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Doing Business with Congress:

A Primer on Information Technology Acquisitions in the Legislative Branch

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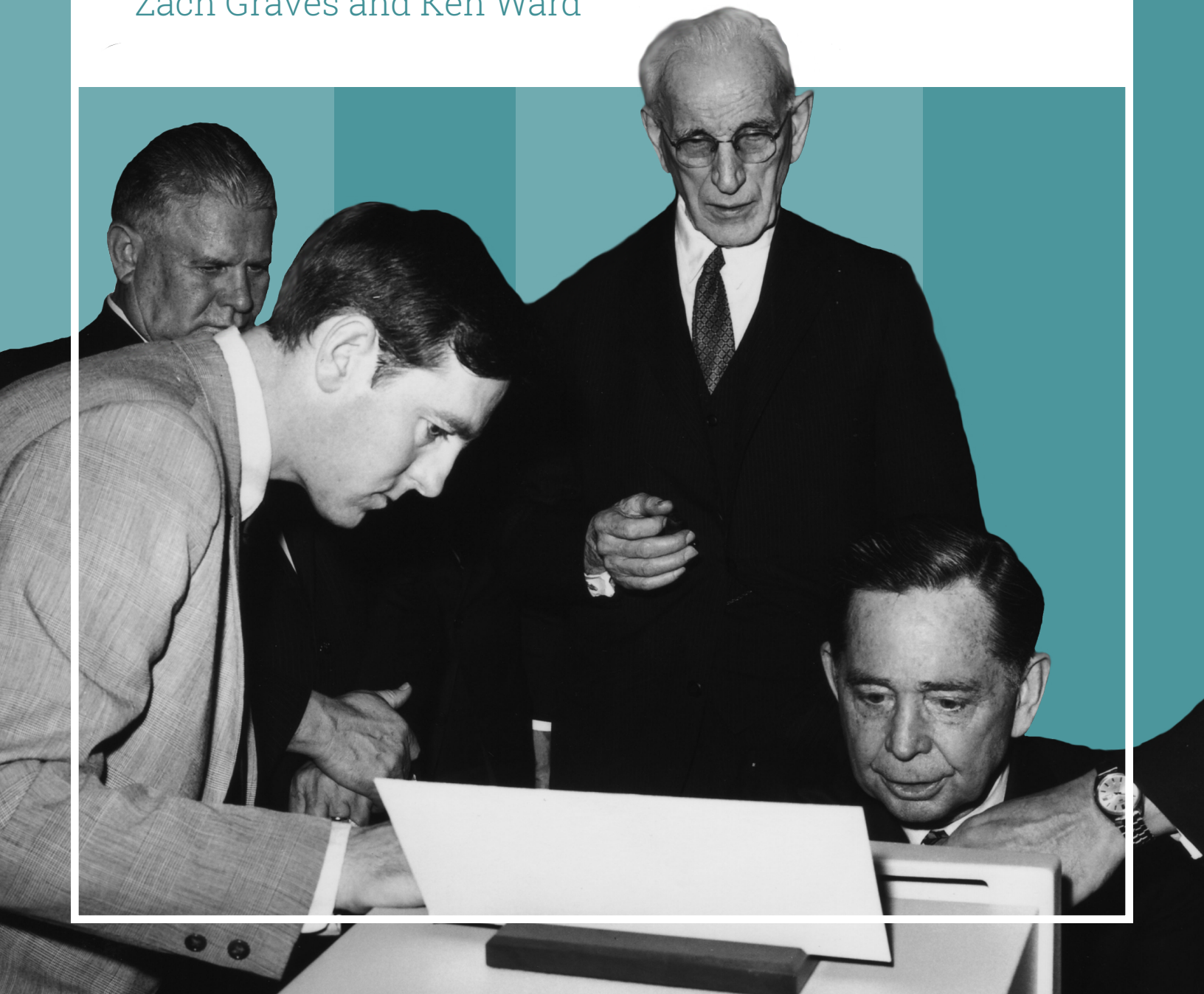

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EXECUTIVE SUMMARY

Of the three branches of the federal government, Congress is the most responsive to the American people. On a daily basis, congressional offices hear from constituents, industry groups, civil society organizations, and other stakeholders across a broad range of issues.[1] While digital tools have lowered barriers to communication with our elected representatives, Congress's information technology (IT) infrastructure and staffing[2] have failed to keep up with the new influx of information.[3] The Members and Committees that oversee the governance of IT often have other priorities and limited technical depth. Opaque and fragmented rules also make it difficult for prospective vendors to do business, or for public interest technologists and civic hackers to meaningfully contribute.

This paper gives an overview of the governance structure, technical policies, and acquisitions processes for information technology infrastructure in Congress.[4] The first section offers a brief history of the adoption of electronic communications and information technology in Congress. The second section provides an overview of the governance structure for information technology in the U.S. House of Representatives, the U.S. Senate, and other legislative branch entities. The third and final section provides an overview of technology acquisitions categories and procurement processes in each chamber. At the end of this paper, you will also find appendices listing information relevant to technology acquisitions that, in most cases, is not otherwise publicly available.

Our goal with this paper is twofold. First, we wanted to provide a resource for prospective vendors and civic hackers to help them navigate the structures and procedures involved in working with Congress. Second, we wanted to identify opportunities for reform that will help create a better functioning Congress that can leverage modern tools to serve the needs of the American people.

