Before the
Federal Communications Commission
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In the matter of	)	
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Protecting and Promoting	)	GN Docket No. 14-28
the Open Internet	)	
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Reply comments of
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The Federal Communications Commission's inquiry into Title II reclassification of Internet service providers successfully amplified the debate over the future direction of Internet regulation. Still, nowhere is there a convincing argument that Title II reclassification will be beneficial to the public interest or yield a more desirable outcome than the current regulatory structure that has been built on two decades of bi-partisan policy favoring deregulation and light-handed response when correction is necessary.

Among the 1.4 million comments submitted in this NPRM, however, there are a number of points worth addressing. This reply comment will address three significant contentions put forth by those favoring greater regulation. Those contentions are:

- That economic analyses suggest without open Interconnection rules, the value of the network would decline;
- That without more specific rules, ISPs will have the incentive and ability to selectively degrade service;
- That lack of competition in the consumer broadband market requires ISPs to be regulated as utilities to ensure fair and equitable access to service while preventing abuse of market position.

The value of the network is commensurate with service providers' ability to monetize it as an asset.

Proponents of Title II reclassification have cited a variety of economic analyses that suggest that the Internet's openness is a key driver of its value, and that without rules that clearly prevent blocking and discrimination, there would be less incentive to produce online content or develop new applications, thus reducing the overall worth of the network. Other economic studies have found that non-neutral conditions in the broadband market might maximize profits for ISPs but would ultimately minimize consumer welfare.

The first argument, that applications innovation will be harmed without rules against blocking and discrimination, has been made since the debate over network optimization and prioritization

began ten years ago. Whatever the academic analyses have predicted, in practice, innovation has done nothing but explode over that time. At one end, there are the well-known applications such as Facebook, Twitter and Netflix, which have become Internet power players over a relatively short time period. More telling is what has happened at the other end. Wireless apps, which basically are Internet interfaces, are so easy to design that Mom-and-Pop stores, Boy Scout troops and small churches can create and disseminate them for free. Today's Internet is as functional for a multinational corporation as it is for a suburban dentist. All this has occurred without the stringent regulation that critics say is necessary. Instead, the FCC's current guidelines have served the industry well because they wisely to run in tandem with market forces, not against them.

This brings us to the second contention, which raises the false dichotomy between maximizing ISP profits and protecting consumer welfare. This argument applies the idea that low prices are beneficial for consumers. That is true, as long as prices are not set at an arbitrarily low price that does not reflect the market value of the product or service and the cost of bringing it to market. In the long run, these types of price controls work against consumers. For example, rent control was once believed to be a fair way to make housing affordable for people with modest incomes. In the end, it benefited a minority of renters who were lucky enough to maintain years-long residency in rent-controlled housing, often by skirting occupation rules, while creating a scarcity of apartments for all other consumers. Even for those lucky enough to live in a rent-controlled apartment, their landlords had no incentive to maintain their properties beyond minimal standards because their low return would never cover their investment. Rent control laws were popular in the 1960s. Faced with the untended outcomes decades later, most cities have since done away with them.

Title II regulation, which would open the Internet to all manner of price controls, stands to create just such a situation in the online world.

In practice, the economics of network interconnection require more flexibility, which in turn allows all parties—service provider, content provider and consumer alike—to derive value from the Internet. The economics begin right at the point of interconnection, and the beauty is that the market has worked. Many Internet peering and transit relations are symmetrical: the amount of data carriers transfer to each other over the long term is balanced. Carriers agree not to charge each other because, when all is settled, it's a wash. Any small difference in transit and connection is not worth the transaction and accounting costs that would be incurred to recover it. Everyone saves time, money and hassle. But that doesn't mean it's a good idea to make it a universal rule. For the equation changes when the data stream becomes asymmetrical: when one network begins transmitting more data than another, and that other network must bear the cost of managing and delivering that data with no offsetting reciprocity. At that point, it is reasonable for the network responsible for handling the greater amount of traffic to ask for compensation.[1] The agreement between Comcast and Netflix is an example. Although Netflix complains about paying a service provider for handling the last mile, it is a justifiable demand based on the cost Comcast must incur. Should the FCC regulate or prohibit such negotiated arrangements, it will

[1] Christopher Yoo, Testimony before U.S. Senate Judiciary Committee hearing on the Comcast-Time Warner Cable Merger and the Impact on Consumers, April 9, 2014, pp. 5-7, available at http://www.judiciary.senate.gov/imo/media/doc/04-09-14YooTestimony.pdf.

depress network value, not increase it. The FCC traveled a similar road with UNE-P requirements in the late 1990s and early 2000s. The Commission sought to regulate the prices incumbent local exchange carriers (ILECs) could charge competitive local exchange carriers (CLECs) for access to their infrastructure. The result was that ILECs, faced with giving away their facilities at low-market rates, slowed investment in broadband. Meanwhile, the CLECs based their business models on cheap access to third-party networks and abandoned their own construction plans. When the Supreme Court struck down UNE-P, CLECs found themselves in an untenable business situation. A policy with goal of increasing broadband investment and competition, in the end, set back both.

