

THE FCC RESTORING INTERNET FREEDOM ORDER AND ZERO RATING OR: HOW WE LEARNED TO STOP WORRYING AND LOVE THE MARKET

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I. INTRODUCTION

For most of the past decade, buying a new cell phone was a once-every-two-years ritual where one would go in at the end of his two-year contract and buy a subsidized phone from his provider, subsequently locking him into another

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two years of service with that provider.¹ This was decisively a North American ritual.² Then T-Mobile disrupted the industry in 2013 by eliminating two-year contracts, making the service plans cheaper and forcing consumers to pay full price for their phones and devices.³ Verizon was the next of the major carriers to follow suit, eliminating service contracts in 2015.⁴ As of January 2016, all major U.S. carriers no longer use the two-year contract model.⁵

The carriers then needed a new way to differentiate their services as market competition increased.⁶ In 2014, T-Mobile took an even bolder step by offering to pay the early termination fees for customers who broke their contracts with rival carriers.⁷ T-Mobile has been the driving disrupter throughout the past two years, launching the industry into the present era of “carrier wars.”⁸ One main feature with which the mobile carriers have attempted to differentiate is through various zero rating plans and services.⁹ Zero rating plans exempt particular data from counting against a user’s data cap, or from accruing any excess usage charges.¹⁰ For example, the Verizon FreeBee Data plan lets brands pay for your mobile data usage when you use their services and apps.¹¹

As these mobile carrier wars continued, principles and policies of net neutrality become part of the public debate.¹² Even President Obama weighed in, urging the FCC to adopt strict net neutrality rules.¹³ The FCC did precisely that when it issued a new Open Internet Order in 2015 (subsequently referred to as the “2015 Open Order”) which reclassified high-speed Internet service as a telecommunications service under Title II of the Telecommunications Act.¹⁴

1. Alex Fitzpatrick, *How You Buy Cellphones Is About to Change Forever*, TIME (Aug. 8, 2015), <http://time.com/3989731/verizon-new-plans/>.

2. Scott Sterling, *Why Can't Americans Stomach Unsubsidized Phones?*, DIGITAL TRENDS (Oct. 31, 2012, 2:00 PM), <http://www.digitaltrends.com/mobile/why-cant-americans-stomach-unsubsidized-phones/>.

3. Doug Aamouth, *5 Things You Should Know About T-Mobile's New No-Contract Plans*, TIME (Mar. 25, 2013), <http://techland.time.com/2013/03/25/5-things-you-should-know-about-t-mobiles-new-no-contract-plans/>.

4. Roger Cheng, *Verizon Kills Off Service Contracts, Smartphone Subsidies*, CNET (Aug. 7, 2015, 9:01 AM), <https://www.cnet.com/news/verizon-kills-off-service-contracts-smartphone-subsidies/>.

5. Jacob Kastrenakes, *Two-Year Phone Contracts Are Now Dead at All Major US Carriers*, VERGE (Jan. 11, 2016, 11:49 AM), <http://www.theverge.com/2016/1/11/10749160/sprint-kills-two-year-phone-contracts>.

6. Hiawatha Bray, *As Phone Contracts Die, Competition Comes to Life*, BOS. GLOBE (Aug. 19, 2015), <http://www.betaboston.com/news/2015/08/19/as-phone-contracts-die-competition-comes-to-life/>.

7. Marguerite Reardon, *Switch, He Said: T-Mobile Will Take the Penalty for You*, CNET (Jan. 8, 2014, 12:47 PM), <https://www.cnet.com/news/switch-he-said-t-mobile-will-take-the-penalty-for-you/>.

8. Andrew Meola, *T-Mobile Refuses to Go Away In the Wireless Carrier War*, BUS. INSIDER (Apr. 27, 2016, 10:19 AM), <http://www.businessinsider.com/t-mobile-continues-growth-against-verizon-sprint-att-2016-4>.

9. Doug Brake, *Mobile Zero Rating: The Economics and Innovation Behind Free Data*, INFO. TECH. & INNOV. FOUND. (May 2016), <http://www2.itif.org/2016-zero-rating.pdf>.

10. Jeremy Malcolm et al, *Zero Rating: What It Is and Why You Should Care*, ELEC. FRONTIER FOUND. (Feb. 18, 2016), <https://www.eff.org/deeplinks/2016/02/zero-rating-what-it-is-why-you-should-care>.

11. INTRODUCING FREEBEE DATA, <http://freebee.verizonwireless.com/business/freebeedata> (last visited Mar. 20, 2018).

12. Robert McMillan, *What Everyone Gets Wrong In the Debate Over Net Neutrality*, WIRED (June 23, 2014, 6:30 AM), https://www.wired.com/2014/06/net_neutrality_missing/.

13. Edward Wyatt, *Obama Asks FCC To Adopt Tough Net Neutrality*, N.Y. TIMES (Nov. 10, 2014), http://www.nytimes.com/2014/11/11/technology/obama-net-neutrality-fcc.html?_r=0.

14. Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738, 19,758-59 (Apr. 13, 2015) (codified at 47 C.F.R. pts. 1, 8, 20); Rebecca Ruiz & Steve Lohr, *FCC Approves Net Neutrality Rules, Classifying*

This order explicitly prescribed a case-by-case method for analyzing zero-rated plans.¹⁵

This Note will describe what net neutrality is and its regulatory history in the United States and the world, with a focus on the practice of zero rating. It will then discuss the pros and cons of zero rating plans, and show how a T-Mobile case study demonstrates their violation of net neutrality principles. Lastly, two apps will be recommended as a way for consumers to gather information regarding potential throttling of their own Internet service. Ultimately, following large recent deregulation by the FCC of Internet service providers, the best move for consumers is to stay knowledgeable and demand more.

II. BACKGROUND

A. What is Net Neutrality?

Network (net) neutrality is the idea that Internet service providers should treat all data that travels over their networks fairly, without improper discrimination in favor of particular apps, sites, or services.¹⁶ Tim Wu first coined the term net neutrality in his article *Network Neutrality, Broadband Discrimination* in 2003.¹⁷ He opined that the Internet can be seen as a platform for a competition among various people, developers, companies, and service providers, all in a battle for the attention and interest of end-users.¹⁸ Therefore, according to Wu, it is important that the platform be neutral to ensure the competition remains meritocratic.¹⁹ In other words, if the Internet were centrally governed by the service provider and not by the peripheral content of developers and consumers, the service providers would control innovation.²⁰ Others have also argued that by regulating the terms upon which content providers use their networks to reach consumers, broadband providers could manipulate the flow of information in society.²¹ For example, Comcast could block or degrade content and applications like Netflix that compete against its other revenue-generating services.²² Restrictions on usage, such as the aforementioned example, therefore

Broadband Internet Service as a Utility, N.Y. TIMES (Feb. 26, 2015), <http://www.nytimes.com/2015/02/27/technology/net-neutrality-fcc-vote-internet-utility.html>.

