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GOVERNING THE EMERGING DIGITAL ECONOMY  
A CONVERSATION WITH NTIA ADMINISTRATOR DAVID REDL

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## P R O C E E D I N G S

DR. TURNER-LEE: Good morning, everybody.

GROUP: Good morning.

DR. TURNER-LEE: We apologize for the delay. Both David and I ran into a suspicious security vehicle over by the White House today which caused a little bit of delay to get here, but he is here.

MR. REDL: Yes.

DR. TURNER-LEE: He braved the yellow tape that was out there.

(Laughter)

My name is Dr. Nicol Turner-Lee. I'm a fellow in the Center for Technology Innovation here at Brookings. I work on issues related to regulatory and legislative policy when it comes to telecom and high tech. And I also work on issues related to artificial intelligence, as well as algorithms. And in our department overall we do everything related to tech. I am definitely part of the nerd club when it comes to research.

And I am joined by both a very distinguished government appointee, Mr. David Redl, who is the assistant secretary at the U.S. Department of Commerce, as well as the administrator for the National Telecommunications Information Administration; who was also formerly the chief counsel for the House Energy and Commerce Committee under Fred Upton and Greg Walden. And our days actually date back, I'm not going to tell you our ages -- well, he can tell his, but I'm not telling mine (Laughter) -- more than 15 years that we've actually worked together in some capacity when he was on the Hill doing the work there and previously.

So I'm very excited to have him because Commerce is doing a lot, David, right?

MR. REDL: We're very busy.

DR. TURNER-LEE: Yeah, you are busy. So today's conversation is really a chat to get into the head of the new assistant secretary, but also at the close of this to answer any questions that you all may have, so please write those down and we'll have time for Q&A.

So let's start by first welcoming our esteemed panelist. You are the only panelist as part of this conversation, Mr. David Redl. (Applause)

MR. REDL: Thank you.

DR. TURNER-LEE: So, David, let's get everybody up to speed in terms of the work that you're doing at NTIA. This is a new role, you just got appointed in November, right?

MR. REDL: Yeah. Coming up on one year.

DR. TURNER-LEE: Yeah, yeah. I mean, it's been great for you. I know it was a big shift from working in Congress. But tell everybody what is the agency responsible for and how do you execute those goals? Because I know that there are a few people that really need to get up to speed on NTIA's role.

MR. REDL: Sure. So NTIA, the National Telecommunications and Information Administration, is a part of the U.S. Department of Commerce that is principally tasked with being the advisor to the President on communications and information policy. We also are the regulator of U.S. Government spectrum allocations, so federal radio frequency use is managed by NTIA. And we're tasked with ensuring an open Internet and spreading telecommunications around the world. So those are sort of the three core things we work on.

Within that structure we have a number of other agencies within the Department that we are lucky to partner with on these goals, NIST and ITA among the

two that we work with the most. And inside the Department of Commerce family we have the opportunity to both advance policies through the Secretary's Office, but also through our work advising the White House on specific policies.

DR. TURNER-LEE: And so do you think in this role is the White House listening?

MR. REDL: I think so. You know, I hope so. I hope my advice is valued and certainly I think that's -- you know, the Trump administration has taken a very pro-investment, pro-broadband stance from the very beginning. If you look as far back as Secretary Perdue at the Department of Agriculture doing the Rural Prosperity Task Force report, one of the primary things to come out of that report is we need better broadband for America's rural areas. If we want prosperity in rural America, they need to be part of the broadband ecosystem. And so from the very beginning, this has been a priority.

And coming out of that, the Department of Agriculture along with NTIA were asked by the White House to take a leadership role in bringing together the Executive Branch through the Broadband Interagency Working Group. And I've talked a lot about the Working Group and what we're looking at, but we were given three specific venues to look at by the President.

One was how can we bring federal assets to bear on the challenge of broadband in areas where the economics don't necessarily make it the most attractive private sector investment area? And the U.S. Government being the largest landowner in the United States -- we own buildings, we own antennas, we own utility poles -- how can we take a comprehensive look at all those assets and see how they can be brought to bear on areas where the economics are challenging?

The second areas was permitting, which is sort of a perpetual problem. Permitting is very challenging because it often takes more than one permit from the

federal government in order to do a broadband project. And so we were asked to take a look comprehensively at all of the challenges facing permitting and see if there's a why to streamline those processes to make it easier for folks who want to invest in some of these very difficult-to-reach areas to do so in a timely manner.

And the last piece was coordinating federal projects. There are a lot of pieces to the U.S. Government and a lot of pieces of the U.S. Government have an interest in ensuring we have broadband across the entire country. Unfortunately, those programs aren't always coordinated. And so looking to see how can we take these individual siloes within the U.S. Government and make sure the left hand and the right hand are working together to promote our national interests.

DR. TURNER-LEE: That's right. So just to stay on that for just a moment, when you talk about making broadband accessible and ubiquitously deployed, do you think we'll ever reach that in the U.S.?

MR. REDL: I do. And maybe that makes me a bit of a Pollyanna, but I think as we look at this, we've been trying to address this challenge for a decade now. Let's just be honest. You know, ever since the National Broadband Plan we can say we've been making a concerted effort. I think there are two challenges to getting there.

One is the nature of broadband is constantly changing. And we continue to want to make sure that as we look to deploy broadband across the country that we're making sure everyone has the current state of the art, what you need to be a player in a broadband ecosystem. And that can be challenging because it requires iterative investment sometimes. And we haven't always as a country looked at making sure we put in systems that will be conducive to the next iteration of broadbands, to upping speeds, to lowering latency. So we're trying to address that challenge right now.

I think we also have to acknowledge the good work that's being done by

companies that you don't always think of as traditional broadband players, and I'm specifically talking about the satellite industry. The economics of providing broadband in the most rural parts of America are very challenging for fiber and other traditional wired, fixed systems. The satellite industry has really stepped up and the satellites that are being deployed now and are providing service not just here in the United States, but in other parts of the world, are not only competitive, in some cases exceed the throughput that we see in suburban parts of America.

And so one of the things we're trying to do, you know, the Department of Commerce has taken a leadership role. The President and the Vice President have asked Secretary Ross to take a leadership role when it comes to U.S. space commerce. And part of that was taking the Office of Space Commerce, which was part of NOAA, and moving it into the Secretary's Office. They've got a great team at Office of Space Commerce and I'm proud to be working with them to make sure that we're promoting the kind of leadership in space-based commerce and space-based assets that the United States has in traditional 4G wireless. We lead the world undoubtedly in 4G wireless. We should continue to talk up what we're doing with respect to space assets, like satellite broadband.

DR. TURNER-LEE: Yeah, and that's interesting. You mentioned 4G. I don't think we could actually have a conversation about broadband without talking about fifth-generation wireless networks, 5G, right?

MR. REDL: That's right.

DR. TURNER-LEE: And so when you talk about ubiquitous deployment and making broadband accessible to all, what is Commerce's role in the race to 5G, as many people are actually calling it?