Another example of how interconnection regulation devalues the network comes out the 2008 FCC auction for radio spectrum freed up by the digital television conversion. In the interest of expanding the pool of bidders, the FCC agreed to impose open Internet requirements on the winning bidders for one of the three spectrum blocks to be auctioned.

This afforded a real-world test as to how open interconnection regulations affect the value of network assets. A study by Gerald R. Faulhaber and David J. Farber found that the last-minute addition of open interconnection rules seriously compromised the C block auction results.[2] Verizon, the winner of the "C" block spectrum that came with regulatory constraints, paid $0.76 per MHz-Pop, while winning bidders paid $1.89 per MHz-Pop for the "A" and "B" blocks.[3]

There is a high risk that the FCC, again by attempting to use regulation to distort the pricing and value of network access, will derail Internet investment growth and value in similar ways.

The ISPs' alleged incentive and ability to degrade openness is a straw man

Proponents of interconnection regulation and network neutrality have been claiming for years ISPs will degrade openness by discriminating in the delivery of content from unaffiliated or competitive businesses. While it is true that technically, ISPs have the ability to do so, *only one company has ever attempted it*. Even then, it was tiny Madison River Communications, not one of the national ISPs that supporters of greater regulation point to. And, under the existing guidelines, the FCC was able to fine Madison River for the violation.

Prioritization, optimization and quality management of certain applications seems to be an ideological bugaboo with a minority of open Internet supporters. Prioritization is but one facet of the larger network neutrality doctrine, yet it seems supporters are willing to impose a massively large and cumbersome regulatory regime of Title II to prevent it. And even then, prioritization would not necessarily be prohibited. It would just call on the FCC to make a case-by-case decision in every instance of complaint.

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[2] Larry Downes, "The Full Cost of Net Neutrality," Forbes, Sept. 26, 2011, available at http://www.forbes.com/sites/larrydownes/2011/09/26/the-true-cost-of-net-neutrality/.

[3] MHz-Pop is a measure of spectrum value. Price per MHz-Pop = Sales Price / (MHz of license x population covered). For example: A license is for 15.0 MHz, covers 1 million in population (pops); sale price is $11.4 million; price per MHz-Pop = $11,400,000 / (1,000,000 x 15.0), or $0.76. More available at http://www.srr.com/article/spectrum-licenses-valuation-intricacies#sthash.BXZJo7Tv.dpuf.

What should give Commissioners even greater pause is the fact that the community of network neutrality supporters is divided over the very definition of what constitutes data prioritization. Legislators such as Rep. Anna Eshoo, ranking Member of the House Communications and Technology Subcommittee, support greater regulation of interconnection because, in the words of her press release, all Internet traffic is "created equal and that it should be treated as such."[4]

Eshoo reflects the absolutist approach that sees any attempt to improve or enhance Internet protocol transmission beyond its original "best effort" design as a violation of principle.

Yet this view differs from that of former FCC Chairman Julius Genachowski, a vocal network neutrality advocate who nonetheless conceded that wireless networks required transmission management and optimization techniques to manage high-speed applications.

Network neutrality advocates such as Tim Wu say techniques such as edge-caching, which improves speed of delivery, are not neutrality violations. Companies like Netflix, who are vocally advocating prohibition on ISP's use of selective last-mile prioritization, nonetheless see the prioritization and optimization of video data in partitioned content delivery networks as something that should be allowed.

Those who logged into the Internet Governance Forum's latest conference, held in early September in Istanbul, Turkey, and streamed live on the Web couldn't help but notice the wide range of definitions and interpretations delegates held about network neutrality and "Open Internet."

While it is important for the industry to have such debates, the FCC should be wary of trying to make enforceable regulations in an area where even supporters or regulation can't agree on what should be allowed. All it will do is invite complaint and countercomplaint, and lead to a series of arbitrary decisions that will be questioned with each new round. Innovation and development will grind to a halt as parties wait on the next FCC decision in the latest case.

The Broadband Market is Competitive

The only way to claim there is a lack of competition in the broadband market is to willfully exclude an entire class of service providers.

In most markets, there are two providers of wireline broadband, three to five providers of wireless broadband, and two satellite providers capable of providing broadband (and whose presence competes for the significant video revenues of the two wireline providers).

To justify calls for greater regulation, proponents dismiss wireless and satellite as less desirable or inferior alternatives. In her 2010 book *Captive Audience*, Susan Crawford, former Special Assistant for Science, Technology and Innovation Policy to President Obama, lays out the case for regulating cable TV and broadband as monopoly utilities, but she begins by discounting wireless and satellite as viable competitors. It was disappointing to see FCC Chairman Thomas

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[4] "Eshoo Launches Net Neutrality Rebranding Contest," Office of Congresswoman Anna Eshoo, Aug. 21, 2014, available at http://eshoo.house.gov/press-releases/eshoo-launches-net-neutrality-rebranding-contest/.

