance the fact that upstream, long haul ISPs operate in a competitive marketplace, did nothing to help subscribers of a particular retail ISP secure access to content available to everyone else. Fox could use techniques to identify and target Cablevision subscribers for discriminatory treatment, based on nothing more than the fact that they took service from a company with which Fox had a commercial dispute.

Under ordinary circumstances when the volume of traffic between Internet peers changes and becomes unbalanced, the carrier generating more traffic than it receives bears the financial obligation to compensate the terminating carrier. However peering ISPs typically seek to balance out the traffic if possible in lieu of resorting to a monetary settlement. For ISPs that concentrate on

¹² See Brian Stelter, Internet Is a Weapon in Cable Fight, THE NEW YORK TIMES (Oct. 19, 2010); available at:

http://www.nytimes.com/2010/10/20/business/media/20hulu.html?_r=2&ref=technology; Peter Kafka, News Corp. Shuts Off Hulu Access to Cablevision Customers—And Turns It Back On, Wall Street Journal, All Things Digital, Media Memo, (Oct. 16, 2010); available at: <http://mediamemo.allthingsd.com/20101016/news-corp-shuts-off-hulu-access-to-cablevision-subs/>.

the downstream delivery of content, an offsetting upstream flow of traffic may not be available to forestall a surcharge. However in the dispute between Level 3 and Comcast, Level 3 operates a large transcontinental network that could handle more upstream traffic from Comcast had Comcast elected to offset the Netflix downstream traffic volume. In the case of the Cablevision-Fox dispute, absolute blockage occurred because of a broadcast television content carriage dispute having nothing to do with Internet traffic imbalances. Level 3 appears to want the FCC to resolve the traffic dispute by prohibiting Comcast from imposing a surcharge, on top of the Internet access charges Comcast's subscribers pay. Comcast frames the issue narrowly as a peering matter between an upstream ISP and the ISP providing last mile termination. The Cablevision-Fox dispute was resolved before Cablevision could frame the issue as a Network Neutrality violation or unreasonable and anticompetitive act.

This paper will examine the terms and conditions under which Internet carriers switch and route traffic for each of several links between a source of content, e.g., Netflix, and the delivery of that content to consumers via a retail ISP. The paper concludes that for each networking element commercial terms and conditions apply and that the FCC may lack direct statutory authority to intervene based on its determination that the largely unregulated information service classification applies to much of what constitutes Internet access. Additionally the FCC may appropriately forebear from regulating disputes regarding long haul telecommunications capacity, like that offered by carriers such as Level 3, because sufficient competition favors industry self-regulation. Similarly for peering disputes upstream from a retail ISP the marketplace appears sufficiently competitive for ISPs to pursue remedies free of regulatory intervention.

Despite substantial reasons not to intervene, the FCC nevertheless might have to clarify its understanding of what subscribers of retail ISP services can expect to receive. Under truth in billing and other consumer safeguards the Commission might require ISPs to explain what a subscription guarantees not only in terms of transmission speed and downloading capacity, but also what subscribers can expect their ISPs to do when receiving content requiring downstream termination, or when an upstream source of content becomes blocked by the actions of a specific party such as the owner of content. The paper concludes that both Netflix customers and retail ISP subscribers expect their service providers to guarantee delivery of movies and all sorts of Internet traffic respectively. For physical delivery of DVDs Netflix must pay the U.S. Postal Service and for delivery of streaming bits Netflix must pay Level 3. But for Internet traffic involving two or more ISPs, the paper examines whether other retail ISPs providing last mile delivery of content violate their service commitments to subscribers by demanding additional payment from upstream carriers.

II. Four Phases in Development of the Internet Ecosystem

Over its short history the Internet has significantly changed from a government financed network with limited availability to a diversified, commercial “network of networks”¹³ increasingly available to provide a variety of information, communications and entertainment (“ICE”) services. Throughout its evolution the Internet has achieved connectivity between and among various networks based on government underwriting, or commercial terms. While governments incubated

¹³ “The idea of a computer network intended to allow general communication between users of various computers has developed through a large number of stages. The melting pot of developments brought together the network of networks that we know as the Internet.” Wikipedia, History of the Internet; available at: http://en.wikipedia.org/wiki/History_of_the_Internet.

the Internet and helped shape common operating standards, Internet Service Providers (“ISPs”) were able to operate without taxpayer subsidies making it feasible for privatization, commercialization and diversification phases to occur in quick succession.

The four phases in development of the Internet ecosystem identify a limited and decreasing role for governments, as either financial underwriter or regulator. However, as the Internet matures and diversifies, legitimate concerns about anticompetitive conduct and market failures have arisen. In light of the positive benefits accruing from a largely libertarian environment, advocates for government intervention should identify instances where market self-regulation cannot work.

The Internet commenced operations as a neutral, non-discriminating medium. However commercialization, technological development, increased diversity among users and proliferating service options collectively create the ability and incentive for ISPs to pursue price and service discrimination based on mixed motivations.¹⁴ ISPs now face financial incentives to diversify services and to offer both retail subscribers and sources of content and software applications attractive alternatives to plain vanilla, one size fits all Internet access. The owners of many ISPs have vertically and horizontally integrated into many different types of Internet services thereby creating incentives for ISPs to pursue price and quality of service discrimination that serves diversifying user interests, but also may favor the content and applications of corporate affiliates and unaffiliated ventures willing to pay for priority treatment of their traffic.

¹⁴ See Christopher S. Yoo, *Innovations in the The Internet's Architecture that Challenge the Status Quo*, 8 J. TELECOMM. & HIGH TECH. L. 79 (Winter, 2010)(outlining new ISP interconnection variations of peering and transiting)[hereinafter cited as Yoo, Internet Innovations].

The migration from government ownership, to government subsidization, and finally to privatization and commercialization has motivated ISPs to find new ways to generate more revenue. Technological innovations provide the means for ISPs to differentiate how they manage traffic flows, including the ability to prioritize specific bitstreams and to delay or even block delivery of “standard” traffic. As the nature and type of Internet user diversifies, ISPs seek to offer different service tiers with different prices on the basis of user requirements and intensity of need, e.g., premium rates for “power” users needing high bandwidth and timely delivery of packets. The techniques that can provide priority and preferential services to paying customers also can provide ways for vertically integrated¹⁵ ventures to use delivery prioritization techniques to favor affiliates, or handicap competitors. Similarly Fox used techniques to identify the ISP used by persons seeking access to Fox content via the Hulu web site. Armed with this information Fox blocked access to its content only to Cablevision subscribers.

Although no government or private forum comprehensively regulates the Internet, government and private operator decisions, primarily in the North America and Europe, have had a substantial impact on the Internet’s development and governance.¹⁶ The United States government helped create the Internet through research and development support and by serving as an “anchor

¹⁵ Vertical integration refers to the combination of separate market activities by a single enterprise. Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, 12th Annual Report, 21 F.C.C.R. 2503, 2575 (2006).

¹⁶ For background on the history of Internet development *see* Barry M. Leiner, Vinton G. Cerf, David D. Clark, Robert E. Kahn, Leonard Kleinrock, Daniel C. Lynch, Jon Postel, Larry G. Roberts and Stephen Wolff, Internet Society, *A Brief History of the Internet* (2003); available at: <http://www.isoc.org/internet/history/brief.shtml>; *see also*, William B. Norton, *The Evolution of the U.S. Internet Peering Ecosystem*, Draft 1.1 (Nov. 19, 2003); available at: <http://www.equinix.com/pdf/whitepapers/PeeringEcosystem.pdf>.

tenant.” The decision to abandon public financing of the major U.S. backbone network in 1995, created the opportunity for former government contractors to become Tier-1¹⁷ ISP operators of the major backbone networks providing transcontinental and transoceanic links. For the most part largely unregulated private parties have the power to make sweeping decisions affecting the terms and conditions for network access. However, privatization also has created an environment where absent market power, possessed individually or collectively, competition and consumer sovereignty predominates.

The industrial structure of the Internet has tracked four phases:

- 1) Incubation--government administration, first through the United States Defense Department and later through the United States National Science Foundation and universities and research institutes throughout the world (1980s-1995);
- 2) Privatization--governments eliminate financial subsidies obligating contractors to assess whether and how to operate commercially (1995-1998);
- 3) Commercialization—private networks proliferate as do ventures creating software applications and content that traverse the Internet. The “dotcom boom” triggers irrational, excessive investment and overcapacity (1998-2001); and
- 4) Diversification—after the dotcom bust and market re-entrenchment, Internet survivors and market entrants expand the array of available services and ISPs offer diversified terms, conditions and rates, including price and quality of service

¹⁷ “Relationships between network providers typically fell into two categories. Tier-1 ISPs entered into peering relationships with one another, in which they exchanged traffic on a settlement-free basis and no money changed hands. The primary justification for foregoing payment is transaction costs. Although the backbones could meter and bill each other for the traffic they exchanged, they could avoid the cost of doing so without suffering any economic harm so long as the traffic they exchanged was roughly symmetrical. Such arrangements would not be economical with when the traffic being exchanged by the two networks was severely imbalanced. Thus tier-1 ISPs will not peer with other networks that are unable to maintain a minimum level of traffic volume. In addition, peering partners typically require that inbound and outbound traffic not exceed a certain ratio. Networks that cannot meet these requirements must enter into transit arrangements in which they pay the backbone to provide connectivity to the rest of the Internet. Yoo, *Internet Innovations*, 8 J. TELECOMM. & HIGH TECH. L. at 84.

discrimination needed by “mission critical” traffic having high bandwidth requirements, e.g., full motion video content.

A. Phase 1: Incubation

Until 1995, the United States government through the Defense Department and later the National Science Foundation (“NSF”), underwrote development and maintenance of the core Internet backbone (NSFnet). National governments in other parts of the world pursued similar network projects. The Internet began as specialized, closed networks between specific operators and users. Governments incubated what became the Internet through financial subsidies and by being the first major, “anchor tenant” of newly created networks.

Government stewardship helped expedite the research and development of the technologies and the uniform operating standards needed to achieve broadly accessible and interconnected networking. The engineering necessary to support self-healing, redundant and reliable networks for the military and other government users also supported seamless connectivity among the many different networks operating throughout the world using different vintages of equipment manufactured by many different companies.

After incubating the Internet as a medium for traffic associated with research and education, NSF concluded that it could abandon its public financing and a commercial, privatized Internet could evolve. NSF’s 1993 public solicitation document¹⁸ anticipated a privatized Internet with a structure much like what we have today: a hierarchy of many small ISPs serving localities and

¹⁸ National Science Foundation, Solicitation for Network Access Point Manager, Routing Arbiter, Regional Network Providers, and Very High Speed Backbone Network Services Provider for NSFNET and NREN Program (May 6, 1993); available at: <http://www.intercom.co.cr/internet/research/1993/0506.htm>.

regions, fewer inter-regional, Tier-2 ISPs and even fewer Tier-1 ISPs serving entire nations with the highest capacity backbone networks.

