2017

How the FCC Won't Let Internet Be

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I. INTRODUCTION

Communication is an essential part of human life. Starting with the advent of simple cave drawings, we are now able to send text messages, still images or videos from a tablet in China to a friend's smart phone while she is in a classroom in New Jersey. There is no arguing that communication has come a long way. Equally, there is no arguing that the evolution of technology has done much to change the way we communicate and will continue to do so.

Communication is such an essential piece of human life that our constitution protects it with our First Amendment. While most people are very familiar with this fact, most may not be familiar with one of the regulatory agencies, the Federal Communications Commission ("FCC"), that works in tandem with our constitutional rights, to ensure that our communication is not only protected, but uninterrupted and promoted.

A critical task of the FCC is regulating the evolving technology and the means of communication in order to ensure that innovation continues. However, as with any regulated industry, there has been much controversy as to what technologies can and cannot be regulated and question over why they are even regulated at all.

This paper sets out to achieve several goals; (1) providing a comprehensive overview of the technology that plays a vital role in the way we communicate, (2) explain the role of the FCC and the ways in which it regulates communications, and (3) analyze how future technology may be regulated by means of dissecting a hypothetical new technology.

II. TECHNOLOGY FOUNDATION: SPECTRUM, HARDWARE AND SOFTWARE

A. *An Introduction to Spectrum*

The history of spectrum, as it relates to our discussion, dates to 1897 when Guglielmo Marconi patented the mechanism for radio communication. It is through distinguishable radio frequencies that Marconi was able to transmit the first electrical forms of communications.[1] The complex matter to first understand is that Marconi did not invent spectrum. Spectrum does not exist in nature but is simply the name for what Marconi created to categorize or catalog radio frequency for use. Understanding the way communication works via radio waves, there are transmitters, receivers and channels used to transmit communications. Spectrum is simply the channel in which receivers and transmitters communicate.[2]

One of the most important fundamentals about spectrum is frequency. Lower frequencies, as opposed to higher frequencies, have the ability to travel further and penetrate objects. This makes lower frequency spectrum ideal for broadband wireless communication.[3] The issue with higher frequencies is that they require significant investment in infrastructure in towers and other devices in order to make the shorter range and less consistent frequency cover the same span as lower frequencies.[4] Therefore,

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1 Kevin Werbach, *Supercommons: Toward a Unified Theory of Wireless Communication*, 82 Tex. L. Rev. 863 (2004).

2 *Id*. at 883

3 John Blevins, *Death of the Revolution: The Legal War on Competitive Broadband Technologies*, 12 Yale J.L. & Tech. 85 (2009).

4 *Id*. at 96

it should come as no surprise that the lower frequency spectrum is more desirable than the hire frequency spectrum.

The FCC is responsible for regulating spectrum. Private parties must license spectrum in order to use their devices.[5] It should come as no surprise that the history of wireless communication has hinged on the various ways spectrum has been regulated. In 1981 the FCC was responsible for providing valuable low frequency spectrum to local existing telephone carriers.[6] Spectrum caps were inputted in 1993 but they were repealed quickly. Currently, the FCC manages the allocation of new spectrum through auctions, where the highest bidder can acquire access.[7] This often leads to those with the most money to spend, being the ones that can acquire the most spectrum for their use.

However, these auctions are for licensed spectrum, not unlicensed spectrum. Unlicensed spectrum, while not requiring a license from the FCC to operate, is subject to a number of restrictions in order to qualify as unlicensed spectrum. Bluetooth and Wi-Fi are two of the more popular examples of unlicensed spectrum being used in today's market.[8] The restrictions of the these devices must adhere to strict regulations, relating to their frequency, power output and interference they create.[9]

B. *An Introduction to Wi-fi*

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5 Eric M. Fraser, *A Postmortem Look at Citywide WIFI*, 14 No. 2 J. Internet L. (2010).

6 Blevins, *supra* at 96.

7 *Id*. at 99.

8 Jonathan D. Allred, *The Fate of the 3500-3650 MHZ Band*, 25 Harv. J.L. & Tech. 675 (2012).

9 Fraser, *supra* at 8.

Wi-Fi is a wireless technology that allows devices such as computers and mobile devices to communicate without wires.[10] Wi-Fi's technology uses radio waves to transmit and receive communication between devices.[11] A device that is connected to router via Wi-Fi can access the internet so long as the router is connected to the internet. Devices can still be connected to each other via Wi-Fi without being connected to the internet.[12]

One of the issues with Wi-Fi is that the radio signal it sends out does not perfectly match up with the receiver it connects with, causing the signal to weaken. Additionally, the further away the receiver is from the device, the weaker the signal becomes. There is also a problem with interference from other mobile devices such as GPS and mobile phones, in addition to interference from physical objects such as walls and tunnels that can cause a weaker signal.[13]

Despite Wi-Fi's obvious limitations, Wi-Fi has become the standard unlicensed networking device of choice since Part 15 of FCC regulations opened up more unlicensed spectrum for Wi-Fi devices.[14]

C. *An Introduction to Bluetooth*

Bluetooth is a short-range radio technology that is used simply for data transmission between two devices as well as the internet.[15] As opposed to traditional

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10 TechTerms, Wi-Fi Definition (Mar 11, 2014), http://techterms.com/definition/wi-fi

11 Vangie Beal, What is WiiFi?(IEEE 802.11x)? (2016), http://www.webopedia.com/TERM/W/Wi_Fi.html

12 TechTerms, Wi-Fi Definition (Mar 11, 2014), http://techterms.com/definition/wi-fi

13 *Id.* at 8.

14 *Id.*

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networking protocols, Bluetooth creates a personal area network. It can be used to connect mobile phones, GPS, laptops, computers, tablets and video gaming consoles.[16]

Bluetooth devices operate in the same radio spectrum as Wi-Fi, 2.4GHz.[17] Bluetooth has a number of differences with Wi-Fi, one being that it uses a piconet structure, allowing it to connect up to eight devices at a time.[18] Bluetooth is ideally positioned to be a short distance connection as its maximum outdoor range is significantly shorter than Wi-Fi (50M vs. 250M); bluetooth has a significantly lower power consumption rate as its battery life can range from months to years in comparison to a Wi-Fi device's lifespan of only a few hours.[19]

D. *An Introduction to Broadband Internet*

In simple terms, the FCC defines broadband internet as high speed internet that is always on. The FCC lists six types of connections that are considered broadband: Digital Subscriber Line (DSL), Cable Modem, Fiber, Wireless, Satellite, Broadband over Powerlines (BPL).[20]

The two main broadband services in use are DSL and Cable Modem. DSL uses technology that allows an existing phone line to transmit data. For this to happen, changes must be made such as removing some devices from the phone line, installing

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16 Vangie Beal, What is Bluetooth? (2016), http://www.webopedia.com/TERM/B/bluetooth.html

17 Adam Fendelman, Bluetooth Technology Definition and Overview (Oct. 9, 2016), https://www.lifewire.com/definition-of-bluetooth-technology-578667

18 JIMBO, Bluetooth Basics (2015), https://learn.sparkfun.com/tutorials/bluetooth-basics

19 *Id*.

