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UPDATING COMMUNICATIONS LAW AND
REGULATIONS FOR THE MOBILE ERA

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P R O C E E D I N G S

MR. WEST: Good morning. I'm Darryl West, vice president of Government Studies and director of the Center for Technology Innovation at the Brookings Institution, and I'd like to welcome you to our event on Updating the Communications Law.

We've set up a Twitter feed at #commlaw. That's #commlaw. So if you wish to post comments during the forum, feel free to do so.

So we know that the state of communications is changing constantly. This makes regulation very difficult as new telecommunications capabilities outpace the policies that were built decades ago. The current federal communications policy has been in place since the early 1990s, and when that law last was updated, the Internet was in its infancy and smartphones had not yet been invented. So the result has been the current law does not address many of the major issues that now are on the table.

So today we're going to address the current state of U.S. communications law and what changes need to be made, what are the challenges that we face, and what should a 21st century communication policy look like.

So to help us think about these issues, we have two distinguished experts. First, we have Craig Silliman, who is the general counsel and executive vice president for Public Policy at Verizon. In that position, he's responsible for leading the company's public policy legal, regulatory, government affairs, and security groups. That seems more than one job. Previously, he served as senior vice president of Public Policy at Verizon Communications, and before that he served as a senior vice president for Legal and External Affairs at Verizon. He also has taught international telecommunications regulation as an adjunct professor at the American University School of Law here in D.C.

Also joining us is Stuart Brotman, who is a nonresident senior fellow at Brookings in our Center for Technology Innovation. He also serves as a faculty member at Harvard Law School where he teaches entertainment and media law, and he also there serves as an advisor to the law school's Committee on Sports and Entertainment Law. He has been a faculty member in the law school's Institute for Global Law and Policy, and also has served in the Executive Education Program as a faculty member at the Harvard Business School. Previously, he served as chief of staff on the founding senior leadership team at the National Telecommunications and Information Administration.

So I think I'd like to start with Craig. And I know, you know, people think of Verizon as a phone company. You're doing a lot more than phones these days, so maybe if you just fill us in on the state of your activities.

MR. SILLIMAN: Sure. Quick introduction. We talked about this a little bit before. Stuart suggested that people might not all know exactly what all Verizon did. After expressing my shock and dismay and pitching our services to Brookings, signing a long-term contract with them, I agreed to give a quick introduction.

It actually is interesting. People think of us probably primarily as a mobile company, which we certainly are covering the United States. We also provide residential broadband and video services, really primarily up and down the eastern seaboard of the United States, but we also had a global business, a global Internet backbone, global communication services that we provide all around the world. The thing that people probably don't focus on as much, if you look simply from a M&A perspective over the past five years, we have sold off a number of our network assets over the last five years. We've not actually acquired any new network assets, but simultaneously have been doing acquisitions, for example, in over-the-top video. We've acquired Intel's

OnCue over-the-top video. We've moved into telematics business. If you drive certain makes of vehicle and you press the help button you're talking to someone in our call center, our emergency services, the telematics coming through the vehicle. So a lot of over-the-top, a lot of Internet of things, a lot of telematics businesses increasing the areas that Verizon is moving into.

MR. WEST: Okay. So let's jump into the public policy aspect of it.

So a few weeks ago, the FCC issued its open Internet order, which, of course, has attracted an extraordinary amount of attention. So what is your reaction to the decision, and what does it say about policymaking in the communications area?

MR. SILLIMAN: So it's an interesting question. I would say -- and let's divide a little bit -- the issue of an open Internet is not a very big deal. The open Internet order is a huge deal, and I think it says a lot about the disarray that policymaking is in today.

Let me explain what I mean by that. If you think about this, 10 years ago, the idea of open Internet principles fit on one page and were agreed to by essentially everyone. Ten years later, the FCC has been to court and back twice. It's on its way a third time, and they just issued a 400-page order with around 2,000 footnotes, ostensibly in the name of carrying out these open Internet principles.

So what happened? I mean, this is astonishing; right? How did we get from one page that everyone agreed to, to several trips to court, and 10 years later, a 400-page order with thousands of footnotes, to achieve something that we thought everyone agreed to? And I think this tells us a lot about the state of policymaking today, really along two vectors. One, if you look at the process that this whole order took, and secondly, the substance.

So if we look at the process first, I think even if you agree with what the

FCC just did, you should be concerned about the process of how they got there. We've all read lots of articles about the campaigns to get John Oliver to do his piece about the lobbying efforts to get President Obama to override the FCC, and it's interesting because the U.S. Government has an entire policymaking apparatus. You have Congress, you have the FCC, you have NTIA. But if you read these articles, the focus isn't about how they look to convince policymakers to move in a certain direction. It was all about how they looked to bypass the entire policymaking apparatus of the U.S. Government to get an outcome.

And there's a note of triumphalism in that, but I think you have to be careful because there's a sting in that tale. Right? You have to ask how confident you can be about long-term stable outcomes in a world where a late night comedian has more influence than all the policymakers in the Federal Government, or where the political expediency of the president right after the midterm elections outweighs the careful analysis of an agency that was supposed to be independent.