15. Andrew Moshirnia, *Zero-Rating: Price Discrimination in an Era of Net Neutrality*, 54 INFRASTRUCTURE 1 (2015), http://www.americanbar.org/publications/infrastructure/2014-15/summer/zerorating_price_discrimination_an_era_net_neutrality.html.

16. *Net Neutrality*, ELEC. FRONTIER FOUND., <https://www EFF.ORG/issues/net-neutrality> (last visited Mar. 20, 2018).

17. Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOMM. & HIGH TECH. L. 141, 141 (2003).

18. *Id.* at 146.

19. *Id.*

20. Rebecca Curwin, *Unlimited Data, but a Limited Net: How Zero-Rated Partnerships Between Mobile Service Providers and Music-Streaming Apps Violate Net Neutrality*, 17 COLUM. SCI. & TECH. L. REV. 204, 210 (2015).

21. Daniel A. Lyons, *Net Neutrality and Nondiscrimination Norms in Telecommunications*, 54 ARIZ. L. REV. 1029, 1034 (2012).

22. *Id.* at 1035.

threaten to “replace survival-of-the-fittest with survival-of-the-favored.”²³ Thus the Internet platform must remain neutral so that competition remains based on merit and fair competition, as opposed to a system based on favoritism.²⁴

B. Net Neutrality Around the World

Looking at the current state of net neutrality around the world provides perspective before delving into net neutrality in the United States, demonstrating how other governments value a neutral and meritocratic Internet. Chile was the first country to adopt net neutrality laws, doing so in 2010.²⁵ The law, called Bulletin 4915, stated that “ISPs must not interfere, discriminate, or in any way hinder access to content, applications or services, except for security measures.”²⁶ Chile additionally banned mobile operators from offering zero rating social media apps in 2014.²⁷

The second country globally and the first in Europe to adopt net neutrality laws was the Netherlands in 2011.²⁸ The measure prevented Dutch telecommunications companies from blocking or charging for Internet services like Skype or WhatsApp.²⁹ Before this law came into effect, Dutch telecom market leader Royal KPN wanted to charge a premium on Internet service providers and messaging services.³⁰ Zero-rating access deals are also outlawed in the Netherlands.³¹

Brazil then adopted the “Marco Civil da Internet,” or Civil Rights Framework for the Internet, a landmark net neutrality bill, in 2014.³² This sweeping legislation, amongst other provisions, requires Internet providers to treat all data that goes through their network in the same way.³³

In 2015 the European Union adopted rules on net neutrality which created individual and enforceable rights for end-users to access and distribute Internet

23. Letter from Lawrence Lessig & Tim Wu, Re: Ex Parte Submission in CS Docket No. 02-52, to Marlene H. Dortch, Secretary, Federal Communications Commission at 5–6 (Aug. 22, 2003), http://www.timwu.org/wu_lessig_fcc.pdf.

24. Wu, *supra* note 17, at 146.

25. Tim Stevens, *Chile Becomes First Country to Guarantee Net Neutrality, We Start Thinking About Moving*, ENGADGET (June 15, 2010), <https://www.engadget.com/2010/07/15/chile-becomes-first-country-to-guarantee-net-neutrality-we-start/>.

26. Matthew DeCarlo, *Chile Passes Law to Enforce Net Neutrality, More*, TECHSPOT (July 15, 2010, 8:27 PM), <http://www.techspot.com/news/39670-chile-passes-law-to-enforce-net-neutrality-more.html>.

27. David Meyer, *In Chile, Mobile Carriers Can No Longer Offer Free Twitter, Facebook or WhatsApp*, GIGAOM (May 28, 2014, 3:28 AM), <https://gigaom.com/2014/05/28/in-chile-mobile-carriers-can-no-longer-offer-free-twitter-facebook-and-whatsapp/>.

28. *Net Neutrality Enshrined in Dutch Law*, GUARDIAN (June 22, 2011, 10:21 PM), <https://www.theguardian.com/technology/2011/jun/23/netherlands-enshrines-net-neutrality-law>.

29. *Id.*

30. Nimish Sawant, *Net Neutrality Debate: Some Insights from Countries Which Have Made It into a Law*, TECH2 (Apr. 14, 2015), <http://tech.firstpost.com/news-analysis/net-neutrality-some-insights-from-countries-which-have-made-it-into-a-law-263072.html>.

31. *Id.*

32. Angelica Mari, *Brazil Passes Groundbreaking Internet Governance Bill*, ZDNET.COM (Mar. 26, 2014, 2:27 PM), <http://www.zdnet.com/article/brazil-passes-groundbreaking-internet-governance-bill/>.

33. Angelica Mari, *All You Need to Know About Brazil's "Internet Constitution"*, ZDNET.COM (Nov. 1, 2013, 1:54 PM), <http://www.zdnet.com/article/all-you-need-to-know-about-brazils-internet-constitution/>.

content and services of their choice all across Europe.³⁴ The rules provide that every “[e]uropean must be able to have access to the open Internet and all content and service providers must be able to provide their services via a high-quality open Internet.”³⁵ The rules also state that “there can be no paid prioritisation [*sic*] of traffic in the Internet access service.”³⁶

Lastly, and affecting the most people, the Telecom Regulatory Authority of India adopted net neutrality rules in 2016.³⁷ The regulator ruled that “[n]o service provider shall offer or charge discriminatory tariffs for data services on the basis of content.”³⁸ The Regulator reasoned that not having net neutrality in India “may create significant entry barriers and thus harm competition and innovation.”³⁹ Thus, it seems that the global tide has been moving in the direction of net neutrality, except in the United States, the birthplace of the Internet.

C. *Net Neutrality in the United States*

The FCC first weighed in on the net neutrality debate with an addendum to a 2005 order governing broadband service offered over telephone lines.⁴⁰ Prior to this order, telephone-based Internet access was “open access”: if a telephone company offered Internet access, it had to make its infrastructure available to other Internet service providers.⁴¹ This practice began to burden the telephone companies, as the fledgling broadband industry, classified as an information service, began creating its own infrastructure free from this open access restriction, allowing them to surpass the telephone companies.⁴²

34. *Open Internet*, EUR. COMM’N (Sept. 9, 2013), <https://ec.europa.eu/digital-single-market/en/open-internet-net-neutrality>.

35. *Roaming Charges and Open Internet: Questions and Answers Fact Sheet*, EUR. COMM’N (June 30, 2015), http://europa.eu/rapid/press-release_MEMO-15-5275_en.htm.

36. *Id.*

37. Yuthika Bhargava, *TRAI Rules in Favour of Net Neutrality*, HINDU (Feb. 8, 2016), <http://www.thehindu.com/sci-tech/technology/internet/TRAI-rules-in-favour-of-Net-neutrality/article14068029.ece>.

38. *Id.*

39. Devjyot Ghoshal, *Why TRAI Backed Net Neutrality—And Killed Facebook’s Free Basics in India*, QUARTZ INDIA (Feb. 8, 2016), <https://qz.com/612159/why-trai-backed-net-neutrality-and-killed-facebooks-free-basics-in-india/>.