20 *Id.*

Federal Communications Commission, Types of Broadband Connections (Jun. 23, 2014), https://www.fcc.gov/general/types-broadband-connections

special devices to split the data and voice transmissions, and having the local phone company install a local data network fully stocked with routers and switches for data traffic management.[21]

The other leading broadband service, cable modem, also requires physical changes in order to work. Since cable modem works through the television cable, the network configuration must change in a manner that allows for data transmission rather than just a one way television transmission. Since the distance between each point must be reduced to ensure transmission quality, this configuration is usually that of a ring or star. Much like the network management devices DSL uses, cable installs a cable modem termination system, also complete with routers and switches to manage their data.[22]

E. *An Introduction to VOIP*

VOIP, Voice Over Internet Protocol, is an internet phone service. It differs from a traditional phone service in that it converts a human voice into digital packets and then transmits the signal. It allows users to send and receive calls from traditional phone networks, but it requires an interconnection with the phone network to do so.[23]

One of the critical points of VOIP is that in order to make the process work, VOIP needs access to a user's broadband (or internet connection), and then creates an interconnection with the traditional phone network through both physical hardware and

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21 Daniel F. Spullber & Christopher S. Yoo, *Rethinking Broadband Internet Access*, 22 Harv. J.L. & Tech. 1 (2008).

22 *Id*. at 11.

23 Blevins, *supra* at 116.

through the use of a software. This allows for VOIP service to translate and process traditional phone numbers to and from a traditional network.[24]

The most recent change in policy by the FCC has changed the definitions of broadband speeds. Previously, a download speed of 4Mbps was considered broadband. For a provider to currently qualify as broadband internet the broadband provider must supply a download speed of at least 25Mbps and the upload speed must be at least 3Mbps.[25] Oddly enough, streaming radio, VOIP calls and email only require .5Mbps while high definition movie streaming and video conference calls require just 4Mbps.[26]

III. THE FCC AND GOVERNANCE

A. *Creation of The FCC and the 1996 Telecommunications Act*

The FCC is an independent agency of the United States that oversees communications via radio, television, wire, satellite and cable.[27] The FCC was created by the Communications Act of 1934. The purpose of the commission was to regulate all commerce of communication, both domestically and foreign. The commission was to ensure that citizens of the United States would have access to wire and radio communication free of discrimination and that access would be provided rapidly, efficiently and reasonably with regards to charges.[28] In short, the Telecommunications

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24 *Id*. at 118.

25 30 FCC Rcd. 5601 n.144 (2015)

26 Federal Communications Commission, Broadband Speed Guide (Dec. 30, 2015), https://www.fcc.gov/reports-research/guides/broadband-speed-guide

27 47 U.S.C. § 151

28 Matthew Dunne, *Let My People Go (Online): The Power of the FCC to Preempt State Laws that Prohibit Municipal Broadband*, 107 Column. L. Rev. 1126 (2007).

Act was passed by congress to promote competition among telecommunication providers so that higher quality services and lower prices could be extended to consumers across the country.[29] Following years of innovation and much needed updates, a new act, the Telecommunications Act of 1996 was passed. Most notably, the new act created the distinction between telecommunication services and information services.[30]

Telecommunication services are deemed a common carrier and therefore subjected to Title II regulations. Services qualify as a telecommunication service if they offer a telecommunicate service, for a fee, to the public or a substantial class of the public, irrespective of services used. Whereas, information services are not common carriers and fall outside of the oversight of Title II. Information services are those services that offer the ability to generate, acquire, store or transfer, among other functions, information through the use of telecommunications.[31]

B. *Title I*

Title I of the Telecommunications Act helps to outline the general provisions and duties of the act. It highlights the general expectations of carriers and distinctly deals with eligibility of carriers, exemptions and nondiscrimination. [32] Generally, the FCC draws upon its broad authority in its Title I provision when it looks to regulate activities. It claims it can perform any acts, create rules, enact regulations or issue orders, that may be

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29 *Verizon Wireless (VAW) LLC d/b/a Verizon Wireless and T-Mobile Texas, L.P., v. The City of RIO Rancho, New Mexico*, 476 F.Supp.2d 1325 (D.N.M. 2007).

30 *United States Telecom Ass'n v. FCC*, 825 F.3d 674 (D.C. Cir. 2016).

31 *Id*. at 692.

32 47 U.S.C. § 151

necessary to execute its function.[33] The FCC has used its Title I authority to regulate, or attempt to regulate, the internet, cable television and even preempt state laws.[34]

C. *Title II*

Title II of the act has equal significance as it deals with the regulation of common carriers. Most significantly is the power of the commission to regulate activities of common carriers with regards to discrimination and preferences, private blocking and screening, interconnections and barriers to entry. [35]

Section 201 of Title II describes one of the fundamental duties of a common carrier which is to furnish communication service when there is a reasonable request for such service.[36] Section 253 of the Title provides the FCC the ability to preempt state laws that may have a prohibiting impact on an entity's ability to provide inter or intra state communication service.[37] Additionally, Title II requires all local exchange carriers to follow a number specific functions such as, interconnect with all other carriers, allow them to resell their services, and allow other carries to lease essential components of their network for no upcharge. Since carriers need to be able to interconnect with other carriers, the act allows for them to connect their equipment within another carrier's infrastructure.[38]

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33 Dunne, *supra* at 1143.

34 *Id*.

35 47 U.S.C. § 201

36 *Verizon v. Federal Communications Commission*, 740 F.3d 623 (D.C. Cir. 2014).

37 Dunne, *supra* at 1145.

38 Spullber & Yoo, *supra* at 13.

D. *Title III*

Title III of the Telecommunications Act of 1996 pertains to provisions governing radio. Most relevant to this discussion are the provisions covering licensing of radio spectrum, radio interference and power. Most notably, Title III covers mobile services.[39]

Title III splits mobile services into two distinct categories, commercial and private. Commercial mobile services are those that are available to the public or a substantial amount of the public while a private mobile service is not. A commercial mobile service, due to its broad availability to the public, falls into the regulation of a common carrier.[40] It is important to note that a key component of a commercial mobile service is its ability to interconnect to services.[41] To make matters slightly more complex, while mobile services are governed by provisions of Title III, they must first be classified as a common carrier under Title II to be restricted by the FCC. That means that a mobile service must be classified under both Title II and Title III to be regulated as a common carrier.[42]

IV. 2015 OPEN INTERNET ORDER

The 2015 Open Internet Order is the FCC's response to a number of key legislative cases that have impacted the internet and its governance. The buzz word that is most associated with this order is net neutrality. Net neutrality requires all broadband providers to provide the same speed of internet to all service providers. The most

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39 47 U.S.C. § 301

40 *United States Telecom Ass'n*, 825 F.3d at 714.

41 *Id*. at 719.

42 *Id*. at 725.

significant impact of the open internet order is its reclassification of broadband as a telecommunication service, thereby forcing it to comply with Title II provisions. Additionally, the 2015 Open Internet Order provides five guidelines to promote the openness of the internet.[43]

A key element of the 2015 Open Internet Order is the power the FCC derives from Section 706 of the Telecommunications Act, which allows the FCC to create rules and regulations. Specifically, Section 706 states that the FCC needs to foster the deployment and advancement of telecommunications to all Americans in a reasonable and timely manner.[44] It is through these powers that the FCC has reclassified broadband as a telecommunications service as opposed to an information service because the FCC now feels that broadband is a mass-market service that allows communication to and from essentially all endpoints on the internet. Further, the interconnection agreements that broadbands providers have in place with service providers falls under consideration of under Title II provisions as well.[45]

Finally, the 2015 Open Internet Order gives five rules to help shape internet openness moving forward. Through ban blocking, providers are not allowed to ban lawful content or services to lawful devices. Anti-throttling rules prevents providers from degrading the quality of services or content, while paid prioritization rules make it illegal for providers to favor speeds of quality of other services either on a paid for or not paid for basis. Additionally, the order calls for greater transparency of fees, while providing

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43 *Id*. at 690.

