KEYNOTE ADDRESS BY THE FEDERAL COMMUNICATIONS COMMISSION CHAIRMAN ON OPEN NETWORKS

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Thank you, Phil Weiser, for that welcome, and congratulations on fifteen years of Silicon Flatirons. You have built this program into one of the world's leading centers of scholarship about entrepreneurship and innovation, as evidenced by this great conference. It is an honor to be on the agenda with so many of the nation's leading experts on technology policy. In particular, I would like to acknowledge my government colleague, FTC Chairwoman Edith Ramirez.

For the past several years, the alpha and omega of America's communications policy debate has been Net Neutrality.

But all the focus on Net Neutrality overshadows the reality that today's Net is not something that stands on its own; it is the product of broadband connectivity. The terms "Internet" and "broadband" are too often used synonymously—but they are not the same. The way the Internet works today is a result of broadband infrastructure. If broadband is too slow, if it does not reach enough people, if there are not competitive choices, there are consequences for the Net, for sure—but the effects do not stop there.

So, today let's talk about broadband. Yes, that will also involve the Internet, but our focus should first be on that which enables the Internet. Broadband networks are the most powerful and pervasive connectivity in

* Tom Wheeler was sworn in as Chairman of the Federal Communications Commission on November 4, 2013. Prior to joining the FCC, Wheeler was Managing Director of a venture capital firm focused on investing in early stage IP-based companies. Previously, he led the largest trade associations for both the cable and wireless industries, in addition to starting or helping start multiple businesses in the communications sector. Chairman Wheeler delivered these remarks at the 15th annual Silicon Flatirons Center Digital Broadband Migration Conference on February 9, 2015. Video of this speech can be found under "Closing Address" at http://www.siliconflatirons.com/events.php?id=1495.

history. Broadband is reshaping our economy and recasting the patterns of our lives. Every day, we rely on high-speed connectivity to do our jobs, access entertainment, keep up with the news, express our views, and stay in touch with friends and family.

There are three simple keys to the broadband future. Broadband networks must be fast. Broadband networks must be fair. Broadband networks must be open.

But we know from the history of previous networks that both human nature and economic opportunism act to encourage network owners to become gatekeepers that prioritize their interests above the interests of their users. As the U.S. Court of Appeals for the D.C. Circuit observed in the *Verizon* decision, broadband providers have both the economic incentive and the technological capability to abuse their gatekeeper position.[1]

Our challenge is to achieve the legitimate goal of economic return as an incentive for investment in broadband infrastructure, and the equally important goal of networks that are fast, fair and open for all Americans. To accomplish those aims, the FCC is in the midst of three historic decisions.

Act One in this effort tackled the issue of fast networks. Two weeks ago, the Commission voted to establish a new definition for broadband as 25 Mbps down and 3 Mbps up.[2] This was an increase from the old standard of 4 Mbps down and 1 Mbps up. Twenty-five megabits per second is available to 83% of American homes today.[3] I would call that a standard. But that still means that 17% of households—one in six American homes—do not have access to 25 megabit broadband. Rural areas and tribal areas are disproportionately being left behind.

The press described this as a decision about speed, such as the speed to download a video. That is true, but while this new standard reflects today's realities, it is also an invitation to the innovation that is enabled by increased throughput.

Our future is all about what broadband will enable. According to Tod Sizer, Vice President of the Wireless Research Program at Bell Labs, we are looking at a future in which each person will have 10 to 100 connected computing devices working for them.[4] In this world, the issue

1. Verizon v. FCC, 740 F.3d 623, 646 (D.C. Cir. 2014).

2. *Inquiry Concerning the Deployment of Advanced Telecomm. Capability to All Americans in a Reasonable and Timely Fashion*, GN Dkt. No. 14-126, 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd. 1375, 1393 (2015).

3. *Id.* at 1378.

4. Lisa Eadicicco, *If You Think 5G is All About Faster Network Speeds, You're Wrong*, BUS. INSIDER (Jul. 26, 2014, 1:41 PM), http://www.businessinsider.com/5g-network-speed-2014-7 (quoting Sizer).

is not about speed so much as it is about the capacity to have simultaneous connectivity sufficient for the application to perform its task.

Already, the typical connected family of four has seven broadband-powered devices at home. Just listen to the way one large internet service provider ("ISP") describes the broadband needs of a family:

> You can think of your household's Internet connection like a pizza to be shared with your whole family. Some members are hungrier than others, and if too many friends show up, no one will get enough to be satisfied. Each connected device uses a slice of your bandwidth. Over WiFi, tablets will use between 20 megabits and 40 megabits; smartphones between 15 megabits and 40 megabits; laptops, televisions, and gaming systems can take from 5 megabits to 75 megabits. It adds up fast.[5]

With our vote two weeks ago, we established a standard that anticipates and—as the Telecommunications Act mandates—encourages a world in which megabits per second is not just about whether a video buffers, but is about the world in which increasing numbers of devices will be making simultaneous demands on the network; a world in which innovation is not held back by network capacity.