MR. REDL: Sure. So I think there's a couple things that we do. Almost

half of the people that work at NTIA are part of our Office of Spectrum Management or our Institute for Telecommunications Sciences, which is our lab facility in Boulder, Colorado. These people all day, every day, spend their time working to make sure that not only do our federal users have the assets they need to achieve their critical missions, and it's the things you don't necessarily think about.

When we think about what are the challenges to 5G, we don't think how are we going to make sure that we continue to support the FAA and making sure they have the radar systems they need to get our aircraft to and from different airports without any challenges? As we are dealing with the devastation in Florida, you don't think of how are we going to accommodate the National Weather Service's concerns, who have satellites, who have terrestrial-based radar?

We spend a lot of time working to say how do we take these systems, which are critical to our national security, and make more space for commercial users? That is, I think, the thing we are doing most to help support 5G deployment is finding spectrum for additional use.

We identified 100 megahertz of spectrum in the mid-band at 3.45 to 3.55 that we think will be a nice complement to the 3.5 spectrum that the FCC is helping make available. But also, our engineers are working to make 3.5 available. The systems --

DR. TURNER-LEE: That's right. And just slow down a little bit because not everybody understands 3.5 --

MR. REDL: It's true.

DR. TURNER-LEE: -- mid-band, low-band, high-band world.

MR. REDL: It's true we got in the spectrum weeds fast.

DR. TURNER-LEE: Right. So just for the nature of those folks that are sort of getting up to speed on the spectrum debate, explain what spectrum is and why it's

important that we actually release spectrum.

MR. REDL: Sure. So spectrum is the radio frequency allocations we use to make sure that our wireless devices, whether they be radars, communications tools like the phones that we all carry, or satellite devices, have the capacity to talk to each other. They are literally the radio frequencies they use to talk to each other.

Primarily, spectrum is divided into federal bands, which is places where the Federal Government is the primary user and for which NTIA manages the assignments and non-federal bands, which are bands that are used by commercial users for which the FCC is the regulator. We spend a good portion of our time working cooperatively with our colleagues at the FCC to make sure that these systems are all working together and that we're maximizing the value of this public asset for all Americans. That means looking at licensed, it means looking at unlicensed, WiFi, and Bluetooth, the kinds of things that we take for granted inside our homes for the way that we wirelessly connect our devices.

All of that requires an incredible amount of coordination in terms of frequency use, but also coordination in preventing interference to adjacent services. And the FCC and NTIA spend most of their time working on those issues.

DR. TURNER-LEE: But there's also money to be made, right, with regards to available spectrum? I mean, for those of you who have not --

MR. REDL: And, Nicol, we're the Department of Commerce. (Laughter)

DR. TURNER-LEE: Right, I was going to say. You're not the Department of Science, right? You are the Department of Commerce, right? So sort of lay out for people where Commerce's role is, too, with regards to auctions because that's been some of the new legislative priorities that have been placed into like the Omnibus Bill, et cetera.



MR. REDL: Sure. So when it comes to auctions, typically the auctions that occur are reallocations of federal use to non-federal use. And so we as a department take a look at the assignments we've given to Federal Government users and tried to figure out is there a way for us to use that spectrum more efficiently? Is there a way for us to combine services that are similar into one band to make more spectrum available to auction to the public? And that's have we've ended up with most of the spectrum that supports our commercial wireless industry was federal spectrum that was reallocated and auctioned to the private sector.

Now, I've said a number of times in a number of different fora and I'll say it again, I think the era of easy spectrum decisions is over or very close to being over. And I don't say that lightly, but the reality is every time we do one of these reallocations and auctions, we make it more difficult for ourselves. We have denser and denser packing of systems that requires more and more engineering. And, frankly, to move them it requires more and more money to literally change out the equipment in these systems to make them compatible with use in another spectrum band.

So at NTIA we've been focused on trying to find ways to be more creative with how we make spectrum available. The President's Budget has asked for us to have the authority to do leasing. That could be an option in areas where we have systems that cannot be taken out and where we can't make a seemingly nationwide allocation available at any price. But that doesn't mean there aren't opportunities where someone might want to make more efficient use of the spectrum. We should explore those options. And certainly, you know, I was excited to see the President's Budget contained that request to Congress and we look forward to working with them on trying to see that brought forward.

DR. TURNER-LEE: You know, but this also reminds me again you're

the Department of Commerce. You pay attention to a lot of our international competitors, as you just mentioned. I mean, China is releasing spectrum, investing in 5G at rates that here in the United States we're sort of still dealing with disparate government systems and bureaucracies to make it available. Essentially for those of you who are watching these debates, you know, China's said that they're going to be pretty much finishing the race to 5G and AI before the United States does generally. And there are outputs, economic outputs, in terms of jobs, patents, standards that come with that, David.

MR. REDL: Sure.

DR. TURNER-LEE: How is Commerce sort of looking at the international landscape in these decisions that you're making around commerce activity?

MR. REDL: So on both those fronts, and you've raised 5G and AI, multiple portions of the Department are working on that. NTIA is certainly concerned with supporting the private sector and making sure that we maintain our global leadership in terrestrial wireless.

We are, without question, the leader in 4G. The United States decided through commercial agreements pretty early on that 4G LTE was going to be the way that the carriers went. They invested heavily and we very quickly became the world leader in 4G LTE. And the innovation that sprung from these new capabilities and new capacity in the networks is something that you can't account for.

What we're trying to do now and what our global competitors are trying to do is say can we be the ones to seize the benefit of being the ones to put out this network first and see the innovation that flows from it? I'm confident that the U.S. is going to be the world leader in 5G. I think there is no substitute for American ingenuity and American know-how. There just isn't anywhere in the world.

And I'm confident that the Trump administration has been putting policies

in place that are very pro-investment. At the end of September, we wanted to make sure the private sector knew where we were on this and the White House held a 5G summit to bring together all the different parts of the U.S. Government. I spoke there, Chairman Walden, Chairman Thune, Larry Kudlow, head of the National Economic Council, all spoke; and Michael Kratsios, who's running the Office of Science and Technology Policy at the White House. And the message was pretty clear and unanimous from all of us: The U.S. is going to be first. We're behind you private sector. How can we help?

One of the things that the Department is doing to try to help is work on standards. Standards, especially in the wireless world, fights are won and lost in standards. You know, the old joke in Washington is that a fight on a bill is won and lost in the definition section, right? If you lose the definition section, you've lost the bill. The same is true of technology standards. If you have positive contributions that promote your general well-being and standards bodies that are adopted by the industry, you will have put yourself in a position to then capitalize on that.

We are seeing that play out in standards bodies now. NIST and NTIA, through our ITS engineers, are active participants in this space. And the message was loud and clear at the 5G summit, we want to help you and how can we help in these positions? Because 5G standards will decide sort of which way this goes.

DR. TURNER-LEE: So government will not sort of engage in overreach by sort of shape the standards that are going forth by companies, like AT&T, Verizon, et cetera?

MR. REDL: Well, the nice thing about the standards body process, those being run by the private sector, is that government gets to participate. At 3GPP, which is the standards body for the commercial wireless industry, this is an international body in which the private sector and government participate on an even footing. And it's

so far produced really good outcomes. You know, the 4G standards that are the basis of the American communications networks were put through 3GPP. We hope to see the same thing play out with 5G.