44 *Id*. at 695.

45 *Id*. at 696.

general conduct rules which prohibits users from interfering or creating disadvantages with other services.[46]

V. A REVIEW OF CASE LAW AND HISTORY

After reviewing the history of case law surrounding the classification of the internet, it is easy to see why things such as net neutrality, and more simply, the governance of the internet is such a hotly contested topic. While the Telecommunications Act of 1996 was constructed to account for updated technology since the 1934 Act, it did not account for the rapid innovation that challenged the interpretations of the new act.[47] The Telecommunications Act of 1996 established the terms "Telecommunications service" and "Information service," the former qualifying as a common carrier under the communications act.[48] Since then, there has been a seesaw of classifications for broadband, both cable and DSL.

A brief account of the seesaw classification can been seen as such; broadband was classified as a telecommunication service in 1998 through the 1996 Telecommunications Act. Subsequently, broadband is reclassified in 2002 as both an information service and as a telecommunication service as it is viewed as one single integrated service. A year later, in 2003, this classification is reversed, bifurcating the two services and making all transmission aspects of broadband a telecommunication service. In 2005, broadband is

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46 *Id*. at 697.

47 30 FCC Rcd. 5601, 5709 n.630 (2015)

48 30 FCC Rcd. 5601, 5736 (2015)

further reclassified as an integrated service of telecommunications and information services, classifying it once again as an information service.[49]

In 2006 and 2007 momentum was gaining on the information service front, establishing that cable services offered through power lines would be classified as information services and the Wireless Broadband Order classified wireless broadband as an information service as well. However, in 2010, the Open Internet Order, while classifying broadband as an information service, decided to impose many restrictions on broadband, that essentially made broadband operate like a carrier. This order was vacated four years later.[50] Thus, ultimately leading up to most recently broadband and mobile being classified as common carriers and subject to the provisions of Title II and Title III of the 1996 Telecommunications Act.[51]

The 2015 Open Internet Order makes the assertion that that history of modern internet regulation starts with the Computer Inquires in 1966 and "Computer I".[52] However, it may make sense to start years later with the ruling in Computer II where the idea of basic and enhanced services are defined and provide a starting block for the telecommunication services and information services distinctions in the 1996 Telecommunications Act.[53] The 1980 order subjected basic services to Title II governance while enhanced services were not. Basic services essentially allowed for pure

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49 30 FCC Rcd. 5601, 5742 (2015)

50 *Id.*

51 *United States Telecom Ass'n*, 825 F.3d at 725.

52 30 FCC Rcd. 5601, 5736 (2015)

53 *Verizon*, 740 F.3d at 631.

transmission over a communications path, while enhanced services constituted as any services that offered greater capabilities than that of basic services.[54] Further, the order defined adjunct-to-basic service, which are services that are essentially enhanced services that make basic services possible. Adjunct-to-basic services were deemed basic services because of their ability to facilitate service like basic services.[55]

The Telecommunications Act of 1996 revised communications law, borrowing heavily from the Computer II order. It created definitions for Telecommunication services, analogous to basic services and information services which is analogous to enhanced services, and thus treated similarly under Title II of the act.[56] The act defines telecommunications as transmitting information without change in form or content by a user from two points. Essentially, a service is considered a telecommunication service if it carries out those acts for a cost, to the public or a portion of the public.[57] Whereas a service would be considered an information service if it offers the capability of transmitting, storing and processing (among other things) data with the use of telecommunications.[58]

The first application of the new rules in 1998, and the subsequent reversal, hinged on the interpretation of the technology at use, a central issue of recent telecommunications history as well. At first, DSL was first categorized in two separate

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54 *United States Telecom Ass'n*, 825 F.3d at 692.

55 *Id.*

56 *Id.*

57 *United States Telecom Ass'n*, 825 F.3d at 692.

58 *Id.*

parts. The simple access to the internet that DSL subscribers received from their phone lines was considered information services while the physical transmission portion of DSL was considered a telecommunications service. This meant that despite having "clear" distinctions between the two services, DSL providers were in fact offering two different services through one phone line, which were governed by two different sets of rules.[59]

In 2002, through the Cable Broadband Order, it seems that the FCC abandoned their previous logic, determining cable would be considered solely an information service as it is not two distinct offerings but rather one intertwined service. The reasoning relied heavily on the application of the service, which the FCC deemed was to access things such as websites and email, which *just* happened to use telecommunications. The fact that data was transferred was merely an aspect of the complete service and not the full offering itself.[60] However, this classification was later vacated, as the Ninth Circuit Court of Appeals in 2003 held that the original ruling in the 2000 case between AT&T and the City of Portland, stating that cable has two distinct services, must be followed. Thus, the transmission aspect of cable was once again classified as a telecommunications service.[61]

The *BrandX* ruling in 2005, began to swing the momentum back in favor of broadband being classified as an information service. Here the court took a different approach looking at what DSL and cable actually offered, including everything from their internet access to the additional products.[62] Finding the term "offering" within the

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59 *Id*. at 693.

60 *Id*.

61 30 FCC Rcd. 5601, 5739 (2015)

62 *United States Telecom Ass'n*, 825 F.3d at 693.

telecommunications act was vague, the Court held that it was reasonable for the term offering to create an understanding that the telecommunication and information products were one complete "offering" making them a single, integrated information service. The Court would concede that the vagueness of the language leads to a less than ideal interpretation of the telecommunications act.[63]

Building on the momentum of the *BrandX* ruling, the 2007 Wireless Broadband Classification Order found that the technology of wireless broadband to be analogous to that of DSL and Cable, and that while there were transportation features that enable transmission like telecommunication services, the whole offering of wireless broadband is more like an information service.[64] Essentially, by 2007, if a standalone telecommunication service was not offered, the technology was almost certainly considered an information service as opposed to a telecommunication service.[65] Additionally, wireless broadband was reviewed under Section 332 and was deemed to not be a "commercial mobile service" because it was not an interconnected service. Consequently, mobile broadband was deemed an information service under two different provisions within the telecommunications act.[66]

In 2010 the FCC changed their views yet again when they issued the 2010 Open Internet Order. Interestingly enough, and unlike previous changes, there was no reclassification of broadband internet, rather, new rules were seemingly imposed on

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63 30 FCC Rcd. 5601, 5741 (2015)

64 30 FCC Rcd. 5601, 5742 (2015)

65 *United States Telecom Ass'n*, 825 F.3d at 692.

66 30 FCC Rcd. 5601, 5742 (2015)

broadband providers.[67] Among these rules were anti-blocking and antidiscrimination provisions that essentially subjected broadband providers to telecommunication service like rules, while still being classified as information services. It is for that exact reason that those provisions of the 2010 order were vacated in the *Verizon* Court.[68]

The oddity of the 2010 Open Internet Order should have served as an omen for the 2015 Open Internet Order and the very recent *United State Telecom Ass'n v. FCC* holding that upheld it. The 2015 Open Internet Order seems to have followed through where the 2010 Open Internet Order originally fell short. Not only did it reclassify broadband as a telecommunications service, and issue five orders for open internet openness (adding to the block and discrimination policies of 2010), but it also redefined broadband "a mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of communications service, but excluding dial-up internet access service."[69]

Further, mobile broadband was found to be a telecommunications service under Title II and Title III of the communications act. Under Title II mobile broadband is now considered a telecommunications services because of the revised definition of broadband. While under Title III, mobile broadband is no longer a private mobile service. Due to the

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67 *United States Telecom Ass'n*, 825 F.3d at 694.

