CENTER FOR DEMOCRACY & TECHNOLOGY

November 23, 2016

Mr. Alexander Macgillivray
Office of Science and Technology Policy
Executive Office of the President
Eisenhower Executive Office Building
1650 Pennsylvania Avenue NW
Washington, DC 20502

Re: Request for Information Regarding Data Portability

Dear Mr. Macgillivray:

The Center for Democracy & Technology (CDT) respectfully submits these comments in response to the White House Office of Science and Technology Policy's (OSTP) request for information regarding data portability. CDT is a nonprofit technology advocacy organization dedicated to promoting democratic values online, including digital privacy, free expression, and individual liberty.

Today, individuals frequently feel like they lack meaningful control over their personal information.[1] Data portability is one important tool by which to address this concern by empowering individuals to access, transfer, and ultimately control their identity, media, and other forms of personal data. As a steward of considerable amounts of personal information, the federal government is well-positioned to explore how it can offer data portability mechanisms for citizens. In particular, we believe the OSTP can provide leadership and guidance to companies by learning how data portability is being implemented across industry, in both traditional online environments and as part of the Internet of Things.

While data portability is a powerful concept, its implementation can be haphazard and inconsistent. This is due to a combination of technical and definitional challenges and business reticence. First, for data portability to be useful for consumers, there must be meaningful interoperability standards among digital services and products. Second, an individual's right to data portability is intertwined with the notion of data ownership, which presents challenging legal and business-use questions.

[1] Lee Rainie, Pew Research Ctr., *The State of Privacy in Post-Snowden America* (Sept. 21, 2016), http://www.pewresearch.org/fact-tank/2016/09/21/the-state-of-privacy-in-america/.

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I. Industries and types of data that would most benefit from increased data portability

In the digital economy, countless business models are reliant on user data, yet users are frequently stymied in their ability to use their information on different platforms and services. Data portability is founded on the concept that individuals should have the right to move their data across interoperable applications, and in practice this can be implemented in a variety of ways.

Portability requires that users have full access to the information an entity has about them and must be able to take possession of all or some subset of it. Because the scope of the type of information available to access and then port is likely to vary by vendor, meaningful interoperability may be limited.[2] For example, offering users the ability to download a static PDF of their information may satisfy demands to provide individuals with access to their information, but it would facilitate only limited usability and portability.[3] For data portability to be meaningful to individuals, they need to (1) be able to obtain not only their complete individual dataset but also (2) have the ability to seamlessly transfer that information in a format that can be used in other digital realms. To meet this requirement, companies must embrace open file formats, provide documentation for application programming interfaces, and provide transfer tools that are accessible to users.

As the OSTP evaluates how it will define and investigate data portability, it should recognize that the effectiveness and implementation of data portability in the business environment varies wildly. In the context of online services and social networks, for example, meaningful data portability would permit users to transfer their connections, messages, and content into another service at the click of a button. This is a practical and discrete type of data portability, but one can envision a future where such functionality could facilitate user control and information engagement across different segments of society. For example, an individual's health records could be easily shared with different doctors and

[2] Interoperability is "the ability of two or more systems or applications to exchange information and to mutually use the information that has been exchanged." ISO/IEC 17788:2014, 3.9.

[3] Jonathan Brandon, *Cloud Experts Call for Global Standards on Data Portability*, Business Cloud News (July 29, 2014), http://www.businesscloudnews.com/2013/07/29/cloud-experts-call-for-global-standards-on-data-portability/ ("'[Y]ou want to get your data back in a useable format. To put it bluntly, if I get all of my data back in a PDF file, I'm not interested,' said Eric Henault, network coordinator at EuroCIO, an organisation consisting of a network of chief information officers across Europe.").

health providers. Temperature and lighting preferences and other environmental controls could be moved from the smart home to the connected car. Insights from one grocery store's reward program could be transferred and used at an entirely different supermarket. At the same time, however, data portability should not be construed to create a data free-for-all, and meaningful data portability should both allow users to remove and transfer data and have granular control over their information.

