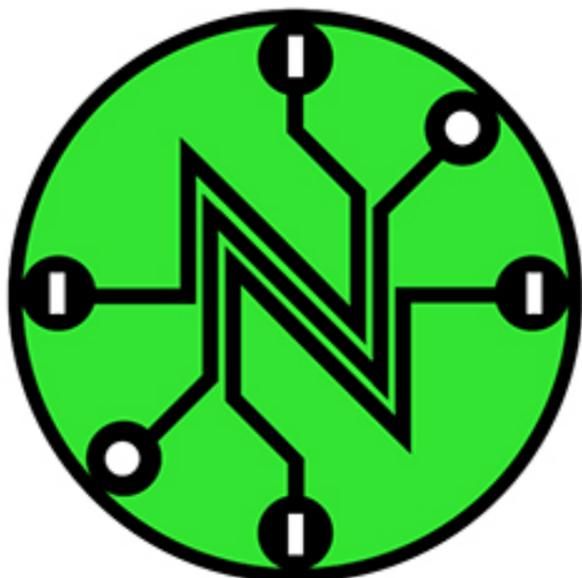


Net Neutrality: No Demilitarized Zone

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Internet regulation in the United States is potentially facing a major change. FCC *Internet Neutrality* rules¹⁻⁷ — also referred to as *Net Neutrality* rules — currently apply, but thanks to pressure from Internet Service Providers (ISP), legislators and recent court rulings,⁸ that might change.

You have undoubtedly heard the term Net Neutrality before, but may be at a loss regarding what it means or what its implications are. At the risk of over simplifying things, Net Neutrality means that ISPs must treat all of the traffic passing through their network the same. In effect, they are being treated and regulated as a public utility, though they are not currently classified as one, which is just providing a connection service without regard to the kind of traffic that passes through their 'pipes.' Packets are handled the same, no matter what type they are or who they are from or to. A number of providers want to prioritize the traffic over their network based, initially at least, on the rate you pay.

As many aspects of Net Neutrality are easier to understand with a visual presentation, I strongly suggest that you take 11 minutes to watch this explanatory video on YouTube created by mathematician Vi Hart.⁹ The non-technical analogies presented help clarify the issues involved, and may just get your ire up. For those with a taste for a more satiric explanation, you might find the presentations by John Oliver on *Last Week Tonight*¹⁰ or Stephen Colbert on the *Colbert Report*^{11,12} cut through some of the subterfuge surrounding the issue. While both men are primarily comedians, they seem to have a good grasp of what is going on. The later of Colbert's clips includes an interview with Professor Tim Wu, who originally coined the term 'Net Neutrality.' The response to John Oliver's impassioned plea for people to provide comments to the FCC regarding their proposed rule changes resulted in the FCC site going down. While it was initially claimed that the FCC site was attacked, apparently the FCC's 17-year-old Web site was simply overloaded with responses.¹³ According to Tim Wu, "The John Oliver video on Net Neutrality has rendered every other explanation obsolete..."¹⁴ In the past 30 days, 115,211 comment have been filed on the FCC comment site, far more than for any other topic.¹⁵

You will hear many proponents of eliminating Network Neutrality refer to being able to charge more for access to 'fast lanes' on their network. Listening to them, you get the impression that these fast lanes will not slow down any other traffic on their network. That is, at best, a half truth, as a given network segment can only carry a given maximum amount of traffic. If there is sufficient band-width available on the network, this fast lane should not significantly impede other traffic on the network. However, if the network is congested, then prioritizing the fast lane will result in the creation, unintentional or not, of a corresponding slow lane. Instead of fast and slow, lawyers for the cable companies prefer to refer to these as 'fast lanes' and 'hyper-speed lanes'.¹⁶

This situation can be viewed in a number of ways. For the suspicious-minded, it might be taken as a way for the network providers to increase their fees, without necessarily making any improvements in their network. While this might well work in the short term, if network traffic continues to grow, it will eventually result in these slow lanes being intolerably slow to consumers. At this point, people will be motivated to find alternate network suppliers. Keep in mind that the slowdown described above is the result of simple network congestion. However, in several instances, network operators have been accused of deliberately slowing the traffic of some content providers. What appears to be a high-visibility example of this is the recent clash between Netflix and Comcast where Netflix accused Comcast of degrading their traffic so that viewers encountered frequent buffering problems.^{17,18} In other instances, network providers have filtered out various types of packet traffic, such as encrypted packets or BitTorrent packets.¹