68 30 FCC Rcd. 5601, 5742 (2015)

69 *United States Telecom Ass'n*, 825 F.3d at 696.

widespread use of mobile the service is more akin to a commercial mobile service, thus qualifying it as a telecommunications service under Title III.[70]

VI. THE IMPORTANCE OF BRANDX AND VERIZON

Despite no longer being prevailing law, arguably the two most significant cases in shaping modern internet regulations are the *BrandX* and *Verizon* opinions. The Court in the 2005 *BrandX* decision pivotally held that cable companies selling broadband internet are not telecommunication service providers subject to common carrier requirements under the Telecommunications Act of 1996.[71] It is import to reflect and understand that during this time the majority of internet users were accessing the internet through traditional dial-up internet connections.[72] Due to technical limitations, dial-up transfers data much slower than broadband internet services, thus receiving the nickname "narrowband."[73]

Much of the *BrandX* decision relies heavily on the Court's interpretation of the end user's, or consumer's, point of view of the end product he is receiving from the internet provider.[74] At the time, the reasoning was that customers were using telecommunication services, transmitting information from two points, of the internet providers, only because it was necessary to use in order to access the materials they were

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70 *United States Telecom Ass'n*, 825 F.3d at 714.

71 *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs*., 545 U.S. 967 (2005).

72 *Brand X Internet Servs*., 545 U.S. at 975.

73 *Id*. at 976.

74 *Id*. at 989.

in effect paying to get to; things such as their e-mail, online news, and websites.[75] The *BrandX* court's view was simply that the end user did not think they were paying for the transmission of data and information, but rather paying for access to the information and content they were seeking (the internet).[76]

The argument in *BrandX* further revolves around the vague understanding of what "offer" under the telecommunications act means in context to what is "offered" to a consumer.[77] In the Court's opinion, the simple offering of a telephone service, allowing users to place voice calls from their end of the line, across that telephone line, to their friend's telephone line, so the two can speak, is a clear offering of a telecommunications service. The user of the telephone service can clearly understand what they are subscribing to – the ability to transfer their voice via the telephone line.[78] Here, the user understands they are subscribing to a service that transfers data (the user's voice). On the opposite side of the spectrum, the *BrandX* court reasons that the lack of transparency to the end user in what they are subscribing to, is what prevents cable from being classified as a telecommunications service and more appropriately classifies it as an information service.[79] While a cable provider uses services that transmit data, and components like switches and wires to perform these functions, the user is not actually purchasing the ability to transmit that data, because that is not what is being *offered*. Rather, the user is

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75 *Id.*

76 *Id.*

77 *Id.* at 990.

78 *Id.* at 992.

79 *Id.* at 991.

purchasing the fully integrated end product, which, as the user understands it, is the ability to use the internet.[80]

Ultimately it is the Court's view of how the internet functions for a consumer's intended purpose that impacts their ruling. The internet which the consumer accesses through the cable providers allows the user to store, cache, acquire, retrieve and utilize information.[81] With this viewpoint, the Court matches cable broadband to the interpretation of information services; services that offer the ability to generate, acquire, store or transfer, among other functions, information through the use of telecommunications.[82]

While the 2014 ruling in *Verizon* did not reverse the way broadband providers were classified, it would pave the way for how they are classified by today's Commission. The *Verizon* court notes that while the FCC can regulate internet providers, it may not impose common carrier restrictions on providers that they do not classify as common carriers.[83] The 2010 Open Internet Order did not reclassify broadband providers, but rather imposed anti-throttling and anti-blocking restrictions to broadband providers, which essentially subjected them to common carrier provisions despite such providers not being classified as such.[84]

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80 *Id*. at 992.

81 *Id*. at 1001.

82 *United States Telecom Ass'n*, 825 F.3d at 692.

83 *Verizon*, 740 F.3d at 629.

84 *Id*.

The FCC's 2010 Open Internet Order explains that one of its fundamental reasons for its restrictions it places on broadband providers is that broadband providers have clear incentives and consequently, motivation, to discriminate against edge providers, which in turn could lead to stifling the innovation of internet technologies.[85] The court acknowledges that services such as VOIP have become increasingly competitive alternatives to cable providers telephone solutions, while video streaming services such as Netflix are in direct competition with movie services provided by cable broadband providers as well.[86] Further, the FCC views broadband providers as essentially gatekeepers, that through their discrimination, can control who has access to what type of internet speed and quality. This type of function provides distinct advantages to broadband providers over key market players, even the most notable of players such as Netflix, Google and Apple.[87]

The FCC's argument for imposing restrictions on broadband providers through the 2010 Open Internet order is perhaps best highlighted in four prior instances of broadband providers using their position of power to create competitive advantages over edge providers. There is history of mobile broadband providers blocking online payment companies after contracting with a competing product as well as restricting VOIP and video streaming services. There is also an example of a traditional broadband provider

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85 *Id*. at 646.

86 *Id*.

87 *Id*. at 647.

blocking VOIP all together and further, Comcast impairing the ability of peer to peer filing sharing applications on their network.[88]

Despite the valid rationale of the FCC in its restrictions of broadband providers, and its clear power it has to regulate and develop the deployment of broadband services, those powers cannot be exercised if they conflict with the communications law.[89] The Court in *Verizon* would ultimately rule that the FCC's methods of regulating both fixed and mobile broadband providers through the 2010 Open Internet Order violated the 1996 Telecommunications Act. The restrictions could be applied to telecommunication services who are treated as common carriers under the act, but because broadband is classified (at the time) as an information service, restricting them in the same manner is in direct violation of the 1996 Telecommunications Act.[90]

The reason that the two rulings in *BrandX* and *Verizon* are so significant to current internet regulation is that the clearly laid the groundwork for the most recent ruling in the 2016 *United States Telecom Association* decision. *BrandX* reasons, most likely due to the lack of technological advancement at the time, that users do not concern themselves with the transfer aspect of the internet, but rather what it provides them – their email or web browsing.[91] While *Verizon* simply reasons, that while the FCC has the power to restrict internet providers in a number of ways, they cannot impose common carrier restrictions on providers that they do not classify as common carriers (through being classified as a

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88 *Id*. at 649.

89 *Id*. at 650.

90 *Id*. at 651.

91 *Brand X Internet Servs*., 545 U.S. at 992.

telecommunication service).[92] Logically, we can see where the FCC wanted to go in 2010 with its 2010 Open Internet Order. The FCC clearly wanted to regulate broadband provides as common carriers under the Telecommunications Act of 1996, however, for some reason, it could not bring itself to reclassify broadband as an telecommunications service. This is most likely due to the *BrandX* decision and classification of broadband. However, in order to achieve their goal of regulating broadband as a common carrier, they simply just needed to reclassify broadband as a telecommunications service, which is would finally do in 2015 through its new 2015 Open Internet Order by *redefining* broadband.[93]

VII. DESIGNING THE HYPOTHEICAL "MESH" NETWORK

In this section, the goal is to structure a hypothetical technology and network that currently challenges the status quo of existing mainstream internet technology. Once this hypothetical technology and network is structured, it will then be analyzed whether or not the FCC would consider this hypothetical technology and structure to be a telecommunications service, thus subject to common carrier regulations under Title II or Title II of the current telecommunications act.

