

**Testimony of Dean Garfield
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Hearing on Effects of Digital Trade on U.S. Businesses

**Before the Subcommittee on Digital Commerce and Consumer Protection
Committee on Energy & Commerce**

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Chairman Latta, Ranking Member Schakowsky, and Distinguished Members of the Subcommittee on Digital Commerce and Consumer Protection, thank you for the opportunity to appear before you today to discuss the critical importance of digital trade to U.S. innovation, competitiveness, job creation, and economic growth. As the Subcommittee with jurisdiction over non-tariff trade barriers, which most digital trade barriers are, we appreciate your leadership in engaging on these issues as the U.S. seeks to modernize the North American Free Trade Agreement and examines other trade agreements that were completed prior to the internet playing the role in the economy that it does today.

ITI is the global voice of the tech sector and we appreciate the opportunity to provide testimony on global digital trade. ITI members participate in and power digital trade across the globe. They manufacture hardware, develop software, create online content and platforms, provide services, and are key partners of companies of every size and across every industry that rely on digital technologies to further their business operations. Governments are also increasingly important customers for our members, as technology allows governments to reach more citizens with services and creates efficiencies within their operations. As the premier advocacy and policy organization for the world's leading innovation [companies](#), ITI navigates the relationships between policymakers, companies, and non-governmental organizations, providing creative solutions that advance the development and use of technology around the world. ITI's testimony will focus on describing: 1) "digital trade," 2) its importance to the U.S. economy, 3) risks to digital trade, and 4) ideas for maximizing the benefits of digital trade to the U.S. economy, companies, and workers.

What is “Digital Trade?”

It is important to be clear about what we mean when we say “digital trade.” The U.S. International Trade Commission (ITC) defines “digital trade” as “U.S. domestic commerce and international trade in which the Internet and Internet-based technologies play a particularly significant role in ordering, producing, or delivering products and services.” In my view, the definition is both more basic and more expansive. Digital trade is simply any economic activity involving the movement of digital information (or “data”) across borders.

In other words, digital trade is exceptionally broad. Technology companies such as IBM, Microsoft, and Intel rely on cross-border data flows to address important objectives, such as improving public health, environmental stewardship, and connecting devices and people. It occurs when one purchases goods and services from an online retailer in another country, such as Uniqlo, a clothing company in Japan. It occurs when companies send digital information around the world to manage their businesses, such as Rio Tinto, the global mining company, which uses data to coordinate its global operations and relationships with its customers. It occurs when service providers sell their products electronically to overseas customers, such as when an insurance company underwrites life insurance policies for people in other countries. And it occurs when an individual in the European Union downloads smart phone applications developed in the United States. In other words, in 2017 digital trade happens all the time, every day, in a multitude of ways in all sectors of the economy and depends implicitly on the movement of digital information across borders.

Why is Digital Trade Important to the U.S. Economy?

The United States benefits greatly and disproportionately from digital trade. The ITC has estimated that U.S. GDP increased between \$517 billion and \$710 billion (3.4 to 4.8 percent) in 2011 as a result of digital trade, and that digital trade helped create 2.4 million jobs in the United States the same year.¹ The ITC also

¹ See U.S. International Trade Commission (ITC), *Digital Trade in the U.S. and Global Economies, Part 2*, (U.S. ITC,

found that, in 2012, small and medium-sized enterprises (SMEs) sold some \$227 billion in goods and services online. At the end of September, the ITC issued another report on global digital trade that revealed even more about the importance of digital trade to the United States:

- **Global digital trade is growing quickly as Internet usage is increasingly cloud-based.** Four U.S. companies (Amazon, Microsoft, Google, and IBM) are the top global providers of cloud computing services. The United States (\$44 billion), EU (\$15 billion), and China (\$1.3 billion) spent the most on public cloud computing services in 2015.
- **Global e-commerce grew from \$19.3 trillion in 2012 to \$27.7 trillion in 2016.** Business to Business (B2B) e-commerce makes up more than 86 percent of that total. Top Business to Consumer (B2C) e-commerce markets in 2015 were China (\$767 billion) and the United States (\$595 billion).
- **Internet usage is increasingly moving to the cloud.** Using industry data, the Commission estimates that 70 percent of all 2015 global Internet traffic went through cloud data centers—a striking increase from 2011, when only 30 percent went through those centers.
- **The United States is the largest market for cloud services** and home to some of the largest cloud service providers. U.S. firms such as Amazon Web Services, Google Cloud Platform, Microsoft Azure, and IBM Rackspace are the largest providers of cloud services for the global market, which had total estimated revenues of \$89.9 billion in 2016.
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The most important message I would like to convey to you today is that the internet, digital technologies, and, therefore, digital trade, are fundamental to the competitiveness and success of U.S. companies in all