So when you begin to move policy by mob rule, you can get some short-term victories, but over the long-term, you do have to worry about how stable that is. And what begins to happen is you shift resources from advocacy on policymaking issues to organization around AstroTurf efforts and things like that. So you can certainly play the game that way. There's nothing to say that that's not the way you go, and that's certainly one possible outcome, but I would say that that's politics and demagoguery, not policymaking. So the process issue here I think raises some real questions about how we want to move forward in policymaking in this industry.

From a substance perspective, I just mentioned that we went from one page of principles to a 400-page order over 10 years, and you sort of have to ask yourself what happened here. Why is it that we had something where the principles are agreed

on and yet we've been in litigation for years? We have all this disagreement. And the answer is the disagreement is all about the jurisdictional basis on which the FCC can act. No one disagrees on the principles, but people do disagree on how the FCC bases its actions from a legal perspective. And that's for the simple reason that there's a lot of collateral damage because whatever the FCC does has a lot of other consequences that come along with that.

Smart lawyers can argue about, if you look at Section 706, this way and turn your head that way and turn it upside down, you can turn it into a grant of authority, or how if you forebear from the following things Title 2 is modern. But the fact is no matter what you do, it is a bit of a Rube Goldberg contraption. The simple fact is that no one in 1934 was thinking about open Internet order issues, nor frankly in 1996. So you're using something that isn't really fit for purpose here, and I'm sympathetic. The FCC is wrestling around some tough legal issues. The irony of all this is that Congress could do this in a two-page bill.

Senator Nelson has talked a lot about this, a so-called Title X. You simply take the open Internet principles and put them on a solid legal basis and you're done. Congress can do that. The FCC hasn't had the ability to do that. So substantively what we have seen is the fact that Congress has gone two decades without a meaningful update of the communications framework means that these issues have played out in a way that have become very, very contorted. And ultimately, this whole open Internet process is a symptom of a larger problem, which is that even if you agree on policy outcomes, the FCC and other policymakers, other regulators, don't actually have a clean legal pathway and framework to get there without causing a lot of collateral damage. And the result is you end up with something where you're trying to put in place rules that everyone agrees to, but what you've done is backed into rate regulation, you've backed

into possible taxes and fees, and you've backed into potential regulation of a much broader swath of the Internet ecosystem, and ultimately, you have a couple more years of uncertainty litigation. This is why ultimately Congress has to get involved. One way or another, this is coming back to Congress because the courts will send this back, a future administration will change course. So Congress needs to decide, are they going to deal with this sooner or later? But ultimately, only they can lay out a new policy framework to avoid these types of situations.

MR. WEST: Okay. Stuart, picking up on this Congress theme, what role do you think Congress should play in this -- I know you've been involved at the NTIA for a long time -- and how has the Congress role changed over time?

MR. BROTMAN: Well, I would agree with what Craig had said here. I think ultimately all roads do lead to Congress. It's a matter of how that journey is going to take place and when we wind up at the final destination, but I think ultimately this is something for a congressional resolution.

Often when we talk about the Communications Act of 1934, we leave out two important words at the end, which are "as amended." And so it's not as if we're just talking about a law from 1934. In fact, we've had a series of amendments, some minor, some major. Obviously, the Telecommunications Act of 1996, which many of you are familiar with, is the last major revision of the act, but historically, we have a pretty intense congressional involvement since 1934 about every five years, and we've had that now over an 80-year period. And so I would be very surprised if within the next five years we do not have some type of major legislative reform, or at least significant legislative reform.

I think both symbolically, and maybe rhetorically, another issue is what are we talking about here? I think people talk about updating or revising or overhauling.

I want to introduce a new concept, which is futurizing. I think when we're talking about legislation, probably we can develop a good bipartisan consensus, not on the level of revision, but on what we're trying to do from the substantive standpoint, which is really to futurize this piece of legislation. And I think once we begin to change the discussion towards futurizing, it's very difficult -- we all like to look to the future. Legislation likes to look to the future. And policymakers do as well. So if we can begin to develop some even semantical consensus around what we're talking about, and I would propose, and there may be better terms for it, but something like futurize, so we don't get stuck into this sort of quagmire of how big a revision are we talking about?

Some of you may have seen the New York Times did a major editorial a couple weeks ago saying we should absolutely not touch the Communications Act, because that means we're rewriting the entire Communications Act and it has all sorts of bad consequences. I think if the New York Times was looking at this and saying, gee, there seems to be a consensus for futurizing, there would probably not be much of an editorial saying we don't want to have legislation that deals with the future.

The other aspect here is clearly this political gridlock that we have in Washington, whether or not this type of legislation is going to essentially be part of that process or whether it can rise above and beyond that. Some of you may know the Bob Kastenmeier, who was the chairman of the subcommittee in dealing with copyright for many years, passed away last week, and I was fortunate enough to know Congressman Kastenmeier a little bit. And one of the phrases he has, which I think needs to be resurrected, is "technology is not ideological." And to the extent that we can begin to both look at futurizing and look at dealing with legislative reform in terms of updating or revising for new technologies, that's not ideological. I think we can begin to have common ground.