DR. TURNER-LEE: Right, right. So I want to switch now a little bit to the digital economy and then I have a couple more questions.

MR. REDL: Sure.

DR. TURNER-LEE: And then if any of you have questions, we'll be going out to the audience.

So, you know, part of in putting this together we wanted to entitle this "A Conversation with David Redl." (Laughter) Because I think you're a rock star, right?

MR. REDL: Well, thank you.

DR. TURNER-LEE: Right. But we started with this new emerging digital economy.

MR. REDL: Sure.

DR. TURNER-LEE: Digital economy, according to the Bureau of Labor Statistics, is actually generating exponential numbers when it comes to jobs. We're seeing digital commerce sales increase. At the same time, we're seeing disruption of traditional industries, whether it's transport, energy, et cetera.

Is Commerce monitoring this change in terms of where people will fall, in terms of work, you know, how industries will look different? Will we see land bases where old manufacturers used to be? Are we going to see this next technology revolution, David, sort of shift the way things did with the manufacturing revolution?

MR. REDL: You know, I think some of that remains to be seen. I mean, you've hit the nail on the head, which is that the digital economy continues to be a growing part of our national economy. The digital economy in 2016 represented \$1.2

trillion. That's 6-1/2 percent of our economy. Supported 4 million or so jobs. That's a not insignificant portion of our national workforce and our national gross domestic product. And things are continuing to move in that direction.

And I think what we're seeing is a number of the traditional industries you mentioned are now trying to grapple with how do we keep up with the pace of innovation? One of the most interesting places we're seeing that play out for us, and this is something that I worked on when I worked for Chairman Upton and Chairman Walden and now I get to see from this side, is FirstNet.

FirstNet, for those that don't know, the First Responder Network Authority was created in 2012 by the Middle-Class Tax Relief and Job Creation Act. And essentially what it is it's an independent authority within NTIA whose job it is to produce a nationwide interoperable broadband network for our public safety first responders. They undertook a long process to do a contract vehicle and now have deployed and are deploying across the country with AT&T as their network partner, providing broadband to public safety first responders that is for them, where they get priority on the network, they get preemption on the network.

And, frankly, when we were looking at this on Capitol Hill for our bosses, one of the things we wanted to make sure we could do was bridge the gap between the pace of technological change in the wireless industry and the pace of technological adoption by public safety. Public safety first responders couldn't keep up with the pace and it was one of those things where just when you're ready to invest in technology, the technology changes. And so how did you bring those two things together?

This was a way to say, okay, we're going to take that on. We'll bridge that gap. We'll bring the commercial sector in to be your partner. And I think it's playing out the way hoped it would. AT&T and Verizon are competing vigorously for public safety

customers in a way we didn't see five years ago.

And so I think that is a microcosm of the things we're seeing in other places because public safety first responders, technology is not their first priority. Right? Saving our lives is their first priority. But they're now having to adjust in the same way a lot of our workforce is having to adjust, right?

DR. TURNER-LEE: Right, right.

MR. REDL: How do we deal with the change of technology and how it's changing the way I've always done my job?

I think it's important to also note the work that the White House is doing on the future of our workforce and apprenticeships. And we've been really excited to be providing some support to our colleagues in the White House in terms of how that can happen in the technology space, particularly in the wireless industry. Because with 5G coming there will be a lot of opportunity for growth in that space and we have to have a workforce who is eligible to do that work.

One of the more interesting projects we're working on that I wanted to take a minute to talk about, talks about not necessarily the workforce in a specific sector, but trying to take broadband into places where it can be used as a stimulus for other things. And we've partnered, NTIA has partnered with the Historically Black Colleges and Universities of North Carolina.

DR. TURNER-LEE: Oh, wow.

MR. REDL: And what we've been doing with them is a pilot project to make sure we get broadband into the universities and work with them to create a center where that will help those surrounding communities, where it's not just on the campus, but you're using that as a way to help the communities around these universities to become more digitally literate, to understand the value of broadband, to want to adopt

broadband. Because there's the challenge that we face in terms of deployment and getting it out, but we also have ad adoption challenge in this country.

DR. TURNER-LEE: Right, right.

MR. REDL: I know this is something you know well. We've worked on this over the years.

DR. TURNER-LEE: I know. Yeah, I have a book coming out on that (inaudible).

MR. REDL: But we do have an adoption challenge, also. There's a significant percentage of the U.S. population who doesn't see the value in having a home broadband connection or engaging in the digital economy. And anything we can do to help further digital inclusion I think is a good for the country.

DR. TURNER-LEE: Yeah. I mean, you know, shameless plug, my book coming out of Brookings Press is about digital invisibility and how the Internet could potentially be creating a new underclass, primarily because of what you said, the digital economy is shaping the way people live, learn, and earn. And the extent to which we have people actually getting on the bandwagon of digital access, not just a binary I have it, I don't have it, but engaging in a way so that can actually find jobs or connect to the sharing economy, et cetera, is really critical.

And I see Maureen Lewis, who's done a lot of work out of NTIA on this, as well.

MR. REDL: Maureen has been great on these issues and continues to just be driving forward in a way that is helping us not only advance the projects we're working on, but the way we look at the challenge. Right?

DR. TURNER-LEE: Yeah. And Chairman Pai yesterday gave a digital divide speech as part of Connect to Compete, which brings me to this question which is

sort of part of the foundation of the book that I'm writing. Comes out in 2019. (Laughter)  
Just to share.

But, you know, should we have an interagency task force to ensure with all of these new innovations that we'll make sure that no one gets left behind? Because from a commerce perspective, if industries are changing, jobs are being repurposed, machines are outnumbering humans, where are we going to be as a country in terms of our national competitiveness if a huge proportion of people that sit on the wrong side of the digital divide cannot get in?

MR. REDL: So in addition to the work we've been doing on the adoption side, we're also spending a lot of time, as I mentioned, on the infrastructure challenge. And one of the projects I haven't talked about that our team at Broadband USA has been heavily engaged in is helping to map the problem.

We learned some tough lessons in 2009 and 2010 in the Stimulus Bill. In the Stimulus Bill there was a lot of money, \$4.7 billion that we put out from the Department of Commerce and Department of Agriculture to help provide a stimulus for broadband investment. Unfortunately, because of the way the law was structured, a lot of that money, the decisions about where to invest that money was made in the absence of good data about where we had a real challenge. There was a mapping component, but that map wasn't done until after the grants had already been given.

We went back to Congress earlier this year and said we want to help solve the problem, and asked for an additional appropriation to help improve the FCC's broadband map. FCC does one using their FCC Form 477 and it's great as a tool for what they're using it for, but it only tells part of the story. And so Congress had asked us can you help tell the rest of the story?

They gave us a \$7-1/2 million appropriation and said go out and improve



that map. Do it in a way that will help us in the Federal Government make better decisions. And so the Broadband USA team is engaged in that now. We're trying to figure out how can we make the best use of this money? How can we put together a platform that will provide go/no-go type of information about making investment where we don't have service? And that's a real challenge.

There are, in fact, still parts of this country where it is a challenge to get service at all.

DR. TURNER-LEE: Oh, don't I know it.