1 Far from being ignored, constituent feedback has a significant impact on how legislators make decisions. See: Bradford Fitch and Kathy Goldschmidt, "Citizen-Centric Advocacy: The Untapped Power of Constituent Engagement," Congressional Management Foundation, February 13, 2017, 9. **http://www.congressfoundation.org/projects/communicating-with-congress/citizen-centric-advocacy-2017.**

2 See, e.g., Zach Graves and Daniel Schuman, "The Decline Of Congressional Expertise Explained In 10 Charts," Techdirt, October 18, 2018. **https://www.techdirt.com/articles/20181018/10204640869/decline-congressional-expertise-explained-10-charts.shtml.**

3 See, e.g., Mollie Ruskin et al., "From Voicemails to Votes," OpenGov Foundation. **https://files.opengovfoundation.org/fromvoicemailstovotes.pdf**.

4 There is a relatively small body of academic literature on this subject. In undertaking this project, we relied on background interviews with congressional officials, internal congressional documents we were able to acquire, the professional experience and expertise of the authors, and various legislative branch reports and documents. Because of this, it should be noted that there may be gaps in our coverage or lack of granularity or emphasis on specific issues. In particular, we were limited in the documents and information we could get about the Senate's policies and acquisitions process.

HISTORY AND BACKGROUND

"Your votes and speeches may make you well known and give you a reputation, but it's the way you handle the mail that determines your re-election."

– Speaker of the House

William B. Bankhead (1938)

Contrary to its reputation of late, Congress has a long tradition of adapting and integrating new technologies. Samuel Morse, inventor of Morse Code, sent the first electric telegraph message from the U.S. Capitol in 1844.[5] Nine years later in 1853, plans were approved to create the first House telegraph office.[6] Congress's adoption of the telegraph was relatively quick, and happened concurrently with growing commercial deployment of the technology. In 1876, Alexander Graham Bell received a patent for the telephone. Just a few years later, in 1880, the first telephone was installed in the U.S. Capitol.[7] By the late 1890s, the House and Senate both installed telephone switchboards.[8] At first, this system only had to service 200 calls per day.[9] But by 1926, switchboard operators were servicing 30,000 calls per day.[10] Despite this trend, communications between Washington, DC and home states or districts was still quite limited relative to today.[11]

The early twentieth century also brought the rise of commercial radio and television; however, Congress was much slower to embrace these technologies. Radio was first utilized for a public broadcast from Congress in 1922 for an address by President Warren

5 Office of the Historian, "'What Hath God Wrought': The House and the Telegraph," U.S. House of Representatives. **https://history.house.gov/Exhibitions-and-Publications/Electronic-Technology/Telegraph/**.

6 Ibid.

7 Office of the Historian, "Capitol Hill's Telephonic Revolution," U.S. House of Representatives. **https://history.house.gov/Exhibitions-and-Publications/Electronic-Technology/Telephone/**.

8 "Oral History Project | Capitol Telecommunications, 1970-2006," U.S. Senate. **https://www.senate.gov/artandhistory/history/oral_history/CapitolTelecommunications.htm**.

9 Office of the Historian, "Completes Thirty Years of Service as Telephone Operator in the Capitol, Washington, D.C.," U.S. House of Representatives. **https://history.house.gov/Collection/Listing/PA2015/PA2015-01-0049/**.

10 Ibid.

11 Dennis W. Johnson, Congress Online: Bridging the Gap Between Citizens and their Representatives (Routledge, 2004), 1.

G. Harding.[12] However, it was slow to adopt the technology more broadly,[13] as opponents fearing it would change the institution for the worse.[14] Similar fears held back television. While the rise of commercial television in America started in the 1930s, it would take decades before congressional proceedings were consistently televised. Ad hoc television broadcasts of major hearings[15] started around 1948.[16] However, regular coverage of floor proceedings wouldn't begin until 1977 in the House and 1986 in the Senate.[17] The Senate trailing behind the House in embracing new technologies would be a consistent pattern in the ensuing decades.

With the advent of the information age starting in the 1960s, new tools for digital communications and information processing started to become available. In 1969, Congress had three computers: one for the Senate, one for the House, and one for the Library of Congress.[18] In 1971, the House created the Office of House Information Systems (HIS) to provide information technology and computer services to Members and Committees.[19] By the mid-1970s, most congressional offices had personal computers.[20] But, according to one Senate staffer, these computwers often "just sat there and gathered dust."[21] In the early 1980s, email was first used for internal communications in Congress. In 1993, the House created a pilot program to test the use of email for constituent communications.[22]

By the mid-1990s, digital technologies were beginning to mature and gain mass-market appeal. In the private sector, this decade saw wider adoption of email, the launch of the World Wide Web, and rapidly growing mobile phone usage. At this time, the way we communicated with our elected representatives in Congress also began to change, and this

12 Office of the Historian, "Radio and Congress: Connecting the House to the Home," U.S. House of Representatives. **https://history.house.gov/Exhibitions-and-Publications/Electronic-Technology/Radio/**.

13 Ibid.

14 "Radio Days," U.S. Senate. **https://www.senate.gov/artandhistory/history/minute/Radio_Days.htm**.

15 The Watergate hearings in 1973 were likely the most prominent of these, receiving hundreds of hours of network television coverage.