August 2014), <http://www.usitc.gov/publications/332/pub4485.pdf>.

sectors and of all sizes, to making international trade and the global economy more inclusive, and to making people's lives better. The international flow of data contributed \$2.8 trillion to the global economy in 2014, a figure that could reach \$11 trillion by 2025, according to McKinsey Global Institute. Digital trade is not just a tech sector issue, it's a whole of economy issue, and will only grow in significance as more companies use digital technologies to access markets, interface with customers, and innovate.

While the economic value generated by technology companies is incredibly significant (they employ over 6.9 million Americans — 5 percent of private sector employment — and account for 7.5 percent of U.S. GDP), digital trade often has its greatest impacts in business-to-business contexts, outside of the technology sector. Technology products and services that underpin digital trade drive growth and job creation in virtually every sector of the economy.

The U.S. Congress has recognized the importance of digital trade in many forms, most importantly when it enacted the Bipartisan Congressional Trade Priorities and Accountability Act of 2015 (“TPA”). As a whole, it was the first TPA bill that recognized the impact the internet has had on the U.S. economy and the significant competitive advantage for U.S. companies provided by minimizing barriers to the trade and export of digital goods and services. The 2015 TPA bill acknowledged the central importance of digital trade and cross-border data flows to the U.S. economy by recognizing them as “principal trade negotiating objectives.” In addition to protecting cross-border data flows, TPA gave specific direction to U.S. negotiators in several areas impacting digital trade, including modernized intellectual property and trade secrets protections, protections on requirements to transfer technology or source code, and the treatment of digital goods at the border.

Business owners across the U.S. economy – whether in the automotive, construction, energy, financial services, hospitality, manufacturing, retail, or other sectors – rely on cross-border data flows to run their businesses.

Let me give a few concrete examples of companies using our technologies and innovations in their business operations:

- **Caterpillar:** Caterpillar, a leading manufacturer of machinery and engines used in industries, established its fleet management solution to increase its customers' performance and cut costs. Sensor-enabled machines transmit performance and terrain information to Caterpillar's Data Innovation Lab in Champaign, Illinois where data can be analyzed, enabling Caterpillar and its customers to remotely monitor assets across their fleets in real time. This also enables Caterpillar and its customers to diagnose the cause of performance issues when things go wrong. For example, truck data at one worksite showed Caterpillar that some operators were not using the correct brake procedures on a haul road with a very steep incline. Retraining the operators saved the customer about \$12,000 on the project, and company-wide driver incidents decreased by 75 percent.²
- **AeroFarms:** New Jersey-based AeroFarms utilizes 95 percent less water than traditional farms by growing an array of lettuces and herbs in indoor vertical farms that can be located near highly populated cities such as Newark. The innovative company can also grow 100 times more kale, arugula, and watercress than your traditional farm that relies on sunlight and soil. With a pilot project in the Middle East under their belt and the support of 118 employees, the company is expanding domestically and is just beginning their global journey. AeroFarms is in the midst of developing vertical farms throughout the United States and across 4 continents with China and the United Arab Emirates as their areas of focus at the moment. The internet plays an integral part in facilitating AeroFarms' ability to deliver its innovative technology on a global basis. The vertical growing towers function more like data centers than farms. They are filled with sensors that capture data during every step in the planting process, which are used to perfect growth algorithms. AeroFarms' marketing team

² Information Technology and Innovation Foundation testimony at the House Ways and Means Trade Subcommittee Hearing on "Expanding U.S. Digital Trade and Eliminating Barriers to Digital Exports": <https://waysandmeans.house.gov/wp-content/uploads/2016/07/20160713TR-Atkinson-Testimony.pdf>

manages its company Facebook, Twitter, LinkedIn and YouTube presence, which easily attracts interest from the media and customers. Restaurateurs and chefs share on AeroFarms' website and Facebook page how they have converted to using "Dream Greens," the company's new retail brand of locally-grown, pesticide-free, non- GMO baby greens.³

