If you are a Netflix user, and if your Internet speed is not high enough or your sharing your Internet connection with others, you’ve already experienced image deterioration, crumbling, freezing, etc… This append because the internet cable, going through the Netflix server to your house, is not big enough to manage a large amount of data.

Today, Internet services are evolving faster than anything else, resulting that there is more people watching content on Internet then on Tv. In 2017 the number of Netflix subscribers surpasses the major cable provider in the U.S.

![Netflix Surpasses Major Cable Providers in the U.S.](image)

But because more and more traffic are moving around using Internet, Internet experience rush hours and slow down, degrading the quality of service.

To avoid that compagnies and Internet providers wants to change to way that Internet has been defined, and want to break the net neutrality to ensure better Quality of service.

What is Net Neutrality? Net Neutrality is the principle that all traffic going through Internet have the same priority. There is no distinction of any type between packets, each packet are treated equally regardless of the sender or receiver. This is a “best effort” network. A best effort network does not provide any guarantee of the good delivery of the packet. Packet can be randomly dropped at any time if the network is overloaded. That’s
why above Ethernet protocol there is others protocol that ensure the good delivery as TCP.

By breaking the net neutrality, internet providers will be able to pass deals with major company and bypass the actual limitations. They will be able to increase the downstream rate of this specific stream, or prevent packet from dropping. But it’s not without consequences. Increasing a stream will result of a reduction the data rate of other website.

So first is it possible to priorities stream from a technical aspect? Yes. The simplest one will be to give priorities to a certain type of traffic and keep lower priorities waiting, and this is already possible. Internet has been built on several principles and net neutrality is one of them. But during its creation, the military wanted to have a way to bypass the neutrality. So they required that the header will incorporated few bits to have multiple priorities. Until today this bits haven’t been really used. Another way to do it will be to use the address of the sender. If a deal, between an Internet provider and a company, as been previously made, the internet provider will facilitate the data stream of this sender. Without net neutrality, it is probable that company as Netflix will pay to get better downstream.

So what about smaller website? It is sure that smaller website won’t be able to compete against others giant and will be downgrade in some way or another. For them the risks is to be so slow that they will no longer be used and ultimately will disappear. Net neutrality can be seen as a check-out line in a supermarket. In this queue each person have to wait his turn no matter his job, his revenu, etc… He still can pay someone to wait instead of him, but still have to wait in some way. Breaking net neutrality result in the way that someone will be able to cross in front everyone by paying more.

We can assume that, in the future, Internet provider will propose to user to paid more to get “fastpass”. This will result in increasing social differences between rich and poor. Without any law to prevent that, we must trust internet providers of their goodwill.

Another question I was asking myself is, is net neutrality already respected? In fact this question seems to have various answer depending on where you looking at in the world. In the US, the net neutrality law has been repeal in 2017. Internet provider strongly argue against net neutrality considering it was an inhibition of investment, specially for video-conferences, telemedicine, et connected cars. But, They promises to be transparent on they network management. In Europe, the European legislator have promulgate a law to ensure net neutrality in 2016. In other country, Internet is monitored and censored.
So net neutrality is only respect for some world region, and depending where the server and client are, the services are way different. In addition, the neutrality depends also of the product used to access internet, or the search engine. Google is more likely to show result for they own services than concurrent. Or whether, using a iOS terminal means only access to application that have been approved, and put online by a developer that have paid for it. But does that mean that the service provider will give priority to their services?

But finally, is it possible to respect net neutrality without respecting net neutrality? Yes ! Big company like Google have already the solution. They are building their own network. In 2018, they have achieve the construction of the first private transAtlantic subsea cable connecting the USA to Europe. The reason is to deliver to their client the best performance. At the same time, even if Google have to respect net neutrality in Europe, they apply this rules on a traffic which is composed entirely of their own services, reducing the amount of data crossing over. In this way, the traffic don't have to compete with others website.

The risks of that is to see better networks infrastructure owned by private company. And with time a depreciation of traditional networks resulting of the loss of classical internet providers.

To conclude, the importance of net neutrality is to protect the consumer against major company and internet providers. As long as each country ensure that internet cables are shared with every web service, the consumer will continue to enjoy his experience without surtaxing.