16 "Video Broadcasting of Congressional Proceedings," Congressional Research Service, April 17, 2017, 1-2. **https://www.everycrsreport.com/files/20170417_R44665_6b51230d03e35db38a88264769cb63291421407f.pdf**.

17 Ibid.

18 Office of the Historian, "One Small Step . . . for Housekind," U.S. House of Representatives, November 1, 2013. **https://history.house.gov/Blog/2013/November/11-1-Computer/**.

19 Jacob R. Straus, "Electronic Voting System in the House of Representatives: History and Evolution," Congressional Research Service, February 11, 2008, 7. **https://fas.org/sgp/crs/misc/RL34366.pdf**.

20 "E-mail Me: Congress and the Internet," U.S. Congress. **https://history.house.gov/Exhibitions-and-Publications/Electronic-Technology/Internet/**.

21 "Oral History Interviews: Dorothye G. Scott: Administrative Assistant to the Senate Democratic Secretary and to the Secretary of the Senate (1945-1977)," U.S. Senate, 65. **https://www.senate.gov/artandhistory/history/resources/pdf/OralHistory_ScottDorothyeG.pdf**.

22 Ibid.

began to change the institution itself. This period would see the launch of congressional websites for the House and Senate, Members, committees,[23] and THOMAS.gov, which provided access to legislative information online.[24]

Before 1995, Congress was still a "paper-based" institution at its core.[25] Some Member and committee offices were early adopters, finding greater use for computers and digital documents. Most offices also had computers for word processing. Nonetheless, Congress was still figuring out how it would embrace the information age.

The 1994 midterm election was the year of the Republican Revolution, which brought the GOP substantial majorities in both chambers of Congress. Newt Gingrich became the first Republican Speaker in four decades and had a mandate for reform. The new Republican House leadership moved quickly to push their agenda in the first session of the 104th Congress. This included the creation of the office of the Chief Administrative Officer (CAO) in the rules package, an office that would play an instrumental role in the development and management of House IT infrastructure.[26] House leadership also moved to develop a blueprint for modernizing and systematizing their IT infrastructure. This task was assigned to the Committee on House Oversight,[27] which launched a Computer and Information Systems Working Group to study and report on the issue.

This effort resulted in the creation the House Information Systems Program Plan, which was adopted by the committee at the end of 1995.[28] This plan, in addition to recommendations from an audit by PriceWaterhouseCoopers, would pave the way for the development of key infrastructure, procurement rules, and cyber security measures in the House.[29] The Senate, meanwhile, would continue to trail behind the House.

While this era brought some forward-looking reforms on technology, the cost-cutting approach of the new Republican leadership would severely diminish legislative branch

23 Office of the Historian, "E-mail Me: Congress and the Internet," U.S. House of Representatives. **https://history.house.gov/Exhibitions-and-Publications/Electronic-Technology/Internet/**.

24 David Gewirtz, "So long, Thomas.gov: Inside the retirement of a classic Web 1.0 application," ZDNet, May 4, 2016. **https://www.zdnet.com/article/thomas-gov-an-exclusive-inside-look-at-the-retirement-and-transition-of-a-classic-web-1-0/**.

25 Computer and Information Services Working Group, "CyberCongress Accomplishments During the 104th Congress," U.S. House of Representatives, February 11, 1997. **https://web.archive.org/web/20010105040400/http://www.house.gov:80/cha/publications/cybercongress/body_cybercongress.html**.

26 As part of this change, the office of House Information Systems was reorganized under the CAO and renamed "House Information Resources."

27 Known today as the "Committee on House Administration," this committee had its name changed at the beginning of the 104th Congress to the "Committee on House Oversight." The name was changed back at the beginning of the 106th Congress. See: "A History of the Committee on House Administration: 1947-2012," U.S. Congress, September, 2012, 56.

28 Jeffrey W. Seifert and R. Eric Petersen, "House of Representatives Information Technology Management Issues: An Overview of the Effects on Institutional Operations, the Legislative Process, and Future Planning," Congressional Research Service, April 2, 2003, 4-5. **https://www.everycrsreport.com/files/20030402_RL31103_e9b170d6255320141add6d525ff52f1e510cc62e.pdf**.

29 Ibid.

capacity in other ways. The FY 1996 legislative branch appropriation bill[30] included substantial cuts to legislative staffing and congressional support agencies, as well as the elimination of the Office of Technology Assessment.[31] This helped set in motion decades of decline in congressional staffing that the institution has yet to recover from. [32]Additionally, much of the groundwork for the innovations that took place in the mid-90s was laid by the previous Democratic leadership.

Subsequent developments in congressional IT in the 1990s and early 2000s included the build out of telecommunications infrastructure and multimedia capabilities; the launch of an intranet and the Legislative Information System; expanded connectivity with district offices; the development of standards for Correspondence Management Systems (CMS); and greater availability of digital documents.[33] The volume of digital communications increased significantly over this period. For instance, emails to the House rose from 20 million to 48 million between 1998 and 2000.[34] By the end of 2001, Congress was receiving a million emails a day.[35]

Today, Congress receives more communications than ever before. Yet, it still has a lot of room to improve its basic IT infrastructure. In a recent survey by the Congressional Management Foundation, only 6 percent of senior staff reported they were "very satisfied" when asked if Congress's technology infrastructure is adequate to support Members' official duties.[36] While constituent communications have a significant influence on the decision making of Members of Congress, there are growing frustrations with the mechanics of this process as it has moved to the digital sphere. [37]

Congressional technology is a unique market that can be hard to serve. According to an analysis by the OpenGov Foundation of 2014 congressional spending, Congress spends approximately $288 million annually on

30 H.R. 2482, 104th Congress. **https://www.congress.gov/bill/104th-congress/house-bill/2492/text**.

31 See, e.g., Zach Graves, "Rebuilding a technology assessment office in Congress," R Street Institute, September 25, 2018. **https://www.rstreet.org/2018/09/25/rebuilding-a-technology-assessment-office-in-congress-frequently-asked-questions/**.