At the outset of Internet development government contractors engineered national networks accessible primarily by government, academic and research users. With few operators, generally having the same characteristics in terms of user population, bandwidth, traffic switching capabilities, network management staffing and geographical reach, the parties could agree to simple interconnection and access arrangements. The intelligence behind Internet network routing sought to achieve efficiency and the ability to route around outages and congestion. Because all the ISPs in this phase had roughly the same characteristics and traffic volumes, their routing assignments generated approximately the same financial burdens.

Internet access in this first phase sought primarily to achieve better geographical reach and more users with little regard to the cost of access and who caused an ISP to incur such costs. This promotional phase emphasized the accrual of positive networking externalities¹⁹ so much so that the parties did not seek to monitor traffic flows. Because few ISPs existed, each having the same characteristics, and operating with government funding, the parties saw little benefit and significant cost in negotiating interconnection agreements that required carriers to meter traffic.

In this first promotional phase all participating ISPs agreed to network “peering” meaning that they would provide reciprocal access to each other’s subscribers in a free exchange of traffic

¹⁹ A positive network externality exists when the cost incurred by a user of the Internet does not fully reflect the benefit derived with the addition of new users and points of communications. See John Farrell & Garth Saloner, Standardization, Compatibility and Innovation, 16 RAND J. OF ECON. 70 (1985); Michael L. Katz. & Carl Shapiro, *Network Externalities, Competition and Compatibility*, 75 Am. Econ. Rev. 424 (1985). See also Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479 (1998).

that would take place at a few shared, “public” Network Access Points (“NAPs”).²⁰ The few ISPs operating at this time agreed to receive traffic from the other ISPs for onward delivery to the final intended destination, or to another ISP in exchange for the same traffic acceptance and delivery commitment from the other ISPs. This barter interconnection commitment triggered no exchange of funds based on the “rough justice” expectation that an ISP would deliver roughly the same amount of traffic generated by other ISPs that it handed off for delivery by those ISPs.²¹ In the vernacular of telecommunications carriers this arrangement constituted a “bill and keep” and

²⁰ For helpful background on how peering developed see Scott Marcus, Global Traffic Exchange among Internet Service Providers, OECD Briefing (2001); available at: <http://www.oecd.org/dataoecd/45/9/1894955.pdf>; Geoff Huston, *Interconnection Peering and Settlements*, INET’99 presentation; available at: http://www.isoc.org/inet99/proceedings/1e/1e_1.htm; William B. Norton, *Interconnection Strategies for ISPs*, Document v.2.0; available at: <http://pharos.equinix.com/pdf/whitepapers/ISPInterconnectionStrategies2.pdf>; *The Evolution of the U.S. Internet Peering Ecosystem*, Draft 1.1; available at: <http://pharos.equinix.com/pdf/whitepapers/PeeringEcosystem.pdf>; *A Business Case for ISP Peering*, Draft 1.3; available at: http://pharos.equinix.com/pdf/whitepapers/Business_case.pdf; Bill Woodcock, *White Paper on Transactions and Valuation Associated with Inter-Carrier Routing of Internet Protocol Traffic or BGP for Bankers*, Version 0.2; available at: <http://www.pch.net/resources/papers/bgp-for-bankers/BGP-for-Bankers-v02.doc>; Daniel C.H. Mah, *Explaining Internet Connectivity: Voluntary Interconnection Among Commercial Internet Service Providers* (March 26, 2003); available at: http://tprc.org/papers/2003/181/Explaining_Internet_Connectivity_Mar26-03.DOC.pdf; Steve Gibbard, *Economics of Peering* (Oct. 2004); available at: <http://www.pch.net/resources/papers/Gibbard-peering-economics.pdf>; see also, Network Startup Resource Network, Routing, BGP and IXP Resources; available at: <http://www.nsrc.org/route-bgp-ixp.html>; The North American Network Operators’ Group, Peering Links; available at: <http://www.nanog.org/subjects.html#P>.

²¹ “Most . . . peering relationships have been historically ‘settlement free’ because they benefit both parties and because traffic demands were symmetrical.” Dirk Grunwald, *The Internet Ecosystem: The Potential for Discrimination*, 63 FED. COMM. L.J. 411, 427 (March 2011).

“sender keep all” arrangement,²² because each ISP retained all revenues it generated from subscriptions for traffic carriage regardless of whether it solely provided the transmission, or whether it handed off the traffic for carriage by other ISPs.

B. Phase 2: Privatization

NSF’s glide path to privatization largely succeeded with former contractors achieving supremacy in both the ownership and operation of backbone networks and NAPs. MCI, whose assets Verizon now holds, won the solicitation to take over the very high speed backbone network that previously had served NSF-sponsored research institutions including Cornell University, supercomputer centers in Pittsburgh and San Diego and several government facilities. MCI upgraded its Asynchronous Transfer Mode network from OC-3 (155 megabits per second) to OC-12 (622 megabits per second).

The NSF privatization solicitation also created four private NAPs in Chicago, operated by the Ameritech Bell Operating Company, now owned by AT&T, and Bellcore, the former research

²² “In a bill-and-keep or sender-keeps-all arrangement, each carrier bills its own customers for the origination of traffic and does not pay the other carrier for terminating this traffic. In a settlement arrangement, on the other hand, the carrier on which the traffic originates pays the other carrier to terminate the traffic. If traffic flow between the two networks is balanced, the net settlement that each pays is zero, and therefore a bill-and-keep arrangement may be preferred because the networks do not have to incur costs to measure and track traffic or to develop billing systems. As an example, the Telecommunications Act of 1996 allows for incumbent local exchange carriers to exchange traffic with competitors using a bill-and-keep arrangement.” Michael Kende, *The Digital Handshake: Connecting Internet Backbones*, 11 COMLCON 45, n.60 (2003) (citing 47 U.S.C. §252 (d)(2)(B)(i) (2000)). “The sharing of traffic over the interconnected networks forming the Internet on a statistical and un-metered ‘settlements’ (or ‘bill & keep’) basis was a hallmark of early federal agency involvement in the development of the Internet. This system of traffic carriage free of charge became known as ‘peering.’” Barbara Esbin, *INTERNET OVER CABLE: DEFINING THE FUTURE IN TERMS OF THE PAST 20* (F.C.C., O.P.P. Working Paper No. 30, 1998), available at 1998 WL 567433.

arm of AT&T before its acquisition by Southwestern Bell Telephone Company, spun-off to the divested Bell Operating Companies, metropolitan New York/Philadelphia, operated by Sprint and the San Diego Supercomputer Center and San Francisco, operated by the Bell Operating Company Pacific Telesis, now owned by AT&T, and BellCore, the research and development arm of the local telephone companies spun off from AT&T in 1984, and Washington, D.C., operated by Metropolitan Fiber Systems, a networking firm subsequently acquired by MCI.

With the privatization of the Internet, a hierarchical industrial structure developed. At the top of the pyramid stood a handful of Tier-1 ISPs whose network size, customer base and operational success qualified them for the direct and cost-free exchange of traffic. While peering used to predominate as the primary mode of the NSF network interconnection, the commercialization of the Internet created opportunities for market entry by more ISPs and new incentives for all ISPs to charge what the market would bear for network access. The composition of ISPs expanded and diversified in terms of available bandwidth, geographical reach, subscribership, types of available content, etc.

In light of this diversification and proliferation of ISPs, universal peering became unsustainable. ISPs not having sufficient size and importance, became customers of network access provided by the Tier-1 and other ISPs. This meant that smaller ISPs had to pay the larger Tier-1 ISPs for the privilege of accessing the Tier-1 ISP's customers and network connections. The term transit—also borrowed from the telecommunications vernacular—refers to a negotiated business relationship whereby one ISP sells access to its customers, its network and its access to other ISP networks it has negotiated.

Clearly no ISP beneficiary of cost-free peering appreciated the demoted status of having to pay for access as a customer and reseller. Yet this demotion appeared to occur on the basis of sound business judgment made by individual Tier-1 ISPs and not on the basis of collusion or concerted refusals to deal. ISPs in Asia-Pacific and Africa bore the greatest financial burden in having to self-provision lines to and from NAPs in North America and Europe as well as the obligation to pay for transit. But smaller ISPs everywhere incurred a similar, albeit less expensive burden as well. ISPs in North America generated less telecommunications expense in reaching a Tier-1 ISP NAP, or Point of Presence, in light of the proliferation of such facilities and their close proximity to most Tier-1 ISPs. ISPs located in more remote areas had to procure at their expense the complete link to Tier-1 ISP facilities, even though once installed these two-way links provided Tier-1 ISPs with a cost-free pathway to the smaller remotely located ISP and its subscribers.

ISPs in remotely located regions objected to having to provide typically well financed Tier-1 ISPs a “free ride” for the delivery of traffic from the Tier-1 ISPs. Certainly from a telecommunications service orientation it appeared that the remotely located ISP underwrote the full cost of “return” traffic in light of the bi-directional nature of telecommunications links instead of having to pay half of such cost. However, in the context of Internet service the free ride attribution breaks down. First, the Internet seamlessly combines telecommunications bit transport conduit function with access to content. Particularly at the time of Phase Two in the Internet’s development, ISP subscribers could access most of the content available via the Internet for nothing more than the cost of their ISP subscription. Put another way when an ISP pays another larger ISP for transit services, the smaller ISP acquires access to the larger ISP’s subscribers and the content available from these customers as well as the customers of other ISPs with which the larger ISP

peers, or pays for transit. Smaller ISPs had to pay for access to and from larger ISPs in North America and Europe, but the smaller ISPs could then acquire and deliver content that their subscribers sought. Much of the most desired content resided on servers located in North America and Europe meaning that remote ISPs had to secure access to be able to deliver the content their subscribers expected to access.

Internet transit access arrangements also do not match the limited geographical scope of a telecommunications transit arrangements. In telecommunications service, transit arrangements typically secure an indirect link for a carrier in one location, primarily because this carrier might not have sufficient traffic volume to secure a direct link. In Internet service, transit arrangements typically provide access to a vast array of networks certainly not limited to one country, or carrier. In its most expansive role one Internet transit payment arrangement with one major Tier-1 ISP can provide a small, remote ISP with access to the Rest of the World, because the Tier-1 ISP has secured ubiquitous access and therefore can offer (advertise in the Internet vernacular) an extensive list of routing opportunities.

