

August 8, 2014

Honorable Fred Upton, Chair  
Honorable Greg Walden  
Committee on Energy and Commerce  
U.S. House of Representatives  
Washington, DC 20515

The Information Technology and Innovation Foundation (ITIF)<sup>1</sup> once again appreciates this opportunity to comment on the initial steps by the House Committee on Energy and Commerce to modernize the Communications Act. ITIF looks forward to future white papers and roundtables as the Committee moves forward with this important project.

The Communications Act of 1934 (the Act) is a complex patchwork of laws, and the time is ripe for a comprehensive re-write. Although a modest “update” that tweaks only the most obvious points of pressure in the aging Act would be of help to drive digital transformation, many of the worst inefficiencies in telecom regulation emerge after patchwork adjustments are made to a static framework without acknowledging the fundamental changes to underlying technological and economic constraints. The Committee should take a holistic approach and bring the Communications Act into the 21<sup>st</sup> Century, doing away with technological silos and clarifying the appropriate limits to regulatory oversight of a fast-paced industry.

Interconnection has long been a key policy in telecommunications. Historically, formal interconnection requirements were needed to allow consumers to benefit from positive network

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<sup>1</sup> The Information Technology and Innovation Foundation (ITIF) is a non-partisan research and educational institute – a think tank – whose mission is to formulate and promote public policies to advance technological innovation and productivity internationally, in Washington, and in the states. Recognizing the vital role of technology in ensuring prosperity, ITIF focuses on innovation, productivity, and digital economy issues.

effects while preventing large networks from tipping into a monopoly. As we opened up a tightly regulated phone monopoly to increased competition, interconnection was a key tool in facilitating new entrants. In the Internet space, where traffic is exchanged through the IP protocol, these formal requirements have not been imposed, and interconnection has nevertheless thrived.

Internet interconnection usually doesn't make for big news, but recent disputes have been making headlines. Indeed, the interconnection ecosystem has evolved remarkably well with only a few hiccups along a path of tremendous change. The rapid development of dense peering relationships, remarkable growth of Content Delivery Networks (CDNs), and dramatically falling transit prices have allowed for explosive growth of data delivery into last-mile networks. The flexibility of unregulated interconnection has certainly been a key factor in the success of data-intensive web applications, and we should not allow the well-publicized, but limited instances where interconnection negotiations have broken down to detract from the enormous success IP interconnection has had.

The few sore thumbs, such as the 2010 dispute between Level 3 and Comcast and recent disagreements between Netflix and various ISPs, are best thought of as growing pains in the continuing development of ever more bandwidth intensive use of the Internet. Both the Level 3 and Netflix disputes involved unprecedented levels of data being sent over links designed for an earlier era. The rise of streaming high-definition video has required profound changes in how traffic flows through the Internet – these changes would have been much more difficult to achieve under a rigid regulatory regime.

Take, for instance, the recent dispute Netflix had with a few ISPs. Netflix chooses a handful among of dozens of possible paths to deliver its traffic into last-mile networks. Soon after Netflix

turned on its “Super HD” video streaming,<sup>2</sup> many of the interconnection ports they had relied on under a settlement-free peering arrangement became congested, affecting some consumers’ streaming. Reports indicate that Netflix is in the process of negotiating multiple interconnection deals with ISPs to ensure this unprecedented amount of data can reliably be delivered onto access networks. It is likely that, given the tremendous volume of data Netflix users draw onto access networks, these sorts of paid interconnection arrangements are economically efficient.

There is little concern that access networks will be able to leverage their last-mile status to extract anti-competitive rents from interconnection arrangements because of simply how many paths there are into the network. Access networks are already well interconnected with the rest of the Internet – these simply are not like the terminating monopolies of old where you had to get equipment into a central office in order to interconnect. Instead, numerous possible arrangements allow for a great deal of flexibility for edge voice and data providers to find the most economically efficient solution. There are already numerous CDNs that have negotiated deals to deliver large amounts of data within these networks, and numerous transit providers compete fiercely to provide access to the Internet. Indeed, it has been well established that the highly-competitive transit market functionally provides a price ceiling to deliver data to a last-mile access network.<sup>3</sup>

This is not to say that interconnection disputes are non-existent or without problems. There is ample evidence that the packet-loss from congested interconnection ports affected users’ streaming. Many were frustrated by constant buffering and slow starts. The FCC is looking into the

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<sup>2</sup> Netflix, “Highest Quality HD Now Available to all Netflix Members,” (Sept. 26, 2013), <http://blog.netflix.com/2013/09/highest-quality-hd-now-available-to-all.html>.