32 Graves and Schuman. **https://www.techdirt.com/articles/20181018/10204640869/decline-congressional-expertise-explained-10-charts.shtml**.

33 In 1997, for instance, the House adopted a new rule stating that "each committee shall, to the maximum extent feasible, make its publications available in electronic form." See David Dreier, "We've Come A Long Way... Maybe," U.S. House of Representatives, 3. https://archives-democrats-rules.house.gov/archives/congress_andthe_internet.pdf.

34 "E-mail Overload in Congress," Congressional Management Foundation, March 19, 2001, 1. **http://www.congressfoundation.org/storage/documents/CMF_Pubs/e-mailoverload.pdf**.

35 Johnson, 4.

36 Kathy Goldschmidt, "State of the Congress," Congressional Management Foundation, August 8, 2017, 9. **http://www.congressfoundation.org/storage/documents/CMF_Pubs/cmf-state-of-the-congress.pdf**.

37 Bradford Fitch and Kathy Goldschmidt, "Citizen-Centric Advocacy: The Untapped Power of Constituent Engagement," Congressional Management Foundation, February 13, 2017, 9-10. **http://www.congressfoundation.org/projects/communicating-with-congress/citizen-centric-advocacy-2017**.

technology acquisitions.[38] This includes $106 million in spending in the Senate and $182 million in spending in the House.[39] While this may sound like a lot of money, it's quite small compared to the rest of the federal government. It is also spread out over a wide variety of equipment and services, and over many different customers. Indeed, Congress has been described as "a collection of 540 separate small businesses."[40] This, combined with its unique, fragmented, and opaque rules, can make Congress a difficult place to do business.

GOVERNANCE OF INFORMATION TECHNOLOGY IN CONGRESS

In Congress, each chamber sets its own rules of operation. This includes the oversight and administration of IT services. Legislative branch agencies that serve both chambers, such as the Library of Congress, also have their own bureaucracies and procedures concerning IT. Congress's rules are separate and distinct from those of the executive branch, so even experienced government contractors may have to learn multiple new sets of rules and procedures when dealing with Congress.[41]

For new prospective vendors or civic hackers, this structure can be fairly confusing. Additionally, there is limited information available online about these structures and processes. Generally speaking, the House is a more attractive place for vendors to do business, offering looser restrictions, more transparent guidelines, and a larger potential market.

U.S. HOUSE OF REPRESENTATIVES

When it comes to information technology in the House of Representatives, operational responsibility falls primarily under two offices: the office of the Clerk of the House, which is responsible for tracking and disseminating legislative information and related documents, and the Office of the Chief Administrative Officer (CAO),[42] which is responsible for providing IT services to personal offices, administrative offices, and committees. This includes telephone systems, computer hardware, and software, as well as interfacing

38 "Counting Up Congressional Technology Spending for 2014 – The U.S. House," OpenGov Foundation. **https://web.archive.org/web/20170302202021/https://www.opengovfoundation.org/counting-up-congressional-technology-spending-for-2014-the-u-s-house/**.

39 Ibid.

40 Johnson, 6.

41 Notably, rules such as the Federal Acquisition Regulation or FedRAMP are not applicable to Congress.

42 For further background on the CAO, see: Jacob R. Straus, "Chief Administrative Officer of the House: History and Organization," Congressional Research Service, July 14, 2008. **https://www.everycrsreport.com/reports/RS22731.html**; Also see 2 U.S.C. §§ 5531-5547.

with vendors.[43] CAO's IT-related functions are divided among two main subdivisions:[44] House Information Resources (HIR), which handles operations and support, and the Office of Acquisitions, which handles procurements.[45] CAO also maintains HouseNet, the House's intranet, as well as data services between Members' D.C. and district offices.[46]

The Committee on House Administration (CHA) is primarily responsible for overseeing the Clerk and the CAO, as well as setting information technology and security policies. Additional House committees with substantial influence over IT include the Appropriations Committee Subcommittee on the Legislative Branch, which may weigh in on IT issues through the annual legislative branch appropriations process, and to a lesser extent the Committee on Oversight and Government Reform Subcommittee on Information Technology, which conducts oversight over all federal government IT.[47] The Speaker also has considerable power in this domain, having–among other things–the ability to unilaterally remove the Clerk or CAO.[48] The Office of Inspector General (OIG), which is also overseen by CHA, will sometimes produce reports on IT-related issues.[49]

U.S. SENATE

Operational responsibility for Senate IT falls primarily on the Office of the Senate Sergeant at Arms (SAA),[50] which plays a similar role to CAO in the House in managing technology services and procurements,[51] and on the Secretary of the Senate, which plays a similar (although less significant) role to the Clerk of the House in organizing and recording legislative information. Governance and oversight falls primarily on the Senate Committee on Rules and Administration, with additional guidance from the Senate Appropriations Committee as part of the legislative branch appropriations process.