As Craig said, I think there are some positive signs in Congress. Clearly, I think we have very good leadership on both the House and Senate side in terms of Congressman Upton and Congressman Walden. Also, Senator Thune. As Craig also mentioned, Senator Nelson is involved, and I think we can look to reaching across the aisle, and I think there are some good people in place who can do this.

Legislation takes leadership, and I think, obviously, one of the open issues is whether or not the president and the administration gets behind this, whether or not they want to block this, either informally through a veto process.

I always look back to the Golden Year of 1962. So in 1962, we had three major pieces of communications legislation in one year, which changed the world. We had the Communications Satellite Act, which for the first time commercialized satellite communication. That, obviously, has revolutionized the world. We had the All-Channel Receiver Act, which essentially enabled people to receive both UHF and VHF, so we began to create a more competitive market in television, and that led to the creation of new networks. And we also have the Educational Television Act, which essentially set aside spectrum for educational uses, and within five years we had the creation of a public broadcasting network.

So within one year, we had three major pieces of legislation. How did that happen? The chairman at that time was Newton Minow. He was a democrat. The president at that time was John F. Kennedy, and I've spoken quite extensively with Chairman Minow, and he told me that the president really essentially told him, "Go out and get this done. Work with Congress, get legislation done." And I think we have a situation here. We have one of the most experienced chairmen in the history of the FCC in terms of someone who has dealt extensive on the legislative front. Tom Wheeler has spent most of his career on Capitol Hill advocating for various interests, he has good and

close working relationships, and he understands how Congress works. So I think the missing piece now would be some administration leadership to essentially parallel what President Kennedy did with Chairman Minow to say, "I would like you to go work with Congress and help get some of these things accomplished."

MR. WEST: So Craig, on the substance of the FCC order, you mentioned the possibility of regulation, imposing new taxes and fees, and regulating broader parts of the Internet, including wireless. How do you see reclassification affecting the ecosystem as a whole?

MR. SILLIMAN: So overall, there's a lot of uncertainty now about how the FCC will apply the rules going forward. You know, you mentioned my comments about things like rate regulation and taxes. There's a lot of debate back and forth. Right? Does the order do that? Does it not? I would just point out that the chairman's comments on this are largely predictive about behavior, not legal analysis. In other words, it comes down to yes, the rules allow this, but we don't think that people will bring complaints about it. Or we believe that when they rise, we will handle it a certain way. But certainly, the jurisdiction is there to expand very broadly.

I think the larger question that becomes interesting here, I think there's -- is how it affects the ecosystem. I think in the short-term, heavy regulation tends to ossify existing industry structures. Larger players tend to be more well suited to handle regulatory burdens than upstarts are. You begin to see how things play out. There's been a lot of discussion about one particular company that's advocated one thing in the U.S. while adopting a different business model in Australia. That's perfectly rational behavior; right? If you're the incumbent in one market, you actually want to prohibit any sorts of potential business models that can be disruptive to you, but if you're an insurgent in another market, you want to use exactly those business models. That's rational

business behavior. It may not be principled or consistent, but it's certainly rational to pursue different ends in different markets.

I think the real question that will be interesting over time is to see how this applies more generally across the ecosystem. If you read -- if you simply read the order and you read the language without any preconceived notion about what companies or what part of the ecosystem were being discussed, I think you would quickly reach a conclusion that this is pretty broad-reaching because the language is all about gatekeepers. And it's all about the ability to influence the type of content that consumers get to.

Well, in today's world where the overwhelming majority of usage on mobile networks is not with the public Internet; it's in the app economy and where almost all public Internet interaction is curated, meaning you don't go directly to a URL; you go through a search engine to find something. Then you would quickly conclude that if you were going to shift and influence what type of content consumers see, far and away the easiest way to do that would be through the app eco system and through search algorithms.

Now, I'm not saying this is good policy. I'm certainly not advocating for this, but I think it's inevitable that once you apply that logic of we have gatekeepers and you begin to look at these markets that are largely characterized by 80-90 percent market share for a few players, I don't see how over time regulators don't begin applying this type of framework to a much broader swath of the Internet ecosystem. If what you're really looking for is content neutrality, I think that's inevitable.

MR. WEST: So Stuart, kind of a version of the same question. How do you think reclassification will affect the ecosystem? And how might it in particular affect those app stores, search engines, and kind of other parts of the system that up until this

point have not really been subject to much regulation?

MR. BROTMAN: Well, remember when James Carville came up with that famous line in 1992, in the Clinton campaign, that the economy is stupid. I think to some extent it's the ecosystem is stupid, meaning that we're really talking about a much broader mix of technologies and services than just broadband networks here. And clearly I think what the author raises, as Craig suggests, are a series of unintended consequences or potential unintended consequences. I think the other reality is once upon a time, particularly in the '96 act, we were all looking at this future world of convergence. We now have companies like Verizon and a variety of others who are clearly converted companies. They have multiple business interests across the entire ecosystem. And so even though you're trying to aim at one aspect of the ecosystem, I think Craig mentioned you're now involved in over-the-top; right? You know, who knew that Verizon was an over-the-top company? But they are now.