In some areas, finding an alternate network provider is likely to be a challenge, as many municipalities have long had monopoly contracts with providers. A variety of proposals have been made to eliminate this monopoly situation. Among others, it has been suggested that the consumer be considered to own the 'last mile' of the network connection, with all of a neighborhood's connections going to a provider node served by a variety of vendors, so that the consumer could choose the vendor they wanted to use.¹⁹ This proposal is somewhat analogous to where a home owner is considered to own the water line from their meter into their house.

Net Neutrality encompasses more than just what is charged for your Internet service. To be able to charge for different services, whether a Netflix movie or a call on Skype, the network providers will need to perform a deeper scan of each packets' contents. Many are concerned that this will lead to more privacy issues.^{2,4} Additionally, eliminating Net Neutrality opens the door for censorship, in that you may then have a large corporation, or other entity, controlling what information you are able to receive. This aspect becomes even more critical as the percentage of people obtaining their news primarily over the Internet increases.²⁰ Senator Al Franken, one of the major proponents of Net Neutrality in Congress, refers to Net Neutrality as "The Free Speech Issue Of Our Time"²¹ It is not just a consumer issue either. Without Net Neutrality, many start-up business will not be able to compete with large established companies, no matter how superior their products might be.^{4,22-24}

Digging beneath the surface brings to light a number of disquieting facts. How did we get to this situation? In part it is due to how the Internet has evolved. However, a lot of the blame can be traced back to 2002 when FCC Chairman Michael Powell changed the classification of cable modem services from 'telecommunications services' to 'information services'.²⁵ This reclassification severely

reduced the FCC's regulatory power over the network providers, as well as the FCC's ability to protect our privacy.⁴ As an interesting side note, the chief lobbyist for the cable industry is currently the same Michael Powell.²⁵ The current FCC Chairman, Tom Wheeler, is also a former cable and telecommunications top lobbyist.²⁶ I don't know Mr. Wheeler. He may well be able to separate those associations, but it does put him in a difficult position. This position is further complicated by the fact that a number of legislators have been pressuring Mr. Wheeler to NOT reclassify broadband as a utility and to drop all attempts to reinstate Net Neutrality rules.²⁷ Other legislators have indicated that they plan to introduce bills that would forbid the FCC from performing this reclassification.²⁷

If you think that all of this is just hype and innuendo, consider the fact that some of these network providers have been busy borrowing from the politicians bag of dirty tricks. If you search the Web, you will see that there are a number of 'independent consumer advocacy groups,' such as **The American Consumer Institute** and **Broadband for America**, which are fighting against the policy of Net Neutrality. However, on taking a peek behind the curtain, you will find that these are actually examples of what is called Astroturfing.²⁸ These organizations are actually being bankrolled by some of the large cable companies,²⁹ analogously to the fake voting fraud group sites during the last presidential election. To sleaze things up even more, it's recently been revealed that many of the organizations listed on their membership roles had never heard of them,³⁰ while others had joined, but only after being misinformed as to the goal of the site.³¹ If these had been actual consumer groups, they might find it hard to justify how "competition," in the form of giant mergers, has improved things for the consumers, as the average Internet cost in the US is among the worlds highest, while our download speed is among the slowest, even behind Estonia's (24.49 Mbps vs. 26.85 Mps)!³²

In protest of the breach of Internet Neutrality, Kyle Drake of NeoCities has instituted his *Ferengi Plan*.³³ Basically, he has added code to his Web server that checks the originating IP address of all requests it receives and, whenever it sees one from an FCC IP address, it throttles the response to 28.8kbps modem speeds, so that they can get a feel for what might happen. He has made this code freely available to others and the idea appears to be gaining momentum. The FCC might well not notice this protest at all, unless a heavy-hitter like Google or Bing signs on, but it is a very visible indication of peoples feelings.