C. Phase 3: Commercialization

The “irrational exuberance” of the dotcom bubble stimulated a gold rush mentality among investors keen on finding “ground floor” stock ownership opportunities. Undocumented and belatedly refuted claims that the Internet doubled in size on a monthly basis encouraged risk taking based on the assumption that a rising tide would raise all ships, i.e., that anyone investing at the onset of the Information Revolution would reap ample returns. Investors sank several hundred billion dollars in incumbent and new telecommunications and ISP networks. The resulting glut in local and long haul transmission capacity had the impact of creating substantial downward pressure

on Internet transport cost and precluding any pricing discipline by Tier-1 ISPs individually, or even collectively had they attempted to collude. Similarly, even before the dotcom implosion, several Tier-1 ISPs experienced financial distress, but the infusion of more of investment helped create new aspiring Tier-1 and Tier-2 operators.

D. Phase 4: Diversification

The popping of the dotcom bubble triggered substantial losses in the Internet marketplace and a relatively short period of irrational pessimism. The post dot com bubble environment appears to emphasize a shorter transition to profitability, but substantial funds continue to be invested in business plans requiring the use of Internet connections. With less tolerance for financial losses, investors expect to see a realistic timetable for profitability. Throughout the Internet ecosystem ventures have a greater appreciation for cost control and the need to turn cash flow positive quickly.

ICE ventures in this fourth phase have to pay close attention to costs. This means that the carriers providing traffic delivery services will closely monitor traffic flows and have little patience for instances where a traffic partner has executed a peering agreement, but either generates comparatively more downstream traffic, or lacks the network capacity upstream to route traffic it receives from a peer. While relatively few in number, perhaps because ISPs generally use Non Disclosure Agreements to shroud peering terms and disputes,²³ the onset of peering disputes create

²³ The “norms [for a blend of FCC and industry self-regulation of the Internet] might include requirements to provide some level of transparency over the terms of treating a counterpart as a peer deserving of settlement-free interconnection as opposed to a customer required to pay for transit.” Philip J. Weiser, *The Future of Internet Regulation*, 43 U.C. DAVIS L. REV. 529, 576 (Dec. 2009); see also, Frank Pasquale, *Beyond Innovation and Competition: The Need for Qualified Transparency in Internet Intermediaries*, 104 N.W. U.L. REV. 105 (Winter, 2010).

incentives for a partner quickly to force a renegotiation of terms, possibly leading to conversion from zero cost peering to a transit payment when a traffic imbalance arises.²⁴

Greater vigilance of traffic volumes and the proliferation of Internet-mediated services also has created incentives for ISPs to diversify the nature, type, terms and conditions for network interconnection beyond the peering/transiting dichotomy. While NDAs obscure which ISP has agreed to what terms new traffic routing and interconnection arrangements the diversification of services carried via the Internet has prompted ISPs to expand the types of interconnection arrangements. For example, the growing market for access to full motion, video content delivered on an instantaneous, “real time basis” has stimulated the creation of a new type of service provider called Content Delivery Network (“CDN”) that offers guaranteed “better than best efforts” routing of traffic.²⁵ Because many CDNs concentrate on the downstream delivery of traffic, they may have the volume that would stimulate interest in a peering arrangement, but not necessarily the networks capable of handling a commensurate upstream flow.

Ongoing need to upgrade infrastructure to handle increasingly bandwidth intensive applications, creates a powerful financial incentive for ISPs to change the terms and conditions for service both upstream and downstream. Many ISPs initially offered retail subscribers an “all you can

²⁴ For example, in 2008, Sprint and Cogent “de-peered” their networks, causing temporary service disruptions between their customers. *See* Om Malik, Cogent, Sprint Disconnect Networks, May Cause Web Slowdown, GigaOM (Oct. 30, 2008), available at: <http://gigaom.com/2008/10/30/cogent-sprint-un-peer-may-cause-web-slowdown>.

²⁵ “Today, much Web content is not delivered to the ultimate recipient directly from the Web server belonging to the original creator, but via a content delivery network (CDN)-a collection of servers that cache the content and deliver it on demand.” David D. Clark and Marjory S. Blumenthal, *The End-To-End Argument and Application Design: The Role of Trust*, 63 FED. COMM. L.J. 357, 364-65 (March 2011).

eat” unmetered service plan based on the correct perception that all but early adopters would need financial inducements to “test drive” the Internet. Now that the Internet marketplace has evolved, many ISPs see unmetered service as conferring an unnecessary windfall on high volume users to the detriment of the carrier and low volume users. ISPs perceive Network Neutrality initiatives as foreclosing necessary pricing flexibility.

III. The Level 3-Comcast Dispute

In late 2010 Comcast sought to impose a surcharge on traffic volumes generated by Level 3 in light of a significant increase in downstream traffic generated by Level 3 after having secured the opportunity to serve as the primary carrier for delivering Netflix full motion video content to subscribers. While Level 3 agreed to pay the surcharge, the company sought regulatory relief at the Federal Communications Commission (“FCC”). Level 3 also launched a public relations campaign to frame the dispute in terms of Comcast imposing a “toll booth” on the Internet and singling out Level 3 and Netflix traffic for a surcharge to raise the cost of a major alternative to Comcast’s pay per view movie services.²⁶ Comcast responded with an equally forceful campaign to explain that the dispute simply addressed a commercial peering matter.²⁷ Comcast claimed that Level 3’s increased

²⁶ “By taking this action, Comcast is effectively putting up a toll booth at the borders of its broadband Internet access network, enabling it to unilaterally decide how much to charge for content which competes with its own cable TV and Xfinity delivered content.” Level 3, Press Release, Level 3 Communications Issues Statement Concerning Comcast's Actions (Nov. 29, 2010); available at: <http://www.level3.com/About-Us/Newsroom/Press-Release-Archive/2010/2010-11-29-level3-statement-comcast.aspx>.

²⁷ “The bottom line is that this is a good, old-fashioned commercial peering dispute. It is not about online video, it is not a net neutrality issue, it is not about ‘paid prioritization,’ and it does not involve putting ‘toll booths’ on the Internet.” Comcast Corp., Comcast Voices Blog Site (Nov. 30, 2010); available at: <http://blog.comcast.com/2010/11/10-facts-about-peering-comcast-and-level-3.html>.

traffic triggered the right to demand more compensation in light of the higher volume of traffic Comcast delivered to its subscribers.²⁸

This dispute provides a high profile example of how a dispute in one traffic routing segment can impact all other segments that combine to provide a complete link from content source to end users. Comcast correctly states that Level 3 and it had executed a peering agreement for reciprocal and zero cost treatment of traffic, provided the flows remain nearly symmetrical. Because Level 3 now has more traffic for Comcast to deliver than it receives from Comcast, the typical peering agreement would require Level 3 to compensate Comcast if the traffic flows cannot return to near parity. Unless the parties can find a way for Level 3 to receive more traffic from Comcast, Level 3 contractually bears a financial obligation to compensate Comcast.

On the other hand, Level 3 correctly states that the peering agreement it has negotiated with Comcast cannot be examined in a vacuum, because this agreement covers only one component of a complete routing arrangement that involves more carriers, routing segments and opportunities for Comcast to generate revenues. Comcast generates hefty profits from its retail cable modem service subscriptions²⁹ that offer access to Internet content without reserving the option to block, degrade

²⁸ “Comcast has long established and mutually acceptable commercial arrangements with Level 3’s Content Delivery Network (CDN) competitors in delivering the same types of traffic to our customers. Comcast offered Level 3 the same terms it offers to Level 3’s CDN competitors for the same traffic. But Level 3 is trying to gain an unfair business advantage over its CDN competitors by claiming it’s entitled to be treated differently and trying to force Comcast to give Level 3 unlimited and highly imbalanced traffic and shift all the cost onto Comcast and its customers.” Comcast Corp, Comcast Voices Blog Site (Nov. 29, 2010); available at: <http://blog.comcast.com/2010/11/comcast-comments-on-level-3.html>.

²⁹ “Broadband is an extraordinarily profitable service. Top Wall Street analysts John Hodulik of UBS and Craig Moffett of Bernstein both report broadband margins of 90% based on official

or conditionally deliver traffic only if the content source, or a downstream carrier, agrees to pay a surcharge. In other words, Comcast's unilateral actions to demand additional payment from an upstream peer may impact whether the company continues to satisfy all explicit or implicit service requirements established when Comcast receives compensation from retail subscribers for providing access to and from the Internet cloud. Surely Comcast's subscribers have no understanding that they only have a conditional right to receive timely delivery of Netflix streaming movie bits, if and only if an upstream carrier of those bits agrees to pay additional compensation when traffic streams become unbalanced.

What the Level 3-Comcast dispute addresses and which carrier makes the more persuasive argument depends on the geographical scope of analysis. If one solely examines the link between Level 3 and Comcast, then the matter looks like a peering dispute. Also if one interprets the subscription agreement between Comcast and retail subscribers as solely addressing the first and last links to the Internet cloud, then the matter does not necessarily factor in what subscribers expect their monthly Internet access payments to cover. But if the dispute examines both sides of the traffic Comcast handles, then the matter integrates both what Comcast can properly demand from upstream sources of traffic and what the company must do with that traffic to meet its service commitments to downstream retail subscribers.

IV. The Cablevision-Fox Dispute

At first impression one might not see any link between the Level 3-Comcast dispute and the one involving Cablevision and Fox. The latter began as a financial dispute over the level of

compensation Cablevision should pay Fox for the right to carry and deliver Fox's broadcast television content to Cablevision's cable television subscribers in New York. This retransmission dispute added an Internet access element when Fox used techniques to identify traffic generated by Cablevision subscribers in the form of an upstream request for Fox content via the Hulu content aggregation web site. When Hulu forwarded to Fox the request to download Fox broadcast television content Fox could use technology to identify content specific downloading requests initiated by Cablevision subscribers. Rather than process the content request forwarded to it by Hulu, Fox refused to deliver the content and instead sent a notification to the Cablevision broadband subscriber explaining the reason for denied access.³⁰

Cablevision subscribers, including ones only paying for Internet access, received a notification stating that because Cablevision currently had lost the right to retransmit Fox broadcast signals, Cablevision subscribers likewise lost the option to download portions Fox broadcast content otherwise available to anyone else with a broadband connection to Hulu. Fox blocked traffic flows not at the last mile linking retail ISP and end user, but far upstream at the source. The company sought to maximize its negotiating leverage with Cablevision on the broadcast television carriage matter, by denying Cablevision subscribers the option of receiving portions of the now blocked content via an alternative method.

