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Net Neutrality: Who Enforces the Rules, and What Should They Be?

There are three houses in a row. In the first house, a kid is playing online games. In the second house, some friends are watching cat videos. In the third house, a doctor is videoconferencing with a hospital across the country, lending his expertise to help save a life. But due to the bandwidth intensity of these applications on the internet service provider's (ISP's) local network, the doctor's video keeps dropping out. Should the hospital and teleconferencing company be allowed to pay extra money to have more bandwidth than other sites to allow their call to be made a priority on the network to the detriment of other sites? This is one of the central questions of net neutrality. More specifically, should the government be involved in regulating the ways in which data passes through ISPs' networks, and if so, what should the rules be?

Since the Internet began it has operated on a principle of being as open as possible. As Sir Tim Berners-Lee, who is one of the people held highly responsible for the creation of the web portion of the internet, and who has been asked by the British government to help solve the net neutrality problem in England, points out, the internet was founded as a place where every page could be equally accessed. According to Sir Lee, losing this quality would ruin the internet (Fides). No individual service or web site has ever been prioritized by ISP's. This has made it possible for small startup services to compete with well-established services. One example of this, as pointed out by Senator Al Franken, is that of YouTube, which upon creation competed

with Google Video, with very few resources, and won. Because of the open access of the internet, YouTube was able to compete with a giant corporation.

The problem however, is that it is becoming more and more costly to maintain the infrastructure behind the internet. During the dot-com boom, many investors put a vast amount of money into building fiber optic networks, expecting to make a significant return on their investment as the internet expanded. Unfortunately the expansion did not happen at the expected rate, and there was substantial excess bandwidth, making internet access very cheap for a long period of time. However, today bandwidth use has caught up with available bandwidth, and although there is substantial investment money being put into enlarging the bandwidth on the networks, the price of bandwidth is still going up. But this all only applies to wire line broadband systems. Over the air (wireless) systems are a whole different story. The wireless market has not existed for a substantial period of time, and because of the way in which its technology works, the equipment is replaced often, making the cost of maintaining wireless networks very high. In addition there is not unlimited bandwidth space to be had in the wireless realm. No matter how hard companies try, there is only a limited amount of information which can be sent over the radio frequencies which wireless broadband companies are capable of leasing. Of course technology will improve allowing more data to be transmitted, but so will consumption.

As a result of the narrowing of the gap between bandwidth supply and bandwidth demand and because of the narrowing profitability of supplying bandwidth, as a result of the increased costs of maintaining today's complex networks, some ISPs have expressed interest in creating a tiered internet. This could work a few ways. The first is that various content providers (Google, Yahoo, YouTube, BBC, etc...) would pay different amounts of money to determine how fast their content could be sent over the network to their users. So in theory, if Google paid an ISP for

data transfer preference and Yahoo did not, then Google's page would load significantly faster for users than Yahoo's page would. The next possibility is that users could pay in a pay per view model. This would not be a flat rate per data transferred irrespective of the source of the data, that would not favor any website over any other, and is the way some internet is provided today, especially in the wireless market. It would instead be a situation where the ISP would charge different rates based on the services used, for example if a user visits Google, it will cost x dollars and if a user visits Wikipedia, it will cost y dollars, and so on and so forth. There is also a possibility that ISPs would block or slow down certain content because of its high bandwidth intensity, for example an ISP might want to block or slow down torrents and streaming video to clear up bandwidth and make it cheaper for the ISP to operate. And of course any of these combinations would be possible.

Generally content providers and consumer advocacy groups think that this sort of speed adjustment or blocking of services by an ISP is a bad thing and that the government should create rules to prevent such actions. On the other hand many ISPs see it as being potentially necessary to defray costs, and do not want to see government regulations put in place (Q&A). Sir Tim Berners-Lee and the United States government feel that internet access is becoming a human right (Cellan-Jones). To some extent this makes sense. In today's world, if you want to achieve any of the other necessities of life, such as food, shelter, medicine, or work, , you need the internet. It is how bills are paid and work is found and done. This being said, whose job is it to see to it that the internet remains open?

When the internet first came into being, the government was highly responsible for funding the basic concept. However the government quickly pulled its hands out of the internet and began a policy of non-involvement. Then the internet began to grow. No individual group

dictated anything about the internet. Instead standards such as HTML, CSS, POP, IMAP and so many others developed organically in a pure competitive market. Whatever standard the most people used was the one which was eventually accepted and declared the standard by a powerless standards organization which itself had no ties to any government (Friedman). This pure free market economy of sorts which has existed as the internet is what many credit with the success of the internet (Cellan-Jones).