40. Daniel A. Lyons, *Net Neutrality and Nondiscrimination Norms in Telecommunications*, 54 ARIZ. L. REV. 1029 (2012); see *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, 20 FCC Rcd. 14,986, 14,988 (2005) (“[T]o ensure that broadband networks are widely deployed, open, affordable, and accessible to all consumers, the Commission adopts the following principles”) [hereinafter *Appropriate Framework for Broadband Access*].

41. See *Second Computer Inquiry*, 77 F.C.C.2d 384, 475 (“Computer II”), *aff’d sub nom.* *Comput. & Commc’ns Indus. Ass’n v. FCC*, 693 F.2d 198 (D.C. Cir. 1982) (“[A]n essential thrust of this proceeding has been to provide a mechanism whereby non-discriminatory access can be had to basic transmission services by all enhanced service providers.”).

42. See *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities: Internet Over Cable Declaratory Ruling, Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, 17 FCC Rcd. 4798, 4825 (2002) (“As noted above, the Commission has applied these obligations only to traditional wireline services and facilities, and has never applied them to information services provided over cable facilities.”). FCC decision was affirmed in *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967 (2005).

To help ameliorate this industrial regulatory imbalance, the FCC reclassified telephone-based broadband service as an “information service,” lifting the open access restriction.⁴³ The Supreme Court subsequently upheld the FCC’s classification of cable broadband as an “information service” (a Telecommunications Act (TCA) Title I category) instead of as a “telecommunications service” (a TCA Title II category), thereby exempting cable and Internet services from FCC oversight and common carriage regulation;⁴⁴ the Federal Trade Commission (FTC) had the power to regulate information services, and therefore fixed and mobile broadband services.⁴⁵ However, under *Brand X*, the FCC maintained jurisdiction to “impose additional regulatory obligations under its Title I ancillary jurisdiction to regulate interstate and foreign communications.”⁴⁶ As a result, the FCC argued, it had the jurisdiction to ensure that Internet providers operated in a neutral manner.⁴⁷

Accordingly, the FCC issued a companion policy statement with its deregulatory move stating that its Internet policy would be guided by four principles that consumers are entitled to: (1) access to lawful Internet content of their choice; (2) run applications and use services of their choice; (3) connect their choice of legal devices that do not harm the network; and (4) competition among network providers, application and service providers, and content providers.⁴⁸ These principles contained in the policy statement were not binding, as acknowledged at the time by the FCC.⁴⁹

In *Comcast Corporation v. Federal Communications Commission*, Comcast challenged the FCC’s ancillary jurisdiction over its Internet service.⁵⁰ The Court of Appeals for the D.C. Circuit found in favor of Comcast, holding that the FCC did not have Title I ancillary jurisdiction over Comcast’s Internet service under the language of the TCA.⁵¹ This decision provoked the FCC to amend its regulations, which it did via the new Open Internet Order on December 21, 2010,⁵² this time claiming authority through Section 706 of the TCA (the responsibility to “remove barriers to infrastructure investment”⁵³), as well as ancillary jurisdiction through Title II (common carrier regulations), and Title VI (cable regulations) of the TCA.⁵⁴

43. Appropriate Framework for Broadband Access, *supra* note 40, at 14,875–77.

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

45. FED. TRADE COMM’N, BROADBAND CONNECTIVITY COMPETITION POLICY 38 (2007), <https://www.ftc.gov/sites/default/files/documents/reports/broadband-connectivity-competition-policy/v070000report.pdf>.

46. Nat’l Cable & Telecomms. Ass’n, 545 U.S. at 976.

47. Fed. Commc’ns Comm’n, *In re* Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, 20 FCC Rcd. 14986 at 14988 (2005).

48. *Id.* at 14,988.

49. *See id.* at 14,998 n.15 (“Accordingly, we are not adopting rules in this policy statement.”).

50. Comcast Corp. v. Fed. Commc’ns Comm’n, 600 F.3d 642 (D.C. Cir. 2010).

51. *Id.* at 661.

52. *In the Matter of Preserving the Open Internet Broadband Indus. Practices*, 25 FCC Rcd. 17905, 17905 (2010) [hereinafter Open Internet Order].

53. 47 U.S.C. § 1302(a) (2012).

54. Michael C. Sloane, *Net Neutrality at the FCC: A Critique of the Legal Reasoning of its Net Neutrality Order*, DAVIS WRIGHT TREMAINE LLP (Jan. 10, 2011), http://www.dwt.com/advisories/Net_Neutrality_at_the_FCC_A_Critique_of_the_Legal_Reasoning_of_its_Net_Neutrality_Order_01_10_2011/.

The regulations of the 2010 Open Internet Order were based upon the following rules: transparency, no blocking, and no unreasonable discrimination.⁵⁵ While operating in accordance with these rules, providers were permitted to use “reasonable network management” if it was “tailored to achieving a legitimate network management purpose.”⁵⁶ The No Discrimination rule, which prohibited broadband providers from unreasonably differentiating between different lawful network traffic, did not apply to wireless providers.⁵⁷

In January 2011, Verizon sued the FCC, arguing that the FCC was exceeding its authority by imposing the rules of the 2010 Open Internet Order. On January 14, 2014, the Court of Appeals for the D.C. Circuit vacated two parts of the 2010 Open Internet Order—the rule against “no blocking” and the rule against “unreasonable discrimination”—finding that both rules fell outside of the FCC’s regulatory authority.⁵⁸

Throughout the latter half of 2014, the FCC worked on creating new Open Internet rules, soliciting opinions from U.S. citizens and policy groups. The FCC received about 780,000 comments on its rules.⁵⁹ On November 10, 2014, President Barack Obama released a statement advocating for the reclassification of broadband as a telecommunications service (falling under Title II of the TCA) so that the Internet would fall within the purview of the FCC, as well as for strong net neutrality rules.⁶⁰

President Obama spoke highly of an open Internet, stating that “[a]n open Internet is essential to the American economy, and increasingly to our very way of life. By lowering the cost of launching a new idea, igniting new political movements, and bringing communities closer together, it has been one of the most significant democratizing influences the world has ever known.”⁶¹ Regarding the reclassification of the Internet, President Obama, encapsulating the arguments of those in favor of net neutrality, stated:

[T]he time has come for the FCC to recognize that broadband service is of the same importance and must carry the same obligations as so many of the other vital services do. To do that, I believe the FCC should reclassify consumer broadband service under Title II of the Telecommunications Act—while at the same time forbearing from rate regulation and other provisions less relevant to broadband services. This is a basic acknowledgment of the services ISPs provide to American homes and businesses, and the straightforward obligations necessary to ensure the network works for everyone—not just one or two companies.

55. Open Internet Order, *supra* note 52, at 17906.

56. *Id.* at 17909.