That interconnected reality should be available for all Americans. To that end, over the next six years, the FCC will disburse $11 billion through the Connect America Fund to support infrastructure build-out in rural areas. We have modernized our E-Rate program to support fiber deployment to and WiFi within the nation's schools and libraries. We just issued a notice seeking comment on additional ways to bring faster broadband to all Americans.

Increasing the standard for broadband to 25 Mbps also clarifies one of the biggest challenges facing our broadband future: the lack of meaningful competition. It is bad enough that 17% of American homes have no access to 25 megabit service. But at those speeds, about 75% of U.S. households can chose from only one provider. Where there is no choice, the market cannot work. American families need to be able to shop for affordable prices and faster speeds. The Commission is committed to removing barriers to broadband investment and competition.

That brings me to the matter of how to have competition that helps ensure we have networks that operate fairly, in addition to driving investment and innovation.

5. *Sharing Speed with Multiple Connected Devices*, VERIZON 2-3, http://www.verizon.com/cs/groups/public/documents/adacct/bandwith-and-multiple-device.pdf (last visited Oct. 5, 2015).

Act Two of our broadband initiative will open on February 26 with a Commission vote on the petitions of two cities, Chattanooga, Tennessee and Wilson, North Carolina, which seek to provide high-speed broadband to their citizens, but have been obstructed by their state legislatures. The issue is simple and direct: when the people, through their elected local officials, take action to expand access to high-speed broadband and offer competitive choices, their will should not be thwarted.

Many communities, including these two petitioners, have concluded that existing private sector broadband offerings are not meeting their needs and the only solution is to become directly involved in broadband deployment. Some communities have worked with private sector providers to facilitate improved broadband service. Others have entered into various forms of public-private partnerships. Still other communities have decided to deploy broadband networks themselves. But in nineteen states, community broadband efforts have been blocked by restrictive state laws—laws often passed due to heavy lobbying support by incumbent broadband providers.

Congress, acting under its constitutional power to oversee interstate commerce, instructed the FCC to take the necessary steps to encourage the expansion of broadband throughout the nation. Using this statutory mandate, I am recommending that the Commission vote to pre-empt two restrictive state laws hampering investment and deployment in areas where consumers are clamoring for service from successful municipal providers.[6]

To be clear, my proposed ruling on these two petitions for preemption is an adjudicatory matter. While it provides precedent for how the Commission would view similar restrictions, its direct effect is limited to the two petitioning communities, and its direct bearing is limited to the specifics of the two cases and the two states' laws. Having said that, it sends a clear message and provides precedent for how the Commission would view similar restrictions. The message is that community broadband is an important option for expanding broadband deployment, and states should not be erecting barriers to infrastructure investment.

That brings us to Act Three: open networks.

This audience already knows the issue of Net Neutrality backwards and forwards. So I thought I would start the open Internet discussion with a few stories that exemplify the importance of open networks.

I have already written about NABU, a company I headed in 1984-

6. *See City of Wilson, N. Carolina Petition for Preemption of N. Carolina Gen. Statute Sections 160A-340 et seq.*, WC Dkt. Nos. 14-115, 14-116, Memorandum Opinion and Order, 30 FCC Rcd. 2408 (2015).

85, that used new technology to deliver high-speed data to home computers over cable television lines. Across town, Steve Case was starting what became AOL. NABU was delivering service at the then-blazing speed of 1.5 megabits per second—hundreds of times *faster* than Case's company.

Although NABU was delivering better service, it could only do so through the closed network of cable television systems. Meanwhile, the open phone network provided Steve Case access to a seemingly unlimited number of customers nationwide who only had to attach a modem to their phone line to receive his service. Steve Case is a brilliant entrepreneur—not least because he saw that opportunity resides in the reach of an open network.

The way gatekeepers can slow innovation and new consumer services is not a new story.

Remember the "I want my MTV!" campaign? In the 1980s MTV had to battle its way onto cable systems with an ad campaign encouraging teenagers to pester their cable operator until MTV was granted access. Contrast that to the innovation without permission of Pandora, Spotify, and others.

Ask Ted Turner how hard he worked to get CNN on cable systems. I was there; I saw it first-hand. Compare that to The Huffington Post, Vox, and other news and information outlets that, thanks to the Internet, did not have to ask permission.

I could go on with multiple examples, both personal and historical, but the message is clear: there is a difference between closed and open networks. Innovation without permission is that difference.

Now, before the ISP surrogates rush into hyper drive pointing out how Pandora, The Huffington Post, and others were able to get access, listen to the words of a major ISP suggesting it might not always be that way. When Verizon was asked in open court if they wanted to restrict access through special commercial terms, their counsel replied, "I am authorized to state by my client today that but for these rules we would be exploring those commercial arrangements."[7]

Verizon's testimony points to replicating an era when the network operator exercised such control that it could, for instance, even ban what equipment attached to it. The Internet would not have emerged as it did if the FCC had not forbidden that practice in the late 1960s.[8] The smart modems that enabled the early Internet were usable only because the FCC required the network be open to non-Bell equipment.