43 Seifert and Petersen, 2.

44 Other relevant subsidiary offices within the CAO include the House Web Systems Office, which offers website creation and maintenance services; the Office of Finance, which handles vendor payments; the Customer Experience Center, which provides information and digital media services; and the House Recording Studio, which offers various audio and video services.

45 "Doing Business with the House," U.S. House of Representatives. **https://www.house.gov/doing-business-with-the-house**.

46 "Guide To Outfitting and Maintaining an Office of the U.S. House of Representatives, 115th Congress," Committee on House Administration. **https://cha.house.gov/handbooks/guide-outfitting-and-maintaining-office-us-house-representatives**.

47 Notably, this subcommittee is primarily oriented towards the executive branch.

48 See Rule II in Rules of the House of Representatives, 115th Congress, 363. **https://www.gpo.gov/fdsys/pkg/HMAN-115/pdf/HMAN-115.pdf**.

49 While the House OIG no longer publishes its reports online, an archive can be found here: Daniel Schuman, "The House Office of Inspector General Should Publish Information About Its Reports," Medium, December 10, 2018. **https://medium.com/demand-progress/the-house-office-of-inspector-general-should-publish-information-about-its-reports-d55b83de6043**.

50 For further background on the Office of the Senate Sergeant at Arms, see: "Sergeant at Arms and Doorkeeper of the Senate: Legislative and Administrative Duties," Congressional Research Service, March 21, 2011. **https://www.everycrsreport.com/reports/98-748.html**.

51 Ida A. Brudnick, "Offices and Officials in the Senate: Roles and Duties," Congressional Research Service, March 16, 2015, 9. **https://www.everycrsreport.com/files/20150316_R43532_a6559b54121fe761101ff4a2bfdbdc0fe587429c.pdf**.

OTHER LEGISLATIVE BRANCH ENTITIES

Legislative branch agencies, such as the Government Accountability Office (GAO), Library of Congress (LOC), Government Publishing Office (GPO), and Congressional Budget Office (CBO), have separate IT divisions with their own governance structures.

For instance, take the Library of Congress. The LOC houses the U.S. Copyright Office, Congressional Research Service, and Law Library.[52] It also runs Congress.gov, a central portal for legislative information.[53] Both the LOC and its service units fall under the general direction and supervision of Librarian of Congress Carla Hayden. Oversight of the LOC is theoretically under the Joint Committee on the Library, but is conducted in practice by the Committee on House Administration and the Senate Committee on Rules and Administration, with additional input from the House and Senate appropriations committees as part of the legislative branch appropriations process. Other committees can also weigh in on certain matters, such as when the House Judiciary Committee included a proposal to reform the Copyright Office's IT infrastructure[54] as part of its multi-year review of U.S. copyright policy.[55] As this illustrates, direct lines of authority aren't always clear.

There are a number of other congressional organizations, both formal and informal, relevant to legislative branch IT. These include the House Technology Task Force,[56] the XML Working Group, the Bulk Data Task Force, Legislative Branch CIO Council, the Legislative Branch Cyber Security Working Group, the Congressional Tech Staff Association,[57] and the Congressional Cybersecurity Caucus.[58]

INFORMATION TECHNOLOGY ACQUISITIONS

Effective information technology solutions are an essential part of Congress's internal operations, facilitating activities such as en-

52 "Organization Chart," Library of Congress, September 30, 2014. **https://www.loc.gov/portals/static/about/documents/lcorgchart.pdf**.

53 This information is housed at GPO and made available as bulk data. **https://www.govinfo.gov/bulkdata**.

54 In this case, there was a split in jurisdiction over the structure of the Copyright Office and the subject matter on which it works.

55 House Judiciary Committee, "U.S. Copyright Law Review," U.S. House of Representatives. **https://judiciary.house.gov/issue/us-copyright-law-review/**.

56 Office of the Chief Administrative Officer, "Semiannual Report: July - December 2017," U.S. House of Representatives, 18. **https://cao.house.gov/sites/cao.house.gov/files/documents/SAR-Jul-Dec-2017-web.pdf**.

57 Congressional Tech Staff Association. **http://techstaffer.org**.

58 "Legislation," Congressional Data Coalition. **http://congressionaldata.org/learn-more/legislation/**.

gagement with constituents, tracking legislation, intra-office communication, and delivering messaging on key issues to a digital audience. In addition to internal resources, Congress's technology infrastructure also receives critical support from outside vendors.[59]

U.S. HOUSE OF REPRESENTATIVES

ACQUISITION CATEGORIES

Technology acquisitions in the House of Representatives generally fall into three categories: Formal procurements, authorized acquisitions,[60] and unauthorized acquisitions. [61]

Formal procurements

Formal procurements represent the most structured acquisitions category. These may be offered for a wide variety of infrastructure, equipment, and technology services, such as the installation and maintenance of computer networks, site-wide licensing of enterprise software, network administration, technical support, telephone equipment, computer hardware, cyber threat monitoring, Correspondence Management Systems (CMS),[62] etc. Typically, these serve the institution as a whole.