- **Merck:** Merck has partnered with Numerate, a technology platform company leveraging proprietary algorithms alongside the power of cloud computing to transform the drug-design process, in order to generate novel small-molecule drug leads for an undisclosed cardiovascular disease target. Numerate's algorithms provide predictive models for molecular properties with accuracies comparable to laboratory testing, enabling scientists to search through billions of compounds to rapidly and efficiently identify those with the highest probability of activity against a specific target. This type of computational bioscience combines knowledge of the biocode with exploding empirical data to clear the way for scientists to design new therapies in the cloud. Such approaches could dramatically reduce the cost of pharmaceutical development and greatly expand the number of therapies that can be created and tested by moving medical research away from a "hit-and-hope" world of trial-and-error guesswork.⁴
- **The Interpublic Group of Companies:** Interpublic Group (IPG) is a global leader in modern marketing and advertising services, with more than 80 operating units and 47,000 employees in all major world markets. IPG is home to communications companies that provide consumer advertising, digital marketing, sports and entertainment marketing, public relations, and media services to many of the world's largest marketers. IPG Mediabrands, a division of the company, manages media strategy and placement services on behalf of clients, investing \$37 billion in global media in more than 120 countries. IPG Mediabrands relies on the free flow of data to identify advertising targets and media buys, develops the means by which to reach those targets, and evaluates the success of advertising

³ Global Innovation Forum report on "The New Faces of American Trade"
<http://globalinnovationforum.com/flipbook/inc/pdf/GIF-New-Faces-US-Trade-2017-web.pdf>

⁴ Information Technology and Innovation Foundation report on "How Cloud Computing Enables Modern Manufacturing": <http://www2.itif.org/2017-cloud-computing-enables-manufacturing.pdf>

campaigns on behalf of its clients. IPG agencies work with clients around the world to evaluate and refine their global digital marketing and advertising campaigns by aggregating behavioral and demographic consumer information through regional processing centers. By collecting performance metrics like the number of ad views and clicks, as well as social media presence (e.g., Tweets, Facebook posts, blogs, Tumblr feeds, LinkedIn profiles), IPG agencies help their clients optimize and personalize the website advertisements shown to consumers across the world.⁵

In light of these examples, it is clear that U.S. companies and American workers have distinct competitive advantages in precisely the kinds of economic activities that digital trade facilitates:

- The United States is a leader in creating new industries, and Internet-related technologies are no exception. Seventeen of the top 20 enterprise cloud computing companies are headquartered in the United States,⁶ as are seven of the top 10 Internet firms.⁷
- The United States excels in services, which are increasingly provided digitally. According to the Bureau of Economic Analysis (BEA)⁸, in 2014, exports of services that rely on information and communications technologies were \$385.1 billion, and imports of such services were \$230.9 billion, resulting in a trade surplus of \$154.2 billion. U.S. firms and American workers are disproportionately successful in selling services – such as research and development services, professional and management consulting services, architectural and engineering services, industrial engineering, and training services – to customers outside the United States.

⁵ Business Roundtable report on “Putting Data to Work”:
<http://businessroundtable.org/sites/default/files/reports/BRT%20PuttingDataToWork.pdf>

⁶ See International Trade Administration (ITA), “2015 Top Market Report Cloud Computing” (ITA, July 2015),
http://trade.gov/topmarkets/pdf/Cloud_Computing_Top_Markets_Report.pdf.

⁷ See Shobhit Seth, “World’s Top 10 Internet Companies,” *Investopedia*, March 4, 2015,
<http://www.investopedia.com/articles/personal-finance/030415/worlds-top-10-internet-companies.asp>.