First, imagine the physical structure, that of which instead being a typical star or ring configuration, is a mesh-network[94], void of typical routers and switches, but instead

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92 *Verizon*, 740 F.3d at 629.

93 *United States Telecom Ass'n*, 825 F.3d at 690.

94 A mesh network relies on multiple connections between nodes, similar to a peer to peer model, which has key features such as plug-and-play (no configuration required) and more importantly, reliable redundancy. The latter means that if node fails, the path of transmission does not fail, the data simple takes another path through the other connected nodes. Jordan S. Hatcher, *Mesh Networks: A Look at the Legal Future*, 11 No. 5 J. Internet L. 1 (2007).

where each node[95] is connected through the software or an app of each user. Further, consider that this app or software allows each user's device (laptop, tablet, smart phone, iPad, kindle), to communicate with every device on this mesh network, essentially allowing any user on this network to send a text, picture or video message from their tablet, to a friend's smart phone that is also on the same network. Now further imagine that this software or app utilizes pre-existing hardware such as the bluetooth on each of these devices to send and receive these messages, overcoming the typical connection limitations of bluetooth.[96] Additionally, imagine that because of this app or software, this network can function fully without the use of the internet, or mobile cellular service. Essentially, this network has become an entirely ubiquitous network, free of traditional internet technology, utilizing mobile devices and low power bluetooth, which takes advantage of the unlicensed spectrum under the FCC regulations.[97] Finally, imagine that the cost to the public is free. The service is completely advertising based, except for private companies, which can pay a fee for the service to have their own private network. Naturally, because the service is free, ad-based, or substantially cheaper than broadband, it is safe to assume the quality of speed is not such that a user can stream high definition video. Only simple text and picture transmission should be assumed. Think of this technology as a supplement service that can send and receive limited types of data, most

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95 A node is another name for a device that is on a network. *Id*.

96 Basic networks of piconets only allow for up to eight devices to connect. However, there are patents describing a way to manipulate this limitation by connection multiple piconets, thereby creating a cluster with larger limitations. See, *Mesh Comm, LLC v. Pepco Energy Services*, No. RDB-09-2804, 2010 WL 5463934 (M.D. 2010).

97 Many Bluetooth and Wi-FI devices operate in the unlicensed spectrum of 2.4Ghz. Carol Ellison, *Municipal Broadband: A Potential Twenty-First Century Utility*, 11 N.Y.U. J. Legis. & Pub Pol'y 453 (2008).

likely to be used in critical times when traditional means of internet communication are unavailable. For purposes of the upcoming analysis, we will refer to this technology as "ICON."[98]

VIII. IS ICON A TELECOMMUNICATIONS SERVICE?

One reason the law regarding telecommunication services and internet services can be considered confusing, and often inconsistent, is that the technology we use is always evolving and behaving differently. It is important to understand there are currently four major types of players involved with the internet as we know it. These types of players are best described as backbone networks[99], broadband providers, edge providers and end users.[100] Everyone who uses the internet accesses the internet through these backbone networks, typically through being a subscriber to a broadband service provider.[101] Example of broadband providers are Verizon and Comcast. Edge providers are those that provide content and services through the internet for consumers. Common edge providers are Amazon, Google, Netflix, etc. End users, are the consumers who use the edge providers' services.[102] To over simplify the technical interaction of all the components, when an end user wants to watch something on Netflix, Netflix transmits data through their provider, say Verizon, to the backbone network, who in turn transfers

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98 For purposes of the remaining analysis, ICON will be the name of the made-up technology and network communication system that has been described in Section VII

99 A backbone network consists of long distance fiber optic cables and high speed routers that are connected together in order to transfer a large amount of data quickly

100 *Verizon*, 740 F.3d at 629.

101 *Id*. At 630.

102 *Id*.

that data to the end user's provider, say Comcast, who then transfers the content to the end user, the viewer.[103] It is critical to understand this basic process for the upcoming analysis.

A. *Telecommunications Service by its Definition*

As mentioned before, services will qualify as a telecommunication service if they offer a telecommunicate service, for a fee, to the public or a substantial class of the public, irrespective of services used.[104] It is generally understood that cable broadband providers, like Verizon and Comcast, make their product directly available to the public and it is undeniable that their marketing campaigns, such as television advertisements target the masses.[105]

Since the FCC did not debate if mass marketing a product to the public counts as being offered to the public, there is not much guidance as to if the absence of marketing would still qualify as an offering to the public. It would make sense that if ICON was marketing their technology to many consumers, like Verizon FIOS, then ICON would be likely holding their technology out to the public. However, if ICON does not market their product like typical broadband providers do, it seems less certain if ICON would qualify as telecommunications service due to the way it makes its product available.

There is an argument to be made, albeit a weak one, that if ICON spread via word of mouth, with no advertisements and ICON does not hold itself out to the public, that

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103 *Id.*

104 *United States Telecom Ass'n*, 825 F.3d at 692.

105 30 FCC Rcd. 5601, 5764 (2015)

possibly ICON would not be viewed as holding itself out to the public like Verizon and Comcast. In such a scenario, ICON may require users to have a code in order to sign up for the service in which it only releases a limited number of codes, or alternatively users may only be invited to use ICON by existing users, meaning they would need to know someone who uses ICON in order to be a user as well. While perhaps not the strongest of arguments, ICON may have a legitimate argument that it does not hold itself out to the public like typical broadband providers if it implemented one of these methods for developing adoption of their product.

The "for a fee" aspect of the definition has less clarity as it is often black and white, either the consumer is paying for a product or the consumer is not paying for it. In the case of ICON, the consumer is not the payer, but rather the network is supported by advertisements, much like Google's pay per click method. The argument could be made that ICON's service is offered to the public, but not for a fee since they do not pay for it. The argument would then hinge on whether or not paid advertisements in lieu of a service fee, would quality as a service for a fee. Courts have not had a reason to tackle this question so there is no definitive case law on this matter to give concrete guidance. The best view would be to say that ICON's service, may or may not be considered to be available for a fee, because ICON is not charging the end users, however, if the courts determine that the augmented pricing from the advertisers counts as a "fee by proxy," then ICON's service would be considered for a fee, much like that of a FIOS.

B. *Telecommunications Service by its Behavior*

To reiterate, the FCC defines telecommunications 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."[106] The Court has determined that the key as to whether a communications services is a telecommunications service relies on whether the service makes an offer of telecommunications. In the context of broadband, the entire service from beginning with the edge providers, right through the end user is considered a telecommunications service.[107]

When analyzing ICON, we need to understand what ICON does and what ICON does not do. ICON, through its software/app, allows any device to be able to send and receive email, text or pictures, however, it is not able to deliver high quality videos due to its speed limitations.

In a similar fashion to VOIP, ICON uses a combination of software and hardware to communicate. But unlike VOIP, ICON is not using its software to manipulate communication through existing providers.[108] It should be noted that while VOIP, through its flagship brand Vonage, was never ruled upon regarding its telecommunications status, it did receive friendly opinions from the FCC leading us to believe it would not have been considered a telecommunications service (at that time).[109] Again, while there is no definitive court rulings for software based communication, it seems likely that based on how VOIP was being treated during its rise to popularity, that ICON would likely be treated in a similarly favorable way – not as a telecommunications service.