Fox and Comcast both have resorted to tactics designed to enhance their negotiating leverage with a partner in the carriage of Internet delivered content. In the process, end users were

³⁰ Peter Kafka, *News Corp. Shuts Off Hulu Access to Cablevision Customers—And Turns It Back On*, THE WALL STREET JOURNAL, All Things Digital (Oct. 16, 2010); available at: <http://allthingsd.com/20101016/news-corp-shuts-off-hulu-access-to-cablevision-subs/>.

denied access to something they believe they were entitled to receive, particularly in light of the fact that they continue to pay for the privilege through Internet access and cable television subscription fees during the dispute. In both instances one commercial venture can exploit a content bottleneck to deny access, either by blocking a request for a video file stored on a server the company controls, or by refusing to deliver that file to paying retail subscribers. Regardless of the merits in their disputes with a traffic routing partner both Comcast and Fox evidence an incentive and technical ability to distort, block and manipulate traffic flows to serve strategic goals. In both instances consumers are denied access to content as negotiating leverage to resolve a financial dispute in one company's favor.

V. Does the FCC Have Jurisdiction to Resolve Internet Cloud Disputes?

Both the Level 3-Comcast and Cablevision-Fox disputes involve Internet traffic links other than the first and last mile provided by retail ISPs. Nevertheless these disputes directly affect consumers when they cannot view content that ordinarily would be available to them. The potential for direct and adverse impact on Internet consumers refutes the view that both disputes only involve commercial transactions among unregulated ventures for which the FCC has no basis to monitor or possibly sanction. On the other hand the potential to harm consumers does not by itself provide the basis under which the FCC can assume jurisdiction to impose a remedy. Set out below are rationales for and against regulatory intervention by the FCC.

A. Rationales Favoring FCC Intervention

The traffic routing segments that combine to provide a complete Internet link from content source to end user include the services of one or more carriers that deliver packets and files. These

carriers offer telecommunication services³¹ when they provide a conduit for the transmission of content across a distance. While retail ISPs might fully qualify for a largely unregulated information services³² “safe harbor”³³ created by Congress in the Telecommunications Act of 1996,³⁴ carriers operating upstream cannot fully and completely shoehorn their services into this category. The Internet cloud is comprised of telecommunication networks operated by carriers whose operations in the United States fall squarely under title II of the Communications Act, as amended.³⁵ Even

³¹ The Communications Act of 1934, as amended, defines telecommunications service as “the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.” 47 U.S.C. § 153(46) (2010). Telecommunications is defined as “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.” *Id.* 47 U.S.C. § 153(43).

³² Information service is defined 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.” *Id.* 47 U.S.C. § 153(20).

³³ A safe harbor constitutes “[a]n area or means of protection [or a] provision (as in a statute or regulation) that affords protection from liability or penalty.” BLACK’S LAW DICTIONARY 1363 (8th ed. 2004). In light of the lack of a bright line distinction between regulated telecommunications services and largely unregulated information services, ventures possibly can secure a competitive advantage through regulatory arbitrage where ventures seek reduced regulatory oversight by characterizing telecommunications services as information services. The FCC defined regulatory arbitrage as “businesses making decisions based on regulatory classifications rather than on customers’ preferences and innovative and sustainable business plans.” Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, Internet over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet over Cable Facilities, *Declaratory Ruling and Notice of Proposed Rulemaking*, 17 F.C.C.R. 4798, 4846 (2002). See also, Rob Frieden, *Regulatory Arbitrage Strategies and Tactics in Telecommunications*, 5 N.C. J. L. & TECH. 227 (2004).

³⁴ Pub. L. No. 104-104, 110 Stat. 56 (Feb. 8, 1996).

³⁵ 47 U.S.C. §201 et seq.

though the FCC has recognized that a competitive market supports streamlined regulation, including the elimination of some requirements, such as the filing of public service contracts known as tariffs,³⁶ the Commission cannot eliminate completely the applicable Title II regulatory foundation.³⁷

On its own initiative or in response to complaints, the FCC has direct statutory authority to investigate the practices of Title II regulated carriers, a category that certainly applies to carriers that participate in the long haul transmission of Internet traffic and arguably can apply, in part, to ISPs that deliver the traffic onward to end users. The FCC used this rationale to sanction an ISP

³⁶ The FCC first created a dichotomy between carriers still having market power and ones subject to sufficiently robust competition. Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, Notice of Proposed Rulemaking, 77 FCC 2d 308 (1979); First Report and Order, 85 FCC 2d 1 (1980); Further Notice of Proposed Rulemaking, 84 FCC 2d 445 (1981); Second Further Notice of Proposed Rulemaking, 47 Fed. Reg. 17,308 (1982); Second Report and Order, 91 FCC 2d 59 (1982), *recon. denied*, 93 FCC 2d 54 (1983); Third Further Notice of Proposed Rulemaking, 48 Fed. Reg. 28,292 (1983); Third Report and Order, 48 Fed. Reg. 46,791 (1983); Fourth Report and Order, 95 FCC 2d 554 (1983), *vacated* AT&T v. FCC, F.2d 727 (D.C. Cir. 1992), *cert. denied*, MCI Telecommunications Corp. v. AT&T, 113 S. Ct. 3020 (1993); Fourth Further Notice of Proposed Rulemaking, 96 FCC 2d 1191 (1984); Fifth Report and Order, 98 FCC 2d 1191 (1984); Sixth Report and Order, 99 FCC 2d 1020 (1985), *vacated* MCI Telecommunications Corp. v. FCC, 765 F.2d 1186 (D.C. Cir. 1985). The FCC largely deregulated interexchange, long distance telephone service. Competition in the Interstate Interexchange Marketplace, Notice of Proposed Rulemaking, 5 FCC Rcd 2627 (1990); Report and Order, 6 FCC Rcd 5880 (1991) (First Interexchange Competition Order); Order, 6 FCC Rcd 7255 (1991); Memorandum Opinion and Order, 6 FCC Rcd 7569 (1991); Memorandum Opinion and Order, 7 FCC Rcd 2677 (1992); Memorandum Opinion and Order on Reconsideration, 8 FCC Rcd 2659 (1993); Second Report and Order, 8 FCC Rcd 3668 (1993); Memorandum Opinion and Order, 8 FCC Rcd 5046 (1993); Memorandum Opinion and Order on Reconsideration, 10 FCC Rcd 4562 (1995).

³⁷ For example, in MCI Telecommunications Corp. v. F.C.C., 765 F.2d 1186 (D.C. Cir. 1985) the court reversed and remanded an FCC attempt to eliminate the tariff filing requirement for competing long distance telephone companies, because Congress had not yet provided the Commission with statutory authority to do so.

providing Digital Subscriber Line (“DSL”) service³⁸ that denied its broadband subscribers opportunities to originate or receive Voice over the Internet Protocol (“VoIP”) service.³⁹ Similarly the FCC could sanction an ISP that refuses to deliver traffic received from an upstream carrier with which the ISP has a dispute over compensation.

Arguably the stakes are higher when an ISP blocks access to content than when a broadcaster denies a cable television operator access to content.⁴⁰ Most consumers could install an antenna to receive the prohibited content and typically retransmission disputes get resolved before or soon after broadcasters deny access to content. In the Internet context the traffic terminating carrier has a functional monopoly, because subscribers typically select only one ISP to handle all of their upstream and downstream traffic.⁴¹ It would take consumers significant time and effort to

³⁸ Madison River Communications, L.L.C., 20 F.C.C.R. 4295, 4297 (2005) (small independent telephone company agreed to a \$15,000 monetary forfeiture and consent decree agreeing not to block Digital Subscriber Link customers’ access to Voice over the Internet Protocol telephone services).

³⁹ VoIP service offers a voice telephone service alternative to conventional wired and wireless dialup services. Rather than use a dedicated switched circuit, VoIP traffic is divided into digital packets routes and switched through the Internet cloud for all or part of the complete route.

⁴⁰ See Lee L. Selwyn and Helen E. Golding, *Revisiting the Regulatory Status of Broadband Internet Access: A Policy Framework for Net Neutrality and an Open Competitive Internet*, 63 FED. COMM. L.J. 91 (Dec. 2010).

⁴¹ “[E]ven if there is competition among broadband Internet access service providers, once an end-user customer has chosen to subscribe to a particular broadband Internet access service provider, this may give that broadband Internet access service provider the ability, at least in theory, to favor or disfavor any traffic destined for that subscriber.” Preserving the Open Internet, GN Docket No. 09-191, Notice of Proposed Rulemaking, 24 F.C.C.R. 13064, 13094 (2009).

secure an alternative carrier capable of restoring content access on similar terms and conditions.⁴²

Additionally the Commission could identify the public interest benefits in uninterrupted service, for which subscribers might incur costs and inconvenience in finding an adequate alternative carrier and installing replacement equipment such as a modem compatible with the new network.

In its correspondence with the FCC, Comcast characterized the dispute with Level 3 as a private commercial peering matter for which the FCC lacks jurisdiction. Comcast sought to frame the dispute in the context of two related and competitive markets both fully functional absent government oversight. The two-sided markets served by Comcast involve upstream content sources and ISPs as well as the retail Internet access services Comcast provides end users. Opponents of Network Neutrality note that operators in the two-sided Internet access market have incentives for underpricing retail services to stimulate subscribership and demand for upstream services that ISPs such as Comcast could charge at profit maximizing rates.⁴³ For example, television broadcasters opt

⁴² “Some commenters argue that an end user’s ability to switch broadband providers eliminates these problems. But many end users may have limited choice among broadband providers, as discussed below. Moreover, those that can switch broadband providers may not benefit from switching if rival broadband providers charge edge providers similarly for access and priority transmission and prioritize each edge provider’s service similarly. Further, end users may not know whether charges or service levels their broadband provider is imposing on edge providers vary from those of alternative broadband providers, and even if they do have this information may find it costly to switch. For these reasons, a dissatisfied end user, observing that some edge provider services are subject to low transmission quality, might not switch broadband providers (though they may switch to a rival edge provider in the hope of improving quality).” Open Internet Report and Order, 25 F.C.C.R. at 17921 [citations omitted].

⁴³ “Examples abound in two-sided markets of very low, even negative, prices on one side of the market and relatively high prices on the other side of the market. These include Yellow Pages, free television, and various software programs like Adobe Acrobat. In this last example, the Adobe reader is free, but the Adobe writer commands a relatively steep price. Two observations are noteworthy. First, uniform pricing is rare in two-sided markets; it is much more common to observe differential prices across the two sides of the market. Second, one side of the market may actually

to provide content free of charge to end users with an eye toward maximizing audiences for which advertisers pay rates based on market penetration.

