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23 November 2017

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington DC 20554

**Re: Restoring Internet Freedom, WC Docket No. 17-108**

On Wednesday, 22 November, and Thursday, 23 November, Anthony M. Rutkowski, Netmagic Associates CEO, conveyed the two published articles by email to Chairman staff members Matthew Berry, Nicholas Degani, Michael Carowitz, and Nathan Leamer, expressing support for the Commission's announced action in this docket at its next meeting.

Mr. Rutkowski is a well-known engineering and legal expert in the field over the past 40 years who served in senior FCC positions from 1974 to 1986 and was likely the first FCC staff expert to consider the Commission's policy positions concerning the use of the TCP/IP protocol and the application of Title II regulation as explained in the article "The FCC is Taking the Right Step" and responsive to paras. 33, 35, et al. in the *Notice of Proposed Rulemaking*.

This letter is being filed electronically pursuant to Section 1.1206 of the Commission's rules. Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Antony M. Rutkowski".

Antony M. Rutkowski  
mailto:trutkowski@netmagic.com



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# The FCC is Taking the Right Step

Nov 21, 2017 3:03 PM PST | Comments: [0](#) | Views: 1,219

By [Anthony Rutkowski](#)



[Today's announcement](#) from the Commission that it intends to roll back the exercise of Title II utility-style regulation over "any person engaged in the provision of broadband internet access service" at its 14 December meeting is the right step. As a veteran of 40 years of internet related regulatory wars in the FCC and numerous other venues, the Commission's decision and the actual Rules promulgated in the [February 2015 Report & Order](#) stand

among the most ill-considered application of authority and regulatory gerrymandering ever witnessed.

The Commission's first explicit consideration of the treatment of "host-to-host protocols for data communication networks" based on TCP/IP occurred when the Undersecretary of Defense's newly released Internet Protocol Implementation Guide of August 1982 was transmitted to the FCC's Office of Science and Technology that year. It occurred in part because the head of that Office and FCC Chief Scientist, [Steve Lukasik](#), was previously the long-time DARPA Director who had authorized, funded, and controlled the development of those internet protocol technologies. I still have the material on my library shelf because I had requested it through Steve in conjunction with related policy-making proceedings at the Commission for which I was a responsible staff member in the early 80s.

The council provided by the staff and reflected in the Commission's decisions and rules at that time emphatically eschewed Title II jurisdiction over internet protocol based networks as both unwise and unreasonable. It was considered unwise because it would throttle innovation and network development. It was deemed unreasonable because this class of "connectionless networks" are simply too ephemeral and abstruse to be defined

or bounded. Those views prevailed as guides of every domestic and international regulatory action for more than 30 years.

Even the US Patent and Trademark Office appellate decision in February 2000 on the long-held copyright ownership of the term "internet" by a banking consortium for their ATM protocol network, resulted in a finding that "the word INTERNET is not inherently distinctive."

Nonetheless, the unfortunate attempt to assert Title II jurisdiction over "any person engaged in the provision of broadband internet access service" via the February 2015 Order occurred as an exercise in regulatory and technological folly. The definition adopted was simply a string of undefined abstractions: "a mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up Internet access service." And, just to add more fuzziness to the boundary, the Commission tossed in "this term also encompasses any service that the Commission finds to be providing a functional equivalent of the service described in the previous sentence, or that is used to evade the protections set forth in this Part." One is tempted to ask "what the hell are they talking about."

The action makes no sense whatsoever from the perspective of network technological change. The most profound contemporary networking development in which industry worldwide is engaged is the virtualization and orchestration of all network infrastructure and instantiated out of cloud data centers. It is known as NFV-SDN (Network Functional Virtualisation — Software Defined Networks), including being manifested as 5G on global mobile network infrastructures with seamless wireline and cable network interoperability. End-points are also virtualized and their addresses using different transport protocols leased as needed. The entire fiction of "the Internet" goes away. FCC's Title II order only makes technological sense if one assumes that the technology is frozen in a world of Internet Kool-Aid that manifests itself only in Washington politics.

So as one of the remaining "old boys" spanning all these diverse worlds over the past six decades, it all begs the question "how did this happen." The basic answers arguably involve a certain arrogance in turning a transitory technology abstraction into an orthodox religion that is then used to attempt regulatory dominion in Washington politics. There are also gulfs among generations of people whom came onto the scene in the late 90s and beyond who had no concept of what went before, or perspective on global network infrastructures. Everything was stuffed into the internet genie bottle that solved the

world's ills and deserved the FCC's Title II protection - not realizing that being regulated as a "utility" could just as well apply to large websites, search engines, or any other service relied on by the public.