MR. REDL: At any price.

DR. TURNER-LEE: I know it. Yeah, yeah. I mean, but you'd think -- so it's interesting if you go two hours away from here, you start going into downstate Virginia, you run into places where -- I had an interesting story. I was taking my kids to camp and my GPS kept going out because there was no service and I kept having to go back to the main town to pick up the service. So a two-hour trip turned into a four-hour trip.

MR. REDL: Sure.

DR. TURNER-LEE: But do you think that we'll be able to do a better job at NTIA on the mapping? Because it's been critiqued that getting this information is very difficult, David.

MR. REDL: There's no question it's a challenge. But to be honest, we asked for this challenge because we think we can add value. If we didn't think we could add value, we wouldn't have gone to Congress and said give us some money and let us help solve the problem.

Is it going to be flipping a switch and all of a sudden it will be solved? No, of course not. I mean, there are scant few technological challenges that are that

simple. And this, ultimately, is both a technological challenge and a societal challenge. And trying to overcome both of those barriers is going to be difficult.

But the upside we have is we have an existing network of folks in the States who want to work with us. Broadband USA, which came out of the Broadband Stimulus Bill that was part of the 2009 stimulus, has gone on since then to maintain what we call the State Broadband Leaders Network. And the State Broadband Leaders Network is points of contact and individual folks in state government who are tasked with promoting broadband in their state.

We bring these groups together through phone conferences and in-person meetings over the course of the year and try to share best practices. What's worked? What hasn't? What works in the North, but doesn't work in the South? Because you have different climate challenges. What works in middle America and what works in the coasts? These are all very interesting challenges and only by bringing all these groups together can you sort of get the kind of information sharing you really want to get out of it.

It has also meant that as we look to do mapping we have a group of people we can go to and say what have you been doing on mapping? And some states have really just knocked it out of the park with their work going forward.

I've said this before and I'll say it, Minnesota --

DR. TURNER-LEE: Yeah, I know, we both got an opportunity to see the Minnesota data.

MR. REDL: Yeah, we both had a chance to talk to Dana, who is at the Minnesota Department of Employment and Economic Development. And Minnesota has really taken a leadership role in trying to attack the challenge of how do we bring broadband to every Minnesotan. They're very far down the path of doing so.

And so these are the kinds of people we want to partner with and say how can we help? How can we learn from what you've done? How can we bring all these tools together and make sure every state has them, not just Minnesota?

DR. TURNER-LEE: Yeah, and, I mean, just a plug for those of you who are interested in the mapping side, Minnesota has put together not only a visualization of all of the counties and cities there, but they've used that for direct resource funding of projects where, you know, there might not be a provider or there might be a local provider, where they can actually give them support particularly around an employment and workforce concern.

MR. REDL: Right.

DR. TURNER-LEE: Which has been very fascinating. We got a chance to actually meet that person.

I just want to remind you we're Tweeting this conversation at #DigitalEconomy. If you are following us here on C-SPAN, continue to bring comments and prepare for questions because I've got a couple more for David and then I'll open it up to the floor.

So, you know, you're doing a lot. (Laughter) I mean, when I'm listening to you I'm thinking, wow, leave it to David Redl to do all these things at NTIA. We've known each other, we've known a previous administrator. But recently, the Department has put out a Request for Comment on privacy.

MR. REDL: Yes.

DR. TURNER-LEE: Now, this doesn't fit very neatly into the other buckets that you just talked about, you know, workforce, broadband deployment. Talk to us about why privacy, why now, and why the agency is interested.

MR. REDL: So a big portion of what we've talked about across the

things we work on at NTIA is ensuring that there's trust in the digital economy, whether it's cybersecurity and the work that the Department does through NIST on the cybersecurity framework and through NTIA on working to ensure that our Internet of Things is more transparent and patchable. We're currently working on software-building materials to try and help people understand the devices they buy, whether or not they're subject to a vulnerability.

It would be nice if every product you bought that's part of your home ecosystem -- and take a step back for a second. We face a real information challenge. Right? Everyone thinks of their computer as part of the Internet economy. Everyone thinks of their cellphone now, I think, as part of the Internet ecosystem and economy. But I think about my parents and my grandparents. My grandparents are in their eighties and whether or not they think of something as an Internet-connected device. And I can say confidently when they come to my house they don't think of my thermostats as a security threat, but they are. They don't think of the light switches in my house as a security threat, but since I rewired my house to work with my Amazon Alexa, they are.

And so making sure that when you have these kinds of changes, increasingly we're seeing smart appliances that are connected to your home Internet connection, there's an education gap. And part of what we're trying to do is work with the private sector to say, listen, we have to at least provide the kinds of tools so that Internet researchers and savvy customers can make good decisions. If you buy a piece of equipment and that company goes out of business, it'd be nice to have some way to know is this device still being updated? Is it patchable? Is there a vulnerability?

And this really came out of my work when I worked on Capitol Hill for Chairman Walden when Heartbleed -- which we're going way back in terms of the numbers of vulnerabilities we're talking about, but it goes back to Heartbleed. Those that

don't remember, Heartbleed was a vulnerability in OpenSSL that caused devices to be vulnerable to attack. The challenge was if you didn't know which version of OpenSSL was in your device or even if it was part of the compiled software, you couldn't know if your device was vulnerable. And that was a real challenge for trying to secure from a known vulnerability.

The good work that is being led right now by Allan Friedman, who is one of our team at NTIA, on bringing together the industry and saying, listen, you guys have to want to do this. What are the challenges? How do we address them? And how can we help? It's part of what makes NTIA somewhat unique in the Federal Government. We act as a convening authority, not as a regulator, in this space. And so that's one of the real challenges to this space.

Coming to the privacy piece --

DR. TURNER-LEE: I was going to say --

MR. REDL: -- which is where -- I'm bringing it home.

DR. TURNER-LEE: I know because I was like you're not a regulator, but you've put out a Request for Comment on privacy, so tell us why.

MR. REDL: We have. We put out our Request for Comment on privacy because it goes to the central trust issue. Right? We saw as part of our work with the Census, we poll Americans to see their opinions on technology. And we found that through our polling that there's a significant portion of Americans who have concerns about the online ecosystem and have curtailed their online activity as a result of those concerns.

The White House came to us and said we'd like you to take a look at the privacy ecosystem and see if we can come up with a modern American approach to privacy. And so the end result so far is a Request for Comment we put out. We met with

over 60 different companies and advocates and groups here in Washington, D.C., and came up with seven principles that we thought could help guide the discussion, that would help us frame what we thought privacy in the modern American economy would look like.

And we also said we wanted people to focus on consumer outcomes and making a risk-based analysis. And this comes back to the cybersecurity framework that NIST does for us. It's been very effective at helping people look at the real risks and take steps accordingly rather than just putting in place a checklist of things that you have to do, which may or may not apply to your situation.

So that's out for comment. We're expecting comments back by November 9th.

DR. TURNER-LEE: Right, the deadline was moved.

MR. REDL: Yeah. We were asked to extend the time for people to comment and so we did, so the deadline is now November 9th. We hope we get a ton of comments. There's a lot of viewpoints here. Privacy is something that's immensely personal to people, so we really hope we get a variety of comments that'll help us find things where we agree and can build from there on trying to put together a position for the administration.