Below we highlight three potential industries where data portability might be piloted or explored through government efforts:

Software and Online Services

Where users were once concerned about moving word processing documents across programs or operating systems, today, the growth of cloud-based services has spurred standard-setting exercises by industry and, in the European Union, governmental mandates to facilitate the ability of users to move from one cloud service to another.[4] As a result, online productivity tools and social networks tend to be the focus of efforts to implement data portability rights.[5] For example, both Google and Facebook offer users the ability to export certain information.[6] While these efforts are useful for consumers, making it easier for Gmail users to take their messages and Facebook users to move their photos, they are limited to specific and narrow datasets that face interoperability hurdles from other providers.

Precision Medicine

There is great potential benefit in the use of data portability in health care. 69% of Americans track their health data, yet only a fraction of trackers subsequently share that information with a clinician.[7] The proliferation of health and fitness apps and resulting growth of patient-generated health data increases the need for meaningful data portability, and perhaps provides an arena for a useful pilot project. The White House's Precision Medicine Initiative envisions a future where many different types of data can be incorporated with patient information and easily shared among health care providers,

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[4] *Id.*

[5] *See* Barbara Engels, *Data Portability Among Online Platforms*, Internet Policy Review, 5(2) (2016), DOI: 10.14763/2016.2.408.

[6] Facebook offers the "Download Your Info" feature (https://www.facebook.com/help/131112897028467) and Google has the "Google Takeout" service (https://support.google.com/accounts/answer/3024190?rd=1). Facebook also includes information about the ads users have clicked on and logged IP addresses.

[7] Susannah Fox & Maeve Duggan, Pew Research Ctr., Tracking for Health (Jan. 28, 2013), http://www.pewinternet.org/2013/01/28/tracking-for-health/.

researchers, and patients.[8] However, health data frequently remains locked in silos. While online patient portals and dashboards increasingly offer individuals access to their health information, there is still low patient engagement in these services and reluctance from healthcare providers to implement truly robust data systems because of the cost.

Smart Homes and Internet of Things

Data portability and its first cousin, interoperability, will have particular utility as more devices are connected into the Internet of Things but they also raise critical policy questions. Ubiquitous connectivity offers the benefit of more device-to-device communication but it may also incentivize device-makers "locking in" users through non-portable relationships with consumers, presenting vexing questions about data ownership. Users are currently at the mercy of IoT device-makers and service providers – if they go bankrupt, change their business models, or simply decide to stop supporting a product, these devices and the data they hold may be effectively made useless. For example, the Revolv "Smart Home Hub" allowed users to operate locks, sound systems, and other in-home devices, but support for the device was discontinued in February 2016 after less than three years on the market, leading to an inquiry from the FTC.[9] The FTC was concerned that the unilateral decision by a manufacturer could fundamentally upset consumer expectations that purchased products will work and keep working due to the introduction of connectivity. Data portability and interoperability among devices and services could address this growing disconnect.

Control over information flowing into and out of the home may properly rest in a variety of different hands. Efforts like the "Green Button" initiative that make energy and utility data available to users in order to analyze their own energy-usage information suggests what sort of useful insights can be gathered from smart homes,[10] but the responsibility for securing and managing this information may be shared by a combination of homeowners and renters, device owners, and service providers.[11] Resolving this issue is likely beyond the scope of the OSTP's review, but it highlights one of the growing policy challenges underlying data portability in an IoT world.

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[8] White House, The Precision Medicine Initiative, https://www.whitehouse.gov/precision-medicine (last visited Nov. 22, 2016).

[9] Carl Settlemeyer, Fed. Trade Comm'n, Homework for the "Smart" Home (July 13, 2016), https://www.consumer.ftc.gov/blog/homework-smart-home.

[10] Green Button Initiative, Overview, http://www.greenbuttondata.org/learn/ (last visited Nov. 22, 2016).