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106 *United States Telecom Ass'n*, 825 F.3d at 692.

107 *Id*.

108 Blevins, *supra* at 119.

109 *Id*. at 120.

In drawing a comparison between ICON and broadband we need to look at the 2015 Open Internet Order's definition of broadband "A mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of communications service, but excluding dial-up internet access service."[110]

While the new order does not necessarily disagree with the *BrandX* decision that broadband offers two distinct services, telecommunication services and information services, it essentially unbundles the "integrated offering" and rather pinpoints the use of the consumer, such as using broadband for the high speed internet connections.[111] An industry report points out that users pay providers essentially for one thing – to access the internet.[112] Further, the FCC points out that consumers rely on broadband internet access to transmit the content of their choosing, and that broadband providers try to attract these consumers by demonstrating that their speeds are faster than other competitors.

If access to the internet is key, then perhaps ICON, like broadband, would qualify as a telecommunications service. ICON does allow users to access email and transmit pictures and text, so in a simple form, ICON is allowing for access. However, ICON is not so much of a high speed player as it is a short distance network, and perhaps more critically, the true solution for the last mile.[113] If the FCC wants a provider to provide

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110 *United States Telecom Ass'n*, 825 F.3d at 696.

111 *United States Telecom Ass'n*, 825 F.3d at 699.

112 *Id.*

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access to all forms of the internet, than ICON will likely qualify. However, if the FCC wants the provider of a service to deliver high speeds, speeds that can deliver YouTube videos and Netflix streaming capabilities, then ICON in its limited capacity, surely could not qualify. The FCC notes broadband providers act as an essential conduit to end users who wish to transmit data of their own choosing to any endpoint of their choosing.[114] If the key feature of broadband is the user's ability to transfer *any* type of data to and from any point is the qualifying such as the likes of FIOS or Comcast, the fact that ICON is unable to transmit some types of data or use edge providers like Netflix, appears to be counterintuitive to what broadband is, and simply cannot be viewed as broadband. Under this view, it seems all too likely that ICON would not be viewed as a broadband provider and therefore not a telecommunications service like broadband.

C. *Telecommunications Service by its Perception*

The *BrandX* Court brings up another key way to determine whether a technology qualifies as a telecommunications service or information service, reasoning that when there are two or more ordinary uses, a company offers what the consumer perceives the offering to be.[115] The Court rationalized this view, due in part to the fact that Computer II, from which our most recent telecommunications act was bore from, defined its

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The Last Mile a connection between a home and a local hub of the internet. Homes have the unique difficulty of not being able to share in a distributive cost of being connected to the internet, which consists of significant infrastructure to be created. This typically means, due to the extensive infrastructure costs, homes can be left without connections to the internet. Providers have long been looking for a cheap and efficient way to solve for the problem of connecting these "last mile" points. Fraser, *supra* at 8.

114 *United States Telecom Ass'n*, 825 F.3d at 700.

115 *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs*., 545 U.S. 967 (2005).

distinctions between enhanced and basic services on the key element of what the consumer *perceived* the product to actually be. [116]

With regards to ICON, it may be difficult for consumers to perceive ICON being on par, or even in the same playing field as broadband. Remember, consumers are using broadband at their offices to video chat with clients, send emails, download attachments, and at home to surf the internet and binge watch the next 12 episodes of *House of Cards* on Netflix. While ICON can serve as fully functional means to send a consumer's text or email to a friend or colleague, it is not suitable for more of the "advanced" or "fun" features that we have grown to love in the modern internet era. If consumers cannot use ICON like they would broadband, to deliver all of their content needs, when they want it, as fast as they need it, then it would be very unlikely that consumers would perceive ICON to be a broadband service. It seems much more likely that consumers would view ICON as an additional function to help send and receive messages when they are not connected to broadband, or do not want to be connected to broadband.

While it seems unlikely that a consumer can perceive ICON as a broadband service, they may be able to perceive it is a telecommunications service. The Court in *BrandX* made the analogy that it would be impossible for a consumer to view a car dealership as offering both the cars and the engine of a car, because they are functionally integrated, and that they must be viewed as only offering cars to the consumer. On the opposite side, the Court stated that a pet shop could be seen as offering two distinct offerings when selling a dog on a leash, as the leash is not so integrated into the dog as the engine is with the car. With this analysis, the Court reasoned that if services are

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116 *Id*. at 977.

integrated in such a fashion, that the consumer can only perceive the many offerings of broadband as one offering, "the internet", then the offering must be one offering.[117]

We can apply this same analogy to telecommunications and how the user perceives ICON with regards to its telecommunications services. As stated above, the FCC defines telecommunications 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."[118] Most of this definition seems to be what a consumer would reasonably perceive ICON to do. ICON does send and receive data between two points of consumers choosing, such as sending a text to their mother. Arguably, there is no change in the form, as text is small data and easily transmitted via ICON. However, if something were to be transmitted such as a video clip, or perhaps a Netflix movie attempted to be streamed, the quality would likely erode and arguably the form is then changed. That is also assuming the video content can even be sent or received, which touches on the point that while users can choose what content they want to transmit, they are limited to the type of content they can transmit, which is unlike the telecommunication services offered by broadband. If the data of their choosing is not considered "their" choosing due to the technical limitation, then perhaps ICON cannot be viewed as a telecommunications service.

It seems more likely, that due to the robustness of broadband, and the limitations of ICON, consumers will not perceive ICON to be a telecommunications service, because ICON is only good for short distance, text and small data transmissions. Consumers are

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117 *Id*. at 992.

118 *Id*. at 1007.

likely accustomed to their telecommunication services being all providing, and such limitations with ICON will cause ICON to fail the perception test of being a telecommunication services as well. As explained, the Supreme Court has deemed that classification under the communications act turns on what the consumer believes the finished product to be.[119]

D. *Commercial vs. Private Mobile Network*

While it appears that ICON can escape the regulations that come with being classified as telecommunications service, and as such, evade common carrier status, as understood under Title II of the telecommunications act, it may still be regulated as such under Title III. In order for a service to escape Title III regulations it must be considered a "private mobile service" as opposed to a "commercial mobile service."[120] A commercial mobile service is any (1) mobile service that is provided (2) for profit and (3) makes interconnected service available to the (4) public or such classes of eligible users as to be effectively available to a substantial portion of the public." A private mobile network is essentially any network that does not meet the standard of a commercial mobile network.[121] The term "interconnected service" is defined as a service that is connected with the public switch network, which is the common carrier switched network that utilizes either the North American Numbering Plan (North American phone numbers are 10 digits) or public IP address.[122]

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119 *United States Telecom Ass'n*, 825 F.3d at 701.

120 *Verizon*, 740 F.3d at 651.

121 *United States Telecom Ass'n*, 825 F.3d at 714.

122 *Id*. at 717.

In analyzing whether ICON would qualify as a commercial mobile service, it is hard to argue that the first two prongs are not satisfied. ICON is indeed a mobile service, and it is operated for a profit. Whether the profit is subscriber based or sponsored through advertisers should not matter. Additionally, the fourth prong, offered to the public or a substantial group of the public, could likely be argued but only until ICON reached a critical mass, at which point the likely weak argument fades. Arguably it was mobile broadband's rise to popularity and critical mass that led to its reclassification as a common carrier. It is estimated that more than 75% of people ages 13 and up use smart phones.[123] For argument sake, let's assume that ICON reaches a substantial critical mass and satisfies the fourth prong. That leaves ICON's mobile broadband classification turning on how it interconnects with the rest of the world, whether or not it makes interconnected service available.

