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“Expanding U.S. Digital Trade and Eliminating Barriers to U.S. Digital Exports”

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United States House of Representatives

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Chairman Reichert, Ranking Member Rangel, and Distinguished Members of the House Trade Subcommittee, thank you for the opportunity to appear before you today to discuss IBM's views on the importance of digital trade to the health of the U.S. economy and to creating opportunities for American workers.

I would like to begin with an example of how our work and our lives are touched by the everyday movement of data across borders. Let's imagine for a moment that as Members of Congress you have been asked to participate in an inter-parliamentary dialogue on trade with the European Parliament in Brussels.

As you check in for an evening flight to Brussels via London, the airline sends data ahead of you to Heathrow to facilitate the transfer of your baggage between flights, and to communicate your meal preferences to the next flight crew.

While you're flying across the Atlantic, the engines of your aircraft are automatically transmitting ahead to ground crews in London, via a satellite link to a data center in the United States, that they will require some minor maintenance upon landing. The necessary parts are searched on a database in France, pre-ordered from inventory in the UK, and sent via express delivery to Heathrow.

When you land, you take advantage of your layover to use your U.S. bank ATM card to get some local currency, post a few photos to your social media accounts, check the Weather Channel app on your iPhone to see if it will be cloudy in Brussels (spoiler alert: it will be), and – while you're there – to watch live feed on your tablet of Serena Williams winning another Wimbledon title via the tournament app.

You're not even at your destination but in less than 12 hours, you have created, caused, or benefitted from literally scores of cross-border data flows. Your flight information, your baggage count, your meal preferences, your banking transaction, your social media post, your weather inquiry and your sports fix – none of it would be as easy and seamless as you've come to expect were data not permitted to flow freely in the cloud.

At IBM, we should know, because IBM touched each one of those transactions:

- Via airline reservation and information systems managed by IBM globally;
- Via inventory management systems and logistics and delivery systems supported by IBM software and data analytics;

- Via data centers and banking networks IBM manages in the U.S. and Europe;
- Via billions of real-time weather forecasts generated each day from thousands of weather stations linked to IBM's Weather Channel app;
- And even via the app for fans to get real-time updates from Wimbledon, from the Masters, from the Australian Open, or many other sporting events.

Now, imagine for a moment how different your trip might have been if onerous rules prevented your data from traveling ahead of you to Europe. Or if the data you generated in Europe was required to stay there, or be managed only via data centers geographically located inside the European Union, or via a "Schengen cloud."

These are not hypothetical risks – in fact there was a very real chance earlier this year that trans-Atlantic data flows might have been stopped absent a special US-EU agreement to continue them. And there is continued pressure in countries around the world – from France to India, from Brazil to China, from Turkey to Indonesia, for data that is generated locally be stored locally as well.

The cross-border movement of data is not a technology company issue – it's an issue affecting every one of us, every day. And whether it is airlines, express delivery carriers, banks, engine manufacturers, weather forecasters or sports fans – the modern economy is powered by data.

The simple fact is: If data cannot flow freely, 21st Century commerce cannot happen.

IBM is uniquely positioned to offer our insights on the digital transformation currently reshaping the worldwide economy. We're an information technology company that has been around for over 100 years. Throughout our history, global trade has been a hallmark of IBM's growth and success.

In its latest transformation, IBM has become a "cloud platform and cognitive solutions company." Since IBM operates in over 170 countries and earns about two-thirds of its revenue outside of the United States, digital trade is essential to our company's future – and to the future of our clients.

I gave the example of your hypothetical trip to Europe. Let me give another. Perhaps you have heard of IBM Watson from its win on the TV quiz show *Jeopardy!* in 2011 against two of the world's best human contestants. (Though you may have heard around the cloakroom that your former colleague Rep. Rush Holt did win one round against Watson in a contest on Capitol Hill that same year.)

Well, Watson has come a long way since 2011, when it did one thing: answering questions in natural language. Today, Q&A is just one of more than 30 Watson capabilities – all of which have been turned into digital services delivered via the cloud. With Watson, every digital application, product and process can understand, reason and learn. Watson is the world's first truly cognitive system.

We are currently providing Watson solutions to clients in over 40 countries, including leaders and startups in health care, financial services, retail, energy, automotive,

government and more. Watson can now speak Japanese, Spanish, Brazilian Portuguese and Arabic. And it can “see” – it is being used to help radiologists scan thousands of medical images.