57. Sam Gustin, *FCC Passes Compromise Net Neutrality Rules*, WIRED (Dec. 21, 2010, 1:58 PM), <http://www.wired.com/2010/12/fcc-order/>; Open Internet Order, *supra* note 52, at 17906.

58. *Verizon Comm'ns Inc. v. Fed. Comm'ns Comm'n*, 740 F.3d 623, 659 (D.C. Cir. 2014).

59. Steve Lohr, *FCC is Deluged with Comments on Net Neutrality Rules*, N.Y. TIMES (July 15, 2014), <http://www.nytimes.com/2014/07/16/technology/a-deluge-of-comment-on-net-rules.html>.

60. Edward Wyatt, *Obama Asks FCC To Adopt Tough Net Neutrality*, N.Y. TIMES (Nov. 10, 2014), http://www.nytimes.com/2014/11/11/technology/obama-net-neutrality-fcc.html?_r=0.

61. THE WHITE HOUSE, STATEMENT BY THE PRESIDENT ON NET NEUTRALITY (2014).

....

The Internet has been one of the greatest gifts our economy—and our society—has ever known. The FCC was chartered to promote competition, innovation, and investment in our networks. In service of that mission, there is no higher calling than protecting an open, accessible, and free Internet. I thank the Commissioners for having served this cause with distinction and integrity, and I respectfully ask them to adopt the policies I have outlined here, to preserve this technology’s promise for today, and future generations to come.⁶²

Following this statement, FCC Chairman Wheeler endorsed President Obama’s proposal and during February 2015, unveiled his proposal for treating Internet service as a public utility.⁶³ On February 27, 2015, the FCC voted 3-2 to regulate broadband Internet as a public utility.⁶⁴

Following President Obama’s recommendations, the 2015 rules applied equally to both broadband and mobile service providers.⁶⁵ Under the “no blocking” rule, a provider must transmit any lawful content.⁶⁶ Under the “no throttling” rule, a provider may not slow down the transmission of data as it connects to a user’s laptop, smartphone, tablet, or other device.⁶⁷ The “no throttling” rule contained an exception for “traffic management.”⁶⁸ The exception requires providers to be transparent with the FCC about its reasons for management and in most cases, the reason must be technological.⁶⁹ Under the “no paid prioritization” rule, providers may not charge content companies for preferential treatment.⁷⁰ The transparency requirements adopted and enhanced the 2010 requirements.⁷¹

D. Net Neutrality Under the Trump Administration and the Repeal of the 2015 Open Internet Order

On January 11, 2017, just a week and a half before then FCC Chairman Tom Wheeler was set to leave office, the FCC issued a new report stating that the zero-rated video services offered by AT&T and Verizon may violate the

62. *Id.*

63. Gautham Nagesh, *FCC Chairman Proposes Utility-Like Regulation for Broadband Internet*, WALL ST. J. (Feb. 4, 2015 1:26 PM), <http://www.wsj.com/articles/fcc-chairman-proposes-utility-like-regulation-for-broadband-1423068563>.

64. Rebecca Ruiz & Steve Lohr, *FCC Approves Net Neutrality Rules, Classifying Broadband Internet Service as a Utility*, N.Y. TIMES (Feb. 26, 2015), <http://www.nytimes.com/2015/02/27/technology/net-neutrality-fcc-vote-internet-utility.html>.

65. Protecting and Promoting the Open Internet, 80 Fed. Reg. 19,738, n. 7 para. 34 (Apr. 13, 2015) (codified at 47 C.F.R. pts. 1, 8, 20).

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.* at n. 7 ¶ 109.

FCC's Open Internet Order.⁷² The report presented the results of the Wireless Telecommunications Bureau (WTB or the Bureau) staff review of sponsored data and zero-rating practices in the mobile broadband market during 2016.⁷³ The report offered considerations which may assist providers, the public, and the Commission in analyzing claims that a particular zero-rating or sponsored data plan violates the 2015 Open Internet Order.⁷⁴ Shortly thereafter, then FCC Chairman Tom Wheeler used his final public speech to make a closing argument for maintaining net neutrality.⁷⁵

Commissioner Ajit Pai was designated chair of the FCC by President Trump in January 2017.⁷⁶ One of the first acts of Trump's new FCC was to issue an order ending the open net neutrality inquiries into AT&T, T-Mobile, and Verizon as stated in the aforementioned report.⁷⁷ The order "sets aside and rescinds the Policy Review Report and any and all guidance, determinations, and conclusions contained therein, including the document's draft framework. The Policy Review Report will have no legal or other effect or meaning going forward."⁷⁸ This was not considered a surprise, however, as Chairman Pai openly opposed the original reclassification of the Internet as a utility and general net neutrality principles.⁷⁹

The FCC then filed notice for public comment on a new proceeding on "Restoring Internet Freedom" on April 27, 2017.⁸⁰ This was followed by a Notice of Proposed Rulemaking by Chairman Pai and Commissioner O'Rielly issuing separate statements on May 23, 2017.⁸¹ This notice described the 2015 Open Internet Order as a massive and unprecedented shift in favor of government control of the Internet.⁸² Repealing the 2015 Order is a step, in Chairman Pai's view, to restore the market-based policies necessary to preserve

72. Russell Brandom, *New FCC Report Says AT&T and Verizon Zero-Rating Violates Net Neutrality*, VERGE (Jan. 11, 2017, 5:37 PM), <http://www.theverge.com/2017/1/11/14243196/fcc-zero-rating-report-net-neutrality-att-verizon-t-mobile>.

73. WIRELESS TELECOMMS. BUREAU, POLICY REV. OF MOBILE BROADBAND OPERATORS' SPONSORED DATA OFFERINGS FOR ZERO-RATED CONTENT AND SERVICES (2017), https://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0111/DOC-342987A1.pdf.

74. *Id.*

75. Jacob Kastrenakes, *Outgoing FCC Chief Tom Wheeler Offers Final Defense of Net Neutrality*, VERGE (Jan. 13, 2017, 2:24 PM EST), <http://www.theverge.com/2017/1/13/14266168/tom-wheeler-final-speech-net-neutrality-defense>.

76. Ajit Pai, FCC Chairman, FCC, <https://www.fcc.gov/about/leadership/ajit-pai> (last visited Mar. 20, 2018).

77. Aaron Pressman, *Trump's FCC Moving to Kill Probes of Zero Rating by AT&T and Verizon*, FORTUNE (Feb. 3, 2017), <http://fortune.com/2017/02/03/trump-fcc-zero-rating-att-verizon/>.

78. In re Wireless Telecommunications Bureau Report: Policy Review of Mobile Broadband Operators' Sponsored Data Offerings for Zero Rated Content and Services, Order DA 17-127 (Feb. 3, 2017), https://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0203/DA-17-127A1.pdf.

79. Cecilia Kang, *Trump's FCC Quickly Targets Net Neutrality Rules*, N.Y. TIMES (Feb. 5, 2017), https://www.nytimes.com/2017/02/05/technology/trumps-fcc-quickly-targets-net-neutrality-rules.html?ref=collection%2Ftimestopic%2FNet%20Neutrality&action=click&contentCollection=timestopics®ion=stream&module=stream_unit&version=latest&contentPlacement=1&pptype=collection.