And so clearly, it's not as easy, and in fact, from a good policy standpoint, it's probably not very effective to try to aim policy at particular portions of a company when we're really dealing with an ecosystem and there's a lot of competition across the ecosystem, which you may not see if you're just looking at one slice of it.

MR. WEST: So one question for each of you, then we'll open the floor to questions from the audience.

So if you were advising Congress and encouraged them to rewrite communications law, what would you tell them?

MR. BROTMAN: Craig?

MR. SILLIMAN: I would agree with that. I think that, first, I would say it is time for Congress to really reestablish its role as the policymaking entity here.

Second, I agree strongly with Stuart. I think it's dangerous to fall into the

pessimism of, oh, there's gridlock. Congress can't get things done. I think that's demonstrably not true. I think, listen, it's certainly true that things are more gridlocked and things have become very partisan, but you see good progress being made in patent reform right now. You see things happening in the cybersecurity space. And as Stuart said, I think you have great leadership with Senators Thune and Nelson. Congressmen Upton, Walden, and Pallone on the relevant committees. You don't have congressmen and senators here who are real ideologues. I think you have some leadership there as very thoughtful people who I think can work together.

But finally, I would say you don't want to repeat the mistakes of the past. But in saying that, I think -- I don't mean to say that the 1996 Act was a mistake. In fact, it was a tremendous success. It achieved exactly what it was intended to do, which was to break down the barriers between local and long distance telephony. It was a tremendous success in that space. Who in the audience last thought about your intraLATA call tolling rates? If anyone raises their hand I'm walking out.

So the 1996 Act was a tremendous success. It's just it's achieved what it was set up to do and it is not really future proof because it was built around assumptions of technology siloes. Any forward-looking legislation has to be built on an agnostic basis that is focused on the consumer and consumer welfare, first and foremost. If it's built around technology, it will inevitably be outdated as soon as the ink is dry. You can't expect Congress to anticipate where technology trends will go. None of us know where technology trends will go. It's not a criticism of Congress. No one can know where it will go. The only way to have it successful is build it with the consumer at the center and have it technology agnostic.

MR. WEST: Stuart?

MR. BROTMAN: I would do three things. First, legislative history.

Frequently, in the communications area, we really haven't had a rich enough legislative history. Most of you know the phrase "public interest, convenience, and necessity" as a cornerstone of the 1934 Act as amended. We have no legislative history. What does public interest, convenience, and necessity mean? So because of that, we have had literally 80 years of administrative procedures to try and define what that is. And Congress can and sometimes does run very effective legislative history. And so to have that record can be a very good guidepost for a regulatory agency, like the FCC, and particularly could be a good guidepost for industry, in terms of knowing sort of where the rules of the road are.

The second area is a little technical, but I can explain it very simply. The notion of sunset clauses. In other words, because of all of the technology changes and the rapid dynamism of the marketplace, you don't want to freeze things too much. In 1992, in the Cable Act, the second Cable Act, we essentially -- Congress created this program access provision which had a 10-year sunset clause. They essentially said at the end of 10 years, we'd like the FCC to go back and see, does this still make sense? And FCC went and looked at it and said, "You know, it really doesn't make sense anymore." So I think we need Congress to begin to put more sunset provisions, to essentially tell the commission, here's a calendar. Here's a time period. And at a certain time period, on a statutory basis, you have a requirement to go back and look whether this makes sense. And you could apply that to net neutrality orders or a variety of different phenomena.

The third area is the area of jurisdiction, and not just in terms of the commission's jurisdiction over Internet regulation but we now are in this multijurisdictional environment. Clearly, we have the FTC, which is primarily a consumer protection agency. We have overlaps with the commission's consumer protection role. As we move

into mobile medical devices and services, we now have FDA involved. As we move into the telematics and mobile environment, we have the Department of Transportation potentially involved. Obviously, we have the Department of Justice and M&A. So we have a number of agencies who are doing either the same things or may have better expertise to do particular things, and none of that has been sorted out at this point. And I think Congress is the only appropriate body that could do that.

MR. WEST: Okay. Let's open the floor to questions and comments from the audience.

Here we have a question. There's a microphone coming up.

MR. BOLIEK: Hey, good to see you again. Brooks Boliek, Politico.

When you say "how did we get here," well, one of the big things is Verizon sued and won. So if this order is so bad, why aren't you in court suing again?

MR. SILLIMAN: The question is why aren't we in court now suing again?

I would say, one, I do think the order is problematic. I think you wrote a piece yesterday that the lawsuits had begun, so I think the answer is we think that this is going to litigation. Certainly, there are various industry players across the ecosystem who have looked at possible legal challenges, so I think this does end up in court again.

MR. BOLIEK: But why not you?