7. *Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601, 5604 n.6 (2015).

8. *See Use of the Carterfone Device in Message Toll Telephone Serv.*, Dkt. No. 16942, Decision, 13 F.C.C. 2d 420 (1968).

Congress wisely created the FCC as an expert agency with flexibility within specific parameters to evolve its rules to keep pace with technology and new markets. The history of the Internet makes clear that we cannot predict its future. What we do know, however, is that any action we take must be strong enough and flexible enough not only to deal with the realities of today, but also to establish the basic ground rules for the as-yet-unimagined.

Originally, I believed that the FCC could assure Internet openness through the application of a "commercial reasonableness" test to determine appropriate behavior of ISPs. After listening to countless consumers and innovators, however, I became concerned that the relatively untested "commercially reasonable" standard might be subsequently interpreted to mean what was reasonable for the ISP's commercial arrangements. That, of course, would be the wrong conclusion. It was a possibility that was unacceptable.

The precedent of earlier FCC rules assuring an open phone network made it clear that the yardstick for network management should be based on Title II of the Communications Act—the same test that had worked to deliver the dawn of the Internet. That is why I am proposing the FCC use a modernized version of its Title II authority to implement and enforce open Internet protections.[9]

Allow me to emphasize that word "modernized" as the descriptor for Title II. We have heard endless repetition of the talking point that "Title II is old-style, 1930's monopoly regulation." That is a good sound-bite, but it is misleading when used to describe the modernized version of Title II that I am proposing.

My proposal will also use the significant powers in Section 706, not as a substitute but as a second tool.[10] This one-two punch is not the so-called "hybrid" approach; it applies Title II, as well as Section 706, to protect broadband Internet access. It is the FCC using all of the tools in its toolbox to protect innovators and consumers.

So that is the legal authority issue in a nutshell. What would the proposed rules do? For starters, they would ban paid prioritization, blocking, and throttling. They would stop any last-mile tactics that harm consumers and edge providers by unreasonably interfering or disadvantaging their use of these broadband connections.

For the first time, open Internet protections would apply equally to both wired and wireless networks. Wireless networks account for 55% of Internet usage. For those to whom much is given, much is also expected—especially including an open network.

My proposal also asserts jurisdiction over interconnection. So that,

9. *See* 47 U.S.C. §§ 201–76 (2013).
10. *See id.* § 1302(a).

for the first time, transit providers, content delivery networks, or content companies will be able to file a complaint with the FCC and the Commission will be able to take public comment, investigate and decide whether the actions of the ISP have been "just and reasonable."

The proposal also looks forward into the broadband future to assure there are basic ground rules and a referee on the field to enforce them. In general, if an action hurts consumers, competition, or innovation, the FCC will have the authority to throw the flag.

As I said earlier, we need to balance the goals of openness with the needs of network operators to receive a return on their investment. We will forgo sections of Title II that pose a meaningful threat to network investment. That means no rate regulation. No unbundling. No tariffs or new taxes. I would note that when applied to mobile voice service over the past two decades, the use of such light-touch Title II—which, by the way, was sought by the industry—went hand-in-hand with massive investment.

Open Internet rules must also incent the use of the Internet. That is why my proposal includes protections for access for disabled users, and why it is so fundamentally important that we protect privacy.

It is a simple proposition: consumers need to be able to trust that their personal information will be treated securely and fairly when they share it with ISPs and send it across the networks, or they will not do it. Requiring ISPs to protect the personal data of their customers is a critical component of the broadband future. And Section 222 of our statute provides us with the authority to do just that.[11]

Just recently, the Commission took action against a telecommunications carrier who put its customers' sensitive personal information on Internet webpages.[12] No encryption. Not even a password. Anyone could run a Google search and, presto, the personal information would appear. We will not hesitate to take further action to protect consumers' broadband privacy.

As many of you know, I am a history buff. As we deal with the issues surrounding the future of the most powerful network ever known to Man, the observations Abraham Lincoln made in December 1861 echo in my ears. Lincoln was speaking of challenges far greater than those we face, but his observation is apt: "The struggle of today, is not [just] for today—it is for a vast future also."[13]

None of us in this room could have imagined the power of Moore's

11. *Id.* § 222.

12. *See TerraCom, Inc., & YourTel America, Inc.*, File No.: EB-TCD-13-00009175, Notice of Apparent Liability, 29 FCC Rcd. 13,325 (2014).

13. President Abraham Lincoln, First Annual Message to Congress (Dec. 3, 1861), *in* Gerhard Peters & John T. Woolley, THE AMERICAN PRESIDENCY PROJECT, http://www.presidency.ucsb.edu/ws/?pid=29502 (last visited Oct. 14, 2015).

Law combining with broadband networks and the possibilities that would enable. That vast, unimaginable future is what animates our current actions. To fully realize the promise of that future, broadband must be fast, fair, and open. This is bigger than the Internet we know today, "it is for a vast future also."