80. Public Notice, FCC, https://apps.fcc.gov/edocs_public/attachmatch/DOC-344623A1.pdf (last visited Mar. 20, 2018).

81. Notice of Proposed Rulemaking, FCC, https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-60A1_Rcd.pdf (last visited Mar. 20, 2018).

82. *Id.* at ¶ 3.

the future of Internet Freedom, and to reverse the decline in infrastructure investment, innovation, and options for consumers put into motion by the FCC in 2015.⁸³ This Notice of Proposed Rulemaking was adopted on May 18, 2017, released on May 23, 2017, with a comment date of July 17, 2017, and a reply comment date of August 16, 2017.⁸⁴ On August 1, 2017, Public Knowledge, Access Now, the American Civil Liberties Union, the Computer & Communications Industry Association, Consumers Union, the Electronic Frontier Foundation, Engine Advocacy, National Consumer Law Center on behalf of its low-income clients, the World Wide Web Foundation, and the Writers Guide of America West (“Movants”) filed a motion requesting an eight-week extension of the reply comment deadline in this proceeding.⁸⁵ The FCC subsequently extended the deadline for filing reply comments until August 30, 2017.⁸⁶

This proposed rulemaking by the FCC attracted a lot of media attention and the FCC was flooded with comments. Comedian John Oliver devoted a segment of his HBO show *Last Week Tonight* to the importance of net neutrality and encouraged his viewers to comment on the proposed rules.⁸⁷ July 12, 2017 was the Day of Action to Save Net Neutrality, in which various organizations and individuals advocated for net neutrality.⁸⁸ On this day, many prominent websites displayed a prominent alert on their homepage about the potential repeal of net neutrality.⁸⁹ Throughout the comment period, the FCC received nearly twenty-two million comments.⁹⁰ Controversially, an analysis of public comments on the FCC’s plan to repeal net neutrality rules found that two million of them were filed using stolen identities.⁹¹ This was according to analysis by the Attorney General of New York, Eric T. Schneiderman, who urged the FCC to delay its vote.⁹² Notwithstanding this potential fraud, the FCC voted to repeal

83. *Id.* at ¶ 5.

84. Notice of Proposed Rulemaking, *supra* note 81.

85. Public Knowledge et al., Motion for Extension of Time to File Reply Comments, WC Docket No. 17-108 (filed Aug. 1, 2017) (Joint Motion). *See also* Letter from Senator Edward J. Markey et al., to the Honorable Ajit Pai, Chairman, FCC (Aug. 3, 2017) (urging the Commission to “extend the reply comment period to allow sufficient time for the public to ensure their views are reflected in the record”).

86. FCC Order, WC Docket No. 17-108 (Aug. 11, 2017), https://apps.fcc.gov/edocs_public/attachmatch/DA-17-761A1.pdf.

87. Chaim Gartenberg, *John Oliver Pleads with Viewers to Revive Net Neutrality Fight*, VERGE (May 8, 2017), <https://www.theverge.com/2017/5/8/15577800/john-oliver-net-neutrality-last-week-tonight-ajit-pai-title-ii-verizon>.

88. *July 12th: Internet-Wide Day of Action to Save Net Neutrality*, BATTLEFORTHENET.COM, <https://www.battleforthenet.com/july12/> (last visited Mar. 20, 2018).

89. *Id.*

90. Lauren Gambino & Dominic Rushe, *FCC Flooded with Comments Before Critical Net Neutrality Vote*, GUARDIAN (Aug. 30, 2017), <https://www.theguardian.com/technology/2017/aug/30/fcc-net-neutrality-vote-open-internet>.

91. Jon Brodtkin, *2 Million People—and Some Dead Ones—Were Impersonated in Net Neutrality Comments*, ARS TECHNICA (Dec. 13, 2017), <https://arstechnica.com/tech-policy/2017/12/dead-people-among-millions-impersonated-in-fake-net-neutrality-comments/>.

92. Press Release, N.Y. State Office of the Attorney General, A.G. Schneiderman Releases New Details on Investigation into Fake Net Neutrality Comments (Dec. 13, 2017), <https://ag.ny.gov/press-release/ag-schneiderman-releases-new-details-investigation-fake-net-neutrality-comments>.

the 2015 Open Internet Order on December 14, 2017.⁹³ This declaratory ruling restored the classification of broadband Internet access service as an “information service” under Title I of the Communications Act.⁹⁴

E. Zero Rating

Zero rating programs allow consumers to access certain Internet content and services without it counting against their monthly data plans.⁹⁵ Some plans only offer their users zero-rated data from content providers who pay the carriers money to do so.⁹⁶ One way to categorize the zero rating practices is based on their likely market impact, focusing on their degree of exclusivity.⁹⁷ Ellen Goodman, Professor of Law at Rutgers Law School and co-director and co-founder of the Rutgers Institute for Information Policy & Law, breaks it down into four categories: (1) no payment, no exclusivity; (2) no payment, some exclusivity; (3) payment, no exclusivity; and (4) carrier’s vertical service, exclusivity.⁹⁸ In a no payment, no exclusivity scheme, the carrier does not get paid and will offer zero rating non-exclusively to all applications within a class, such as T-Mobile’s Binge On.⁹⁹ This kind of service is a product differentiator in mature markets.¹⁰⁰ In a no payment, some exclusivity scheme, the carrier partners with select edge providers to zero rate specific, special applications, such as Facebook in developing countries.¹⁰¹ In a payment, no exclusivity scheme, zero rated services pay for carrier “sponsored data;” for example ESPN paying AT&T to have their data exempted.¹⁰² Lastly, carriers can zero-rate their own services, as Comcast is known to do.¹⁰³

1. Arguments for Zero Rating Plans

Supporters of zero-rating stress the importance of the practice in increasing Internet access for underserved consumers.¹⁰⁴ For example, the popular streaming service Netflix partnered with Australian ISP iiNet to allow iiNet

93. Press Release, FCC, FCC Acts to Restore Internet Freedom (Dec. 14, 2017), https://apps.fcc.gov/edocs_public/attachmatch/DOC-348261A1.pdf.

94. *Id.*

95. Doug Brake, *Mobile Zero Rating: The Economics and Innovation Behind Free Data*, INFO. TECH. & INNOVATION FOUND. (May 2016), <http://www2.itif.org/2016-zero-rating.pdf>.

96. Corynne McSherry et al., *Zero Rating: What It Is and Why You Should Care*, ELECTRONIC FRONTIER FOUND. (Feb. 18, 2016), <https://www.eff.org/deeplinks/2016/02/zero-rating-what-it-is-why-you-should-care>.

97. Ellen P. Goodman, *Zero-Rating Broadband Data: Equality and Free Speech at the Network’s Other Edge*, 15 COLO. TECH. L.J. 63, 71 (2016).