MR. SILLIMAN: We are evaluating the order. We're taking a look at it, and we'll decide what we do from a legal perspective as the weeks come.

MR. WEST: If I could ask a follow-up on that. Like, if there's going to be all this litigation, aren't the courts going to wind up deciding, as opposed to Congress?

MR. SILLIMAN: I don't think the two are mutually exclusive. I think the courts will end up deciding. I think it will get sent back, but that could be a catalyst for Congress to step in and say, "This has been bouncing up and down for 10 years between

courts and the FCC." As I noted before, the Congressional fix is actually fairly easy because the great irony of this issue is that there is almost no disagreement on the fundamental principles; it's all about the collateral damage from the means that the FCC is trying to use to get there, because the FCC doesn't have the ability to rewrite the statutes and give themselves a narrow and legally sustainable basis; Congress does. So I think if the courts send this back, Congress, either now or later, steps in and finally puts this on a solid legal footing so that we can move on to other issues.

MR. BROTMAN: We certainly see in the 1996 Act that there was enormous frustration with the post divestiture role that Judge Green had in the courts, and so Congress clearly was more comfortable as a policy agency or policy legislature, coming in and setting the rules, as opposed to having this done through judicial fiat.

MR. WEST: Okay. Other questions? In the very back, Blair has a question.

BLAIR: Hey, Craig, I want to follow up on something you said about the 1996 Act. I agree that it largely achieved its goal, which was to open up a lot of competition in the voice market.

But one of the things I don't understand about the current conversation about new legislation, putting aside the Title 2 issue, is what happens in the real world? Not how do lawyers more elegantly describe things or clarify jurisdiction or something. What happens if the bill gets written exactly the way you want to write it, what markets become more competitive, how do capital allocations change in your view? Do we start seeing more allocated to wireless? Do new entrants suddenly start coming in? What actually happens in the real world if we rewrite the bill the way you would want?

MR. SILLIMAN: And you also are right. Look, I don't want to get into a whole rehash of the 1996 Act, there are certainly areas in which it worked quite well;

there are other areas that frankly hadn't worked as intended, I think we would look back on as huge mistakes. So, for example, had you actually had early resale competition that led to overbuilding of copper networks? So a second copper line going into the house, which was part of the original vision; right, as you build up through UNIP and everything else. I think today we would be looking back and saying what an enormous waste of capital allocation over a number of years. We now have two outdated technologies running into the home instead of one. And so there are areas where I think the early assumptions didn't pay out, and in fact, the way things played out in the courts ended up being fortuitous because you got to a point of intermodal competition which has been a tremendous success.

I can say from Verizon's perspective, what drove us to invest in FiOS was two things. One was clarity around the regulatory environment that there would not be things like unbundling rules, and the second was the competitive impetus of the cable networks that were a real competitive threat with our customers, and we needed to invest in networks to compete.

Directly to your point, Blair, what I would say is today investment in capital dollars flow through where you get the return. Right? There's all this discussion around, well, will people invest? And won't people invest? As if it is somewhat done in a fit of pique or in retribution, and it's certainly not that way. It is a simple, logical, rational business case process. Right? Companies look and say, "Where can you get returns on your investment and where will you put money in?" And regulation impacts those investment decisions.

As I noted over the past five years, Verizon has continued to invest in certain areas, but we have reallocated our capital in other areas. We have not been -- we've been divesting some of our wireline network assets, and we've been acquiring

over-the-top assets. That is a decision that's driven by a number of factors, but the regulatory environment clearly factors into the overall business case for that. The famous example of Google building out fiber but not offering voice services for regulatory reasons I think is illustrative of the types of decisions that are made.

I think the real question, Blair, it's obviously hard to predict a lot of variables, but I think to some degree in a heavily regulated world you actually may end up with the outcome that -- with a self-determined outcome in the sense that you could end up with one major wire line competitive option in most markets because the regulation pushes you in that direction. I think in a more light touch regulation you see different types of business models for building out infrastructure. Again, I cite to Google. I think Google has done a marvelous job in their fiber build. It's not a technical innovation and it's not a business case innovation. It's largely a regulatory innovation. They figured out a way to flip the regulatory incentives on their head and lower the regulatory burdens to building out fiber. That's actually been quite successful for them and you see the impact of doing that. I think if you can move to a lighter touch regulatory environment, you're going to see more investment pouring into different types of innovative build approaches to infrastructure.

MR. WEST: So Stuart, how do you see the impact of some of these new changes on capital investment and reallocation?

MR. BROTMAN: Well, we have basically what I call an equation, which is investment, innovation, and competition. I think to some extent, competition obviously is an incredibly important value and one that's, you know, underscored by both legislation and regulation. I think we are still sort of -- I think Blair's point was just excellent in terms of understanding what is investment and what is innovation. I mean, these are terms now that we like to sort of bandy about, but it would be great to ask, as we're doing here

with Craig, how does this play out in the real world and in your company? And we do this across hundreds of companies of all sizes and all types. I think if we begin to focus on those aspects of the equation on how this impacts investment and innovation, those two elements are crucial to creating competition. And so competition may be an end goal, but I don't think you can get there without having the appropriate focus on investment and innovation, and I don't think you can do that on a theoretical basis. I think you have to ask some of these hard questions and look how the marketplace is evolving. It doesn't mean that the marketplace will stay static and investment decisions will stay the way they are and innovation will stay the way it is. I think we still have this romantic notion of innovation being two guys in a garage.