No evidence supports the premise that Comcast deliberately underprices retail Internet access subscriptions, or more broadly that broadband service competition in the United States forces carriers to provide service at comparatively low rates.⁴⁴ Likewise the upstream commercial terms heretofore often involve a type of barter, i.e., peering, in lieu of financial payments. If Comcast and other ISPs sought to execute a profit maximizing two-sided market strategy using conventional tactics, the company would charge end users less with an eye toward replacing peering with a traffic-based deliver charge. Instead most ISPs appear inclined to raise end user Internet access charges, by offering tiers of service based on bit delivery speeds and how much content a subscriber can download in one month. Until the Comcast-Level 3 dispute, there appeared to be no indication that existing peers sought to replace their barter arrangement with selectively imposed surcharges applicable to specific upstream peers.

1. Ancillary Jurisdiction

The FCC also may have a basis for intervening even if a court were to reject the view that Title II authority applies to Internet traffic flows between an ISP and end users, or to an ISP and

prefer to face a relatively high price to the extent that it results in a lower price on the other side of the market, and hence a higher level of participation on that side.” Weisman and Kulick, *Price Discrimination, Two-Sided Markets, and Net Neutrality Regulation*, 13 TUL. J. TECH. & INTELL. PROP. at 92-3.

⁴⁴ See, e.g., Organization for Economic Co-Operation and Development, Broadband Portal, Average monthly subscription price for connections between 2.5 and 15 Mbps advertised download speed (Sep. 2010); available at: <http://www.oecd.org/dataoecd/22/46/39575020.xls>.

other upstream ISPs and content sources. Neither the FCC nor a reviewing court have extended the information services classification upstream from the ISP-end user link. On the contrary the Madison River investigation and financial sanction supports limited Title II authority applies even to the ISP-end user link. Accepting for the sake of analysis whether any alternatives exist to direct Title II authority, alternative direct statutory authority might exist elsewhere in the Communications Act.

2. Titles I, III and VI of the Communications Act

The FCC has achieved a mixed appellate record in its attempt to assert ancillary jurisdiction⁴⁵ in the absence of an explicit statutory mandate. Reviewing courts endorsed the FCC's regulation of cable television, in light of its potential to impact adversely the ability of regulated television broadcasters to offer free, advertiser supported content.⁴⁶ Similarly the Supreme Court endorsed both the FCC's abandonment of Title II regulatory oversight of Internet access and the

⁴⁵ The FCC relies on a claim of ancillary jurisdiction when the Commission lacks explicit statutory authority. The FCC successfully invoked ancillary jurisdiction to regulate cable television even before the Commission received a statutory mandate to do so. "The FCC needed a hook to assert jurisdiction over cable. To reach that goal, it used a two-step process. First, the Commission found that cable was within its primary statutory grant of authority under section 152(a) of the [Communications] Act, which allows the FCC to regulate 'all interstate and foreign communication by wire or radio.' Second, the FCC invoked section 303(r) of the Act, which allows the Commission to issue 'such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law,' as 'public convenience, interest, or necessity requires.' The FCC also referenced section 154(i), which provides that '[t]he Commission may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with [the Communications Act], as may be necessary in the execution of its functions.'" Kevin Werbach, *Off the Hook*, 95 CORNELL L. REV. 535, 572 (Mar. 2010) (citations omitted).

⁴⁶ *United States v. Sw. Cable Co.*, 392 U.S. 157 (1968). *See also* *FCC v. Midwest Video Corp.* (Midwest Video II), 440 U.S. 689 (1979); *United States v. Midwest Video Corp.* (Midwest Video I), 406 U.S. 649 (1972).

Commission's retention of some residual Title I authority going forward.⁴⁷ However when the FCC attempted to apply the Court's apparent deference to Title I authority, to sanction Comcast for deliberately meddling with subscribers' traffic in the absence of compelling network management need, the D.C. Circuit Court of Appeals refused to affirm the Commission's action based on the lack of a sufficiently clear link to statutory authority.⁴⁸ The FCC continues to test the scope of its Title I ancillary jurisdiction by claiming authority to impose nondiscrimination and other so-called Network Neutrality requirements on ISPs, notwithstanding the Comcast holding that rejected the Commission's jurisdictional authority to sanction anticompetitive practices of an ISP.⁴⁹

Attempts by both Comcast and Fox to block, or subject specific traffic streams to discriminatory practices may trigger a claim of lawful jurisdiction to remedy anticompetitive practices that occur because either a participating ISP or content source can target particular traffic streams. The basis for imposing Network Neutrality safeguards in these two instances involves a carrier or content provider tactic to discipline a peer or penalize a class of content consumers based on their having subscribed to a venture in a service dispute with the content provider. The FCC

⁴⁷ "Information-service providers, by contrast, are not subject to mandatory common-carrier regulation under Title II, though the Commission has jurisdiction to impose additional regulatory obligations under its Title I ancillary jurisdiction to regulate interstate and foreign communications." National Cable & Telecomm. Ass'n. v. Brand X Internet Serv., 545 U.S. 967, 976, 125 S.Ct. 2688, 2696 (2005). "The Act's definitions, however, parallel the definitions of enhanced and basic service, not the facilities-based grounds on which that policy choice was based, and the Commission remains free to impose special regulatory duties on facilities-based ISPs under its Title I ancillary jurisdiction. In fact, it has invited comment on whether it can and should do so." *Id.* 545 U.S. at 996, 125 S.Ct. at 2708.

⁴⁸ Comcast Corp. v. F.C.C., 600 F.3d 642 (D.C. Cir. 2010).

⁴⁹ Preserving the Open Internet, GN Docket No. 09-191, Notice of Proposed Rulemaking, 24 F.C.C.R. 13064 (2009); Report and Order, 25 F.C.C.R. 17905 (2010).

can claim that its intervention does not impose common carrier requirements, but instead offers consumer safeguards when a venture can use negotiating tactics that deprive consumers of lawful content, a policy created by the FCC on a nonpartisan basis in 2005.⁵⁰

Lastly ISP interconnection disputes and a content provider denying access to a specific class of broadband subscriber calls into question what rights and reasonable service expectations ISP subscribers have. Broadband consumers expect their retail ISP to provide access to the Internet cloud at a promised bit rate and without the option of blocking, dropping and otherwise denying subscribers opportunities to access lawful content, i.e., content that does not cause technical harm to the ISP network, or fit within several categories of subscriber specified undesirable content, e.g., unsolicited commercial message commonly known as spam. Similarly ISPs have a contractual duty to use their best efforts to deliver promised services.

The FCC has prevailed over all legal objections to the its imposition of service commitments on VoIP operators even as these requirements match common carrier telephone company duties and reduce VoIP operators' competitive attractiveness and cost advantages over conventional dial up services. While VoIP arguably constitutes a type of information service,⁵¹ the FCC has managed

⁵⁰ Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, *Policy Statement*, 20 F.C.C.R. 14986 (2005).

⁵¹ VoIP customers initiate and receive calls via their broadband links, e.g., DSL and cable modem services. The FCC considers broadband access an information service. High-Speed Access to the Internet Over Cable and Other Facilities, GN Docket No. 00-185, Declaratory Ruling and Notice of Proposed Rulemaking, 17 F.C.C.R. 4798, 4802, (2002), *aff'd*, Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 125 S.Ct. 2688, (2005); Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking, 20 F.C.C.R. 14853 (2005) *petition for review denied*, Time Warner Telecom, Inc. v. FCC, 507 F.3d 205 (3d. Cir. 2007). It follows that software and other applications carried via information service links similarly qualify as information services.

to avoid having to make that determination even as the Commission requires VoIP operators to incur the same obligations of Title II regulated common carrier telephone companies.⁵² VoIP service providers that can receive or deliver calls to conventional wired and wireless networks must contribute to universal service funding programs designed to promote affordable dial up telephone service,⁵³ make arrangements to support subscriber access to emergency 911 service,⁵⁴ cooperate with law enforcement authorities,⁵⁵ incorporate the technical accommodations telephone companies provide persons with disabilities,⁵⁶ such as deaf callers, and support the ability of existing subscribers to keep their existing telephone numbers when switching service.⁵⁷

⁵² “To date, the Commission has not classified interconnected VoIP service as either an information service or a telecommunications service. The Commission has, however, extended certain obligations to providers of such service, including local number portability, 911 emergency calling capability, universal service contribution, CPNI protection, disability access and TRS contribution requirements, and section 214 discontinuance obligations.” Connect America Fund, WC Docket No. 10-90, A National Broadband Plan for Our Future, GN Docket No. 09-51, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, FCC 11-13, 2011 WL 466775, ¶73 (rel. Feb. 9, 2011)(citations omitted).

⁵³ Universal Serv. Contribution Methodology, *Report and Order and Notice of Proposed Rulemaking*, 21 F.C.C.R. 7518, 7538 (2006) (extending section 254(d) permissive authority to require interconnected VoIP providers to contribute to the USF), *reh’g denied, vacated in part on other grounds*, Vonage Holding Corp. v. FCC, 489 F.3d 1232 (D.C. Cir. 2007).

⁵⁴ IP-Enabled Servs., E911 Requirements for IP-Enabled Service Providers, *First Report and Order and Notice of Proposed Rulemaking*, 20 F.C.C.R. 10245 (2005), *petition for review denied*, 473 F.3d 302 (D.C. Cir. 2006).

⁵⁵ Communications Assistance for Law Enforcement Act & Broadband Access & Servs., *First Report and Order and Further Notice of Proposed Rulemaking*, 20 F.C.C.R. 14989 (2005), *petition for review denied*, 451 F.3d 226 (D.C. Cir. 2006).

⁵⁶ IP-Enabled Servs., Implementation of Sections 255 and 251(A)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996: Access to Telecommunications

The FCC can impose possibly competition reducing regulatory requirements on VoIP service providers based on ancillary jurisdiction. Because VoIP competes with conventional wired and wireless services, subject to Title II regulation, the Commission can impose the very same requirements on VoIP carriers despite the lack of specific Title II authority. Reviewing courts have affirmed the Commission's jurisdiction as well as its preemption of the states from imposing a different regulatory regime, or none at all.⁵⁸

Arguably an ISP leveraging access to its customers and threatening to block such access does not satisfy the fiduciary duty of care the carrier's subscription agreement requires. The promise to deliver Internet access presumably includes a duty to take affirmative steps to maintain interconnection agreements, particularly for traffic end users expect to receive, e.g., timely delivery of full motion video content from Netflix. Comcast may have available an alternative to simply demanding more compensation from Level 3: rearranging its upstream traffic requirements so that

Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities Telecommunications, *Report and Order*, 22 F.C.C.R. 11275 (2007), *Order and Public Notice Seeking Comment*, 22 F.C.C.R. 18319 (2007) (granting in part and denying in part waivers of the FCC order). *See also*, Contributions to the Telecommunications Relay Services Fund, CG Docket No. 11-47, Notice of Proposed Rulemaking, FCC 11-38, 26 F.C.C.R. 3285(2011).