[11] Jo Best, *Who Really Owns Your Internet of Things Data?*, ZDNet (Jan. 11, 2016), http://www.zdnet.com/article/who-really-owns-your-internet-of-things-data/.

II. The Potential Benefits and Drawbacks of Increased Data Portability

Benefits

In theory, data portability offers tremendous benefits to individuals seeking control over their information. The OSTP emphasizes that one of the key benefits of data portability is the ability for users to create backups of their information, but this understates the capacity that increased data portability has to promote individual empowerment. Effective data portability will increase user engagement with data, allowing people to determine how, when, and for what purposes their data is used.

According to a recent survey, 91% of American adults believe that they have lost control over how their personal information is collected and used by companies.[12] That same Pew survey also noted that consumers are concerned about industry and government data retention policies, and many consumers desire limits on the length of time personal information and records of one's activities are retained by not just advertisers but also social media sites, search engines, and retailers with whom they have a business relationship.[13] Data portability and easy movability could grant users more control over the complete removal of their personal information. For example, online services such as Facebook frequently encourage users to "deactivate" their accounts rather than completely delete them, and Twitter retains account information for thirty days after "deactivation" should a user change his or her mind. Data portability could recast ongoing debates about data retention and deletion, and easily portable data in the hands of users could help to divorce personal information from specific online accounts. Letting consumers move personal information at will creates powerful new incentives for companies to be better data stewards.

By promoting easy access to and use of information, portability standards can also lead to business innovation, improved product quality, and increased competition among online services and applications.[14] This is because portability can limit the ability of companies and online platforms to "lock-in" users through technical means rather than quality service. Preventing users from easily transferring information to a competing service is a sensible business strategy, but restricting data

[12] Rainie, *supra* note 1.

[13] *Id.*

[14] *See* Fed. Trade Comm'n, Prepared Statement of the Fed. Trade Comm'n before the United States Senate Comm. on the Judiciary concerning Oversight on the Impact on Competition of Exclusion Orders to Enforce Standard Essential Patents at 4 (July 11, 2012), *available at* https://www.ftc.gov/sites/default/files/documents/public_statements/prepared-statement-federal-trade-commissionconcerning-oversight-impact-competition-exclusion-orders/120711standardpatents.pdf.

portability creates switching costs for users. Where it is costly or technically difficult to switch services, users are effectively locked into using the first service to which they provide their information. This traps both individuals and businesses alike into staying on a platform regardless of the quality of their product or service, but data portability addresses this by allowing new services to attract customers – and their information – away from incumbents.

Conceptually, data portability promotes individual empowerment and competition in the marketplace. However, user empowerment through portability must also be done in a secure fashion that protects individual privacy and promotes responsible industry data stewardship. Organizations also have a responsibility to implement data portability in a responsible fashion. While CDT supports data portability rights, portability for its own sake is counterproductive. In particular, where data is easily exportable, it can quickly become an attack vector for identity theft and other malfeasance. Data security must also be required by companies implementing portability programs. While some degree of friction actually can serve to protect users from bad actors, assigning lifetime data portability to individuals raises the stakes that a single instance of identity fraud could turn into a lifetime breach of personal data.[15]

Moreover, users also need to have easy tools available in which to store and secure their information once exported. Meaningful data portability likely will encourage individuals to gather and aggregate all of their information into a single place.[16] On one hand, data portability could encourage the development of easily accessible data vaults and other innovative mechanisms for users to "plug in" their preferences in new contexts, but this sort of vibrant interoperability industry raises the risk that individuals are scammed or inadvertently lose more control over their information.

Drawbacks

Companies may face tremendous practical and technical challenges facilitating data transfers. In some instances, developing the requisite software and necessary infrastructure to achieve data portability

[15] Peter Swire & Yianni Lagos, *Why the Right to Data Portability Likely Reduces Consumer Welfare: Antitrust and Privacy Critique*, 72 Md. L. Rev. 335, 339 (2013).