Well, companies like Verizon are doing loads of innovation, and Google and everyone else. Innovation is not really done as a matter of small versus big and investment is not necessarily correlating to today's stock price. So we need to begin to have, I think, a more sophisticated understanding and discussion about those two areas.

MR. SILLIMAN: One more thing. One of the things where I think you see the complexity of it. There's been a lot of discussion right now around sponsored data and two-sided markets. Is that a good thing or is it a bad thing? Brief synopsis, two-sided markets were, you know, think about a newspaper. You pay a subscription to the newspaper. The newspaper also sells advertising, so it offsets its costs there. The idea would be that therefore subscription rates are lower, they sell more subscriptions, have a broader viewership. Right?

One of the questions is, are sponsored data plans a good thing for consumers or is it a larger problem from a policy perspective? It offsets costs for consumers. So, for example, let's say that ESPN decides that they want to drive more eyeballs to their site and so they say, "We will offset the cost of any consumer going to

their site. We will cover those data charges." What would you expect to happen in that situation? More consumers will go to ESPN, driving eyeballs for them in advertising revenues. That will drive more usage for consumers. Consumers get more content consumption for a lower cost, and that will then drive more investment need in the network. That's one possible outcome.

Another possible outcome is you say that is prohibited. ESPN can't do that. The cost is born purely by the consumer. You may see the costs go up for the consumer. That would tend to suppress demand a little bit for the consumer. From a company's bottom-line perspective, it isn't clear that one is actually better than the other. You can actually be a quite profitable company under either model to be clear. The question is simply, where do the resources get allocated? Do you want consumers consuming more content, paying less, and maybe the cost is offset with advertising revenues and that drives more investment into network infrastructure to handle the demand? Or would you rather have those types of revenues going elsewhere? It's an open question from a policy perspective. And again, companies can do fine under either model from a business bottom-line profitability perspective, but those types of decisions will drive whether and how investment tends to flow into the network, but it gets complicated because you work through all of these interlinking incentives and consequences.

MR. WEST: Other questions?

CHRISTINE: Hi, Christine from Brookings.

It seems like all the discussion has been domestic focused. Can you talk a little bit about international regulation and how that's impacted -- or should impact or could impact a really good -- revamped our current communications law?

MR. BROTMAN: I'll talk a little bit about the EU because obviously we

often look to what's happening there and vice versa. And clearly, we're talking about global markets at this point. And so all of these issues bleed over, and issues that start there bleed over. I mean, clearly, the EU in some ways has a lot less gridlock now in terms of communications policy. They can actually get things done and we see a movement in the EU now having gone through a period of what we might call relatively intense regulatory focus. Now it's sort of pushing back and saying maybe we should take a lighter touch. And so I think the extent that we begin to see this spread across the world in terms of lighter touch regulation, that might be something that plays back into the United States where we've become more comfortable because we see that in world markets this is how other countries and other regions, and clearly, Craig's company and a lot of others are playing across a world stage, and so you're making your investment in your innovation decisions, not just on a domestic market basis. And so clearly I think we have to look across the borders, and the EU is a good place to start, but clearly, we have a lot that's happening in Asia, particularly in mobile development. Of course, Africa is the great laboratory because so much of Africa is leapfrogging from a technological standpoint, not starting with fundamental wire technology, but starting with mobile technology. And so we have a great way to look across the world and say what a truly intensive mobile environment may look like.

MR. SILLIMAN: Two points. One, to pick up on Stuart's points about the EU, you know, more generally, the concept of policy I think, we've had an interesting and very illustrative real-life example of policymaking between the U.S. and the EU over the past 15 years. If you go back to 2000, we were spending a lot of time in Europe at the time, and everyone would have said the U.S. was getting an early jump on Europe in terms of Internet development, but Europe was way, way ahead of the U.S. and the rest of the world in terms of mobile markets. And that was really seen as a space that the

European companies and Europe as a trading block overall would really own and dominate.

The subsequent 10 years really represented a complete flip in that, largely driven by policy. The policy in Europe really drove towards pure price competition, whereas in the U.S., the competition tended to be based on network quality. As a result, you fast forward a dozen years and you have ubiquitous 4G coverage in the mobile markets across number of carriers in the U.S., and when I'm in Brussels I can't get a 4G signal even today, which is somewhat extraordinary in some ways, but it's logical; right? It just depends on what you want to compete on. There's no logic that says you need to have a higher speed network or you need to invest so there's more data. You just need to be faster than the other guys. And so if everyone has the same incentives, then you actually don't need to invest as quickly because no one else is either. And if the competitive positioning moves to price, then actually, it's all about stripping out cost and getting the lowest price, not investing in higher network coverage. That's just a policy choice, and what you see is just a difference between how the European market has gone over the last 10 to 15 years and the U.S. market. And the interesting question now as we move into really a reversal of policy of the last 20 years in the U.S., how does that play itself out and what is the policy outcome?