⁸ https://www.bea.gov/scb/pdf/2016/05%20May/0516_trends_%20in_us_trade_in_ict_serivces2.pdf

- The United States dominates in products and services involving high proportions of intellectual property. According to the U.S. Patent and Trademark Office (USPTO)⁹, total merchandise exports of IP-intensive industries increased to \$842 billion in 2014 from \$775 billion in 2010. Exports of service-providing IP-intensive industries totaled about \$81 billion in 2012 and accounted for approximately 12.3 percent of total U.S. private services exported in 2012.
- U.S. manufacturers tend to rely on globally integrated business networks to design, produce, and deliver their products. U.S. companies use digital technologies to optimize their operations and produce world-class products.
- U.S. small businesses are significant beneficiaries of digital trade. According to the Small Business Administration (SBA)¹⁰, U.S. small businesses employ almost half of the U.S. workforce and create two-thirds of all net new jobs. U.S. small businesses are thriving on the digital platforms created by technology companies. For example, according to a study by eBay¹¹, the cost of trading on eBay's online marketplace fell by 41 percent between 2005 and 2009, three times faster than the decline in costs for traditional trade. Over 90 percent of eBay's U.S. businesses trade across borders. More than 80 percent of small businesses on eBay reach five or more markets. Amazon, for instance, now hosts some 2 million third-party sellers. In 2014, Facebook estimated that 50 million SMEs are on its platform, up from 25 million in 2013.¹²

In other words, digital trade is about much more than technology policy. It is about how business is done in the 21st century and, by extension, the opportunities that we in the United States have to enable innovation, enhance competitiveness, create jobs, and power economic growth. Simply put, digital trade plays to our strengths.

⁹ <https://www.uspto.gov/sites/default/files/documents/IPandtheUSEconomySept2016.pdf>

¹⁰ <https://www.sba.gov/sites/default/files/advocacy/Issue-Brief-11-Small-Biz-Key-Players-International-Trade.pdf>

¹¹ https://www.ebaymainstreet.com/sites/default/files/EBAY_US-Marketplace_FINAL.pdf

¹² <http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/digital-globalization-the-new-era-of-global-flows>

What are the Risks to Digital Trade?

Just as opportunities for digital trade support U.S. competitiveness, job creation, and economic growth, barriers to digital trade threaten them. In recent years, governments around the world have adopted measures that interfere with the movement of data across borders, discriminate against U.S. firms, and, as a result, undermine U.S. economic interests. Such measures include: 1) restrictions on cross-border data flows; 2) requirements to localize data, production, or facilities; 3) mandates that companies transfer technology, such as source code, algorithms, or encryption keys; 4) stripping of “intermediary liability” protections, making online services liable for the conduct of third parties that they do not control; 5) the imposition of tariffs, taxes, and other charges on data flows or digital products; and 6) the extension of telecommunications and broadcasting regulatory requirements to online services.

Both ITI members and companies across the U.S. economy experience a wide-range of barriers to digital trade across the world that, taken together as a whole, make the internet less global and open, restrict cross-border data flows, and, therefore, reduce U.S. competitiveness.

A globally competitive technology sector that benefits the U.S. economy, businesses, and workers depends on preventing, reducing and eliminating these barriers, either through negotiation or enforcement of existing rules. The primary type of barrier to digital trade we have identified is the data localization requirement (see Exhibit A, a time series chart that demonstrates the steep rise in these requirements), for example in China, Indonesia, Nigeria, Russia, Turkey, and Vietnam. Our ITI Snapshot of Data Localization Requirements¹³ (see Exhibit B) lists 18 data localization measures in force and six potential measures. The Information Technology and Innovation Foundation (ITIF) found data localization requirements in force in

¹³ <https://www.itic.org/public-policy/SnapshotofDataLocalizationMeasures1-19-2017.pdf>

36 countries around the world.¹⁴ The European Center for International Political Economy (ECIPE) has identified 22 data localization measures in force in European Union Member States and 35 restrictions on data usage that could indirectly localize data within EU Member States.¹⁵ The economic impact of these measures is clear: data localization requirements increase costs for local companies by 30-to-60 percent according to a 2015 study by the Leviathan Security Group.¹⁶ ECIPE estimates that these measures also detract from GDP growth, productivity, and competitiveness in the economies implementing them.¹⁷

The problem is not that governments are seeking to address the public policy issues raised by an increasingly digital world. Indeed, many of the stated motivations behind governments' policy choices are legitimate ones. It is appropriate, for example, for governments to work to ensure national security and public safety, support economic growth and job creation, and protect people's privacy and personal information. The problem is that, even when they have the right motivations, governments are too often pursuing the wrong policies. In other cases, governments are using legitimate motivations as smokescreens for protectionist efforts to advantage their own firms.