You can comment and check on the status of these and other FCC proceedings on their HotDocket Web page, *ECFS Express*.¹⁵ The Open Internet, as the FCC likes to refer to it, is Proceeding 14-28 and the Comcast/TimeWarner merger is Proceeding 14-57. You can also submit comments via e-mail to openinternet@fcc.gov [1]. At this point in time, the FCC is still accepting comments on their proposed Open Internet rule changes through 15 July, followed by a reply comments period through 10 September. As these changes would affect everyone in one way or another, whether consumer or business owner,³⁴ it is incumbent on everyone to let the FCC know your views. Write your congressmen as well, to block the onslaught of laws gutting Internet Neutrality. It frequently amazes me as to how few physical letters from citizens it takes to influence a political entity. Make sure that your voice counts! As John Oliver says, "The cable companies have figured out the great truth of America: if you want to do something evil, put it inside something boring."¹⁰

References

1. Net Neutrality | Electronic Frontier Foundation. www.eff.org/issues/net-neutrality [2]
2. What Is Net Neutrality? | American Civil Liberties Union. *Am. Civ. Lib. Union* www.aclu.org/net-neutrality [3]
3. Network Neutrality Fact Sheet - Common Cause. www.commoncause.org/site/pp.asp?c=dkLNK1MOIwG&b=1234951 [4]
4. Net Neutrality: What You Need to Know Now | Free Press. *Save Internet - Free Press* www.savetheinternet.com/net-neutrality-what-you-need-know-now [5]
5. Madrigal, A. C. & LaFrance, A. Net Neutrality: A Guide to (and History of) a Contested Idea - Alexis C. Madrigal and Adrienne LaFrance - The Atlantic. *The Atlantic* (2014). www.theatlantic.com/technology/archive/2014/04/the-best-writing-on-net-neutrality/361237 [6]
6. Lin, R. NET NEUTRALITY: definition. *Univ. Calif. Berkeley* www.ocf.berkeley.edu/~raylin/whatisnetneutrality.htm [7]
7. Net Neutrality - Internet Issues | Internet Society. *Internet Soc.* (2014). www.internetsociety.org/net-neutrality?gclid=CjgKEAjwn-WcBRD61NHM-udDrm4SjADrP4tPB25xly_DB7dtUjtQJlHyilqM_XrC-hqxsN8IihLBvD_BwE [8]
8. Wyatt, E. Rebuffing F.C.C. in 'Net Neutrality' Case, Court Allows Streaming Deals - NYTimes.com. (2014). www.nytimes.com/2014/01/15/technology/appeals-court-rejects-fcc-rules-on-internet-service-providers.html?_r=0 [9]
9. Hart, V. ► Net Neutrality in the US: Now What? - YouTube. www.youtube.com/watch?v=NAXMyTwmU_M&feature=youtu.be [10]
10. Last Week Tonight with John Oliver (HBO): Net Neutrality - YouTube. www.youtube.com/watch?v=fpbOEoRrHyU [11]
11. End of Net Neutrality - The Colbert Report - Video Clip | Comedy Central. *Colbert Rep.* (2014). <http://thecolbertreport.cc.com/videos/nnj3ic/end-of-net-neutrality> [12]
12. End of Net Neutrality - Tim Wu - The Colbert Report - Video Clip | Comedy Central. <http://thecolbertreport.cc.com/videos/qatuhg/end-of-net-neutrality---tim-wu> [13]
13. Sorrentino, M. Age of FCC website likely led to its crash after John Oliver's net neutrality rant: report - NY Daily News. *N. Y. Daily News* (2014). www.nydailynews.com/news/politics/hackers-brought-fcc-website-comedian-net-neutrality-rant-article-1.1824650 [14]
14. Wu, T. Tim Wu (superwuster) on Twitter. *Twitter* <https://twitter.com/superwuster> [15]
15. ECFS Express. *Fed. Commun. Comm.* <http://apps.fcc.gov/ecfs/hotdocket/list> [16]
16. MacNeal, C. John Oliver: Net Neutrality Prevents 'Cable Company F*ckery' (VIDEO). *Talk. Points Memo* (2014). <http://talkingpointsmemo.com/livewire/john-oliver-net-neutrality-explanation> [17]
17. Fitzgerald, D. & Ramachandran, S. Feud Over Netflix Traffic Leads to Video Slowdown - WSJ. *Wall Str. J.* (2014). <http://online.wsj.com/news/articles/SB10001424052702304899704579391223249896550> [18]
18. Netflix US & Canada Blog: Internet Tolls And The Case For Strong Net Neutrality. *Netflix* (March 20). <http://blog.netflix.com/2014/03/internet-tolls-and-case-for-strong-net.html> [19]
19. McGillicuddy, S. Engineers envision a messy future if ISPs win Net neutrality debate. *TechTarget* (2014). <http://searchnetworking.techtarget.com/news/2240221855/Engineers-envision-a-messy-future-if-ISPs-win-Net-neutrality-debate> [20]
20. Anderson, N. Defining Internet 'freedom': Ars interviews Senator Al Franken | Ars Technica. *Ars Tech.* (2011). <http://arstechnica.com/tech-policy/2011/02/ars-interviews-sen-al-franken> [21]
21. Morran, C. Sen. Al Franken Calls Net Neutrality 'The Free Speech Issue Of Our Time' - Consumerist. *The Consumerist* (2014). <http://consumerist.com/2014/05/07/sen-al-franken-calls-net-neutrality-the-free-speech-issue-of-our-time> [22]
22. Edwards, H. S. Al Franken Says FCC Proposed Rules Are 'The Opposite of Net Neutrality' | TIME. *Time Mag.* (2014). <http://time.com/94205/al-franken-says-fcc-proposed-rules-are-the-opposite-of-net-neutrality> [23]
23. Bode, K. Apparently We Are All Confused And Killing Net Neutrality Will Be Just GREAT For Startups. *Startups Techdirt* (2014). www.techdirt.com/blog/startups/?tag=net+neutrality [24]
24. Fertik, M. Yes: Net Neutrality Moves Forward. *Forbes* (2014).