More broadly on this specific issue, there's been a lot of discussion again. The U.S., for 20 years, has advocated light touch regulation, not just in the U.S., really going back to the Clinton administration on a bipartisan basis, but internationally, saying governments should take a light touch. You don't want governments intervening in the Internet. That's largely broken down between the U.S. and some European companies, and some more authoritarian regimes around the world.

I will say I think the State Department is doing a masterful job in trying to

keep the two issues separate, but it's hard to see how that doesn't undermine the U.S.'s moral authority on this issue a little bit when you're going around the world saying governments shouldn't take a heavy hand on the Internet ecosystem when you're justifying doing that in your own domestic market. As good as the State Department folk are, I don't think that they're going to fully be able to overcome that hurdle.

MR. WEST: Other questions?

One question that I have is you mentioned that your company is moving into the Internet of things and kind of other things beyond phones. What would light touch regulation look like in those areas? How would you see the new regime that's starting to develop affect those new markets?

MR. SILLIMAN: You know, I think the issue -- and I would say, you know, focus less on the light touch than it is really the technology agnostic aspect of this. And of course, "Internet of things" is such a broad term that's being thrown around now that it captures many, many things. It captures telematics, it captures broadband on airplanes, in automobiles, in healthcare devices, in energy management, home controls, things like that. And I think the point there is that it's easier to sit here today, and if you were looking at the environment of the last couple years and developing a policy infrastructure, you'd focus on these mobile devices that we have in our pockets, and they have certain characteristics. Right? They're individual to us, they have screens, et cetera, et cetera. As we move forward and we see a world in which these types of devices represent a very small minority of the total connected devices in the ecosystem where we're talking about billions and billions of devices, most of which will not have screens, most of which are not identified with a particular individual, but all which are connecting different devices, different physical objects throughout the ecosystem, you have a different set of issues that you're dealing with.

And this is where I come back to if you try and hardwire it and say here are the rules and regulations, inevitably, five years from now we're going to be trying to fit round pegs into square holes again. If you start from saying, what is the consumer interest here? Put the consumer at the center of it and you say, okay, clearly you have some data and privacy issues that you need to care for. What sort of consent? How does the consumer know what sort of data is being collected, how it's being used? How do they consent to that when there's not a screen? You know, what are the safety characteristics? What are the general standards and protocols and certifications around these devices? Those types of issues, I think, if you start with a broader framework. And this is where, again, if you take the historic approach of a comprehensive regime where you build it on technology siloes, that will be out of date in five years and we'll be struggling with these Internet of things type questions with an inadequate structure. If you build flexibility, and I recognize that that actually inevitably provides a certain amount of discretion to regulators to apply these rules to a changing technology and market environment, but I think that's absolutely essential because the markets and the technologies are changing so quickly that you need to focus on those broad consumer protection and competition principles and then apply them as the technology evolves.

MR. WEST: Stuart, how do you see the Internet of things in some of these new markets?

MR. BROTMAN: That gets back to what I was saying in terms of multi-jurisdictions. So, for example, with Internet of things, many of us are going to be wearing devices which communicate back to healthcare providers and vice versa. Is that a medical device? How will the FDA be involved? How will the FCC and the FDA coordinate that process? Again, you really need Congress. Whether or not that's going to be put into a communications act or some version of that or some other piece of

legislation, but we really need a legislative bridge, and I think there are going to be a number of legislative bridges that need to be built for the Internet of things in order for it to be effective and in order for it to work.

We also have areas of national policy. So, for example, healthcare. Clearly, we are trying to lower healthcare costs. Having Internet of things connected devices will contribute to good healthcare outcomes. And so we have other areas of national policy which intersect with communications policy as well. So to some extent, you probably remember General Eisenhower when he was running the forces in Europe. He had a saying, "Enlarge the problem." So when he saw a problem, he liked to enlarge it and look at it in a much broader context so that you could begin to tackle it in its individual pieces. And I think to some extent that's what needs to be done now.

MR. SILLIMAN: If I can make one other point on that. One of the concerns, the issue you just raised, there are fascinating policy issues involved with this. There are all sorts of incredible societal benefits in the areas of healthcare, transportation, fuel efficiency, the environment generally that the Internet of things can bring. But there also undoubtedly are concerns for consumers that need to be cared for. These areas, and communications in tech policy traditionally has not been an inherently partisan issue. It has been something that has generally in the past worked pretty well on a bipartisan basis.

One of the concerns I have about the whole open Internet issue is that it has become so emotional and so partisan that it sucks the air out of the room on a lot of other important issues that we need to be grappling with, and it turns -- it creates a partisan environment where previously there wasn't one and really doesn't need to be one. There is a lot of consensus around a lot of these issues about how you tackle them in a thoughtful way, but we need to get past some of the emotion and back to the table to

talking about these issues again.