Formal procurements are typically published as a "request for proposal" (RFP) on the Federal Business Opportunities (FBO) website, along with documentation detailing requirements for companies who wish to be considered for the project.[63] They will sometimes also publish a "request for information" (RFI) through the FBO portal to learn about capabilities in the market. These types of opportunities can be easily tracked by setting-up alerts through the FBO website. Note also that amendments are often issued (sometimes following a Q&A period) before the closing date of a solicitation, and vendors are responsible for checking and updating their proposals to be responsive to potential changes. Solicitations are also made available

59 As of June 2018, the office of House Information Resources has 268 FTEs (with 25 vacancies), and the office of Acquisitions Management has 25 FTEs (with 4 vacancies). See: Office of the Chief Administrative Officer, "Semiannual report: January - June 2018," U.S. House of Representatives, 25. **https://cao.house.gov/sites/cao.house.gov/files/documents/SAR%20JAN-JUN%202018.pdf**.

60 Note that while the Federal Acquisition Regulation defines "Acquisition" as "the acquiring by contract with appropriated funds of supplies or services...by and for the use of the Federal Government," we also include free services in our definition.

61 We developed this taxonomy for this paper. Other articles may use different categories or terminology.

62 These are customized software systems that manage incoming constituent communications. The House generally uses the term "Correspondence Management Systems" or "CMS" for these systems, whereas the private sector generally uses the term "Customer-Relationship Management or "CRM" for this type of software. Making things more confusing, the Senate prefers to use the term "Constituent Service System" or "CSS." While becoming a CMS vendor requires a formal procurement process, individual offices may choose between different approved vendors to purchase from.

63 When searching by agency, note that there are separate procurement listings for "United States House of Representatives/Office of the Chief Administrative Officer," "United States House of Representatives/Office of the Clerk," "Library of Congress," etc. An archive of past RFPs is also available. See: Federal Business Opportunities. **https://www.fbo.gov/**.

on the House website.[64]
Once a proposal is submitted by a vendor, it undergoes a thorough evaluation process by the contracting entity. This requires vendors to document their management approach, pricing methodology, security posture, and many other factors. Due to the formalities involved, RFPs generally favor large, well-established vendors with institutional knowledge of Congress.

Vendors looking to do business in this category should apply through the FBO portal, and reach out to the listed primary point of contact for a particular RFP. For proposals administered by CAO, vendors can also reach out to CAO Acquisitions Management.[65] For proposals administered by the Clerk, vendors can reach out to the Clerk's office.[66]

The House also certifies advocacy vendors working on behalf of external grassroots organizations to access its Communicating with Congress (CWC) API.[67] Other vendors (particularly CMSs) may need to interface with this system at various points.

Authorized acquisitions

Not all technology purchases require a formal procurement process. Supplies and services such as email marketing platforms, data lists, web design services, and purchases from the congressional office store are all examples of supplies or services that do not fall under the formal procurement umbrella. Member and committee offices are generally allowed to decide the types of equipment and services they want to purchase. While this requires a less formal process, these purchases must still comply with a number of standards and restrictions.

Purchases of this type generally fall into the following categories, each with their own rules.[68]

1. Telecommunications services
   a. Data services
   b. Voice services
   c. Mobile devices and mobile services
2. Maintenance services
3. Web services
4. Computer software
   a. Cloud-based applications
5. Computers and related equipment
6. Correspondence Management Systems (CMS)

64 "Doing Business with the House," U.S. House of Representatives. **https://www.house.gov/doing-business-with-the-house**.

65 See Appendix E.

66 Ibid.

67 Communicating with Congress (CWC), U.S. House of Representatives. **https://www.house.gov/doing-business-with-the-house/communicating-with-congress-cwc**.

68 "Guide To Outfitting and Maintaining an Office of the U.S. House of Representatives, 115th Congress," Committee on House Administration. **https://cha.house.gov/handbooks/guide-outfitting-and-maintaining-office-us-house-representatives**.

For instance, all software and data services used on official computers must comply with requirements set by the Committee on House Administration.[69] These include the House Information Security Policies, and the House Information Security Publications.[70] Members may also use official funds to acquire software for use on personally owned computers, as long as they are used for official business.[71] CAO publishes a supported software list, for which they provide technical support.[72]

For applications that put potentially sensitive data or communications on the cloud, CAO requires they undergo a formal cloud certification process.[73] CAO publishes a list of services that are both "authorized" and "not authorized" after undergoing this review.[74] This certification process generally favors services that are already FedRAMP[75] approved.[76] An updated CAO Cloud Strategy was also finalized in November 2018.[77]

Examples of authorized cloud services in the House:[78]

- Adobe Creative Cloud
- Basecamp
- Box (Enterprise)
- Dropbox (Enterprise)

Unlike other kinds of software, Correspondence Management Systems fall under special rules. CMS vendors are authorized by the CAO, which also negotiates prices up front. Member offices are then able to choose be-

69 Ibid.

70 Ibid.

71 Ibid.

72 See Appendix C.

73 Internal HouseNet documents list the following four components of the cloud services review process: (1) Vendor Fitness and Requirements Review: Documents the business needs and technical requirements for the services, and considers factors such as a vendor's maturity, fiscal soundness, physical location of data centers, and more. (2) Risk Review: Consists of a security review of the application to identify any security controls and known weaknesses, and highlight any risks associated with the use of the application. The CAO also considers whether the service is certified by FedRAMP (The Federal Risk and Authorization Management Program). FedRAMP is a government-wide program that provides a standardized approach to security assessment, authorization, and continuous monitoring for cloud products and services. (3) Technical Review: Documents the impact of the solution on the House infrastructure, how the data is maintained and how customer support is provided. (4) Contract and Legal Review: Includes an examination of the terms of services, service legal agreements, licensing agreements, and more to ensure that the House and your office is protected from a legal perspective.

