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July 24, 2017

Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Electronically Filed

RE: Docket 17-108, Restoring Internet Freedom

Dear Ms. Dortch:

I am writing in opposition of repealing Net Neutrality. Strong Net Neutrality is required to protect the Internet so it can continue to evolve for the benefit of consumers. I am deeply concerned that the NOPR relies on an intentionally flawed analysis of what is an Information service and what is a Telecommunications service for the sole purpose of legitimizing the Commission's interest in repealing the Net Neutrality order.

The Commission's analysis relies on the mistaken belief that Internet service providers fit the definition of an Information Service. The definition of "information service" was created by the telecommunications act of 1996, at a time when Compuserve, America Online and Prodigy were how American's spent their time online and all were accessed by dial-up telephone modem, i.e. they were reachable via a telecommunications service – the telephone company. These Information services offered their subscribers the capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information (https://youtu.be/U80qAYUq6vg). These information services were mostly closed communities and not the true Internet as we know it today, although there was a means to send electronic mail through them over the Internet. As you may know, AOL purchased Compuserve and has evolved into one of the many modern day edge providers available to consumers on the open Internet.

As per 47 U.S.C. § 153(24) “The term ‘‘information service’’ means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information **via telecommunications**, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.”

47 U.S.C. § 153(24) is the definition of a modern day edge provider. When is the last time anyone published a blog to Comcast or hosted a database on their network? Probably never, but I know many blogs are published to the edge provider WordPress every minute of every day, which is accessible on the public Internet via telecommunication services such as Comcast, Charter, etc... Commercial Network Services, indisputably classified as an edge provider, hosts many databases, also accessible via telecommunication services over the open internet. And so by the modern translation, when you read “information service”, you should understand it as “edge provider”. Even if Comcast were to offer a service for publishing a blog, this would be incidental to their primary service of selling consumers access to the Internet simply because nearly all consumers who subscribe would be subscribing for the sole purpose of Internet access.

As it was in 1996, it is today. Information Services are accessible by telecommunication services – modern day Internet Service providers. As per 47 U.S.C. § 153(53) The term ‘‘telecommunications service’’ means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.

While these Internet service providers (telecommunication services) may offer secondary services, such as electronic mail, to say that makes them an information service when their primary service is the very definition of “telecommunications service” would be a problem for any modern telephone company who also offers voice mail as a secondary service. Offering voice mail would not mean the telephone company is no longer a telecommunications service and so the same must also be true of a modern BIAS provider whose primary service is the spot on definition of a telecommunications service.

Internet service providers generally do not offer capabilities for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, but they do offer a telecommunications service connecting consumers to Information services who do. Even if Internet Service providers were to offer these services today, consumers undisputedly signup for the sole purpose of accessing the Internet. Frankly, I don’t think the Commission wants ISP’s to offer these services either because that would mean they are spending money building out these capabilities instead of working to connect more Americans to the Internet.

The Commission’s position that Internet service providers offer these capabilities – because they connect consumers to edge providers who do -would also mean the telephone company offers capabilities to make and deliver pizza, because any telephone subscriber can dial a number and order one delivered to their door. The reality is, the telephone company offers telecommunications access to a pizza parlor, which actually has the capabilities to make and deliver pizza. Clearly, Internet service providers are offering telecommunications services to consumers for purposes of communicating with

edge providers and other users over the global Internet. To suggest merely connecting consumers to other services extends those capabilities to the ISP may also expose the ISP to additional licensing requirements. For example, if a consumer uses the ISP to exchange money with a service provider does that "capability" then require the ISP to license itself as a money exchanger? What about an online medical doctor? Do ISP's also now need to obtain medical licensing because they connect consumers to doctors who can treat patients remotely? Do Internet Service providers now need to obtain medical malpractice insurance?

