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INTERNET RULES

Michael Burress <michael.burress@gmail.com> Tue, Jul 15, 2014 at 1:59 PM
Draft To: Michael Burress <michael.burress@gmail.com>

Dear FCC,
Please process my comment below regarding new, old, and future Rules for the Internet.
Sincerely,
Michael Kevin Burress
USA Citizen
Santa Monica & Malibu
California

---------- Forwarded message ----------
From: **Michael Burress** <michael.burress@gmail.com>
Date: Thu, May 29, 2014 at 10:24 PM
Subject: Net Neutrality
To: xxxxxxx

I too would like to see real comparisons of services and change in higher bandwidth societies compared to ours. Some hubris here, however, is appropriate. America is still the most digitally inventive country. America is still the dominate force in creating uses for bandwidth. Obviously that status is in jeopardy if we don't have the fastest bandwidth to invent uses for it here. Conversely Singapore, Sweden and South Korea don't know if they can create Silicon Valley but they do know they can create bandwidth. However if America doesn't show them what to do with that bandwidth...

Brian Roberts, the mild mannered head of Comcast-Universal is seeking Cable Mastery in acquiring TWC. He remembers being told by Steve Jobs that he needed to make the best dumb pipes he could. Which is to say that Sjobs advised the whole industry that their place in the universe is to supply the most last mile bandwidth they can, then shut-up and get out of the way. I doubt Mr. Roberts liked being told by Jobs that his industry couldn't do code, content or hardware and thus didn't have any real right to collect over $100 per month rent from every American household. As long as I can remember the engineer's and inventor's perspective has stalled against telecom political economic reality. It goes back farther than I remember to David Sarnoff vs. Filo Farnsworth, even something about Nicola Tesla and radio. What follows is my rant and version of the problem that I don't hear anywhere but would like to, as much as I would like to hear all the rude things Steve Jobs actually said to the Cable Biz.

Homogenous smaller countries that don't happen to be the birthplace of telecom technology are able to think more like the cities and communities in US that realize they need fiber and just build it, creating regulations and incentives to make it happen. In the US these communities try, including Santa Monica, but struggle against the opposition from the national interests expressed at a state level.

Our laws and regulations are legacy structures created to wire the continent from telegraphy and the railroad through every invention of analog technology where each medium of communication was actually intrinsically different with different issues and needs to get the country wired. Telegraphy, Telephony, Radio, TV, cable TV, and the first analog cell phones were actually different technologies. Deals and rules and laws were negotiated to enable the deployment of each, case by case often separated by decades. Monopoly status and

rights of way were granted as incentives to the telephone and cable tv companies to build out locally the last mile wires. The allocation of public utility space and broadcast spectrum created government regulators.

Then in the later half of the 20th century, beginning with the giant telephone company switches the core technology converted to digital. (In 1969 Bell Labs invented UNIX.) For its vastly greater efficiency and capability, from the core of its most giant switches, the telephone network became digital from the inside out eventually to where the only analog part was the last twisted pair copper lines coming from the neighborhood switch. The Internet and IP was invented and made public. The Internet proved to be the most efficient and scalable of digital networking and switching technologies. The telephone companies adopted IP protocol and from the inside out became in essence private Internets. Cable TV networks changed from analog broadcast and repeater networks to digital distribution for the same efficiency and preservation and clarity of signal and then worked away at introducing set top boxes and converting those set top boxes to digital receivers. Inside out, with some topology issues, the cable TV networks became digital from their core outward. Cable TV added to their networks the public internet to become the USA's "broadband" ISP providers. From the inside out Cablecos have converted their TV service technology to IP protocol television communicating with their settop boxes, their entire service becoming a private Internet running on the same network as the public internet provided to consumers. AT&T U-verse and Verizon Fios are the same providing the public Internet along with their private internet services of TV and telephony.

Analog cell phone service barely had a chance to start before being blown away by spread-spectrum digital technology (an almost immediate hand-me-down from the military (and the beginning of the end of military technology being more advanced than consumer technology). I hope the public has some sense that all cell phone services are just the wireless Internet.

The telecom industry in the US exploits the legacy laws and institutions at the FCC and on Capitol Hill. A Big Lie is perpetuated in all hearings and discussions. That Big Lie is a formidable context that is impossible to argue within, but is the legacy language used to talk about telecom in Washington. That Big Lie is that telephone service, text service, cable TV, Broadcast TV, Internet service, Satellite TV, terrestrial radio, satellite radio, Satellite TV, and cellular phones are all Different Things. The Big Truth is that they are all services provided on the same thing: Internet technology. The organization of committees and subgroups, offices and organizations, buildings, lobbyists and patronage, jobs at the FCC and Justice, traditions and habits, paper trails, political contributions and telecom lobbying are all built on the Big Lie.

The telecom industry has been our communication landlord for 130 years. the tradition of rent seeking is as strong today as the $240 annual fee for "unlimited texting." Despite Google installing gigabit ISP service for the price of megabit service, despite WhatsApp asking for one buck after a year of texting, not $240, the Big Lie is in charge.

The "common carrier" laws for shipping were applied by analogy to define open use of the telephone network. The Internet is the greatest common carrier of ideas and communication since paper.

The telecom companies offer their proprietary services running on virtual private networks over the same Internet technology they offer the public. That is a fundamental, in fact, ludicrous, conflict of interest. The ISPs are in the position of being able to arbitrarily decide how much bandwidth all their competitors may have. I have never heard any public discussion that even remotely touches on how much bandwidth in aggregate the broadband ISP networks are able to provide the last mile, nor what portion of the potential bandwidth their cable tv and telephony services use.

What is the Internet? If the FCC declared the Internet a common carrier, I hope it would then come to light that all cable TV and all telephony wired and wireless are actually services running on top of Internet technology. Obvious fairness means that anyone including the telecoms should be competing fairly to provide those services on the Internet.

But the Big Lie says that cable TV and telephone service are not the Internet, they are something else defined by old laws, rules and regulations.

The problem with telecom reform is that words are divorced from engineering reality. It should be noted that the Internet works brilliantly without complaints from any of the network providers that make up the backbone and tributary networks that are internetworked. Capital investment, network maintenance and scaling works like magic. Peering and payments handle geometric growth. Only when the network gets to the last mile and stops being "the Internet" does it stop scaling.

The brilliance of the Internet Protocol is in the "Inter." The network doesn't have to be a monolith. It can be infinite number of separately managed and operated networks. There's no need for the same gauge railroads or Ma Bell switches and end to end control. There is no reason for the local provider to have national scale. How can there be only a hand full of ISPs doing the last mile while there are hundreds of providers doing the core of the network? All ISP mergers are movement in the wrong direction, all for political-economic, not engineering reasons.

It would be interesting to study the Justice breakup of AT&T and the divestiture of theater chains from studios because break-up is what telecom needs to be congruent with engineering reality. All the TV and telephone services need to be separated from their "dumb pipes." The internet needs to be the internet all the way out to its end users with a simple rule: ISPs can only be ISPs. The Internet is a *universal* common carrier. There are NO other services an ISP can provide besides access that can not become an inherent, intrinsic conflict of interest. Paper mills can not be publishers, nor decide how much paper anyone gets.

To paraphrase Chairman Jobs, sometimes people just gotta die for change to happen. In a country where so many can't say whether the Sun goes around the Earth or the opposite, how many know what the Internet *is*? Millennials are probably intuitive about what the Internet isn't and will have a sense that the companies selling them the Internet are limiting their access to it.

Michael