74 See Appendix A.

75 The Federal Risk and Authorization Management Program (FedRAMP) is a government-wide program that assesses, certifies and authorizes cloud computing products for use by federal agencies. **https://www.fedramp.gov/**.

76 House official #1. Telephone interview. November, 2018.

77 The stated objective of the new strategy is for CAO to leverage cloud technologies that (1) provide expanded IT services and improved application delivery speed to the House, (2) streamline and secure usage of cloud products and services, (3) lower ongoing maintenance costs while preventing vendor lock-in, and (4) track and optimize computing resource utilization. A component of the new strategy is also to prioritize open source, open standards-based, and API-enabled solutions.

78 See Appendix A.

tween different authorized providers.[79]

Maintenance providers install and/or repair devices like desktop computers, laptops, and mobile devices. Typically, a maintenance provider also offers IT services to set-up, re-configure, and troubleshoot operating systems and other software.[80]

Web services vendors provide services to Member offices and committees.[81] Members must only use vendors from the authorized list provided by CAO. However, as discussed later, it is relatively easy for new web vendors to become authorized. The CAO also offers assistance where vendor disputes arise. In addition to external vendors, HIR's Web Systems Office creates and maintains various websites.[82]

The House's contracting process may include signing a non-disclosure agreement,[83] engaging in a Technology Services Contract, signing a Master Web Services Agreement, doing a technical briefing with HIR, and conducting background checks on employees who need to be given access to House IT systems.

Unauthorized acquisitions

Member offices don't always adhere to the CAO's rules.[84] Many restrictions are also not strictly enforced. Thus, many offices use equipment or software that is either non-compliant or explicitly against the rules. These include popular digital services like Slack, Mailchimp, and Evernote.

U.S. SENATE

ACQUISITION CATEGORIES

Like the House, technology acquisitions in the Senate generally fall into three categories: Formal procurements, authorized acquisitions, and unauthorized acquisitions. In general, the Senate operates more like an enterprise operation than the House.

79 Ibid.

80 "Guide To Outfitting and Maintaining an Office of the U.S. House of Representatives, 115th Congress," Committee on House Administration. **https://cha.house.gov/handbooks/guide-outfitting-and-maintaining-office-us-house-representatives.**

81 House offices with separate websites include: 435 Members, five Delegates, one Resident Commissioner, the Leadership offices of the House, the Officers and Officials of the House, and the Committees of the House (with duplicate sites for the majority and minority).

82 Office of the Chief Administrative Officer, "Semiannual Report: July - December 2016," U.S. House of Representatives, 9. **https://cao.house.gov/sites/cao.house.gov/files/documents/SAR-Jul-Dec-2016.pdf**.

83 Office of the Chief Administrative Officer, "Exhibit A: Form of Non-Disclosure Agreement (Web Vendors)," U.S. House of Representatives. **https://www.house.gov/sites/default/files/uploads/documents/NDA-WebVendor.pdf**.

84 Purchases of a number of explicitly "non-authorized" services, such as Mailchimp, can be found in House disbursement data. See: "Statement of Disbursements," U.S. House of Representatives. **https://www.house.gov/the-house-explained/open-government/statement-of-disbursements**.

Formal procurements

In a process similar to the House, the Senate Sergeant at Arms (SAA) posts RFPs for formal procurements through the Federal Business Opportunities website. Its Finance Division handles the negotiation and review of proposals.

Formal procurements include a wide variety of infrastructure, equipment, and technology services, such as the installation and maintenance of computer networks, site-wide licensing of enterprise software, network administration, technical support, telephone equipment, computer hardware, cyber threat monitoring, certifying Constituent Service System (CSS) providers, etc.

Formal procurements can originate with a Senate office that wishes to see a particular product or service deployed. In considering whether a procurement will be issued, the SAA will survey other Senate offices, and examine the business and technical requirements needed. If the proposed acquisition serves enough Senators and fits within their budget, the SAA will issue an RFP through FBO. Notably, even if they don't proceed with an RFP, individual Senators still have broad discretion as to purchases through their own office budgets (however, these are still subject to the SAA's security policies).

Vendors looking to do business in this category should apply through the FBO portal, and reach out to the Office of the Senate Sergeant at Arms with any questions.[85]

Authorized acquisitions

The Senate is currently in the midst of developing its formal cloud approval strategy in consultation with an outside contractor.[86] In the meantime, a few cloud services have been approved, and the Senate Sergeant at Arms is open to the consideration of new services on an ad hoc basis.

In contrast to the House, the Senate's approach to the cloud has been far more risk averse. Senate officials are particularly concerned with maintaining data custody and Speech or Debate protections, and have been generally unsatisfied with the terms of service concessions negotiated for some services used in the House.[87]

Vendors looking to do business with the Senate who need to go through the cloud approval process should contact the office of one of the Senators in their state for assistance. Alternately, they may wish to try con-

85 See Appendix E.

86 Senate official #1. Telephone interview. November, 2018.

87 Ibid.

tacting SAA directly.