DR. TURNER-LEE: Yeah, and, I mean, I think that's an interesting and very progressive approach, I think, by the agency to jump into this. Because, you know, on Congress, and I will get to a little bit of your congressional career and how you see all this panning out as you do this role, there are several bills being debated in Congress. There's this push for federal privacy legislation or some type of framework, which come with a series of comprehensive goals.

I guess the question, particularly for people like myself, does Commerce

see, particularly with your support by the Executive Office, what comes out of this process as sort of leading the way in terms of that thinking? Because, you know, I think there's been glaring agreement we need something, right, because it's a little different than the cyber hacks of Experian. You know, those still happen, but gone are those days. We're now dealing with data manipulation and we have international competitors who beat us to the punch, as well as California, the state that's slowly becoming a country here in the United States.

So what do you think, when all this process is said and done, that Commerce will contribute to this or do you think it'll be sort of the guidepost that other legislators should use?

MR. REDL: So having come off of Capitol Hill and having said it a number of times there and having said it a number of times in this job, process matters and this is part of our process. I don't know what the comments are going to say. We've gotten some of them, people have already started submitting, and we're really happy for those. But we really care about getting the feedback and letting the feedback help drive where we go next.

So once we get all the information from the Request for Comments, we'll harmonize that. We'll present it to the White House and we'll try to see if -- you know, you said will we be driving the day? I mean, I certainly hope that this process produces something that is viable and that we can work with and that the White House wants to advance.

But, you know, as you noted, there are a number of things going on on Capitol Hill. They are the Legislative Branch of this government, so if there's going to be a change in law, they will be the ones to take the lead. We hope that what we're working on will be able to inform the White House and be able to inform any process that goes on

elsewhere.

DR. TURNER-LEE: Yeah. And the question I have, and, again, as a researcher, we're not in a state of pretty much great bipartisan consensus on issues. If anything, much more fractured. And when you and I worked together, I mean, you were on one side, I was on the other side. But just for transparency, David was always very willing and open to take the conversations, I think, from various groups.

All of the issues that you've actually shared this morning seem to be bipartisan concerns: federal privacy legislation, having a digital economy that is fruitful, that produces jobs, et cetera. When you put the White House in, David, and your representative, it doesn't always go as planned.

So the question for all of us is, will we see these issues sort of progress through in a bipartisan way versus other issues that have been stalled? Because these are important. These are very important issues.

MR. REDL: I mean, I can't prognosticate where things will go.

DR. TURNER-LEE: Oh, you can't? You can't take this and do a genie in the bottle? (Laughter)

MR. REDL: I could try. We could Magic 8-Ball it. It's ask again later, right?

DR. TURNER-LEE: Right. (Laughter)

MR. REDL: One of the things I love about the field we work in is that at a certain level of abstraction it's always bipartisan. I have yet to meet the anti-broadband caucus. Right? And I love that most of the things we work on, people want to work on together, that they're about bettering Americans' lives; they're about improving our standing in the international economy; they're about connecting people.

But I'm not a Pollyanna, right? There's a reason we have two parties in



this country. And as you start to get more and more granular, you start to see where the differences come. The question then becomes can you continue to have a conversation where you keep your eyes on the shared goal and find a way to achieve the shared goal?

I spent almost seven years on Capitol Hill trying to do that for House Republicans, for Chairman Upton, and Chairman Walden. I don't get the impression that anything has changed with respect to the staff on Capitol Hill who want to do good things for the country.

So, you know, maybe that makes me -- maybe that means I'm wearing rose-colored glasses, but I continue to be optimistic that when it comes to a shared vision of American prosperity that we can all drive forward in the same direction.

DR. TURNER-LEE: Well, you know, you have -- and I guess, again, if you have a question I'll be opening up the floor in just a moment, but you have this unique experience of working on both sides. You're now --

MR. REDL: So many things I now know that I wish I knew when I worked on Capitol Hill.

DR. TURNER-LEE: Right, but maybe there were some things you didn't want to know. (Laughter) You know, working on Capitol Hill, you wanted to stay fresh and wide open in terms of some of those issues.

I mean, for myself, who was very curious about this because, you know, they always say once a staffer, always a staffer, do you see, particularly in this new role as the administrator of this very important agency, your ability to sort of negotiate through those worlds and bring something to legislators which will help them move and see the value of the big picture, the same way that you will talk to Secretary Ross and others within NTIA, to sort of keep this process moving?

MR. REDL: Sure. I mean, let's be honest, everybody has a boss.

Right? And when you have a job like this, you have lots of bosses. Lots. I mean, obviously I work for the Department, Secretary Ross and the President are my bosses. But Congress in some ways will always be our boss. Congress makes the laws, they determine what authorities we have, and they determine how much money we get to undertake those goals.

And so, you said it, once a staffer, always a staffer. I consider myself a staffer. It's the role I have loved the most was being a staffer on Capitol Hill. It was a ton of fun to work in a place where you felt like you could get something done and you had colleagues around you on both sides of the aisle that wanted to do it, too. Like I said, I don't see that having changed.

And I love to go to Capitol Hill and engage with members and staff and try to see where there are areas of commonality and how we can help. I mean, at the end of the day, not being a regulator and being an agency that primarily provides advice and brings together smart ideas and tries to promote smart ideas and get the private sector to embrace smart ideas, I mean, that's right in our wheelhouse.

DR. TURNER-LEE: Right, right. I do have one burning question and I didn't send this to you, so Ann might get mad, but I do have to ask --

MR. REDL: All the press people are always worried when they hear that.

DR. TURNER-LEE: I mean, you brought up the Census, right, and the Census is actually going to make a lot of decisions around many of these issues. Do you think the change in the Census will have any impact on what we find out about the digital economy?

MR. REDL: I mean, we're still waiting -- the most recent results I think we got were, and I'm looking at my team, I think the most recent results were 2017. And so we'll be waiting to get back 2018 data. Ours is part of sort of an ongoing community

survey, not sort of part of the larger decennial Census.

And as far as the community survey goes, we've been getting really good data out of that. We're really proud of the work we've been doing with the Census to test how the digital economy is changing Americans' lives.

DR. TURNER-LEE: Right. And I mention that, those of you who have been following this debate, the Census format is being changed. There'll be questions around people's immigration status, which may have an impact on whether or not people answer the Census. In addition to that it will largely be driven online. And we know in this country that there's about 11 million people who are not online to actually answer that tool. And so that could be somewhat problematic.

So I was asking because I think if we look at people who are on the other side of the digital divide, if we're not getting their data, you know, it's going to be very hard for us to reengineer systems of work for people who will stay perpetually impoverished because they're just not being counted. So I just wanted to make sure I mentioned that.

MR. REDL: Yeah, I mean, look, we're focused on all those issues. And I think you know that, right? We're focused on infrastructure and we're focused on providing good data and we're focused on making sure that we have a system that provides not only the ability, but the know-how to engage the digital economy. And so that's where we're focused.