Consider the steps that China has taken in recent years to interfere with the activities of U.S. technology firms. For the purported reason of protecting its national security, China has in a few short years enacted a tapestry of laws, regulations, and unwritten rules that discriminate against foreign companies and effectively extract their intellectual property for national use. Chinese policies and practices violate virtually every "best practice" of digital trade. They restrict cross-border data flows, require the localization of data and facilities within the country, mandate the disclosure of source code and other proprietary knowledge as a condition of doing business, and otherwise put a thumb on the scale in favor of Chinese firms.

¹⁴ http://www2.itif.org/2017-cross-border-data-flows.pdf?_ga=2.142742901.1791787411.1493816527-1581443156.1467220103

¹⁵ <http://ecipe.org/app/uploads/2016/12/Unleashing-Internal-Data-Flows-in-the-EU.pdf>

¹⁶ <http://www.leviathansecurity.com/blog/quantifying-the-cost-of-forced-localization>

¹⁷ http://www.ecipe.org/app/uploads/2014/12/OCC32014__1.pdf

Or take the example of the many developing countries that are restricting data flows and requiring localization measures in hopes that this will stimulate their domestic economic development:

- A number of Indonesian measures, including its “Information and Electronic Transaction Law” and “Government Regulation 82,” require that any company providing internet-enabled services to locate its data centers domestically.
- Nigeria’s “Guidelines for Nigerian Content Development in ICT” require that all consumer and subscriber data collected by companies in Nigeria be hosted within Nigeria.
- Vietnam’s Decree on Information Technology Services mandates that companies that provide internet-enabled services maintain at least one server within the country.

With such measures, governments not only work against their own economic policy interests by depriving their firms, workers, and consumers of cutting-edge technologies, products, and opportunities, they also effectively prevent American companies and small businesses from selling their products and services to hundreds of millions of people overseas.

A final example concerns the recent efforts of the European Union (EU) and the United States to agree on a mechanism for transatlantic data transfers. Like the United States, the EU has an admirably high level of legal protection for personal data, and it understandably wants to ensure that EU citizen data is appropriately protected when it is sent to third countries. Also like the United States, EU companies and citizens benefit greatly from the economic opportunities that cross-border data flows provide. Yet instead of agreeing to international rules guaranteeing cross-border data flows – subject to thoughtful, targeted exceptions to protect personal information – the EU seeks a blanket exemption of its data protection laws from any trade rules. It also maintains dozens of poorly justified data localization measures across its Member States. The effect of the EU’s policies and practices on data is to create great uncertainty on the part of companies,

many of which are based in the United States, regarding whether it will be legal or practical to move data across the Atlantic.

What can we do to Maximize the Benefits of Digital Trade to the United States?

We are at an inflection point in our policy choices about digital trade. Given the rapid pace of technological innovation, governments around the world are having to make choices about the regulatory structures that they want for the movement of digital information across borders. In our view, as discussed above, many governments are making the wrong choices. Whether for valid reasons or as pretexts for protectionism, many economies are imposing barriers to the movement of data and related economic activity that not only harm their own growth and development prospects, but also undermine the competitiveness of U.S. companies and the living standards of American citizens.

The United States has an opportunity to show global leadership in crafting policy environments that support cross-border data flows, open markets, and enhance economic opportunity at home and around the world. Congress has a critical role to play in effectuating this leadership, not only because of its constitutional authority over international trade but also because it has done so before. The general policy recipe that Congress has articulated in recent years is the right one, and both Members of Congress and their staffs are well-positioned to provide the kinds of oversight and support that a well-designed U.S. policy on digital trade demands.

Conclusion

In that regard, it is worth recalling the three broad priorities that we identified for the Administration earlier this year, priorities that we would welcome Congress' support in pursuing.¹⁸

¹⁸ <https://www.itic.org/news-events/news-releases/iti-outlines-tech-sector-s-trade-priorities-to-us-trade-representative-lighthizer>