<sup>3</sup> See David Clark *et al.*, “Interconnection in the Internet: the policy challenge,” 39<sup>th</sup> Research Conference on Communication, Information and Internet Policy, (Aug. 2011).

negotiated arrangements,<sup>4</sup> and reports indicate the Commission has recently asked for information about six more paid interconnection deals.<sup>5</sup> The Chairman has made clear that the Commission “is collecting information, not regulating.”<sup>6</sup>

This approach, as informal as it may seem, has a lot of merit. An unregulated interconnection market has proved to be incredibly dynamic and successful in adapting to new patterns in traffic. Indeed, the Commission has long recognized a general desire to avoid regulating IP interconnection.<sup>7</sup> There is also little reason to force any sort of strong transparency requirements in this space. These agreements are commercially negotiated, so automatically making them public would undermine efficient negotiations and potentially limit innovation in new types of arrangements. It is likely that this sort of informal, *ex post* analysis will serve us best as new norms in interconnection continue to be developed.

On the other hand, voice traffic that is currently exchanged in Time Division Multiplex is subject to numerous specific regulatory requirements. As a part of the ongoing IP transition, voice will increasingly be exchanged in IP format. This will undoubtedly be a welcomed development: an all-IP network will offer more resiliency, be less costly to operate, and allow for increased innovation and new services. With all-IP interconnection we can expect innovative new capabilities in communications – improved, higher quality audio and video calling are among the certainties we

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<sup>4</sup> See, FCC “Statement by FCC Chairman Tom Wheeler on Broadband Consumers and Internet Congestion,” News Release, <http://www.fcc.gov/document/chairman-statement-broadband-consumers-and-internet-congestion>.

<sup>5</sup> Jon Brodtkin, “FCC asked six more ISPs, content providers to reveal paid peering deals,” ArsTechnica (Aug. 1 2014), <http://arstechnica.com/business/2014/08/fcc-asked-six-more-isps-and-content-providers-to-reveal-paid-peering-deals/>.

<sup>6</sup> Statement by Wheeler, *supra* note 4.

<sup>7</sup> See, e.g., In the matter of Developing an Unified Intercarrier Compensation Regime, CC Docket No. 01-92, *Report and Order and Further Notice of Proposed Rulemaking* FCC 11-161, Rel. Nov. 18, 2011 (stating, for example, “it is important that any IP-to-IP interconnection policy framework adopted by the Commission be narrowly tailored to avoid intervention in areas where the marketplace will operate efficiently.”).

can expect. Furthermore, the transition also offers a much needed opportunity to evaluate our interconnection regulatory regime.

As we make that transition, the success of the Internet’s unregulated IP interconnection regime should guide us in developing regulatory frameworks. There is little evidence that the heavy handed regime of section 251 is needed in an all-IP environment, and the Committee should give networks significantly more flexibility in the ways they interconnect. As long as IP voice traffic is marked with the appropriate QoS, it can be exchanged similarly to any other IP traffic. With this flexibility comes a wide array of possible interconnection arrangements – it is very difficult for a regulator, let alone a legislator, to say what type of interconnection will be appropriate.

The FCC has set an expectation that any IP-to-IP voice interconnection arrangements will be negotiated in good faith, and it is likely that good faith commercial negotiations will be the best way to continue to interconnect IP voice traffic. Of course dropping a voice calls has different policy implications from a buffering movie stream, and carriers should be remorse to allow interconnection disagreements disrupt call completion. But this doesn’t mean that an extensive interconnection regime is needed for voice traffic. Even any sort of “backstop” should be carefully tailored to ensure we don’t end up sliding into 50 different interconnection policies, one for each state. Indeed, one of the key benefits of IP interconnection is that it need not happen in nearly as many places as under the Local Access and Transport Area regime of old. The Committee should aim for a uniform, light-touch, flexible policy that allows for dispute resolution that will not grow into detailed rules.

In short, the outstanding success and innovation we have seen in the regulatory-free interconnection space of the Internet should guide us in moving forward with a Communications Act Update. We urge the committee to take a comprehensive approach to this project, changing the



fundamental framework of the Act instead of making minor changes to the current interconnection regime.

Sincerely,

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