But if Watson were not able to communicate across borders – to share insights, to glean intelligence from countless online medical journals, or to analyze customer or patient data against databases stored in cloud centers worldwide – then Watson would be less robust... less cognitive, if you will.

Digital trade isn't just about business, it's about working across countries, cultures and languages to solve humanity's biggest problems. Consider some social challenges from today's headlines: Zika. Ebola. Cancer.

Alarming healthcare challenges that have touched too many of our families, and they don't respect lines on a map. Right now, more than 700,000 people on six continents are coming together to create a virtual supercomputer – the World Community Grid – that medical researchers are using to find better treatments for these diseases, and others. It's a tool facilitated by IBM that harnesses spare computing power on computers and mobile devices around the world over... transmitting data between those computers seamlessly and instantly to create a virtual – and free – supercomputer for social good. It wouldn't be possible if that spare computing power and data could not transit seamlessly and instantly across borders.

If you're still not convinced, let's look at some numbers:

- IBM estimates that there are currently over 9 billion connected devices around the world making up the Internet of Things.
- And these devices generate 2.5 billion gigabytes of data every day – yet 80% of the data are unstructured or “raw,” creating a largely untapped new “natural resource.”
- According to the World Bank's 2016 World Development Report, a typical day in the life of the Internet sees 186 million Instagram photos sent around the globe; 152 million Skype calls being made; 36 million Amazon purchases transacted; 8.8 billion YouTube videos watched; 803 million Tweets sent; 4.2 billion Google searches undertaken; 2.3 gigabytes of web traffic created; and 207 billion emails sent – all in just a typical day.
- All that data generates economic and social value. In 2015, big data vendor revenues grew 23.5% from the year before, and that growth is only expected to continue. Data-driven revenues that were \$18.3 billion in 2014 are expected to reach \$92.2 billion over the next ten years.

These statistics illustrate the essential role of data in today's global economy, and American ingenuity is leading the way.

Digital trade has already produced significant benefits for the U.S. economy. The USITC estimated in 2014 that digital trade had increased U.S. real GDP by 3.4 to 4.8 percent; real wages by 4.5 to 5.0 percent; and aggregate employment by up to 2.4 million jobs. The McKinsey Global Institute found that data flows were 45 times larger in 2014 than in 2005, generating \$2.8 trillion in value for the global economy.

The U.S. clearly has a competitive advantage in digital trade:

- 13 of the top 20 Internet-based companies are American.
- The United States is the top creator of digital content of all types – from business software to entertainment.
- And the United States is the world’s leading exporter of services, over half of which, nearly \$400 billion, are digitally enabled.

In today’s networked world, international commerce simply cannot function without constant streams of information flowing swiftly and seamlessly across borders. But the benefits of digital trade for American companies and their employees are at risk due to the rise of “digital protectionism,” in which countries block cross-border data flows and require the use of local data centers to provide services. We have seen these barriers proliferate – in Europe, in Latin America, in the BRICs economies, and elsewhere.

Congress and the Administration have recognized this reality and responded – in a notably bipartisan way. With strong and bipartisan leadership from both Republicans and Democrats in Congress, digital trade was included as a key negotiating objective for the United States when Trade Promotion Authority was passed last year.

The Obama Administration responded and delivered what Congress sought – and then some. In the Trans-Pacific Partnership, the United States has negotiated the most far-reaching digital provisions found in any trade agreement. These provisions are truly groundbreaking, and they enjoy very broad-based support. TPP is important because it will ensure that digital barriers cannot take root in 12 economies that account for nearly 40% of the world’s GDP.

But TPP is equally important in that it sets a vital precedent for digital trade provisions in future trade agreements, including the Transatlantic Trade and Investment Partnership (TTIP) and the Trade in Services Agreement (TiSA).

If the United States wants to lead the technological race in the 21st Century, it must be at the forefront of writing the digital “rules of the road.” Why? Because digital trade holds the potential to create tremendous growth for the United States and the world – as long as our trading partners do not impose barriers that destroy economic opportunities before they are created. Because we are the leaders in this space, American companies have the most to lose from digital protectionism.

Data touches each of our lives, every day. America is at the forefront of data-driven innovation, and we are fostering an open and competitive global digital economy. Our

talented entrepreneurs and engineers are poised to unleash data not just to facilitate your business trip to Brussels – but to make life better for everyone. By negotiating trade rules to keep data flowing freely across borders, the United States is once again leading the global economy toward a more prosperous, open, and interconnected future.

Thank you for this opportunity. I look forward to your questions.