⁵⁷ Telephone Number Requirements for IP Enabled Services Providers; Local Number Portability Porting Interval and Validation Requirements; IP-Enabled Services; Telephone Number Portability; CTIA Petitions for Declaratory Ruling on Wireline-Wireless Porting Issues; Final Regulatory Flexibility Analysis; Number Resource Optimization, WC Docket Nos. 07-243, 07-244, 04-36; CC Docket Nos. 95-116, 99-200, Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, 22 F.C.C.R. 19531 (2007); Matters of Local Number Portability Porting Interval and Validation, WC Docket No. 07-244, Report and Order, 25 F.C.C.R. 6953 (May 20, 2010)(establishing fast deadlines for conversions).

⁵⁸ Vonage Holding Corp. v. The Minnesota Public Utilities Comm'n, 290 F. Supp. 2d 993, 994 (D. Minn. 2003)(upholding FCC preemption of state VoIP regulation).

Level 3 provides more carriage. Comcast's peering contract with Level 3 and its subscription contract with end users both obligate the company to attempt to remedy traffic imbalances in ways that reduce the likelihood of disconnection and "de-peering." Rather than first resort to a surcharge demand, arguably Comcast should have an affirmative obligation to pursue routing adjustments so that both Level 3 and Comcast broadband subscribers do not experience service disruptions.

B. Rationales Opposing FCC Intervention

The arguments against FCC regulation emphasize the fact that the FCC has never intervened in private peering contracts and the information service classification generally applicable to Internet traffic largely prevents assertion of jurisdiction by the Commission. ISPs have managed to achieve global connectivity through commercial peering and transit arrangements free of government intrusion. With rare exception, ISPs voluntarily have entered into these interconnection arrangements and have managed to resolve disputes without government intervention and with only rare instances of service disruptions.

The FCC has wisely shown restraint when addressing claims of Internet market failure. ISPs have demonstrated the ability to self-regulate and to resolve disputes without the need for government intervention, in part because ample alternative routing opportunities exist upstream from the retail ISP. Because the Level 3-Comcast and Cablevision-Fox disputes address routing elements upstream from the retail ISP, traffic routing irregularities are not exacerbated by the lack of alternative routing options. Actual or threatened traffic blockage results from the lack of competition downstream at the retail ISP level, or by the fact that blockage occurred as a result of actions taken by a content source and not any ISP participating in the routing of such content downstream.

Narrowing the focus of the Level 3-Comcast dispute solely to the transmission link between the two carriers, one can assert that a predictable event has triggered the need for a commercial adjustment to a preexisting contract. A significant increase in downstream traffic, not offset by a commensurate increase in upstream traffic results in an imbalance of traffic. When traffic streams become asymmetrical in a peering agreement the carrier generating more traffic bears financial responsibility to compensate the carrier now handling the higher traffic volume. Comcast's imposition of a financial surcharge appears to be a reasonable and nondiscriminatory response to changed circumstances. Had the routing imbalance occurred the other way, with Comcast generating more traffic than it receives from Level 3, Comcast would have incurred a higher financial burden.

The likelihood of asymmetrical traffic flows between carriers otherwise interested in serving as peers has promoted the parties to negotiate a variation of the peering model.⁵⁹ Paid peering involves an arrangement between two ISPs that handle traffic in both directions, but expect a traffic imbalance. If an ISP's business plan focuses on becoming a Content Distribution Network ("CDN") for the delivery of streaming video to end users, that type of ISP is certain to generate more downstream traffic than it will receive upstream. CDNs do not balk at the obligation of compensating ISPs that deliver traffic downstream.

Level 3's agreement to handle Netflix downstream traffic triggered the traffic imbalance. Level 3 presumably negotiated an agreement that compensates the carrier for the predictable payments it would have to make when its now higher downstream traffic volume results in an

⁵⁹ See Yoo, Internet Innovations, *supra* n.14.

imbalance. When Netflix opts to send movie compact disks via conventional postal mail, the company surely expects to compensate the postal service. So too should Netflix and its Internet carrier bear the financial obligation to compensate participating carriers downstream.

VI. What Should the FCC Do?

The FCC recently has experienced a political and judicial drubbing when attempting to resolve real instances of discriminatory and potentially anticompetitive conduct undertaken by ISPs. The Commission should act cautiously in light of having questionable jurisdiction over Internet issues and the fact that the ISPs have managed to operate largely free of regulation while satisfying subscribers' service expectations. On the other hand, disputes have occurred that necessitated the Commission's limited, ad hoc intervention. Such disputes may grow in number as ISPs diversify services as do the models used for calculating interconnection compensation.

The vast majority of past and future Internet interconnection disputes have and will reach closure without FCC intervention, or a judicial remedy. Just as the FCC refrains from intervening in cable television retransmission consent negotiations, even ones that have triggered a disruption in service, the Commission also should refrain from proactively intervening in peering disputes and actual or threatened denials of access to content. However there will be instances where the parties cannot reach an agreement, in part because one side benefits from delay, particularly when consumers temporarily lose access to content.

The FCC should provide its "good offices" to resolve disputes when a party seeks the Commission's intervention by filing a complaint. The FCC has direct statutory authority to resolve carrier-to-carrier disputes regardless of whether some or all of the content carried over transmission facilities constitute an information service, broadcasting, or cable service. The fact that services

delivered to an end user may qualify for an unregulated safe harbor does not by itself convert the upstream links into similarly unregulated carriage. When Level 3 provides long haul transport for another carrier or ISP, Level 3 provides a telecommunications service for hire subject to Title II. Similarly when Fox disconnects or otherwise deprives end users of access to content otherwise available to broadband subscribers whose ISP has no current dispute with Fox, the FCC has direct statutory authority to investigate the public interest consequences of such disconnections.

A. Case Law Supporting FCC Authority to Resolve Interconnection Complaints

On a number of occasions involving many different aspects of facilities interconnection the FCC has responded to complaints, or initiated an investigation on its own accord. The range of FCC involvement runs the gamut including resolution of disputes among cable television operators and broadcasters, VoIP subscribers and their broadband carrier, wireless telephone and data service carriers, and owners of conduits and poles, such as electric utilities not otherwise subject to FCC oversight, and lessees, such as cable television operators and ISPs.

1. Must Carry/Retransmission Consent and Other Types of Mandatory Content Access

In addition to questions about whether the FCC has lawful jurisdiction, compulsory interconnection and carriage of content by cable television operators raise questions about compelled speech and diminution of First Amendment speaker rights.⁶⁰ Must carry requirements possibly substitute specific broadcast channels for content cable operators otherwise would produce

⁶⁰ ISPs appear keen on both asserting quite questionable First Amendment speaker rights and denying them. In the former ISPs seek to deem their network management functions as a type of expression, even if executed by software. In the latter ISPs emphasize their network conduit function to qualify for exemption from potential tort and copyright liability. See Rob Frieden, *Invoking and Avoiding the First Amendment: How Internet Service Providers Leverage Their Status as Both Content Creators and Neutral Conduits*, 12 U. PA. J. CONST. L., No. 5, 1279-1323 (June, 2010).

or acquire.⁶¹ Despite such constraints on speech and property ownership, the Supreme Court has confirmed that the FCC can lawfully require cable television operators to deliver broadcast content to subscribers and to make available channels for educational, government, public and leased access.⁶² Courts have affirmed the FCC's assertion of ancillary jurisdiction to impose such carriage obligations even before Congress expressly mandated it. In effect the FCC can lawfully impose a compulsory duty to deal on a type of private, non-common carrier. Must carry imposes a duty to interconnect and deliver traffic even for ventures that do not constitute Title II regulated common carriers.

The line of must carry cases shows that the FCC can order interconnection and a duty to deal even among non-common carriers. In other words a duty to interconnect does not derive solely within Title II of the Communications Act. Title VI regulated cable television operators have to deal with Title III regulated broadcasters. It does not appear to be a jurisdictional stretch for the FCC to infer that its conditional Title II oversight of carriers providing long haul transmission of

⁶¹ Turner Brdcast. Sys., Inc., 520 U.S. 180 (1997)(must-carry requirement imposed on cable television operators using an intermediate scrutiny standard and concluding that carriage requirements are reasonable and not content-based in that they promote the financial viability of television broadcasters and not any specific type of content). *See also*, Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 663 (1994); Satellite Brdcast. & Comm. Ass'n v. FCC, 275 F.3d 337 (4th Cir. 2001) (carry-one carry-all rule mandated by the Satellite Home Viewer Improvement Act); Nissa Laughner & Justin Brown, Cable Operators' Fifth Amendment Claims Applied to Digital Must-Carry, 58 Fed. Comm. L.J. 281, 305 (2006).

⁶² Time Warner Entm't Co. v. FCC, 93 F.3d 957, 982 (D.C. Cir. 1996) (upholding as constitutional provisions of the 1992 Cable Act which, among other things, required cable operators to provide leased access and public, educational and governmental channels).

Internet traffic.⁶³ The combination of its public interest duties and the general jurisdiction over wire and radio confers authority for the FCC to resolve an interconnection dispute between two ISPs. It may also follow that the FCC could order Fox to refrain from obstructing the delivery of its content to ISPs having the duty to deliver unconditional access to lawful content for their subscribers.

The FCC appears so confident in its statutory authority to address broadcaster-cable television operator interconnection issues that it has undertaken an initiative to help resolve retransmission disputes in a timely manner.⁶⁴ Retransmission consent negotiations have become

⁶³ “One could conclude that the FCC simply has no authority to regulate Internet carriers, at all. But that would ignore the Supreme Court's statements in *Brand X*, and only the Supreme Court is free to call its own statements dicta. And arguments that the FCC has no authority over anything that Internet carriers do runs head-long against the ancillary jurisdiction cases which say that the FCC does have some regulatory authority over entities engaged in communications by wire or radio, even if those entities are not otherwise mentioned in the Act.

What is needed, then, is a doctrinally sound, more narrowly-tailored view of the FCC's ancillary jurisdiction over Internet carriers. Internet carriers are those entities providing ‘communications by wire or radio’ that the FCC has classified as providing information services. A cable company, broadband over power line, or any wireless company providing Internet access service would qualify, but content and applications providers would not. The FCC's ancillary authority should be recognized in circumstances where the Internet carrier is providing or carrying a service regulated by the Communications Act.” James B. Speta, *The Shaky Foundations of the Regulated Internet*, 8 J. TELECOMM. & HIGH TECH. L. 101, 120 (Winter, 2010).