DR. TURNER-LEE: Yeah. So I want to open it up for questions. If you have a question what I'll do is I'll have you raise your hand. I will do my best to monitor the amount of questions. We'd like to take as many questions as possible.

I'm going to start in the back and then I'm going to go to Lynn, this gentleman next to Lynn, and then we'll go over here to make it easier. So we're going to

right towards the back near the coffee. You can turn right around and we'll start there.

And please, please, please, so that we can entertain as many questions as possible, keep your question to a question and try to avoid a comment.

SPEAKER: My concern is privacy of personal information: age, address. And what's happened today is age discrimination laws are ineffective because there are no controls. And I spoke to an FCC attorney who said, yes, they could take and remove data per the request of the owner of the data, but Congress hasn't given the FCC authority. Another suggestion was having a Do Not Post or Publish list.

So my question is what do you see as the feasibility? Because right now, it's no holds barred. So age, birth date, these clean sweeps that make discrimination in jobs possible regardless of the law that supposedly protects individuals from age discrimination or where your address is and what does that reveal to a prospective employer.

DR. TURNER-LEE: Okay. So, yeah, you're talking about those proxies. So we'll have David answer how those can be handled.

MR. REDL: Sure. So I hope that you'll put those in comments to the agency. There are a host of issues and that's one of the ones that we have heard come up in our discussions with folks about how we should be looking at privacy in modern America. I don't know where we're going to go on that and certainly I won't speak to the FCC's authorities. I will leave that to the FCC, our independent agency brethren.

But as we look across the entire privacy question we want to consider everything. So I hope you'll find time to comment in our ongoing comment process and it'll be something that we can look at as part of a holistic look at privacy.

DR. TURNER-LEE: Great, thank you. We'll come up here, we'll go to Lynn, the gentleman next, and then I will come back to you after I get to that gentleman

back here. So, Lynn, the microphone is coming. Right over here, third row. And then you could just pass it right over to the gentleman.

MS. STANTON: Lynn Stanton from TR Daily. At the FCC right now they're undergoing a challenge process to discover what areas are and are not served by broadband in anticipation of awarding support for areas that aren't served by broadband. And parties that want to challenge say that it's cost -- each individual provider is saying it's costing them millions of dollars to do this kind of research, drive around in cars and set up the equipment to check whether the service is there. What can you do with \$7-1/2 million in the face of what these providers are finding them it's costing them to check?

MR. REDL: So putting aside that I'll let the FCC defend their own process, I think what you're talking about, Lynn, is the mobility fund. And the challenge of mapping broadband in a fixed environment and mapping broadband in a mobility environment are two very different challenges. Right now the FCC is struggling with how to deal with it in a mobility environment.

We are focused for now on the fixed environment and that's broadband to your home, broadband to the businesses of America, making sure that we have the sort of wired assets to support not only broadband to all those folks, but the ugly secret of wireless is that wireless requires a wired network at some point, and we have to get it all back into sort of the core Internet. We want to work on that function for now.

You're absolutely right, the number of challenges in a mobility space are exponentially more difficult than fixed. By focusing there and trying to focus on places where we think we can get the most bang for taxpayers' buck in terms of pilot projects and figuring out who we can work with, unlike the FCC we are not a regulator. So I cannot simply go through a rulemaking and require people to give us information. So we've been working with the broadband providers to say what are the challenges? What

are your concerns? And how can we get ahold of the data sets that you have for your own service?

We've been working with commercial companies who do this kind of work, who put together third-party datasets for broadband and for the underlying assets that support our telecommunications networks, and figuring out is there a way for us to take advantage of those assets that's commercial viable. We're looking forward. We're going to put out some RFPs hopefully in the coming months, before the end of the year, to look at not only what we can do in terms of getting ahold of data, but also building a platform that could be extensible, so that we take what we've got now and can build upon that.

Because ultimately, what Congress told us to do in the Omnibus Bill was to work to improve the FCC's broadband map. And so our work will dovetail with what they're doing. I'm glad that they're doing good work to try and improve the mobility map and we look forward to helping them, if they are so inclined, at some point. But right now, our focus is on fixed.

DR. TURNER-LEE: All right, this gentleman right here. I'm following, so the gentleman here and then we'll go there, there, and then you.

MR. SCOTT: Hi, Max Scott. My question is about the digital divide. Some of the fastest-growing rates of connectivity are happening in developing countries. But these are also countries where we're seeing regulations that governments are imposing that seem primarily concerned with isolating those governments from criticisms or preventing flows of information across borders.

So what is the U.S. message to these countries as our companies are increasingly interested in investing in them? And how can we push back on this in countries where they seem primarily concerned with insulating themselves?

MR. REDL: I mean, I think for us the proof is in the pudding. The United States, one of the reasons -- you cited the rate of connectivity growth -- one of the reasons we are not going to be in the top list on rate of connectivity growth is that 80 percent of our country is already connected and 79 percent of Americans have home broadband connections, and that's up from 76 the year before that. So in terms of rate, I think our rate will slow as we try to get to the hardest portions of our broadband service.

And I think when we go to other countries and it's -- you know, sort of uniformly we try to advocate for the system we have because we've shown that it works. Facilities-based competition, liberalizing spectrum markets, making investment easier for companies, and empowering consumers to make good choices is a system that America has embraced and works. And that's the message. The message isn't to try to have a political conversation. We're the Department of Commerce. The economics have borne out for us. That's the story we want to tell.

DR. TURNER-LEE: So I have a quick question just to tag on this gentleman's question. So one of the things that we're seeing, particularly in Congress, is this rural broadband divide, urban broadband divide. Should we even be talking about that or should we just be talking about solutions? More fiber rollouts, you know, maybe more 5G focus in particularly urban areas where it can propagate. I mean, as the Department of Commerce should we be picking winners and losers or should we be trying to figure out what works for people's situation?

MR. REDL: So there are a number of different divide challenges. Right? We've talked a lot about the rural problem because that's one that we've been focused on recently. But we know that there are other parts of the country that have challenges to getting connected. And whether it's availability or adoption, they're very different challenges.

You know, at the Department of Commerce we're looking at everything. Right? We're looking across and saying the problem here is getting people connected, period. It doesn't matter if their urban or rural, high income, low income. It is a per se good for the country to have more Americans embrace broadband. That's where we start.

DR. TURNER-LEE: Yeah. No, that's a good point. It was important for us to have roads that people could actually get off and on, right? (Laughter)

So this gentleman in the back, the one with the blue shirt. Raise your hand so she can bring you the mic and then we'll return back to this young lady in the gray, this gentleman here, and this one here. Then we'll do a time check.

MR. HERCHENROEDER: Hi, Karl Herchenroeder with Communications Daily. I was curious if you've been following the Senate Commerce hearings on privacy and if you've seen any kind of consensus between Republicans and Democrats, as well as industry and privacy experts.

MR. REDL: I mean, I've been following the hearings, of course. I think a number of Americans have. I'm sure everyone in this room has. The fact that we're having this conversation nationally I think shows that there's some level of consensus. And what we're seeing play out in our comment process and our meetings on these issues shows that there's some level of consensus that we should be having this conversation.

Will we get to consensus on what to do? It's too early to tell. There's a lot that can happen between now and yes or no that will impact where every American is, not just members of Congress.