98. *Id.*

99. *Id.*

100. *Id.*

101. *Id.*

102. Jon Brodtkin, *AT&T Has 10 Businesses Paying for Data Cap Exemptions, and Wants More*, ARS TECHNICA (Jan. 6, 2015, 4:26 PM), <http://arstechnica.com/business/2015/01/att-has-10-businesses-paying-for-data-cap-exemptions-and-wants-more/>.

103. See John D. McKinnon, *Net-Neutrality Proponents Warn of Loopholes*, WALL ST. J. (Dec. 14, 2015, 7:44 PM), <http://www.wsj.com/articles/net-neutrality-proponents-warn-of-loopholes-1450053858> (“Comcast says Stream is delivered over a closed path controlled by the cable company and that customers can’t view it anywhere except in their homes—two hallmarks of cable service [not subject to net neutrality rules].”).

104. Moshimia, *supra* note 15.

customers to stream unlimited Netflix content.¹⁰⁵ Within two weeks of the announcement of the deal, Netflix traffic jumped from fifteen percent to twenty-five percent of iiNet's total traffic.¹⁰⁶ In his paper, "The Economics of Zero Rating," Jeff Eisenach, visiting scholar at the American Enterprise Institute, concludes that zero rating generally represents an "economically efficient mechanism for increasing consumer welfare given the unique characteristics of information technology markets, which make it beneficial to offer lower prices and other incentives to expand the size of the market, especially in developing countries where incomes, and market penetration, are low."¹⁰⁷

Supporters also argue that there is little difference between zero rating plans and normal commonly accepted discount coupons or rebates.¹⁰⁸ For example, researchers at Aalborg University and the London School of Economics studied the impact of zero-rating programs in several countries, concluding that they "cannot find evidence that shows that zero rating creates harm" to competition, leading the researchers to question why zero rating was so maligned by net neutrality supporters.¹⁰⁹ Other arguments are that zero rating plans provide consumers with more data than they otherwise would have, allowing them to explore other services, and that zero ratings plans facilitate more efficient advertising.¹¹⁰

One argument against banning zero rating plans in general is that "[n]eutrality is impossible because the Internet, like any medium, is by definition *mediated* or conveyed by intermediaries."¹¹¹ Layton and Calderwood go on to argue that "Apple's hardware and software designs are part of a tightly-controlled, vertically integrated, closed product ecosystem."¹¹² Apple would not exist if there was the equivalent of network neutrality for computer hardware and software.¹¹³ Additionally, "there is a value to get more people on the network, whether it's through universal service, broadband subsidies, or zero rating."¹¹⁴

2. Arguments Against Zero Rating Plans

Opponents of zero rating argue that it is discriminatory. Barbara van Schewick, Professor of Law and Helen L. Crocker Faculty Scholar at Stanford Law School, Director of Stanford Law School's Center for Internet and Society, and a leading expert on net neutrality, asserts that "zero-rating has a strong

105. *Id.*

106. *Id.*

107. Jeffrey A. Eisenach, *The Economics of Zero Rating*, NERA ECON. CONSULTING 1 (Mar. 2015), <http://www.nera.com/content/dam/nera/publications/2015/EconomicsofZeroRating.pdf>.

108. Doug Brake, *Mobile Zero Rating: The Economics and Innovation Behind Free Data*, INFO. TECH. & INNOVATION FOUND. 10 (May 2016), <http://www2.itif.org/2016-zero-rating.pdf>.

109. Roslyn Layton & Silvia Elaluf Calderwood, *Zero Rating: Do Hard Rules Protect or Harm Consumers and Competition? Evidence from Chile, Netherlands and Slovenia*, at 37 (August 15, 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2587542.

110. Brake, *supra* note 108, at 11–15.

111. Layton & Calderwood, *supra* note 109, at 4.

112. *Id.*

113. *Id.*

114. *Id.* at 5.

discriminatory effect.”¹¹⁵ Van Schewick goes on to articulate that “[s]ome commenters assume that zero-rating is less harmful than technical forms of discrimination (such as slowing down or speeding up certain applications) However, while zero-rating operates slightly differently, the discriminatory effect is the same: [z]ero-rated applications are more attractive to users than applications that are not.”¹¹⁶ A 2014 CTIA Survey corroborated this point when it found that nearly “three-quarters of respondents (seventy-four percent) report that they would be more likely to watch videos offered by a new provider if the content did not count against their monthly limit.”¹¹⁷

Opponents of zero rating also argue that zero-rating against a fee harms the start-up innovation ecosystem and free speech.¹¹⁸ This is because start-ups and small businesses will not be able to afford to pay service providers to zero-rate their content offerings.¹¹⁹ For this reason, start-ups have consistently asked the FCC to ban this type of zero-rating.¹²⁰ Additionally, this type of fee arrangement is also argued to harm consumers because “[i]f ISPs can charge application providers to be zero-rated, they would have an incentive to lower monthly bandwidth caps or increase the per-byte price for unrestricted Internet use in order to make it more attractive for application providers to pay for zero-rating.”¹²¹

Opponents of zero rating plans also argue that “zero rating may provide an unfair advantage to the provider of the content that is zero rated, compared to other content providers or potential new entrants.”¹²² Additionally, “there may be an unfair advantage to the network operator who zero rates their own content, compared to competing operators who don’t do so.”¹²³

For example, “by zero rating their own app, music or video stores, providers have a better chance of locking their customers in to their service.”¹²⁴ Zero rating may also “limit users to a narrow experience of the Internet, and disincentivizes them from venturing beyond those services that are provided for free.”¹²⁵ Zero rating also turns the Internet service providers into gatekeepers, creating a chokepoint for control of users’ Internet experience.¹²⁶ Susan

115. Barbara van Schewick, *Network Neutrality and Zero-rating*, at 1 (Feb. 19, 2015) (unpublished manuscript) (on file with the FCC), <http://cyberlaw.stanford.edu/files/publication/files/vanSchewick2015NetworkNeutralityandZerorating.pdf>.

116. *Id.* at 1–2.

117. CTIA MOBILE WIRELESS SERVICE SURVEY, CTIA (Dec. 2014), <http://www.ctia.org/docs/default-source/default-document-library/2014-ctia-mobile-wireless-service-survey-final.pdf>.

118. Schewick, *supra* note 115, at 3.

119. *Id.*

120. *See, e.g.*, Letter from Nick Grossman, Union Square Ventures, to Marlene H. Dortch, Secretary, FCC (Feb. 18, 2015) (requesting the FCC to take decisive action on zero-rating because it harms start-ups); Letter from Vimeo, Cogent Communications, Inc., Contextly, Inc., Distinct, Dwolla, Inc., Engine Advocacy, Kickstarter, Inc., OpenCurriculum, Inc., & Tumblr, Inc., to Marlene H. Dortch, Secretary, FCC (Feb. 18, 2015) (discussing the harm to start-ups because of zero-rating).