⁶⁴ The FCC has expressed similar concerns about the timeliness of negotiations between prospective competitors to incumbent cable television operators and local franchising authorities (“LFAs”). The Commission imposed limitations on what LFAs can require of market entrants and also established a deadline for their deliberation. Cite In Alliance for Community Media v. F.C.C., 529 F.3d 763 (6th Cir. 2008) the Sixth Circuit Court of Appeals affirmed the FCC's video franchising rules based on the court's finding that ambiguity in the Communications Act afforded the Commission an opportunity to make reasonable statutory interpretations worthy of judicial deference. The court held that the FCC reasonably interpreted Section 621(a)(1) of the Communications Act, 47 U.S.C. § 541(a)(1), as establishing no limits on the Commission's rulemaking authority despite providing no explicit delegation of authority to determine whether and how local franchising authorities unreasonably refuse to award an additional competitive franchise. The court concluded that the FCC acted well within its statutorily delineated authority in enacting

more contentious and in some instance the parties have not reached closure before cable operators have had to deny their subscribers access to highly desirable broadcast television content. The FCC has issued a Notice of Proposed Rulemaking seeking comment on a series of proposals to provide greater specificity of what the parties must do to satisfy the statutory requirement that they negotiate in good faith.⁶⁵ Additionally the Commission proposes to improve notice to consumers in advance of possible service disruptions, extend to non-cable multi-channel video programming distributors (“MVPDs”) the prohibition now applicable only to cable operators on deleting or repositioning a local commercial television station during ratings “sweeps” periods and allow MVPDs to negotiate for alternative access to network programming by eliminating the Commission’s network non-duplication and syndicated exclusivity rules that preclude cable operators from delivering substitute content readily available from another broadcaster.

The FCC takes pains to emphasize its intent not to usurp marketplace-driven negotiations between broadcasters and MVPDs, or to exceed its statutory authority by mandating interim carriage of broadcast signals during retransmission consent negotiations, or imposing a duty for the parties to submit to mandatory binding dispute resolution procedures.⁶⁶ Having jurisdiction to assess whether

the [Franchising] Order and that there exists sufficient record evidence to indicate that the FCC did not engage in arbitrary-and-capricious rulemaking activity.

⁶⁵ Amendment of the Commission’s Rules Related to Retransmission Consent, MB Docket No. 10-71, Notice of Proposed Rulemaking, MB Docket 10-71, FCC 11-31, (rel. March 3, 2011); available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-31A1.doc [hereinafter cited as Retransmission Consent NPRM].

⁶⁶ “We do not believe that the Commission has authority to adopt either interim carriage mechanisms or mandatory binding dispute resolution procedures applicable to retransmission consent negotiations.” *Id.* at ¶17. “Our goal in this proceeding is to take appropriate action, within

broadcasters have negotiated in good faith with MVPDs,⁶⁷ the Commission believes that it can promote faster resolution of disputes by specifying additional examples of what constitutes a *per se* violation of the Section 76.65(b)(1) requirement that parties negotiate in good faith⁶⁸ and by further clarifying what is meant by the standard in Section 76.65(b)(2)⁶⁹ that requires the

our existing authority, to protect consumers from the disruptive impact of the loss of broadcast programming carried on MVPD video services. Subscribers are the innocent bystanders adversely affected when broadcasters and MVPDs fail to reach an agreement to extend or renew their retransmission consent contracts. In light of the changing marketplace, our proposals in this NPRM are intended to update the good faith rules and remedies in order to better utilize the good faith requirement as a consumer protection tool.” *Id.* at ¶17.

⁶⁷ “Congress required the Commission to revise its regulations so that they ‘prohibit a television broadcast station that provides retransmission consent from . . . failing to negotiate in good faith, and it shall not be a failure to negotiate in good faith if the television broadcast station enters into retransmission consent agreements containing different terms and conditions, including price terms, with different multichannel video programming distributors if such different terms and conditions are based on competitive marketplace considerations.” *Id.* at ¶8, *quoting* 47 U.S.C. § 325(b)(3)(C)(ii).

⁶⁸ Section 76.65(b)(1) of the Commission’s Rules establish seven criteria for assessing the sufficiency of good faith in retransmission consent negotiations: “The following actions or practices violate a broadcast television station’s or multichannel video programming distributor’s (the ‘Negotiating Entity’) duty to negotiate retransmission consent agreements in good faith: (i) Refusal by a Negotiating Entity to negotiate retransmission consent; (ii) Refusal by a Negotiating Entity to designate a representative with authority to make binding representations on retransmission consent; (iii) Refusal by a Negotiating Entity to meet and negotiate retransmission consent at reasonable times and locations, or acting in a manner that unreasonably delays retransmission consent negotiations; (iv) Refusal by a Negotiating Entity to put forth more than a single, unilateral proposal; (v) Failure of a Negotiating Entity to respond to a retransmission consent proposal of the other party, including the reasons for the rejection of any such proposal; (vi) Execution by a Negotiating Entity of an agreement with any party, a term or condition of which, requires that such Negotiating Entity not enter into a retransmission consent agreement with any other television broadcast station or multichannel video programming distributor; and (vii) Refusal by a Negotiating Entity to execute a written retransmission consent agreement that sets forth the full understanding of the television broadcast station and the multichannel video programming distributor.”

⁶⁹ “[E]ven if the seven specific standards are met, the Commission may consider whether, based on the totality of the circumstances, a party failed to negotiate retransmission consent in good

Commission to consider the totality of the circumstances affecting retransmission consent negotiations.

2. Madison River

The FCC asserted jurisdiction over a Digital Subscriber Line (“DSL”) broadband access provider that deliberately blocked subscribers from accessing third party VoIP services. The Commission secured a \$15,000 forfeiture and executed a Consent Decree with the Madison River Telephone Company which agreed not to interfere with DSL subscribers’ use of the company’s network to originate and receive VoIP telephone calls. The Commission could assert jurisdiction, which Madison River opted not to challenge, even though DSL access constitutes an information service. A reasonable interpretation of ancillary jurisdiction includes an expectation that even non-common carrier broadband access providers cannot engage in discriminatory and anticompetitive practices aiming to thwart subscribers from lawfully using their broadband access to launch and receive a telephone service alternative to that provided by the DSL carrier.

3. Data Roaming

The FCC also has determined that a carrier providing a retail wireless information service does not insulate itself from having an interconnection obligation with other wireless carriers simply

faith.” Retransmission Consent NPRM at ¶10. 47 C.F.R. § 76.65(b)(2) at that in “addition to the standards set forth in § 76.65(b)(1), a Negotiating Entity may demonstrate, based on the totality of the circumstances of a particular retransmission consent negotiation, that a television broadcast station or multichannel video programming distributor breached its duty to negotiate in good faith as set forth in § 76.65(a).”

because the service is not treated as a Title II regulated common carrier service.⁷⁰ The Commission had no difficulty deciding that wireless carriers have a duty to interconnect so that subscribers using their handsets outside their local calling area can continue to make and receive voice telephone calls.⁷¹ Only AT&T and Verizon objected to an extension of the roaming interconnection requirement to data services.⁷² The public interest benefits in supporting roaming subscriber access to a wireless network are the same regardless whether the interconnection supports a voice telephone call or Internet access. As the Internet becomes an increasingly important medium for all sorts of converging services, the lawful right of access to data networks becomes even more important and necessary.

Recently the Commission sought to impose common carrier interconnection responsibilities on wireless carriers when their data service customers seek access to the network of another carrier while roaming outside the customer's home service territory. The Commission's Second Report and

⁷⁰ Reexamination of Roaming Obligations Of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265, Second Report and Order, FCC 11-52, 26 F.C.C.R. 5411 (2011)[hereinafter cited as Mobile Data Roaming Order], notice of appeal filed by Verizon May 13, 2011.

⁷¹ An Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems, CC Docket No. 79-318, Report and Order, 86 FCC 2d 469 (1981); Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers, WT Docket No. 05-265, Report and Order and Further Notice of Proposed Rulemaking, 22 F.C.C.R. 15817, 15818 (2007). See also, 47 C.F.R. §§ 20.3, 20.12(d)(codifying roaming requirement).

⁷² "We reject arguments by AT&T and Verizon Wireless that a data roaming rule is unnecessary because data roaming agreements are occurring without regulation. We find that providers have encountered significant difficulties obtaining data roaming arrangements on advanced '3G' data networks, particularly from the major nationwide providers." Mobile Data Roaming Order, 26 F.C.C.R. at 5424.

Order on data roaming obligations of facilities-based wireless carriers requires interconnection backed up with the power to resolve formal complaints if commercially driven negotiations fail. The two Republican Commissioners dissented from the order based on the view that the FCC lacks jurisdiction to compel ISPs to interconnect. The Democratic majority relied primarily on the view that Title III confers broad regulatory power over any venture using licensed spectrum, not just radio and television broadcasters.

Rather than claim ancillary jurisdiction based on Title I of the Communications Act, the FCC used an expansive interpretation of Title III to achieve the same outcome, while avoiding the inconvenient fact that the Commission treats wireless broadband and data services as information services not subject to Title II oversight.⁷³ The Commission creates a non-common carrier duty to deal, i.e., wireless carriers must interconnect their data networks and provide access to roaming data service subscribers who take service from another unaffiliated carrier.⁷⁴ The Commission considers

⁷³ “Having determined that wireless broadband Internet access service, regardless of whether offered using mobile, portable, or fixed technologies, is an information service under the Act, we now address the applicability of the ‘commercial mobile service’ provision of section 332 of the Act to this broadband service. As discussed below, we find that ‘mobile wireless broadband Internet access service’ is not a “commercial mobile service” as that term is defined in the Act and as implemented in the Commission’s rules.” *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, WT Docket No. 07-53, Declaratory Ruling, 22 FCC Rcd 5901, 5915(2007).

⁷⁴ “[W]e promote consumer access to nationwide mobile broadband service by adopting a rule that requires facilities-based providers of commercial mobile data services to offer data roaming arrangements to other such providers on commercially reasonable terms and conditions, subject to certain limitations. Widespread availability of data roaming capability will allow consumers with mobile data plans to remain connected when they travel outside their own provider's network coverage areas by using another provider's network, and thus promote connectivity for and nationwide access to mobile data services such as e-mail and wireless broadband Internet access. The rule we adopt today also serves the public interest by promoting investment in and deployment of mobile broadband networks, consistent with the recommendations of the National Broadband

it necessary to remedy the apparent absence of competitive necessity for the dominant national wireless to offer reciprocal data roaming agreements, particularly to smaller, regional operators. The FCC correctly identified a problem that could prevent consumers from relying on their smartphones as mobile computers when seeking Internet access outside their local calling area, a likely occurrence for many users.

The FCC imposes a duty to deal on carriers based primarily on their use of spectrum and the Commission's broad mandate to service the public interest. By concentrating on Title III and the broad mandate in Section 706 of the Telecommunications Act of 1996 to promote Internet access, the Commission hopes it can impose a conventional common carrier interconnection obligation even in the absence of explicit statutory authority.