[16] Mat Honan, *How Apple and Amazon Security Flaws Led to My Epic Hacking*, Wired (Aug. 6, 2012), https://www.wired.com/2012/08/apple-amazon-mat-honan-hacking/.

could entail considerable costs.[17] Portability mandates could also impose disproportionate compliance costs on small and medium-sized enterprises.[18]

Further, data portability requirements could unintentionally generate higher costs for consumer transactions and services online. Competing claims of control or ownership over certain information by multiple individuals can cause both property and privacy issues. For example, multiple people might appear in a photograph or collaborate on a document. Permitting one user to transfer a second user's information can violate the privacy expectations of the second user, and users can also use data portability mechanisms to circumvent the privacy restrictions imposed by data controllers.[19]

III. Specific Steps for the Federal Government, Private Companies, Associations, and Others Can Take to Promote Data Portability

It is clear that ensuring data portability and fair competition will require helping industry build the technical capacity to evolve from a model where user data is proprietary to one where user data is held for a time and released. CDT recognizes that advances in this regard will be a collaborative effort, and governmental actors, industry, and standards-setting bodies all have separate roles to play. We offer several high-level suggestions for next steps below.

Government's role as data portability convener, educator, and leader:

- The government might engage in pilot exercises to explore how data portability can be implemented in different industrial sectors or through the use of different technologies. Convenings lead by the OSTP or other appropriate federal agencies could be useful to generate thinking about how to best incentivize privacy and security protective data portability. For example, the National Telecommunications and Information Administration (NTIA) and the Department of Commerce are currently engaged in a broad effort to explore the benefits and challenges of the Internet of Things, and the appropriate role for the government in fostering

[17] Itte Overing & Marciej Gawronski, Switching - Data Portability Upon Switching, Discussion Paper (Jan. 2014), http://ec.europa.eu/justice/contract/files/expert_groups/discussion_paper_topic_4_switching_en.pdf.

[18] Engels, *supra* note 4, citing Swire & Lagos, *supra* note 15.

[19] Engels, *supra* note 4, citing James Grimmelmann, *Saving Facebook*, 94 *Iowa L. Rev.* 1137–1206 (2006).

these technologies.[20] As the FTC noted in its comments to the NTIA, data portability and interoperability are important issues to consider in the context of the Internet of Things.[21] The FTC is also well-positioned to study the policy and technical challenges of data portability, evaluate new practices, and provide guidance via its Office of Technology Research and Investigation.[22]

- The federal government must also deploy education programs to provide individuals with the appropriate knowledge to maneuver in this new landscape. Government-run education programs could help individuals and companies learn how to port data to other sites, security risks and protocols to consider, and the compatibility issues that might occur when moving data. Public-private partnerships and campaigns were an important element of the White House's Cybersecurity National Action Plan,[23] and a similar effort could be developed to encourage and promote responsible data portability practices.
- It is also worth noting that the government at all levels is a steward of tremendous amounts of individual information that can be useful to citizens. Standardized and open data sets can make public information more valuable to policymakers, researchers, and the public at large, and the White House's Open Data Initiative has already highlighted some of the longstanding challenges government faces in making data easily accessible, searchable, and portable for citizens.

Industry's responsibility to standard-set and provide transparency on data portability:

- Transparency will be a fundamental driver of data portability in general. Users may have little knowledge about the utility of their data nor incentive to explore how they might glean additional insight or value from it. It is helpful when companies disclose not only that information can be exported but also how or where else it might then be used. For example, Fitbit allows users to export their fitness and GPS data, and while Fitbit explains that fitness

[20] Press Release, U.S. Department of Commerce Seeks Comment on Potential Policy Issues Related to Internet of Things (Apr. 5, 2016), https://ntia.doc.gov/press-release/2016/us-department-commerce-seeks-comment-potential-policy-issues-related-internet-thi.