- **New Rules.** A globally competitive technology sector that benefits the U.S. economy, businesses, and workers depends not only on the enforcement of existing trade rules, but also on the negotiation of new rules that reflect the fundamentally digital nature of our economy and that prevent or eliminate barriers to digital trade. Ideally, as the United States government and other governments address barriers to digital trade, whether through trade agreements or other policy mechanisms, they would work to establish new international norms that ensure that the internet remains free, open, and global, including allowing data to flow freely across borders; prohibiting tariffs or other taxes on cross-border data flows and digital products; prohibiting discrimination against new services that innovative companies using digital technologies provide; prohibiting requirements to localize data, production, or infrastructure; prohibiting forced transfers of technology, source code, algorithms, or encryption; and ensuring the adoption of strong intermediary liability protections.
- **Enforcement.** It is also critical that the U.S. government enforce U.S. trade agreements to ensure our companies and workers can compete fairly. The rules in our trade agreements should ensure that U.S. companies and workers are treated fairly and have an equal chance to compete in markets around the world. Enforcement of these rules is critical to U.S. industry. We, therefore, encourage an active and aggressive approach to enforcement of U.S. trade agreements, targeted at problems of significant concern.
- **Resources.** To advance successful negotiating and enforcement agendas, we advocate that the U.S. government increase its efforts and resources to support a digital agenda in U.S. trade policy. Specifically, we recommend that USTR elevate and increase its digital trade efforts by designating a senior official responsible for digital trade and adding resources at all levels of the agency. These steps would be commensurate with the large and growing impact of digital technologies on the global economy and U.S. competitiveness. Last year, the Departments of State and Commerce enhanced their support for the digital economy with their digital attaché programs; we have encouraged expansion of these programs to more markets. These agencies also have specific responsibilities, including in administering the EU-U.S. Privacy Shield. USTR also took a complementary and

important step of creating an internal working group on digital issues. More focus is needed, however, especially in light of the TPA negotiating objectives on digital issues; increasing evidence that technology can make trade more inclusive; and the growing barriers impeding trade in digital technologies. Given this Subcommittee's role in authorizing the Commerce Department's activities and budget, additional oversight in this area would be greatly appreciated.