The groups which support government net neutrality rules have a few reasons for doing so. One is that they say consumers will be nickel and dimed for usage of the internet, which would make it less accessible (Gahran). This would clearly be detrimental to those of a lower socioeconomic status who would be prevented access to the internet, but it would also hurt the usefulness of the system itself, which relies on having a large number of users connected who are both producing and consuming new content. There is also a concern that if content providers can pay to have priority, that innovation will be stifled, as large established companies will simply throw money at any small competitor, preventing them from ever being able to get exposure and gain traction (Q&A). There is also a concern that ISPs would decide who would be the winners in the internet sphere, for their own benefit, blocking any company that competes with products in which they are invested (Fides). A worst case scenario would have the internet becoming something like cable television, where the provider has complete control over what users watch, charging premiums for high demand services and setting up packages that force users to buy content which they do not want in order to get the content they like (Back In Court).

There are however some serious problems with these arguments. Essentially it all boils down to competition. If an ISP does something which is displeasing to consumers then they can move to another provider. Proponents of net neutrality laws quickly respond to such an argument

by pointing to the fact that AT&T and Verizon hold 60% of wireless subscriptions and that 80% of Americans have access to only two hard line broadband providers (Back In Court). However, the internet market has proven more than capable of providing new competition when necessary. AOL and Netscape were forced out of the market when they lost competitiveness by new companies. There is no reason to believe that this would not continue. It also would not make sense for the big players in the internet sphere to push out others. If one thinks of a company like Google's business, this can be easily seen. Google relies on its search engine and its other products linking to other websites. If those other websites become inaccessible, then Google becomes useless. In addition, a lot of established companies use startups almost as a part of their own R&D departments, buying up other people's ideas and incorporating them into their own rather than developing their own products. As Google and Verizon both claimed in a joint blog posting, content providers, service providers, and end users all rely on each other (McAdam). There is also an issue as to what level of an effect loosing net neutrality would have. To a certain extent net neutrality has never existed, contrary to claims made by many consumer activists. Since the beginning of the internet, content providers have been able to pay for faster internet between themselves and the ISP (which although not the same as between the ISP and the end user does allow differentiation between groups with and without money), and they have been able to pay to put their servers on location with ISPs to make load times shorter. Even with all of this, innovation has continued, so although the FCC may claim that net neutrality rules are necessary to protect innovation, that is not likely true (La Force).

There are also some very good arguments against net neutrality laws. The first and most obvious is that once the government becomes involved there is no way of knowing how involved it will become (Q&A). As stated before the government has never been involved in the

development of the internet, and many feel that it should remain that way. There is also an issue as to whether the government has the legal authority to regulate broadband internet. The government does not view the internet as a telecommunications service, and as a result, the FCC has very limited jurisdiction over the internet. No other agency comes close to having any jurisdiction (Taking Aim).

The debate has however moved from blogs, forums and news media, into the legal system. The FCC put into effect rules which were heavily based upon suggestions put forth in a joint Google and Verizon proposal. The proposal said that on wire line, broadband ISPs cannot adjust the speed of or block any content or services; wireless providers can do just about anything other than selectively block or slow down competitors; providers can do what is necessary to protect network stability, as long as they do not target any online service in the process; and all providers must be completely transparent as to how they handle data (Verizon-Google). Almost immediately after the FCC rules were agreed upon, Verizon and Metro PCS attempted to appeal the rules, but were denied on technical grounds. Both have pledged to try again (Wyatt). Some of the other major players in the ISP and wireless internet business received the new rules a little better. Comcast, Time Warner Cable, and AT&T have all stated that the rules are an acceptable compromise (Stelter). There is some question as to whether these laws will actually do anything, and it is in general better to have no laws than to have laws which are completely ineffective, and which were made by a select few rather than a whole population of consumers.

Because in the end, who should decide whether the hypothetical hospital can pay for the hypothetical doctor to have a prioritized connection, and what combination of rules would allow him to either have or not have the best possible connection to save lives? Since its inception the

Internet's open, government free, rule free design has allowed it to organically make such decisions without the input of politicians or lobbyists who are often less educated on matters of the internet than are the people on technical forums and open source projects which have actually directed the internet. Whether the principles of net neutrality should be followed is up for debate, and perhaps it will just remain grey as it always has, but either way the government should not be involved in determining what happens.

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