MR. BROTMAN: I think there would be good political benefits because obviously people could go back to their districts and say, "We actually got something done." And to the extent that people are frustrated, we see all the public opinion polls showing the frustration with Congress and their inability to get things done. This is an area where Congress actually can get something done and can go back to the districts and say, "We won here."

MR. WEST: There's a question back there.

MR. BLEIBERG: Thanks. Josh Bleiberg with the Center for Technology Innovation.

I know it's probably hard to look into the future, but what is it that you think consumers will want more of? Do they just want more content or do they want higher speeds or lower prices? Or just some predictions about that, I guess.

MR. SILLIMAN: Well, as consumers ourselves, it's probably all of the above. We want more for less all the time. But I think in terms of general trend lines, we see a couple of things coming. Clearly, content continues to drive demand across all the networks. But content in a much more personalized and highly stackable way. Right? The long-form content of traditional, linear video is clearly being challenged, particularly when you look at millennial usage patterns. It tends to be short form. It tends to be shareable and shared. It tends to be this kind of video snacking, highly interactive, and highly connected. Right? There tend to be various viewership models going on at the same time with content. So part of it clearly, we see content driving demand for some time to come.

At the same time, as Stuart mentioned with the wearables and as many others have commented on, I think you begin to see connectivity sort of disappear in a

sense that the traditional model of I have a device in my hand, I can identify exactly where the connectivity is, increasingly blends into just an overall lifestyle. You have wearables. You have a number of connected devices. They're communicating increasingly. It's machines talking to each other. And so there's a broad web of connectivity that becomes something is happening constantly in the background, and we see that continuing to drive a tremendous amount of the usage for years to come.

MR. WEST: Stuart, where do you see consumer demand going?

MR. BROTMAN: Well, I think there are different types of consumers. I think a lot of us really focus on residential consumers. Obviously, that's a very broad base. But we have the whole business community, and they are consumers, and clearly, when we're talking about things like job growth and economic growth, we want to be able to fuel and help those consumers as well. We have specialized consumers even in a residential environment.

For example, in the past 20 years, we have had an incredible revolution in terms of communications technologies that can now be used by people with disabilities. So those people are not necessarily looking for speed or price or some of those things. They're looking for greater functionality and greater access to that. Clearly businesses are looking for reliability and redundancy and security as Craig indicated. Consumers are often looking for faster, cheaper, better sharing across platforms. So I think we have really sort of a matrix of consumer interests, and I think we probably need to talk more in terms of the various groups of consumers. It doesn't mean that they're conflicted with each other, but it means that we have many different policies for different types of consumers.

MR. SILLIMAN: I would just say that at the risk of slipping into technological utopianism, I do think there are tremendous opportunities. I think of it as

anywhere that there is inefficiency or waste, there is an opportunity for connectivity; right? Does a patient have a diabetic situation? Well, that's a known condition with known remedies. But if the doctor doesn't know it and the patient doesn't know it if there's inefficiency that connectivity could improve people's lives. Are there spaces being heated or cooled that people aren't in? There's an opportunity for efficiencies. Right? Is there information that is known somewhere but isn't available to a consumer? There's an opportunity for efficiency. So almost anywhere in our day-to-day lives where we see inefficiency or waste, there's an opportunity for information flow to help and provide an opportunity.

MR. BROTMAN: And opportunities for innovation.

MR. SILLIMAN: Absolutely.

MR. WEST: Okay. We have a question here in the front row. We'll give you the last question.

SPEAKER: So last year Sandy Pentland sat on this stage and talked about social physics and talked about connected cities. Are you seeing any leadership? You're talking today about federal legislation. Are you seeing any leadership at the state level? Are you seeing any innovation coming and push to change things or to enable on a city or a state basis?

MR. SILLIMAN: I would say absolutely. The cities, when you talk to mayors, it is extraordinary what you're seeing. Not to exclude anyone, but you see what Charlotte is doing with their connected city. Cities all across the country. And you see how small things can make huge differences.

There's this company Big Belly that makes trash compactors. They're solar powered and they're connected. The City of Philadelphia puts these on the streets. You know, the average trash truck gets three miles to a gallon and they just run a route,

whether the trashcans need to be emptied or not. Big Belly puts in these trash cans. They're solar powered. They compact the trash and they tell the Trash Department when it actually needs to be picked up. The City of Philadelphia reallocated two dozen people from trash pickup to their recycling teams because they could do it that less frequently. It's a really small, mundane example, but it shows you the power. You put a couple of connected solar-powered trash cans and suddenly you can reallocate two dozen staff from trash pickup to recycling and cut gallons and gallons of gas that's going into your trash cans -- into your trash trucks. You multiply that across cities across the country, across other areas of connectivity. These cities, what they're doing with traffic management, with trash pickup, with reporting potholes, really extraordinary innovation going on at the city level. It's very, very exciting.

MR. WEST: So now we're talking about efficiency, trash collection.

So Craig, Stuart, thank you very much for sharing your views, and thank you very much for coming out.

(Applause)

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