121. Schewick, *supra* note 115, at 3.

122. Jeremy Malcolm et al., *Zero Rating: What It Is and Why You Should Care*, ELEC. FRONTIER FOUND. (Feb. 18, 2016), <https://www.eff.org/deeplinks/2016/02/zero-rating-what-it-is-why-you-should-care>.

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

Crawford, the John A. Reilly Clinical Professor of Law at Harvard Law School and former Special Assistant for Science, Technology, and Innovation Policy under President Obama, writes that zero rating creates a “synthetic” Internet experience that is “pernicious . . . dangerous . . . [and] malignant.”¹²⁷

In order to enforce their zero rating policies, these gatekeepers may be required to engage in deep packet inspection, or to disallow the use of encryption, in either case introducing significant privacy and security problems that otherwise would not exist.¹²⁸ Lastly, and arguably most importantly, with zero rating, developers and engineers are no longer able to depend on the core assumption that the Internet treats all data equally.¹²⁹ This system favors incumbents in the market and hampers innovation.¹³⁰

Zero-rating opponents also worry that carriers have exaggerated bandwidth constraints and imposed data caps to create artificial scarcity in bandwidth.¹³¹ By unnecessarily rationing bandwidth, usage-based pricing depresses total Internet use for consumers and thereby “can suppress activities that we generally encourage.”¹³² These data cap exemptions are argued to operate as “pernicious paid prioritization that unfairly disadvantage independent and noncommercial creators . . . [creating] conditions of inequitable online distribution by unfairly favoring those commercial operators that can afford to pay for this privilege.”¹³³

On a larger scale, opponents of zero rating argue that it amounts to “Internet racism.”¹³⁴ Facebook launched a service called Internet.org which provides free access to Facebook and other handpicked sites via a partnership with local telecoms to poor people who otherwise would not be able to get online.¹³⁵ As of 2016, this service has connected forty million people to the Internet.¹³⁶ Opponents of this scheme, a form of zero rating, argue that it exploits the poor in under-developed parts of the world to become customers under the guise of a charitable purpose.¹³⁷ Critics also say that if you dictate what the poor should get, you take away their rights to choose what they think is best for them, a common argument against zero rating plans of all kinds.¹³⁸

127. Susan Crawford, *Zero for Conduct*, BACKCHANNEL (Jan. 7, 2015), <https://medium.com/backchannel/less-than-zero-199bcb05a868#.figres4x2>.

128. *Id.*

129. *Id.*

130. *Id.*

131. Hibah Hussain et al., *The Destructive Power of Data Caps*, FREE PRESS (Dec. 19, 2012), <http://www.freepress.net/blog/2012/12/19/destructive-power-data-caps>; Hibah Hussain & Patrick Lucey, *Capping the Nation's Broadband Future?*, NEW AM.: OPEN TECH. INST. (Dec. 17, 2012), <https://www.newamerica.org/oti/capping-the-nations-broadband-future/>.

132. Michael Weinberg, *The Question at the Core of the Data Caps Debate*, PUB. KNOWLEDGE (Jan. 3, 2013), <https://www.publicknowledge.org/news-blog/blogs/question-core-data-caps-debate>.

133. Danny Kimball, *Sponsored Data and Net Neutrality: Exemption and Discrimination in the Mobile Broadband Industry*, 2.1 MEDIA INDUS. J., 38 (2015).

134. Mahesh Murthy, *Poor Internet for Poor People: Why Facebook's Internet.org Amounts to Economic Racism*, QUARTZ INDIA (Apr. 17, 2015), <https://qz.com/385821/poor-internet-for-poor-people-why-facebooks-internet-org-amounts-to-economic-racism/>.

135. INTERNET.ORG, *Our Approach* (last visited Mar. 20, 2018), <https://info.internet.org/en/approach/>.

136. Josh Constine, *Facebook Has Connected 40M People with Internet.org*, TECH CRUNCH (Nov. 2, 2016), <https://techcrunch.com/2016/11/02/omnipresent/>.

137. Murthy, *supra* note 134.

138. *Id.*

III. ANALYSIS

A. *T-Mobile Case Study Demonstrates Non-Neutral Internet Practices*

T-Mobile deploys streaming video optimization technology on its network intended to manage data usage on its network, reduce the risk of streaming video stalling and buffering on mobile devices, and reduce the amount of data consumed for streaming video, all with the overall goal of a better network experience overall.¹³⁹ Video optimization occurs only to data streams that are identified by their packet-core network as video.¹⁴⁰ T-Mobile customers may choose Rate Plans where streaming optimization is always enabled (e.g., “T-Mobile ONE”), with the ability to add a feature disabling optimization to foster native-resolution video capability.¹⁴¹

Alternatively, customers may choose Rate Plans that offer video optimization as a customer-controlled feature (e.g., “Binge On”).¹⁴² When this feature is enabled, on-device video is typically delivered at DVD quality (up to 1.5 Mbps speeds, generally 480p or better).¹⁴³ Some qualifying video providers may choose to opt-out of the Binge On program.¹⁴⁴ The Binge On optimization technology is not applied to the video services of these providers; video from these services will stream at native resolution, and high-speed data consumption will continue as if Binge On were not enabled.¹⁴⁵ Rate Plans that feature this technology allow customers to choose to enable (and disable) video streaming optimization when connected to the cellular network, unless a provider has chosen to opt out.¹⁴⁶ Customers also have the option to add on a native-resolution video feature for an additional charge, disabling optimization on their device (“HD Day Pass”).¹⁴⁷

The Electronic Frontier Foundation (EFF) tested T-Mobile’s Binge On Optimization in January 2016.¹⁴⁸ They found that, when Binge On is enabled, T-Mobile throttles all HTML5 video streams to around 1.5Mps, even when the phone is capable of downloading at higher speeds and regardless of whether the video provider enrolled in Binge On.¹⁴⁹ This was the case whether the video was being streamed or downloaded, demonstrating that T-Mobile was

139. *Terms and Conditions*, T-MOBILE (Sept. 1, 2016), https://www.t-mobile.com/Templates/Popup.aspx?PAsset=Ftr_Ftr_TermsAndConditionsSep2016.

140. *Id.*

141. *Id.*

142. *Id.*

143. *Id.*

144. *Id.*

145. *Id.*

146. *Id.*

147. *Company Information, About T-Mobile*, T-MOBILE, <http://www.t-mobile.com/company/company-info/consumer/internet-services.html> (last visited Mar. 20, 2018).

148. Jeremy Gillula, *EFF Confirms: T-Mobile’s Binge on Optimization Is Just Throttling, Applies Indiscriminately to All Video*, ELEC. FRONTIER FOUND. (Jan. 4, 2016), <https://www.eff.org/deeplinks/2016/01/eff-confirms-t-mobiles-bingeon-optimization-just-throttling-applies>.