Because Title II cannot apply directly to data roaming, the FCC frames the interconnection obligation as a "spectrum usage condition"⁷⁵ and not a common carrier obligation. The Commission presumes that this characterization makes it possible to maneuver around the limitation contained in Section 332 of the Communications Act, as amended, that limits the application of streamlined Title II common carrier obligations only to voice services that connect with

Plan. The deployment of mobile data networks is essential to achieve the goal of making broadband connectivity available everywhere in the United States, and the availability of data roaming will help ensure the viability of new wireless data network deployments and thus promote the development of competitive facilities-based service offerings for the benefit of consumers. Today's actions will therefore advance our goal of ensuring that all Americans have access to competitive broadband mobile data services." Mobile Data Roaming Order at ¶1.

⁷⁵ Mobile Data Roaming Order at ¶66.

conventional wireline telephone networks.⁷⁶ The Commission summarily states that it does not have to make the determination whether and how Sec. 332 applies, if more broadly all or other sections within Title III applies.

The FCC attempts to differentiate compulsory data roaming interconnection from common carriage, by emphasizing that wireless carriers will not apply single, tariffed terms and conditions. Wireless carriers typically negotiate voice or data roaming on an individualized, carrier-specific basis. Nevertheless it appears that the FCC has created a duty to deal for wireless carriers that must offer nondiscriminatory terms and conditions to one or more “similarly situated” wireless carriers. In other words the common carrier duty to provide service to all subscribers “indifferently” can result in a tariff or contract serving just one user or carrier, because no other user or carrier has similar usage requirements. For example, the fact that the United States government might have specific and large requirements unmatched by other users does not by itself convert service from Title II regulated common carriage to private carriage, or convert wireless telephone companies into information service providers.

4. Pole Attachments

The FCC has statutory authority to require enterprises not customarily subject to its regulatory oversight to provide access to poles and duct capacity.⁷⁷ Facing complaints about the

⁷⁶ “For purposes of this section--(1) the term “commercial mobile service” means any mobile service (as defined in section 153 of this title) that is provided for profit and makes interconnected service available (A) to the public or (B) to such classes of eligible users as to be effectively available to a substantial portion of the public, as specified by regulation by the Commission; (2) the term “interconnected service” means service that is interconnected with the public switched network (as such terms are defined by regulation by the Commission) or service for which a request for interconnection is pending pursuant to subsection (c)(1)(B) of this section; 47 U.S.C. §332(8)(d)(1-2).

timeliness of access negotiations and the appropriateness of the compensation demanded, the Commission believes it has statutory authority to delve more deeply into the negotiation process. The FCC reformed its pole attachment rules to streamline access and reduce costs for attaching broadband lines and wireless antennas to utility poles across the country.⁷⁸ The Commission considers pole access reform a key element in finding ways to expedite access to affordable broadband services, a key mission of the National Broadband Plan.⁷⁹ The Commission identified three major impediments for which it provides solutions:

First, the process and timeline for negotiating access to poles varies across the various utility companies that own this key infrastructure. The absence of fixed timelines and the potential for delay creates uncertainty that deters investment. Second, if a pole owner does not comply with applicable requirements, the party requesting access may have limited remedies; because of time constraints, cost, or the need to maintain a working relationship with the pole owner, it may not wish to pursue the enforcement process. Third, the wide disparity in pole rental rates distorts service providers' decisions regarding deployment and offering of advanced services. For example,

⁷⁷ Congress directed the Commission to “regulate the rates, terms, and conditions of pole attachments to provide that such rates, terms, and conditions are just and reasonable, and . . . adopt procedures necessary and appropriate to hear and resolve complaints concerning such rates, terms, and conditions.” 47 U.S.C. §224(b)(1). *See also*, National Cable & Telecommunications Assn., Inc. v. Gulf Power Co., 534 U.S. 327, 122 S. Ct. 782, (2002) (Pole Attachment Act applies to attachments by cable television systems that provide Internet service in addition to traditional cable service, without regard to the classification of the commingled cable modem service).

⁷⁸ Implementation of Section 224 of the Act, WC Docket No. 07-245, Report and Order and Order on Reconsideration, FCC 11-50 (rel. April 7, 2011); available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-50A1.doc [hereinafter cited as Pole Attachment Report and Order].

⁷⁹ “In its efforts to identify barriers to affordable telecommunications and broadband services, the Commission has recognized that lack of reliable, timely, and affordable access to physical infrastructure—particularly utility poles—is often a significant barrier to deploying wireline and wireless services.” *Id.* at ¶13.

providers that pay lower pole rates may be deterred from offering services, such as high-capacity links to wireless towers, that could fall into a separate regulatory category and therefore risk having a higher pole rental fee apply to the provider's entire network.⁸⁰

Acting on the statutory authority contained in Section 224 of the Communication Act,⁸¹ the FCC determined that it should provide greater structure and timelines for the commercial negotiations that occur between pole owner and a lessee. Because the pole owner may have monopoly control over a facility needed by a broadband provider and because the broadband provider may not have a practical means to construct its own poles or conduits, the FCC recognized “the need to establish a more detailed framework to govern the rates, terms and conditions for pole attachments.”⁸² The Commission adopted rules establishing a specific timeline for access, improvements to its enforcement process, a revised formula for the telecommunications access rate, and a process to ensure just and reasonable rates, terms and conditions for pole attachments by incumbent LECs which initially owned much of the poles they used, but increasingly have to negotiate for access just like other carriers.

5. Truth in Billing, Avoiding Bill Shock and Sanctions for Deliberate Overcharges

The FCC has determined that it has statutory authority to safeguard consumers by requiring many different service providers to provide understandable bills, to help subscribers avoid

⁸⁰ *Id.*

⁸¹ Congress directed the Commission to “regulate the rates, terms, and conditions of pole attachments to provide that such rates, terms, and conditions are just and reasonable, and . . . adopt procedures necessary and appropriate to hear and resolve complaints concerning such rates, terms, and conditions.” 47 U.S.C. §224(b)(1).

⁸² Pole Attachment Report and Order at ¶5.

unexpected charges triggered by exceeding allotted use, and to sanction a wireless carrier for overcharges involving an information service. The Commission relies on Title III to regulate the billing practices of ventures that use radio spectrum and more generally applies Title I ancillary jurisdiction:

We note that our jurisdiction to regulate certain consumer equipment and non-Title II services delivered via various media is well established. . . . [W]hile Title II obligations have never generally applied to information services, when we have determined that regulatory requirements are necessary for performing our duties under the Communications Act, we may impose such regulations pursuant to our Title I ancillary jurisdiction.⁸³

The FCC also applied its Title II common carrier regulatory authority to sanction Verizon Wireless for billing its subscribers for unintentional initiation of an Internet access data session.⁸⁴ The company generated at least \$52.8 million in increments of \$1.99 when a subscriber inadvertently pressed a button that triggered charges for Internet access even when the subscriber had no intent to start a data session and no idea that a meter was running. The Commission also secured a voluntary contribution of \$25 million from Verizon probably in light of the carrier's knowledge of the overcharges and disinclination to stop the overcharges and provide refunds.⁸⁵ Verizon wisely did

⁸³ Consumer Information and Disclosure, CG Docket No. 09-158, Truth-In-Billing Format, CC Docket No. 98-170, Notice of Inquiry, 24 F.C.C.R. 11380, 11399 (rel. Aug. 28, 2009).

⁸⁴ Verizon Wireless Data Usage Charges, File No. EB-09-TC-458, Order, 25 F.C.C.R. 15105 (2010).

⁸⁵ *Id.* 25 F.C.C.R. at 15113.

not challenge the FCC's jurisdiction to order a remedy based on the view that the Commission had no statutory basis to investigate and resolve a billing dispute pertaining to an "information service."

VI. Conclusions

The FCC has lawful statutory authority to remedy disputes among carriers and between carriers and subscribers when the parties cannot reach a timely settlement. This public service is not prevented by the fact that all or part of the service in question involves something other than common carriage. The FCC is not statutorily prohibited from remedying carrier disputes even if one of the carriers qualifies for an unregulated safe harbor such as information service, or uses telecommunications lines to deliver broadcast content to broadband customers via an information service.

However the Commission must act with substantial restraint in light of the limited statutory authority to intervene and a healthy reluctance on the part of many courts to defer entirely to the Commission's determination of the length and breadth of its ancillary jurisdiction. FCC intervention should focus on whether and how the disputing parties have a duty to deal with each other, primarily by interconnecting their separate networks. The Commission should not try to determine the appropriate rate for interconnection and should make every effort to facilitate a commercial resolution negotiated by the parties.

The FCC has identified an increasing number of instances where disputes arise and the parties cannot reach a timely settlement. Technological innovations make it more possible for stakeholders to single out traffic streams and demand additional compensation backed up by the ability to prevent such traffic from reaching intended recipients. The Commission appreciates that various parties also may secure greater negotiating leverage simply by stalling. For example, it sees a

public interest benefit in preventing Local Franchise Authorities from delaying the grant of authorization for new video service competitors to enter the marketplace.⁸⁶ The Commission also sees a benefit in becoming more active in monitoring retransmission consent negotiations, particularly ones that have so stalled as to trigger the temporary elimination of consumer access to desirable video content.⁸⁷

Level 3 wants the Commission to intervene in an Internet traffic carriage dispute triggered by a significant increase in traffic that has resulted in an imbalance. Had Fox persisted in blocking Cablevision broadband customers' access to content the Commission surely would have received plenty of consumer complaints. The Commission must consider whether and how to act on such complaints. It should err on the side of not intervening unless and until the dispute results in elimination of reduction of opportunities for end users to access lawful content when such access is throttled, restrained, blocked and otherwise handicapped for no legitimate reason.

The FCC has lawful authority to investigate possibly anticompetitive and discriminatory conduct as well as suspicious conduct deliberately obscured by non-disclosure agreements and the lack of transparency and candor in dealings with the Commission. However the FCC should

⁸⁶ Implementation of Section 621(A)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992, MB 05-311, Report and Order and Further Notice of Proposed Rulemaking, 22 F.C.C.R. 5101 (2007); *cert. den.*, *Alliance for Community Media v. F.C.C.*, 129 S.Ct. 2821, 129 S.Ct. 2821(2009).

⁸⁷ Amendment of the Commission's Rules Related to Retransmission Consent, MB Docket No. 10-71, Notice of Proposed Rulemaking, FCC 11-31, 2011 WL 765105 (rel. March 3, 2011).

appreciate that it risks unlawfully or unnecessarily meddling with commercial, marketplace driven negotiations best left to the individual stakeholders. The time to intervene may occur when the parties care so much about extracting concessions from each other that they ignore the harm they cause consumers.