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EXHIBIT A

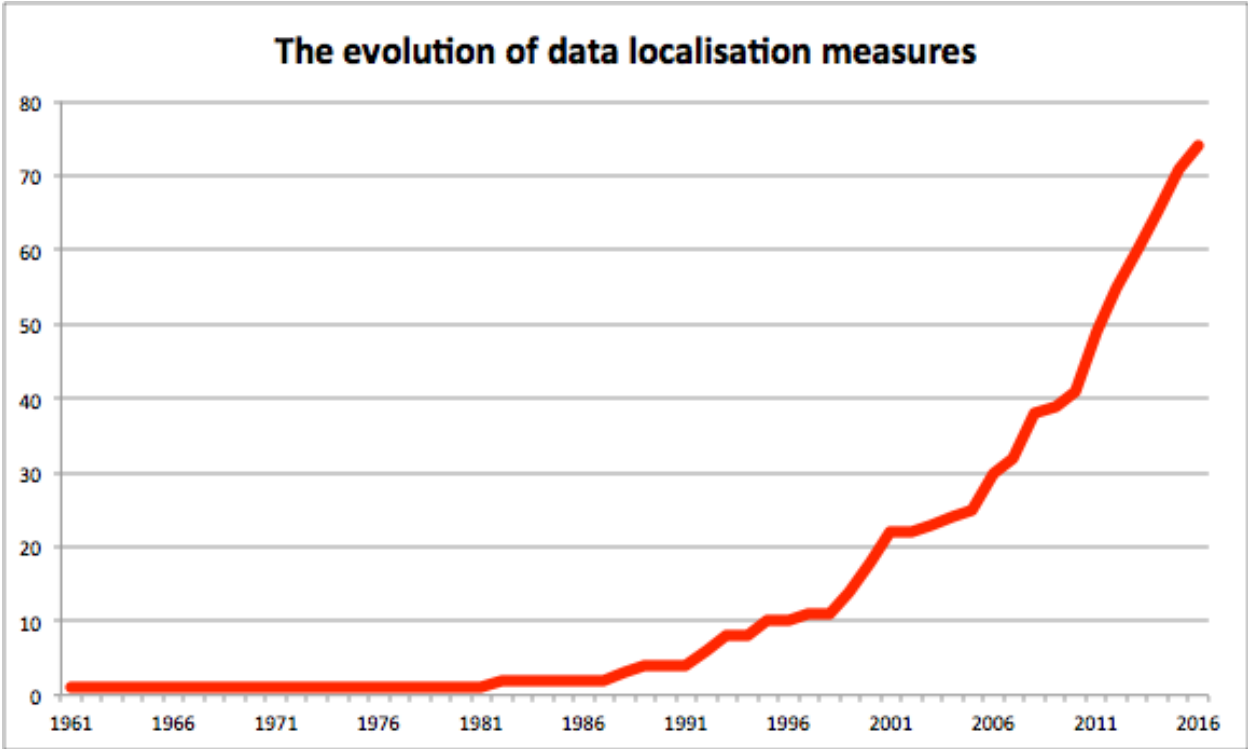


EXHIBIT B**Data Localization Snapshot**

Current as of January 19, 2017

Active Measures		
Country	Measure	Details
Australia	Personally Controlled Electronic Health Record Provision	This regulation restricts the exportation of any personally identifiable health information.
Canada	Two provincial personal information laws: Nova Scotia and British Columbia	These two provincial laws restrict the exportation of any personal data collected by or for public bodies.
China	Cyber-Security Law	This law contains broad requirements for local processing and storage of “important data” related to Chinese citizens and critical information infrastructure.
China	Notice to Urge Banking Financial Institutions to Protect Personal Information	This law prohibits the off-shore analyzing, processing, or storage of Chinese personal financial information.
China	Guidelines for Personal Information Protection within Public and Commercial Information Systems	This standard prohibits the overseas transfer of data without express user consent or government permission.
China	Online Publishing Service Management Rules	This law requires that all servers used for online publishing in China be located within China.
China	Population and Healthcare Information Management Measures	These measures prohibit the overseas transfer of health and medical information.
Germany	Telecommunications Act	Amendments to this act require telecommunications providers to store meta data for a specified period of time within the borders of Germany.
India	National Data Sharing and Accessibility Policy	This policy requires all data collected using public funds to be stored within the borders of India.
Indonesia	Regulation No. 82: Information and Electronic Transaction Law	This law mandates that any company which provides internet enabled services directly to the consumer must locate their data centers within Indonesia.
Kazakhstan	Amendments to Certain Legislative Acts on Informatization	These amendments require that all personal data collected within Kazakhstan be stored within the country.
Korea	Act on the Establishment and Management of Spatial information	This act, an update to a law which originated in the Korean War era, greatly restricts the cross-border transfer of mapping data.
Nigeria	Guidelines for Nigerian Content Development in ICT	These guidelines require that all consumer and subscriber data collected by companies in Nigeria be hosted within Nigeria.
Russia	Federal Law 242-FZ	This law requires that all data collected on Russia citizens be stored within Russia.

Russia	Federal Law 149-FZ	This law: 1) Requires any organization which “disseminates” information on the internet (email, messaging services, etc.) must keep all metadata within Russia for 6 months; and 2) all bloggers with more than 3,000 followers must register with local authorities.
Turkey	E-Payment Law	This law requires companies that provide e-payment services to conduct all data processing within the borders of Turkey.
United States	DoD Interim Rule on Network Penetration Reporting and Contracting for Cloud Services	These rules require that all cloud computing service providers that work for the DOD to store DOD data within U.S. Territory.
Vietnam	Decree of Information Technology Services	This law mandates that all companies that provide a range of different internet enabled services maintain at least one server within the borders of Vietnam.

Potential Measures

Country	Measure	Details
China	Draft Supervision Rules on Insurance Institutions Adopting Digitized Operations	This law would require localization of data servers by any insurance institution processing the personal data of Chinese citizens. Additionally, there are vague requirements for data residency that are yet to be defined.
China	Secure and controllable standards	In addition to highly invasive IP disclosure requirements, the regulation also has a section that gives preferred status to companies that can have upfront design duplicated environment of CPUs located within China.
Indonesia	Draft Regulation Regarding the Provision of Application and/or Content Services Through the Internet	This law has a vague requirement that OTT service providers place part of their data centers within Indonesia.
Korea	Standards for Cloud Computing Services	These pre-announced standards would require all cloud computing providers place servers handling public data within the borders of Korea.
Saudi Arabia	Proposed Regulation for Cloud Computing	This proposed regulation would require cloud service providers to store certain types of data locally based on a four tier data classification system.
Vietnam	Draft OTT Circular	This draft law would require all OTT service providers to locate at least one server in Vietnam.