And so I think it's a little early to say that we have consensus on what to do. But I'm excited that we're having this conversation and that we're having this



conversation in the Executive Branch and the Legislative Branch and, frankly, in living rooms around the country.

DR. TURNER-LEE: That's right. Yeah, if you want to actually have a really interesting look at the privacy debate, we hosted a session here at Brookings that included the private sector, as well as advocate groups, like Center for Democracy and Technology, as well as the Internet Association. And one of the greatest things that came out is that everybody kind of agreed that we needed to do something, which for those who have been in Washington for a long time, it's very hard to get everybody to agree. It's almost like getting both of my kids to decide what they really want to eat at dinner at the same time. (Laughter)

Let's go to this young lady right here with the gray jacket.

SPEAKER: Thanks. So sorry to make this about your independent agency brethren again, but so I think it was a few months ago that you wrote a letter to Chairman Pai expressing concern from a national security perspective about retiring obligations to maintain copper networks. I hope that you can comment on the extent to which with people like DHS talking about the importance of resiliency and having sort of redundancies and backups that are not digitally connected, the extent to which your concerns are related to cybersecurity and whether you've heard from Chairman Pai on these concerns or whether this continues to be a concern for you.

MR. REDL: So my concerns are focused around operability. Part of my job by statute is to present the views of the Executive Branch to the FCC and to Congress on communications and information matters. And, unfortunately, there are parts of the U.S. Government for whom we have systems that are still critical to the operation of federal jobs and our national security that are not ready to be moved over to purely digital platforms. That's just the way it is.

And my letter to the Chairman was to note for him and it's something that they noted in their order, as well, right, that there are, in fact, still systems that are going to have to be upgraded in order to be brought to a place where we've retired copper across the country.

I know -- look, I support the goal, and I think everyone in this country does, of more fiber, better connectivity, better digital platforms, more service in more places. But I also have to be concerned with making sure that federal systems are ready to flip the switch, and it's not always as easy as saying that's going away, you need to be over here. There needs to be some lead time for that, and that was the genesis of our concerns.

DR. TURNER-LEE: Thank you. This gentleman right here. And I'll get to the gentleman in the back after, here and then the back.

MR. ALLISON: Hi, thanks. My name is Kevin Allison. I work for Eurasia Group. I was curious if you could give us a sense of when you believe -- your current understanding of when the first commercial-scale, standalone 5G services might be offered here in the United States, and whether you feel that the move to exclude certain foreign network equipment suppliers from the 5G networks in the U.S. and in other Western countries risks pushing back that timeline for when 5G might become available here in America.

MR. REDL: Sure. So there's sort of three aspects of 5G you have to think about, right? 5G is the current standards in both fixed and mobile, but also the so-called "new radio," right, which is the new standard that will support 5G services. My understanding is that both AT&T and Verizon have already announced that they will have services turned on in the first half of next year for in some cases fixed and in some cases mobile 5G services.

So to answer, you know, I don't have any more visibility into carriers' deployment strategies than the rest of the world does, but they've made the announcements that they're planning to do so. So I would ask them on that front.

In terms of equipment availability, you know, I think the concern with certain equipment suppliers has been well established, both in various parts of the U.S. Government and Congress in a very public debate about this during the Omnibus and during the National Defense Authorization Act. And so putting that aside, it's worth noting that our largest providers in the country have signed deals with other providers of that equipment. Samsung, Nokia, Ericsson are all providing equipment for U.S. 5G deployments and helping us to lead the world in 5G.

And so I'm excited to see the companies are taking note of the U.S. as a market and continue to push forward. We're seeing companies like Ericsson and others announcing that they are going to be doing more of their manufacturing and assembly in the United States, which we think is not only good for American national security, but good for the American economy. More jobs from the 5G economy is good for the country.

DR. TURNER-LEE: That's right. What I was going to say on that, you mentioned earlier about these apprenticeships that come out of the Department of Labor. In my previous role with the Multicultural Media Telecom Council we partnered with the National Urban League and the Wireless Infrastructure Association to actually create wireless apprenticeships, so that when a lot of these jobs do come to the United States in a very meaningful way, you'll have a labor force. And so I think, again, I'm glad that you mentioned it because we need to ensure that these apprenticeships actually stay active.

I'm going to go to this gentleman in the green shirt. Okay.

MR. STANFORD: Thank you. My name's Ian Stanford. I'm with the

U.S. Postal Service, Office of Inspector General. And you mentioned earlier that NTIA, one of the things you address there is how you can bring government assets to bear in expanding broadband to areas where the private sector either can't or doesn't reach, and I was curious if you could talk a little bit about what some of the assets the government has that you found most effective, particularly for reaching into rural areas. And whether or not NTIA has done any consideration about the assets the Postal Service has particularly, again, its extensive assets in rural areas and whether or not those can be brought to bear in data collection, outreach, or even physical infrastructure for reaching broadband to rural areas.

MR. REDL: So with respect to the Postal Service in particular, I'd have to check with my team who have been waist-deep in this. Doug Kinkoph and his team in our Office of Telecommunications and Information Applications have been doing this for years and are much more steeped in the individual assets of particular agencies.

That being said, some of the assets we've been able to look at, you probably saw that early in the administration the President signed an Executive Order making the Department of Interior's utility poles available. The Department of Interior has an extensive network of utility poles that could be used to string fiber, could be used as sites for smaller cells. And so that's one of the things that was right out of the gate something the Trump administration could do to help further our push to bring federal assets to bear.

The Federal Government's a huge landowner. The Bureau of Land Management has extensive holdings in the United States. We have the Department of Energy has facilities. DOD obviously has facilities and DOD has facilities in rural parts of the country, typically. Putting aside the Pentagon and things here in our D.C. area, a lot of our bases are in rural parts of the United States for good reason.

One of the things we can do with those facilities, with GSA's buildings, with the tops of those buildings and the ability to have cell sites there, with the ability to bring fiber to those areas, to help change the economic calculus in places where to-date the private sector has said the economics aren't worth it. And that's what we're really focused on.

DR. TURNER-LEE: Okay, perfect. This gentleman in the back, then I have a question over here. And again, if you're following this conversation, please tag #DigitalEconomy, as well as #BrookingsInstitute.

SPEAKER: Thank you. You had talked about American leadership in this technology space and the importance of it going forward. And then we've had this conversation today about the privacy and people's privacy and data concerns. And to the extent that data and information drive innovation for a lot of these companies, there's a potential that legislation or standards in a way handcuff the ability of these organizations to get that information to drive innovation. And there are certain other countries in the world, China for example, where their companies are going to have a population of over a billion and not be hampered by human rights concerns.

And so I'm just curious are there any specific Commerce policy ideas for how we are going to help keep American technology companies as we maybe have some of these privacy laws or standards come online here?

MR. REDL: Sure. So I will say from the start, I'll question the premise a little bit. One of the things we've heard loud and clear from technology companies as we've had the meetings in the lead-up to our Request for Comments is that we believe that as Americans we can have privacy and have innovation and prosperity in this country, that they are not mutually exclusive goals. That you can support Americans' notions of privacy and empower them to get the privacy outcomes that they want without

sacrificing the essential nature of who we are as a country: a country of risk-takers, a country of innovators, a country that brought the world most of the Internet. And I don't think those are the kinds of things we have to choose between.