- www.forbes.com/sites/michaelfertik/2014/06/11/yes-net-neutrality-moves-forward [25]
25. Hiltzik, M. Net neutrality is dead. Bow to Comcast and Verizon, your overlords - Los Angeles Times. *LA Times* (2014). www.latimes.com/business/hiltzik/la-fi-mh-net-neutrality-20140114-story.html#page=1 [26]
26. Full Show: Is Net Neutrality Dead? | Moyers & Company | BillMoyers.com. *Moyers Co.* (2014). http://billmoyers.com/episode/full-show-is-net-neutrality-dead/?gclid=CjgKEAjwn-WcBRD61NHM- uqDrm4SJADrP4tPEr0CsaoNzn8ePaKGfaYeao7CcObxqhmx5ZGe-MFY6fD_BwE [27]
27. Gross, G. Lawmakers to FCC: Stop Mulling Net Neutrality Reclassification - CIO.com. *CIO* www.cio.com/article/753029/Lawmakers_to_FCC_Stop_Mulling_Net_Neutrality_Reclassification [28]
28. Astroturfing - Wikipedia, the free encyclopedia. *Wikipedia Free Encycl.* (2014) <http://en.wikipedia.org/wiki/Astroturfing> [29]
29. Cooper, D. Cable companies duped community groups into fighting net neutrality. *Engadget* (2014). www.engadget.com/2014/06/11/more-cable-company-astroturfing
30. Masnick, M. Community Organizations Say They Never Actually Joined Bogus Anti-Net Neutrality Astroturfing Group | Techdirt. *TechDirt* (2014). www.techdirt.com/articles/20140609/13302827529/community-organizations-say-they-never-actually-joined-bogus-anti-net-neutrality-astroturfing-group.shtml [30]
31. Posel, S. WARNING: Cable Corps Funding Pro Net Neutrality Campaigns - Top US World News | Susanne Posel Daily Headlines and Research. *Occupy Corp. US Indep.* (2014). www.occupycorporatism.com/home/warning-cable-corps-funding-pro-net-neutrality-campaigns [31]
32. Moss, C. John Oliver Explains Net Neutrality - Business Insider. *Bus. Insid.* (2014). www.businessinsider.com/john-oliver-explains-net-neutrality-2014-6 [32]
33. Drake, K. We are rate limiting the FCC to dialup modem speeds until they pay us for bandwidth. *Off. NeoCities Blog* (2014). <https://neocities.org/blog/the-fcc-is-now-rate-limited> [33]
34. Hassell, J. Why Net Neutrality Matters to Your Business - CIO.com. *CIO* (2014). www.cio.com/article/754028/Why_Net_Neutrality_Matters_to_Your_Business [34]