The Title II order was correct in finding that "consumers are very likely to use their high-speed Internet connections to take advantage of competing services offered by third parties" [1] and in its assertion the service "is useful to consumers today primarily as a conduit for reaching modular content, applications, and services that are provided by unaffiliated third parties."[2] Today's broadband users will use the connection for much more than just accessing the world wide web – the Internet itself is much larger than just the world wide web. Today's broadband users will use their connections to run applications from their phones and tablets. There is a new market evolving which is giving consumers a real choice of television providers. Amazon Fire is one of the latest examples. Applications such as Kodi are now available too. This goes way beyond Netflix. Consumers also play games online, they connect their security systems to monitoring companies through these connections, utilize VoIP services to connect with the telephone service. This is just the tip of the iceberg. Doctors are even seeing patients online. In short – today's broadband users utilize their connections to communicate with each other and Information services! Removing Net Neutrality protections will strengthen the Gatekeepers, who already have a demonstrated record of behaving badly – that is, after all, how they ended up with Title II to begin with.

To answer the Commission's question in the NOPR, It is not required for an ISP to offer DNS service, but their customer service and support resources would probably be loaded if they didn't. DNS services are available for free over the Internet from edge providers. A good example is Google, who offers public DNS at IP addresses 8.8.8.8 and 8.8.4.4. I personally do not use Charter Spectrum DNS at my residence, quite simply because I don't trust them and don't want to see their advertisements when I typo a URL. DNS is like 411 directory assistance, translating a host name into an IP address. BIAS subscribers are also free to operate their own DNS server to resolve host names to IP addresses for them. It is not difficult. Does offering directory assistance by a telephone company automatically exclude them from being a telecommunications service or does offering DNS simply make it easier for a subscriber to utilize the telecommunications service they are selling? Clearly it does not and so the OIO is correct.

The Commission's assertion that Internet service providers "do not appear to offer 'telecommunications', i.e., '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,' to their users" is absolutely absurd. The commission's literal interpretation to mean all points in-between the actual start and end points would also disqualify a telephone company from

[1] Title II Order, 30 FCC Rcd. At 5753, para. 347 and referenced in NOPR, para 28
[2] Id. At 5755, para. 350

being a telecommunication service because the caller cannot control the points through which the call is routed by the telephone company. Clearly, the "between or among points" refers to start and end point.

Fred Campbell got this part right in his analysis when he said "Because the FCC's express jurisdiction is limited to communications that cross state boundaries, since at least 1945, the FCC has determined the nature of a communication by applying an "end-to-end" analysis. This analysis considers the "continuous path of a communication," from the "point" at the inception of a communication to the end "point" at its completion, and typically rejects attempts to divide communications at intermediate points. … when a user makes a plain old telephone call, the user specifies the end points of the call merely by dialing a telephone number, because each telephone number is assigned to a specific phone line or mobile device."[3]

The term "telecommunications" means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.[4]

Since the word "points" means only the start and end point, the only remaining question is do Internet service providers change the form or content of the information as sent and received? Clearly they cannot, because much of the information sent and received is encrypted it would be impossible for them to do so. And so, Internet service providers do not change the form or content any more than required in order to facilitate the end-to-end telecommunications service, just as telephone providers do. I am sure the commission would hear from many angry Internet service provider customers if their telecommunications provider was suddenly changing the content they were sending or receiving with another party.

The commissions assertion that because "IP addresses may not specify where information is transmitted to or from because caching servers store and serve popular information to reduce network loads"[5] in some way supports the position that Internet service providers do not offer a telecommunication service is not relevant because nowhere in the legal definition does it require this. Even if it did, it neglects the fact that telephone numbers also do not specify where information is transmitted to or from. In fact, the telephone number of this company with a 619 area code – a San Diego area code – is hosted in Manhattan. Does that exclude our own telephone company from being a telecommunications service? Since telephone numbers can be ported, they do not offer any assurance where a number is physically terminated either. The same can be said for IP addresses, which should be considered by the commission as a number assigned to a point on a network for purposes of communication.