A simple classic example of private mobile network that does not make interconnected service available is the communication network a taxi company or first responders such as police or firefighters utilize. The reason these communication networks are considered private mobile networks is that they serve a "limited" number of endpoints, as opposed to cellphones which seemingly allow for ubiquitous access around the globe.[124] If ICON simply replaces the current communication for the police or the fire department, it would make sense that ICON would be treated in a similar fashion, as a private mobile network. Additionally, if ICON ends up being the preferred mobile communication platform of a major company, say all of JPMorgan Chase was to

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123 *Id*. at 716.

124 *Id*.

implement a separate communication network on ICON for only their employees to communicate with each other, that too would seem like a limited number of endpoints, like a taxi cab network. The same would likely hold true if ICON had a separate communication network for all Seton Hall Law School Faculty, Staff, and Students, where they could communicate in case of an emergency, and only with those on the Seton Hall Law School network.

Where the analysis starts to get more gray, is if an ICON user interacts with the public switch network. As the FCC reasons, the key determination is if the technology allows users to communicate with all other users on the public switch network, whether that is through the telephone line or on the internet via IP addresses.[125] In its reasoning that mobile broadband qualified as a commercial mobile network the FCC looks at the recent innovations in VOIP. VOIP has the ability to allow a user on a tablet to make a *phone call* to a person using a normal telephone in their home, or even their cell phone. The connection essentially allows an IP address to communicate through public switch network and communicate to a traditional North American Phone Number.[126] Further, the commission concludes that because of VOIP, mobile broadband was officially interconnected with the telephone network, even despite mobile broadband typically working in conjunction with a third party application like GMAIL or WhatsApp to facilitate communications between users. Plainly, if the technology allows for the

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125 *Id.* at 720.

126 *Id.*

capability of users to connect through the public switch network, the technology will likely be classified as a commercial mobile service, like mobile broadband.[127]

It would seem to make sense that if ICON does not communicate with users via the internet or the telephone network, but simply just other ICON users, similar to a walkie talkie, then ICON cannot be seen as being integrated with the public network switch, thus not qualifying as a commercial mobile service. However, the analysis turns trickier if ICON *can* allow for users to connect through the internet. Assuming that ICON can allow for users of ICON to email users to their native email application on their computer or tablet, ICON still may not qualify as a commercial mobile service, despite mobile broadband being considered interconnected as it allows for users to communicate through the public switch network through IP address, telephone number or both.[128] If ICON works in such a manner that it can manipulate a user's native messaging app but does not interact with the public switch network to send or receive messages, ICON may create a grey middle ground that has no case law to help guide courts on how to decide what it is more akin to.

Ultimately, it is likely that the FCC could rule in either direction. There would likely not be much push back if the FCC reasoned that because ICON has the ability to send text and email through the internet, it is connected to the public switch network and therefore a commercial mobile service. However, it is also likely that the FCC could rule that, while not needing to be able to communicate through IP addresses *and* telephone lines to qualify as a commercial mobile service, the limitations in the manner in which

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127 *Id*. at 723.

128 *Id*. at 722.

ICON can connect and communicate with the public switch network disqualifies ICON from being classified as a commercial mobile service. Part of the 2015 Open Internet's reasoning for classifying mobile broadband as a commercial mobile service was due to its significant increase in speed (over the years) and mobile users no longer being confined to a few functions.[129] If it is truly the recent ability of mobile broadband, and its seemingly limitless ways it can help users communicate, it would seem counter intuitive to classify ICON, a technology that is very limited in how it can communicate, as an interconnected service like mobile broadband.

For these reasons, it seems that if ICON were to be a private based solution for companies, campuses and the like, ICON would be a private mobile network and not a commercial mobile network. If ICON is provided to the public at large, the FCC could determine that since it has the *ability* to connect with the internet to send email, that it qualifies as a commercial mobile network. However, it would not be shocking if the FCC decides not to classify ICON as a commercial mobile network, despite its internet use, because it has very limited communication abilities past sending email text.

IX. POLICY OF CLASSIFYING ICON AS A TELECOMMUNICATIONS SERVICE

In the previous section we examined whether or not ICON would be classified as a telecommunications service, thus subjected to common carrier regulations under the telecommunications act. While it seems unconvincing that ICON would be classified as a telecommunications service, this section aims to discuss the reasons why the FCC may or may not want to classify ICON as a telecommunications service.

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129 *Id*. at 721.

The underlying motive behind the Telecommunications Act of 1996, as stated in Section 706 is to promote the competition in the telecommunications market and encourage infrastructure investment as well as deploying technologies. Section 706(a) and Section 706(b) underscore the importance of broadband, stating that the FCC will take action to ensure its promotion. Section 706(b) emphasizes this as it mandates that the FCC study broadband developments and requires the FCC to take action if it finds that broadband is not being installed and deployed within a timely and reasonable fashion to all Americans.[130] Further, Section 253(a) outlines rules that prevents local governments from making rules that can prohibit competition within the telecommunications market place.[131] Even the method of how the FCC allocates spectrum has been best described as the governments best method of "command and control" as they offer little flexibility as to who can use which frequencies, for what they can use it for, and how much they are allowed to use of it.[132] These rules, in addition to the aforementioned case law history, illustrates that the government, via its agency, the FCC, not only has the power to intervene with communications when necessary, but has increasingly found the need to do so when they feel it is within reason.

The FCC is not one to shy away from its mandate, as made clear in its 2010 Open Internet Order. Through its original anti-blocking and anti-throttling restrictions the FCC aimed to protect edge providers like Google and Netflix, arguing that protecting edge

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130 *State of Tennessee v. Federal Communications Commission*, Nos. 15-3291/3555, 2016 WL 4205905, (6th Cir. 2016).

131 *Telebeam Telecommunications Corporation v. City of New York*, 14-cv-7100(NG), 2016 WL 3771242, (E.D. N.Y. 2016).

132 Gregory Staple & Kevin Werbach, *The Coming Spectrum Explosion – A Regulatory and Business Primer*, 21-Fall Comm. La. 23 (2003).

providers would promote investments in edge technology. As development of edge providers would continue to grow, user demand of edge provider services would grow, and in time, end users would create an increase in demand for higher quality broadband service, thus requiring greater investment into broadband technology from broadband service providers.[133]

This same argument can be used for services or providers that are not quite edge providers, but still a participant in the internet ecosystem. Imagine if a service such as Facebook, Instagram or Snapchat was not *protected* and a broadband provider wished to charge an extra fee for a picture being uploaded, or a message being sent. The cost would flow logically to one of two places, the end user or the company. Part of the appeal of Instagram, Facebook and Snapchat is the fact that they are free to use. It seems unlikely that there would be such a large appeal, or large growth of users if the users were required to pay for the service, or per message. In all likeliness, the cost would be absorbed by the company, Facebook or Snapchat, giving the end user the same free service they have grown to accept. However, to think that the service would be exactly the same would be a naïve thought. If Facebook or Snapchat in its infancy were charged extra fees to run through a cable provider, it is quite certain that they would have less money to spend on innovation. Less money spent on innovation would mean less development, and more likely than not, these services that have become quite popular in our everyday lives would not likely be providing the same services we are enamored with and quite possibly they would not be as popular as they are today.