Will it be a tough conversation to figure out how to make sure we are maximizing both to the best of our ability? Yeah, and that's why it's been so long in coming. But I think there's been a sort of understanding over the last couple of months that we can work together to have both.

I'm hopeful that what comes out of our Request for Comment process will reflect that understanding. And I'm really excited about getting the comments back because I think from what we've heard from industry, there is a path forward that lets us continue to innovate, continue to lead the world without sacrificing our essential nature.

DR. TURNER-LEE: Right. And, I mean, again, moderator privilege, I just want to -- I get to do that because I'm sitting here, right? But to this gentleman's comment, I think part of what has happened in the privacy debate, and it's also happening in the digital economy, are the tech companies are sort of recreating and reengineering a lot of these sectors. Right? And so I guess the question is, a lot of government agencies were not prepared for this. Are you prepared?

MR. REDL: We are. I mean, and that's why we're where we are now. That's why we're engaging in the conversation we're having. Right? It would be much easier to put our heads down and just wait and see what happens, but that's not who we are and it's not what the administration asked us to do. They said get out there, be public, be a leader, bring people in, and put something together. And that's the stage of the game we're in.

DR. TURNER-LEE: Yeah, it probably makes it easier that you're not a regulator.

MR. REDL: It does. I remind people of that all the time.

DR. TURNER-LEE: Right. The regulators have to figure out which rulemaking or statute does this really apply to, right, versus for NTIA it probably gives you a little bit more leeway to be more flexible with these companies.

A question over here and then we'll wrap up with one final question before we give thanks to David for joining us. Right here.

MR. AMIN: Hi, Magdi Amin with Omidyar Network. Thanks for that last comment. I very much agree with you that it is not a tradeoff. And, in fact, when people can be sure of their privacy, they can trust systems and, in fact, enhance innovation.

My question is, from your standpoint, given that we already have some state frameworks, we also have sector frameworks, so what do you see is the role of the federal legislature? How does it sit, I mean, from your standpoint? Is the potential for fragmentation a problem or is it about raising standards to set a high bar for state, or how do you see the interoperability between federal and state and federal and sector?

DR. TURNER-LEE: Right. And just before you start, for those of you that are not aware, California has placed on the books a state privacy law that will probably -- maybe, perhaps, because I'm not a psychic, right? -- will go into effect before federal privacy legislation. So that's a great question.

MR. REDL: So one of the things we heard loud and clear in our initial process before we put out the RFC in developing our principles and our Requests for Comment was a fairly uniform push from whether it be privacy advocates, industry, individual consumers, that they want to see leadership out of Washington on this; and that having there be some sort of federal privacy framework would be good.

I'm waiting to see if that plays out and what people are willing to put on paper. The Request for Comment will drive where we go from here, but we've been

hearing pretty loud and clear and I think as you watch the hearings on Capitol Hill that were mentioned earlier in the Senate, we're seeing the same thing come out of those, that having a federal privacy law that harmonizes things across the country is something that people are calling for.

Whether or not we get there, what it looks like, you know, I certainly am not going to speak for the Legislative Branch. That's no longer my job. But we are looking at bringing all this information together, so that we can go up to Capitol Hill and have an honest and informed dialogue with lawmakers and say these are the things we have to learn, these are things that this administration believes, like the fact that we can have privacy and prosperity alongside each other, and we want to work together to try to get a solution.

DR. TURNER-LEE: Right. Do you use any complications if we don't get to federal privacy legislation and the California law goes into effect?

MR. REDL: I see complications everywhere in privacy. I mean, if it weren't complicated, Nicol, we wouldn't be having this conversation, right? (Laughter) I mean, privacy has been a complicated question since the dawn of this country. This is the latest chapter.

DR. TURNER-LEE: Well spoken by an administrator. (Laughter) Well spoken.

We have time for one final question and then I will wrap up. This young lady in the green. Oh, you got two and I don't want to be Pat Sajak and pick between the two questions. So we'll do a fire hose because I do believe in fairness. Say your question and then we're going to bring it to this young lady to say her question and then Mr. Redl will summarize both.

MR. REDL: No pressure.



MS. ROGERS: Okay. Jane Taylor Rogers, BT. I was just wondering ahead of the ICANN meeting in Barcelona if you had any thoughts on the progress with the work on the WHOIS database and the interaction with GDPR on that.

DR. TURNER-LEE: Why don't you go ahead and just answer that question? And then we'll go to this last young lady for the wrap-up.

MR. REDL: So the question's on WHOIS. I'll give a little background for those who don't know. The WHOIS database is a portion of the domain name system. So when you go on the Internet and you register a domain name, you have to give certain information about how you are. And that information is important because it is something that is used by law enforcement. It's used by intellectual property rights holders. And it's used by cybersecurity researchers to help inform solutions that take into account the essential nature of the Internet.

As was noted, GDPR, the European privacy regulation, cast some question as to whether or not we would continue to see WHOIS data collected by registrars, those who are selling domain names to the public, and maintained in a way that those three groups -- law enforcement, IP, and cybersecurity -- could use that data to continue to promote trust on the Internet. Unfortunately, it's been a little more difficult going than we had hoped.

I have to say I was happy to see that ICANN was willing to go to the courts in Germany to try and ensure that we would see WHOIS maintained, WHOIS data collected and maintain in the way that we've seen. And we're continuing to work with ICANN and they're continuing to press their case in the European courts.

In the meantime, NTIA and others within the U.S. have been working with registries and registrars to make sure that that data continues to be collected, which is part of their contract with ICANN, and maintained in a way that the U.S. Government

can continue to get access.

How we go from here is going to be a challenge and we're looking to see how ICANN works through their policy development process to come up with a way to see GDPR and the WHOIS, which is just incredibly important to the security and stability of the nature, can work together.

DR. TURNER-LEE: Last question?

SPEAKER: Hi, thank you so much for your time. My name is Clarice Brown from Eurasia Group. And I'd like to know if you can answer at all whether the White House has established any red lines when it comes to data privacy and legislation.

MR. REDL: So I certainly will let the White House speak for the White House, but I can tell you that in our work we have been asked to go out and come up with good ideas. And that was our marching orders from the National Economic Council. Go out, do some interviews, figure out what the best ideas are, put out your Request for Comments, and tell us what America thinks about a 21st century approach to American privacy.

So at this stage of the game, that's what we're doing. We're bringing together American opinions, we're going to harmonize those, we're going to them to the White House, and hopefully that will produce something that we are comfortable taking to Capitol Hill to have a further conversation.

DR. TURNER-LEE: Yeah. So with that, I want to say thank you, David. Let's give David Redl a round of applause. (Applause) I didn't know what to expect from this conversation when he agreed to come, but I think that there's a whole lot of stuff that he's actually put on the table that the agency is doing. Privacy is obviously one of them. And I think these are issues that all of us care about.

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Thank you very much.

MR. REDL: Thanks, Nicol.

DR. TURNER-LEE: Thank you. (Applause)

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