

I would like to add my story. I am not an activist. Since I am one of many, I doubt my comments will have any effect on your decisions. However, I feel the urgency of the issue at hand and I am strongly compelled to share my story.

Having emigrated from post-Soviet Russia, my family was not able to afford internet access until well into my high school. I was entirely educated in the American public school system, and since middle school, I was able to access the internet in particular classes. It was the software and hardware under the hood that enthralled me, and in middle school, I would visit the public library every day, checking out books on introductory programming, and downloading software development tools. I would bring a pack of blank CD-RWs with me until I finally acquired a USB drive. I would then go home and install the programming software on my computer. But I would easily get stuck, having forgotten a crucial piece of software or installation step. Once my family installed dedicated internet service, I would sometimes spend hours reading Wikipedia, helplessly clicking through an endless stream of links to new articles. It seemed like you could do anything with the internet. Having recently read about Moore's law, I would dream about the untapped potential in the global network, and the once ridiculous ideas that would become realizable as a result of exponentially increasing computer power and network speeds.

I am unsure if I would call myself cynical or realistic. From the stories that I have heard, I can confidently say that for most US markets, the cable companies are monopolies. I understand that they are businesses, and they have to satisfy their shareholders by maximizing their profits. Their decisions are ultimately fueled by greed. While I do see the merits of capitalism, I strongly believe that if the cable companies are not kept in check, they can easily destroy what may be the fairest market in human history. There is a clear market failure here. The cable companies are effectively creating an artificial barrier of entry to the market, and exploiting this inefficiency for their own profit. We have seen this happen with Netflix already. A tiered internet would enable cable companies to further pressure policy-makers. I strongly believe that this path would be a dangerous one to follow.

The very culture of the internet is one that embraces openness and fairness. It is a place where anyone with a connection can reap the benefits. This is easily contrasted with many other real-world markets, such as cable. In the real world, it is unfortunate that those with money have more power. They have a louder voice in government to influence policy. There are countless instances where local governments have banned people from laying down cables in order to secure the business interests of existing cable companies.

Modern cryptography has enabled the invention of seemingly magical applications, especially in the realm of network communications. People can talk to one another privately via an encrypted channel. However, in order for ISPs to classify traffic into one category or another, they need to inspect the contents. This is impossible if any kind of encryption or anonymization is used. By default, they would have to categorize the traffic as "non-priority". This could be incredibly detrimental to human rights activists whose lives depend on keeping their internet activity hidden. Other businesses would have to pay more to cable companies in order to keep their confidential communications running at a reasonable speed. A tiered internet would mark a paradigm shift where ISPs would heavily disincentivize encrypted communications. It would be expected that consumers reveal all of their traffic to the ISP. It would be very difficult to implement a tiered internet without severely undermining innovation in cryptography and zero knowledge applications.

I am a PhD student studying machine learning. I use Comcast for my home internet. It is the only option available to me. I spend a significant portion of my time doing research from my home. If the internet is allowed to transform into a tiered architecture, where ISPs can use deep packet inspection (or similar technologies) to discriminate the flow of traffic, I would be seriously concerned about my ability to proliferate my ideas. In the past, I would marvel at the ceaseless progression of Moore's law. It seemed that every few years, internet speeds would increase dramatically, and processors would multiply in their computational capacity. Software ideas would similarly become dramatically more ambitious. No video

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streaming service would be practical back in the 90s, but with the continued improvement of network and hardware performance, Netflix and Hulu are some of the most popular websites on the web. Improvements to CPU speed have dramatically dropped since late 2008, after Intel's new microarchitectures effectively expelled AMD from the high-end CPU market. Now, Intel creates artificial delays in their development of faster microarchitectures, simply because they have no business interest in investing to accelerate research. Internet speeds in the US have lagged behind the rest of the world, similarly due to the lack of competition. A tiered internet would create inefficiencies that allow network performance to stagnate, which would stifle the implementation of more ambitious ideas that could change the world, as Google and Facebook have.

The environment needs to change to foster competition in the cable industry. The policies barring newcomers from laying down cable need to be removed. Most importantly, broadband should be classified as a common carrier utility and regulated as such. Hopefully, with these changes, the internet can continue to breed innovation. Perhaps I am too naive to think that my voice can compete with those with far more money and power. I hope that I am wrong, but I am not holding my breath.