So, while the internet religious may rail against the FCC's actions in three weeks, the Commission is simply eliminating actions that should never have occurred. In the process, it might also consider ditching the internet incantations altogether and talk about 5G and NFV-SDN freedom!

By [Anthony Rutkowski](#), Principal, Netmagic Associates LLC

**Related topics:** [Access Providers](#), [Internet Governance](#), [Net Neutrality](#), [Policy & Regulation](#)

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# Internet Religious Wars: Net Neutrality Episode

Nov 23, 2017 10:39 AM PST | Comments: 0 | Views: 355

By [Anthony Rutkowski](#)



Turning network technical protocols into religion seems like an inherently bad idea — transient and unstable at best. However, it happens.

More than 40 years ago, the world of legacy telecommunications and network design formalism started the tendency with OSI (Open Systems Interconnection) and ISDN (Integrated Services Digital Networks). A few years later, the academic research community did it with their myriad host-to-host datagram protocols — eventually calling one "the Internet." A little later, still more researchers did the same thing with information exchange protocols — eventually calling one of them "the Web."

Battles were waged for years for supremacy as the one true "internet" or "Web." Some of the factions turned their protocols into religious tenets; and personalities, in bouts of self-aggrandizement, went forth as Moses-like patriarchs handing down religious commandments and rewriting history. Young acolytes entering the technical, legal, and political professions were drawn to the mantras that promised unbounded wealth and world peace to the followers. Some companies and countries reaped enormous monetary and political benefits.

The latest episodes in this unfortunate techno-religious proclivity are now emerging. One involves an especially egregious hyperbolic excess of the Internet Wars known as Net Neutrality. The winning internet protocol religious faction, having infused the Washington political system with their Templar Knights in 2009, baked their commandments into the embarrassing December 2010 Report & Order of the FCC as "preserving the free and

open internet." "Today the Commission takes an important step to preserve the Internet as an open platform for innovation, investment, job creation, economic growth, competition, and free expression." Nevermind that they never actually defined "the Internet." They simply believed that whatever it was, the FCC as a federal government agency needed to "preserve" it as a religious belief to be imposed upon everyone.

Five years later in 2015, the FCC went further and declared that preserving the prevailing internet beliefs required that "no person" providing broadband access, could "unreasonably interfere with or unreasonably disadvantage (i) end users' ability to select, access, and use broadband Internet access service or the lawful Internet content, applications, services, or devices of their choice, or (ii) edge providers' ability to make lawful content, applications, services, or devices available to end users." Just how this religious tenet turned into law would be imposed on the world outside the Commission's jurisdiction was simply ignored. Furthermore, the generic function was that of other government agencies — the Federal Trade Commission or in extreme circumstances, the Dept. of Justice.

The FCC also reversed the course of network regulatory history by decreeing that anyone providing access was effectively a public utility and describing the regulatory bundle using the oxymoron term NetNeutrality. It was, of course, only "net neutrality" for providers on the edges — some of whom have ironically become the functional equivalent of public utilities. It wasn't as if the potential for abuse within transport paths might not exist. However, as many observers commented, it was an extreme solution to the problem by the wrong federal agency.

Now, two years later, with the Internet Knights Templar expelled from Washington, this episode of the internet religious wars seems to be drawing to a close. Network religious agnosticism is ensuing at the FCC with its no longer "respecting an establishment of 'network protocol' religion." With a little luck with Commission action in December and the rapid implementation of new network protocols and technologies going forward, the NetNeutrality episode in the continuing Internet Wars should draw to a close.

The first internetworking protocols were used to interoperate communication networks almost 170 years ago. For the most part, even as new technologies appeared, the protocols remained largely free from exhibits of religious zealotry over the protocols, except perhaps for mass communications.

Arguably the proclivity began to significantly change 45 years ago when Louis Pouzin developed the first true internet protocol in France that set the stage for all the many

episodes of the Internet Wars over the ensuing decades. Numerous business, academic, and government research initiatives and products were unleashed and became the subject of constant market and political shaping exercises that crested and subsided. Along that historical continuum, the more zealous have succumbed to diverse kinds of religious self-righteousness to further their views and objectives — with Net Neutrality perhaps representing the apex. It was a bad idea in the past. It is bad now.

By [Anthony Rutkowski](#), Principal, Netmagic Associates LLC

**Related topics:** [Access Providers](#), [Internet Governance](#), [Net Neutrality](#), [Policy & Regulation](#)

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