The Commission's assertion that because Internet service providers use firewalls to block harmful content renders them an Information service neglects those telephone companies who offer their

[3] http://techknowledge.center/blog/2017/05/techcrunch-doesnt-understand-the-technical-difference-between-the-internet-and-the-telephone-network/
[4] 47 U.S.C. § 153(50)
[5] NOPR, paragraph 29

customers services such as anonymous call screening, which some telephone users may consider harmful. The fact is these firewalls are put in place by ISPs to protect their own networks.

IPv4 to IPv6 translation should not be considered changing the form of the content either. The data in the packet itself is not changed from the perspective of the consumer. This technology is merely used to enable subscribers on an IPv4 only network to communicate with the entire Internet. As you know, there are no more IPv4 addresses available in North America since September 2015[6]. And so this technology is used to patch deficiencies in the Internet service providers own network in order to enable subscribers to communicate over the telecommunication service. Without it, subscribers are unable communicate with the entire Internet. See paragraph 50 of stevens report

The Commission's use of definitions in sections 230 and 231 of the act to confirm its analysis is deeply flawed.

First, the commission neglects the historical context of the technology at the time the sections were enacted in 1998. In 1998, cable modems were just starting to gain traction[7] and online users were primarily connecting through dial-up modem. Many were dialing into America Online and then minimizing the AOL software in their desktop environment. From there, they could open a web browser and surf the world wide web –or- they could use the AOL software to navigate the AOL information service. In fact, section 231 (b) clearly removes telecommunication carriers from responsibility because clearly the phone company is not responsible for this type of bad behavior. Today, the modern Internet service provider is also not responsible for users conducting illegal activity either because they are also telecommunications carriers.

Second, the definitions the commission is relying on in its analysis are clearly labeled "As used in this section" and "for purposes of this subsection, the following definitions shall apply", referring only to sections intended to block obscene material from minors. The definitions in the chapter 153, however, clearly read "For the purposes of this *chapter*, unless the context otherwise requires". Thus, the definitions employed in sections 230 and 231 are only respective to those sections and should not be used to define a telecommunications service in the general sense. It would be silly to do so because section 153 already defines telecommunications service.

Whether or not the structure of Title II appears to be a poor fit for broadband Internet access service is not relevant due to the fact that BIAS providers are by definition telecommunications services. The act was passed a long time ago and it's up to the commission to interpret it correctly in context with the state of technology when the respective sections were passed and as they are employed today. It is up to Congress to fully modernize the act, not the FCC.

We got here because BIAS providers were behaving badly. They still are. One excellent example is our own informal complaint against Time Warner Cable (FCC Ticket #356684) back in 2015. Charter promised better peering policy when they merged with TWC, but to this day our network is still not

[6] https://www.arin.net/resources/request/ipv4_countdown.html
[7] http://www.cnn.com/TECH/computing/9809/28/buycable.idg/index.html

peered with TWC and consumers on their network in San Diego are still unable to view the San Diego Web Cam in HD. It's the same old shenanigans.

In paragraph 34 of the NOPR, the commission is misquoting the purpose of the Telecommunications Act of 1996 and misinterpreting the misquote to support the analysis. The complete stated purpose of the act is "To promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers **and encourage rapid deployment of new telecommunications technologies**" (emphasis added). Almost the entire act deals with opening competition in local telephone service. Section 251 (a) further discusses the responsibility of telecommunications carriers to interconnect and retain compatibility with other carriers. Clearly, this act is primarily intended to open up telephone service for competition. Therefore, it is misguided for the commission to interpret the beginning phrase of the stated intent to have anything to do with Internet regulation.

If there is anything more to be taken from the act, it is §256(2) as it relates to interconnectivity. Further, Relinquishing authority of interconnection does not respect the requirement by Congress of section 256.

Instead of repealing Net Neutrality, the Commission needs to strengthen it by requiring Internet Service Providers to interconnect. It is unfortunate we can't just take them at their word. History proves otherwise and so strong net neutrality protections are required for the Internet to continue to thrive.

Sincerely,

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