149. *Id.*

artificially reducing the download speeds of customers with Binge On enabled, even if they were downloading the video to watch later.¹⁵⁰

The EFF also found that T-Mobile's video "optimization" does not actually alter or enhance the video stream for delivery to a mobile device over a mobile network in any way.¹⁵¹ Therefore, T-Mobile's optimization throttles a video stream's throughput without altering resolution—if the video is more than 480p and the server sending the video does not have a way to reduce or adapt the bitrate of the video as it is being streamed, the result is stuttering and uneven streaming.¹⁵² T-Mobile confirmed to the EFF that they do not do any actual optimization of video streams other than reducing the bandwidth allocated to them.¹⁵³

Additional research by a group at Northeastern University also found significant differences between T-Mobile's stated policies and how Binge On worked for the end user.¹⁵⁴ They concluded that the Binge On infrastructure did not "optimize" video, finding no modification to their tested content, other than the reduced bit rate, nor any evidence that Binge On behavior changed in response to the device used.¹⁵⁵ They also found that, at the time of their experiments, YouTube traffic was throttled to 1.5 Mbps and they were charged for the data, while Netflix was similarly throttled and there was no data charged.¹⁵⁶

This study therefore corroborates the EFF tests showing that T-Mobile throttles all content, regardless of whether a video provider opts into or out of participating in Binge On.¹⁵⁷ An additional consumer problem found by the team was that while the data was throttled it increased download times, which may increase battery consumption by keeping the radio in an active state for longer.¹⁵⁸

B. *Internet as a Utility in the Abstract*

In the more abstract, classifying the Internet as a utility connotes an underlying ethical obligation on behalf of the utility providers to provide unfettered access to that utility. As a thought experiment, one could imagine the Internet fulfilling a role like water—an essential utility. In fact, the United

150. *Id.*

151. *Id.*

152. *Id.*

153. *Id.*

154. Thea Singer, *Northeastern Researchers Find T-Mobile's Binge On Doesn't Live Up To The Hype*, NORTHEASTERN UNIV. (June 17, 2016), <http://www.northeastern.edu/news/2016/06/northeastern-researchers-find-t-mobiles-binge-on-doesnt-live-up-to-the-hype/>.

155. David Choffnes et al., *BingeOn Under the Microscope: Understanding T-Mobile's Zero-Rating Implementation*, ASS'N COMPUTING MACHINERY 43 (2016), <http://dl.acm.org/citation.cfm?doid=2940136.2940140>.

156. *Id.*

157. *Id.* See also Singer, *supra* note 154.

158. Singer, *supra* note 154; Choffnes et al., *supra* note 155.

Nations has actually declared Internet access a human right.¹⁵⁹ In this experiment, though, all water distribution in the United States is exclusively through corporate distribution—it is only possible to get water through purchasing it from a company.

In this world, it would seem generally ethically permissible for the water distributors to provide the water at a discounted rate via the use of advertisements on bottles. Other corporations pay to have their information put onto the water, and then the consumers see the advertisements when they purchase their necessary water. This occurs today on the Internet, and is a commonly accepted practice.¹⁶⁰ However, it would be ethically dubious to allow other corporations to materially alter the water in order to lower costs for the consumer. For example, the distributor would provide a lower cost alternative to the water which technically is still a liquid and can be drunk, but is not water. A soda manufacturer could subsidize the water costs by paying the distributor to add a specific flavor to the water, or to simply distribute its soda in lieu of water. For many consumers, this would be the only water available.

Much in the same way, T-Mobile could, within reason, alter the video specifications of its streaming videos for all users in order to cut costs for the users. However, allowing corporate sponsors to pay to have specific sites work better than others functions as a limitation upon an individual's access to a necessary utility, therefore creating ethical problems. Beyond the arguments against zero-rating outlined above, zero-rating Internet access functions as an unethical cap on an individual's access to information.¹⁶¹ An individual's right to access an unfettered Internet, including all the information, the freedom of expression, and the online marketplace of services and ideas contained therein, ethically outweighs any marginal profit increase that zero-rating plans provide the shareholders of T-Mobile.

IV. RECOMMENDATION

Following the 2017 Restoring Internet Freedom Order, in the face of potential net neutrality violations, two smartphone apps have emerged, claiming to be able to use a user's device to check for net neutrality violations on the user's network.¹⁶² The first is an app called WeHe, created by a team of researchers at Northeastern University, University of Massachusetts, Amherst,

159. Nathan Olivarez-Giles, *United Nations Report: Internet Access is a Right*, L.A. TIMES (Jun. 3, 2011, 6:42 PM), <http://latimesblogs.latimes.com/technology/2011/06/united-nations-report-internet-access-is-a-human-right.html>.

160. *Id.* (“The Special Rapporteur believes that the Internet is one of the most powerful instruments of the twenty-first century for increasing transparency in the conduct of the powerful, access to information, and for facilitating active citizen participation in building democratic societies.”).

161. Meghan Sali, *What the Heck is Zero-Rating and How Does It Undermine Net Neutrality*, OPENMEDIA (June 8, 2016), <https://openmedia.org/en/what-heck-zero-rating-and-how-does-it-undermine-net-neutrality> (“Zero-rating, which is frequently implemented on mobile services but also on broadband Internet, essentially gives users access to certain online services and websites free of charge.”).

162. Jacob Kleinman, *How to Check for Net Neutrality Violations on Your Network*, LIFEHACKER (Jan. 18, 2018, 3:00 PM), <https://lifehacker.com/how-to-check-for-net-neutrality-violations-on-your-netw-1822200634>.

and Stony Brook University.¹⁶³ The app is available for both Android and iOS and records speeds from YouTube, Amazon, NBCSports, Netflix, Skype, Spotify, and Vimeo to detect potential Internet service provider slowdowns on the services.¹⁶⁴ In their tests of ten major US cellular providers, they have identified several that shape traffic to lower download speeds based on what application is being used.¹⁶⁵

The second app is OONI, short for Open Observatory of Network Interference.¹⁶⁶ OONI is a free software global observation network for detecting censorship, surveillance, and traffic manipulation on the Internet.¹⁶⁷ OONI was originally launched with the goal of mapping online censorship around the world but then the app added a new test designed to seek out net neutrality violations.¹⁶⁸ Their DASH streaming test checks the quality of the user's network by pretending to stream a 30 second video.¹⁶⁹

V. CONCLUSION

Overall, consumer knowledge and activism are likely the best means to combat future net neutrality violations by Internet service providers. Following the FCC deregulation of Internet service providers, it will now be up to active consumers to check their speeds and make sure that the speeds that they are receiving on their devices are the speeds for which they are paying. As much as Internet service providers may try to obfuscate their practices, independent open source apps and services by third party developers and researchers, such as the two highlighted here, will allow consumers to make more informed choices about where they will get their Internet service.

163. *About Us*, WEHE, https://dd.meddle.mobi/about_dd.html (last visited Mar. 20, 2018).

164. *Id.*

165. *Id.*

166. Kleinman, *supra* note 162.

167. OONI, OONI, <https://ooni.torproject.org/> (last visited Mar. 20, 2018).

168. Kleinman, *supra* note 162.

169. *Id.*