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Source URL (retrieved on 05/27/2016 - 4:25am):

<http://www.scientificcomputing.com/blogs/2014/06/net-neutrality-no-demilitarized-zone>

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- [1] <mailto:openinternet@fcc.gov>
- [2] <http://www.eff.org/issues/net-neutrality>
- [3] <http://www.aclu.org/net-neutrality>
- [4] <http://www.commoncause.org/site/pp.asp?c=dkLNK1MQlwG&b=1234951>
- [5] <http://www.savetheinternet.com/net-neutrality-what-you-need-know-now>
- [6] <http://www.theatlantic.com/technology/archive/2014/04/the-best-writing-on-net-neutrality/361237>
- [7] <http://www.ocf.berkeley.edu/~raylin/whatisnetneutrality.htm>
- [8] http://www.internetociety.org/net-neutrality?gclid=CjgKEAjwn-WcBRD61NHM- uqDrm4SJADrP4tPB25xly_DB7dtUjtJQJIHyilqM_XrC- hqxsN8llhLBvD_BwE
- [9] http://www.nytimes.com/2014/01/15/technology/appeals-court-rejects-fcc-rules-on-internet-service-providers.html?_r=0
- [10] http://www.youtube.com/watch?v=NAXMyTwmu_M&feature=youtu.be
- [11] <http://www.youtube.com/watch?v=fpbOEoRrHyU>
- [12] <http://thecolbertreport.cc.com/videos/nnj3ic/end-of-net-neutrality>
- [13] <http://thecolbertreport.cc.com/videos/qatuhg/end-of-net-neutrality---tim-wu>
- [14] <http://www.nydailynews.com/news/politics/hackers-brought-fcc-website-comedian-net-neutrality-rant-article-1.1824650>
- [15] <https://twitter.com/superwuster>
- [16] <http://apps.fcc.gov/ecfs/hotdocket/list>
- [17] <http://talkingpointsmemo.com/livewire/john-oliver-net-neutrality-explanation>
- [18] <http://online.wsj.com/news/articles/SB10001424052702304899704579391223249896550>
- [19] <http://blog.netflix.com/2014/03/internet-tolls-and-case-for-strong-net.html>
- [20] <http://searchnetworking.techtarget.com/news/2240221855/Engineers-envision-a-messy-future-if-ISPs-win-Net-neutrality-debate>
- [21] <http://arstechnica.com/tech-policy/2011/02/ars-interviews-sen-al-franken>
- [22] <http://consumerist.com/2014/05/07/sen-al-franken-calls-net-neutrality-the-free-speech-issue-of-our-time>
- [23] <http://time.com/94205/al-franken-says-fcc-proposed-rules-are-the-opposite-of-net-neutrality>
- [24] <http://www.techdirt.com/blog/startups/?tag=net+neutrality>
- [25] <http://www.forbes.com/sites/michaelfertik/2014/06/11/yes-net-neutrality-moves-forward>
- [26] <http://www.latimes.com/business/hiltzik/la-fi-mh-net-neutrality-20140114-story.html#page=1>
- [27] http://billmoyers.com/episode/full-show-is-net-neutrality-dead/?gclid=CjgKEAjwn-WcBRD61NHM- uqDrm4SJADrP4tPEr0CsaoNzn8ePaKGfaYeao7CcObxqhmx5ZGe-MFY6fD_BwE
- [28] http://www.cio.com/article/753029/Lawmakers_to_FCC_Stop_Mulling_Net_Neutrality_Reclassification
- [29] <http://en.wikipedia.org/wiki/Astroturfing>
- [30] <http://www.scientificcomputing.com/www.techdirt.com/articles/20140609/13302827529/community-organizations-say-they-never-actually-joined-bogus-anti-net-neutrality-astroturfing-group.shtml>
- [31] <http://www.occupycorporatism.com/home/warning-cable-corps-funding-pro-net-neutrality-campaigns>
- [32] <http://www.businessinsider.com/john-oliver-explains-net-neutrality-2014-6>
- [33] <https://neocities.org/blog/the-fcc-is-now-rate-limited>
- [34] http://www.cio.com/article/754028/Why_Net_Neutrality_Matters_to_Your_Business
- [35] <mailto:editor@ScientificComputing.com>