Wheeler declare 25 Mb/s as an arbitrary threshold for acceptable broadband. It conveniently removes wireless providers from the competitive picture.

But that's not what consumers see. Given research that shows two-thirds of U.S. consumers own smartphones and the average user spends 60 hours a week consuming content on them,[5] the public seems to have embraced a volatile broadband market with multiple carriers and diverse value propositions. When Time Warner Cable suffered a major outage, news outlets reported that users, though irritated, were able to use their wireless devices to access information and entertainment online.[6] That statement alone belies the assertion that broadband service providers are utility companies akin to electric and gas. When there's a power outage we don't hear of consumers seamlessly relying on another provider.

Unwelcome consequences follow when government agencies artificially define competitive markets. In 2005, the Federal Trade Commission blocked the merger of Blockbuster and Hollywood Video because, in their judgment, it would create a monopoly in the home video rental market. But to arrive at this conclusion, the FTC blatantly ignored the rapidly growing market share Netflix had in video rental. But since Netflix wasn't a brick and mortar store, in the FTC's opinion it didn't count, even though it was serving the exact same consumers who before had to drive down to Blockbuster. A combined Blockbuster-Hollywood company may have been able to meet the new competition and remain viable. Instead both companies went out of business at a cost of thousands of jobs.

While wireless service does not match wireline bandwidth, it has the mobility benefit that counterbalances the higher speed. Wireless puts broadband in your pocket. This makes for a legitimate value proposition that consumers see as a fair trade-off against the faster speeds of wireline.

It's not as if wireless service providers have stood pat, either. Fourth generation (4G) systems can deliver video, multiplayer gaming and other broadband applications that require high-speed transmission and processing. These systems have been developed and deployed without regulatory mandates or permission. The wireless ecosystem, in fact, has always been free of regulatory restraints. Title II reclassification would introduce significant federal oversight into the wireless space for the first time.

This could be incredibly damaging. For one, network neutrality regulations immediately would hamstring wireless. The FCC itself, in its 2010 *Open Internet Order*, stated that wireless broadband networks face "operational constraints that fixed broadband networks do not typically encounter." If the FCC were to use Title II to ban in-network data transmission optimization, at a single stroke all wireless service providers using 4G could be considered in violation. To ensure quality delivery of broadband applications in an environment of scarce spectrum capacity, 4G networks prioritize traffic as a matter of course.

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[5] The Nielsen Co., "U.S. Digital Consumer Report," Feb. 10, 2014, available at http://www.nielsen.com/us/en/insights/reports/2014/the-us-digital-consumer-report.html.

[6] Brian Stelter, "Time Warner Cable Comes Back From Nationwide Internet Outage," CNN-Money, Aug. 27, 2014, available at http://money.cnn.com/2014/08/27/media/time-warner-cable-outage/.

Innovation in radio engineering has helped service overcome the bandwidth limitations wireless connections once had. Ironically, Title II reclassification might prevent further development in this area by limiting prioritization and optimization. Critics who say there is not enough broadband competition at higher speeds want rules that would prevent wireless technology from ever getting there!

The danger of arbitrarily defining competitors by bandwidth capacity is that the baseline is always moving. When DSL gave users 1.5 Mb/s in the 1990s, regulators made that the broadband standard. Today, 4G wireless triples that speed, so regulators say 25 Mb/s or 100 Mb/s is “real” broadband. While that may be the regulators’ opinion, the market says otherwise. To regulate one class of providers as if another class did not exist cannot help but lead to disastrous consequences.

There will always be some service providers with technology and service ahead of others. Even under old monopoly regulatory regime, telephone companies did not deploy digital switching and fiber optics everywhere at same time. But when the regulations came off, deployment proceeded faster.

True, for those used to central planning, broadband deployment seems disorderly and uneven. But that’s because many still view wireline service through a regulatory lens. Think of the auto industry instead. Automatic transmission, power steering, air conditioning and anti-lock brakes were introduced as optional features on expensive luxury cars. Soon enough, they became standard on low-priced economy models.

Treating broadband as a utility won’t achieve goals for greater competition, lower prices or a more diverse market any faster. As history has shown, greater regulation most likely will slow progress toward all these goals. Title II reclassification will not lead to greater valuation of networks, nor will it guarantee a prohibition on prioritization or optimization of data transmission.

It will instead create a bureaucratic morass for the entire U.S. Internet industry as every new development comes under FCC purview.

For its own good and the good of American consumers, the FCC should endorse the past two decades of sensible broadband regulation and reject reclassification of ISPs as Title II carriers.