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133 *Verizon*, 740 F.3d at 643.

Even Verizon, despite opposing the restrictions the 2010 Open Internet Order was imposing on them, could admit that the growth and economical rewards of the internet ecosystem has been fueled by investment in the infrastructure of the internet, which has only been strengthened through the widespread use of apps and services that have had substantial investment. These apps and services in turn have added back to the strength and development of the infrastructure of the internet as we know it. This has created a "virtuous cycle of innovation."[134] While cable providers such as Verizon or Comcast who are now regulated as common carriers may want similar technologies to be regulated in a manner similar to their own restrictions, they would unquestionably acknowledge, as per Verizon's previous comments, that providing new services an easier path to flourish will undoubtedly lead to a stronger internet infrastructure and allow for greater innovation across the entire internet ecosystem. It then logically flows that due to the FCC's mandate to promote the use of broadband deployment; providing a boost for newer technologies, whether it be leniency in not classifying them as telecommunications service, or other economical incentives, the FCC would be helping to fulfill their mandate by aiding smaller, newer technologies a chance to flourish and in turn add their imprint onto the internet ecosystem.

To further this point, the FCC highlights its findings that in the case of edge providers, low barriers to entry and innovation are key drivers to the innovation that edge providers can achieve. The amount of restrictions that edge providers face have a negative correlation with their ability to innovate, thus reducing the overall innovation

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134 *Id*. at 644.

that end users are privy to.[135] This argument is perhaps best personified in the history of the "world wide web" where the FCC points out that the world wide web was uninhibited by restrictions during its infancy. Although not necessarily the same as being subjected to common carrier regulations, the world-wide web was freely able to develop on its own. It did not need to seek permissions of existing internet protocols nor did it need to operate under the approval of existing internet structures or network operators.[136] Due to these lack of restrictions, the world-wide web has been able to flourish to heights that were unimaginable at the time it first came into existence. Taking a page from the history books, the FCC would be best suited if it were to let new technologies, within reason, develop in an unshackled manner. Arguably cable operators have carved out their niche, they have become what they set out to become, and while they can certainly make a tweak here and there, or pivot slightly from their tested and proven business models, they are not likely seeking the next great new thing in the way of communication. The next spark of growth is not likely to come from them as they are already operating in a system that is currently set up for them to reap significant economical rewards through the current common carrier regulations. Allowing newer, smaller players to operate in a less stringent environment could allow for these players to uncover the next new technological breakthrough in the communications industry.

The goal for the advancement of telecommunications is clear, and developing a low cost advanced telecommunications network has seemingly been a goal dating back to

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135 *Id*. at 645.

136 *Id*. at 646.

the last Bush Administration.[137] If ICON has the potential ability to be the low cost advanced telecommunications service in the future, or at the very least solve the last mile issue, the FCC would be foolish to regulate it as a common carrier right now. Doing so could very well stifle its development. We have seen some of our greatest companies flourish due the lack of their regulation, while making it very difficult for others to compete whom were subject to those very same regulations. More specifically, we have seen some of our greatest carriers innovate and come to power due to the regulatory policy in place. Most critically was the decision of 1981 Cellular Order that limited geographic areas to two wireless carriers, providing AT&T a substantial hold and massive head start as it was able to obtain a majority of the cellular spectrum.[138] In turn, mobile broadband was not regulated as a common carrier until the 2015 Open Internet Order, essentially allowing one of the biggest gorillas in the room to operate free of common carrier restrictions until very recently.

Foregoing the general principles fairness of requiring other companies to act as common carriers now, when one of the largest cellular operators did not have to for many years, we only need to focus on how that impacted their growth. The regulations arguably provided the largest cell phone carriers a legal monopoly, not having to worry about competition, and allowing their companies to collect easy revenues and grow to previously insurmountable levels. It is simple to say the 1996 Telecommunications Act was put in place to promote competition, and the reclassification of broadband in 2015 is aimed to promote both fair and level competition. However, the idea of grouping every

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137 Dunne, *supra* at 1132.

138 Blevins, *supra* at 96.

similar technology into the telecommunications classification to promote fair competition may be misguided.

Today's main telecommunications players cannot easily argue that their deregulation did not help their massive growth through the decades. Arguably, if the FCCs makes everyone play by the same rules, now that broadband providers are in the same common carrier playground, it would essentially be providing broadband providers yet another competitive advantage. The overlooked competitive advantage is not allowing smaller players operate in a deregulated space, preventing them from utilizing the same methods to gain critical mass that current broadband mainstays were allowed to exploit years ago.

If ICON, or a similar start-up technology, that is not only very poorly capitalized in comparison to one of the major players in the industry, but also a very unproven technology is forced to compete on the same grounds as one of the industry titans, it would be very comical to think they could actually survive very long, let alone, flourish. Allowing ICON to operate outside of the common carrier regulations could provide ICON that same spark that these household name providers once had and helped lead them to wide spread adoption. If the FCC is truly interested in seeing new technologies created and deployed, then it cannot allow for the little guys to be crushed by the big guys. Forcing the little fish to swim in the same pool as the big fish would almost certainly spell disaster for a little fish like ICON.

Further, on the heels of the 2005 *BrandX* decision, the FCC issued its four non-binding principles for net-neutrality; (1) consumers are entitled to access the lawful internet content of their choice, (2) consumers are entitled to run applications and

services of their choice subject to the needs of law enforcement, (3) consumers are entitled to connect their choice of legal devices that do not harm the network, and (4) consumers are entitled to competition among network providers, application and service providers, and content providers.[139] The decision by the FCC to issue these principles was largely rooted in their understanding that the internet flourished from investment and a hands off approach with regards to regulations.[140]

The need for competition is further illustrated in the four principles for net-neutrality. However, when those principles were issued the major players were on somewhat even footing and the principles were more of a guideline to promote open competition. Now, with the few entrenched and established players restricted by the FCC under Title II common carrier restrictions, there is a path for other smaller companies and their innovations to flourish. They just need the same hands off approach that current broadband providers were afforded in the past. Just as avoiding common carrier restrictions helped our telecommunications technologies advance year ago, by now restricting the mainstream technologies under those same restrictions they avoided and letting new innovators escape them now, we can pave the road for new technologies to be created and companies to innovate once again.

X. CONCLUSION

Through all the rapidly changing opinions of the FCC with regards to how they view telecommunications, it is easy to understand why this topic is always hotly contested. Perhaps the best way to reconcile their often conflicting views is to understand

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139 Rob Frieden, *Network Neutrality or Bias? – Handicapping the Odds for a Tiered and Branded Internet*, 29 Hastings Comm. & Ent. L.J. 171 (2007).

140 *Id*.

that technology is likewise rapidly changing and that the FCC is just doing its part to help foster the growth and innovation of the industry. While it may be hard to predict which technologies will be regulated as common carriers in the next five or even ten years, it is important to have a strong grasp on the implications that the current rulings have on our existing internet technology and development. While a hypothetical technology such as ICON may not be hampered by common carrier regulations today, it can undoubtedly be subjected to those regulations by a simple reclassification by the FCC tomorrow. Whatever the changes may hold, it is best to keep in mind that the intentions and mandate of the FCC are always to regulate competition while encouraging growth and development.