[21] Fed. Trade Comm'n, Comments of the Staff of FTC's Bureau of Consumer Protection and Office of Policy Planning to the Nat'l Telecomm. & Info. Admin. (June 2, 2016), https://www.ftc.gov/system/files/documents/advocacy_documents/comment-staff-bureau-consumer-protection-office-policy-planning-national-telecommunications/160603ntiacomment.pdf.

[22] Fed. Trade Comm'n, Office of Technology Research and Investigation, https://www.ftc.gov/about-ftc/bureaus-offices/bureau-consumer-protection/office-technology-research-investigation (last visited Nov. 22, 2016).

[23] Press Release, Launch of the "Lock Down Your Login" Public Awareness Campaign, White House (Sept. 28, 2016), https://www.whitehouse.gov/the-press-office/2016/09/28/fact-sheet-launch-lock-down-your-login-public-awareness-campaign.

information can be downloaded and reviewed via spreadsheets, it affirmatively suggests that GPS information may be uploaded into a variety of other apps and services.[24] Currently, though, companies are not incentivized to be transparent about their portability options in today's marketplace for fear of losing customers. But user lock-in may weaken individual engagement with information in the long run, and a lack of transparency about data portability fundamentally limits consumer choice. Industry transparency about data portability options could be an important way to address growing consumer concerns about routine sharing of information online.[25]

- Industry must take on the responsibility of developing interoperable digital formats that enable data portability and offer products and services that take advantage of those formats. This might be considered through the lens of existing technical and industry standards, codes of conduct, industry arrangements and contracts, and data portability policies at home and abroad.[26]
- While technical standards that ensure services will work together in predictable ways should be encouraged, a one-size-fits-all approach to data portability may not be practical. Instead, portability can be promoted through a universe of interoperable standards. As the FTC has acknowledged, a marketplace with competing technical approaches would induce firms to innovate to develop interoperability solutions with privacy and data security attributes desired by consumers.[27]

Civil society's responsibility to promote responsible data portability:

- Civil society can promote and evaluate industry and government data portability efforts. Early working groups such as the Data Portability Project developed model portability policies to foster internal discussion within companies about data portability, to educate consumers about portability issues, and encourage disclosures about portability practices in a way that was comparable across platforms and services.[28]

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[24] Fitbit Help, Can I Export My Fitness Data to My Computer?, http://help.fitbit.com/articles/en_US/Help_article/1133 (last visited Nov. 22, 2016).

[25] Rafi Goldberg, Nat'l Telecommunication & Info. Admin., *Lack of Trust in Internet Privacy and Security May Deter Economic and Other Online Activities* (May 13, 2016), https://www.ntia.doc.gov/blog/2016/lack-trust-internet-privacy-and-security-may-deter-economic-and-other-online-activities.

[26] Overing & Gawronski, *supra* note 17, at 6.

[27] Fed. Trade Comm'n, *supra* note 21, at 16.

[28] Data Portability Project, http://dataportability.org/ (last visited Nov. 22, 2016).

- In partnership with government education efforts, civil society should explore whether and how it might score industry data portability efforts. Organizations already regularly audit and evaluate industry practices and procedures with respect to protecting user privacy and security and promoting user trust.[29] A similar approach could be useful to help highlight how various industry sectors are approaching data portability and raise best practices and potential pitfalls.

Conclusion

CDT believes in the power of technology to empower individuals through enhanced control over their data. Data portability offers the potential to be an essential tool for empowering users in our data-driven economy, but responsible data portability within industry and ease of use by individual users are significant hurdles that will require government leadership to fully address.

Thank you for the opportunity to comment on this important issue, and we welcome any thoughts or questions.

Sincerely,

Joseph Jerome
Policy Counsel
Center for Democracy & Technology

[29] *See, e.g.*, Electronic Frontier Foundation, *Who Has Your Back?*, https://www.eff.org/who-has-your-back-2016 (last visited Nov. 22, 2016); Online Trust Alliance, Online Trust Audit and Honor Roll, https://otalliance.org/HonorRoll (last visited Nov. 22, 2016).