Examples of authorized cloud services in the Senate:[88]

- LastPass
- Box (Enterprise)
- Select enterprise-level software

Unauthorized acquisitions

Restrictions on the use of unapproved cloud services by individual offices are not strongly enforced. While the Senate Committee on Rules and Administration has authority in this domain (with operational responsibility falling on the Senate Sergeant at Arms), they generally have not interfered in purchases made by individual offices.[89] However, this risk averse disposition limits opportunities for chamber-wide cloud solutions.

Examples of unauthorized cloud services in the Senate:

- Slack
- Dropbox
- Salesforce

OTHER ISSUES

Information technology acquisitions in Congress face a number of unique challenges. These issues are described below.

Speech or Debate: Congress also faces some unique challenges in contracting for technology services. Among these are the need to protect privileged communications and documents. The Constitution's Speech or Debate Clause[90] affords special protections for Members of Congress and their staff.[91] While these may be relatively clear in an analog context, they may require a different approach for third-party digital services. Otherwise, confidential information may be improperly disclosed as part of discovery in judicial proceedings or at the request of or upon action by executive branch agencies. Moving information online also raises concerns about law enforcement or intelligence agencies illicitly surveilling Congress.[92] Since Congress is a relatively small market, large companies may not want to create special procedures or contractual provisions to ac-

88 Ibid.

89 Ibid.

90 U.S. Const. art. I, § 6, cl. 1.

91 See, e.g., Todd B. Tatelman, "Speech or Debate Clause Constitutional Immunity: An Overview," Congressional Research Service, February 6, 2001. **https://www.everycrsreport.com/files/20010206_RL30843_9e210c6bec02beb9d71da98462a09dd1682a641a.pdf**.

92 This could be to gain access to sensitive oversight information or compromise whistleblowers. See, e.g., Conor Friedersdorf, "A Brief History of the CIA's Unpunished Spying on the Senate," **The Atlantic, December 23, 2014. https://www.theatlantic.com/politics/archive/2014/12/a-brief-history-of-the-cias-unpunished-spying-on-the-senate/384003/**.

commodate these concerns.[93] However, some companies have successfully worked through terms of service changes in the House.[94]

Cyber threats: As the most powerful legislative body in the world, Congress is an attractive target for cyber attacks. For instance, in the second half of 2017, the CAO prevented 1.5 million attacks against House websites and blocked 9.4 billion attacks against the House network.[95] The SAA in the Senate guards their networks against cyber threats. Meanwhile, the Legislative Branch Cyber Security Working Group helps coordinate efforts across to institution. Due to heightened security needs, vendors may need to go through additional steps, and familiarize themselves with Congress's unique systems and procedures.

Open Source Software: The use and development of free and open source software in Congress is somewhat limited. Both chambers can theoretically use any open source software that's been approved under the processes outlined below. However, rules are murky concerning the use of official resources for participation in open source projects, the ethics guidelines for requesting and accepting custom solutions, and for policies governing the deployment of those solutions. While the House theoretically opened up the ability of Members and staff to participate in open source projects in 2015,[96] it has not yet published specific guidelines or a formal ethics opinion.[97] This lack of clarity and sluggish process may inhibit congressional offices and vendors from taking full advantage of this resource. It may also limit potential engagement from foundations, civic hackers, and nonprofits interested in helping Congress work better.

Utilizing 18F: While Congress can take advantage of services from 18F, a digital services agency under the General Services Administration, their use by the legislative branch has been limited. Reasons for this may be due to challenges with how funds are appropriated for IT projects, or with the cost of 18F services.[98]

93 House official #1. Telephone interview. November, 2018.

94 House official #2. Telephone interview. November, 2018.

95 Chief Administrative Officer, Semiannual Report: July - December 2017," U.S. House of Representatives, 3. **https://cao.house.gov/sites/cao.house.gov/files/documents/SAR-Jul-Dec-2017-web.pdf**.

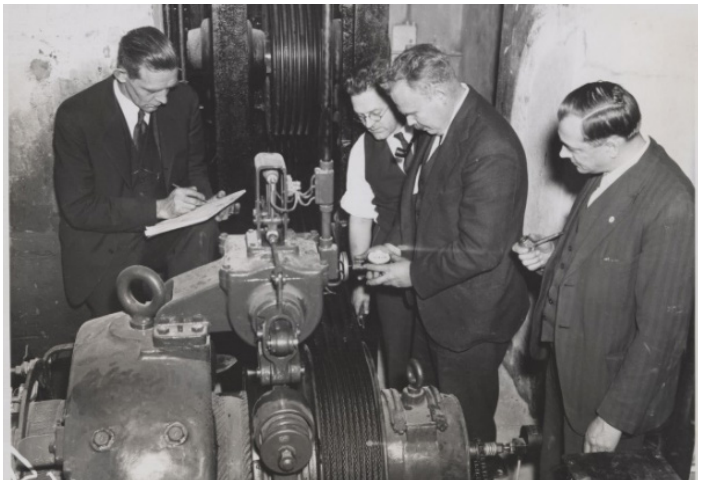
96 Daniel Schuman, "Open Source Software Now Permitted in the U.S. House of Representatives," Congressional Data Coalition, June 25, 2015. **http://congressionaldata.org/open-source-software-now-permitted-in-the-u-s-house-of-representatives-2/**.

97 As the House Ethics Manual notes, ""[A]t times a Member, officer, or employee may be offered computer software. Neither application software (e.g., Microsoft Word or WordPerfect), developmental software (i.e., software that enables one to generate or edit code), nor entertainment software is acceptable under this provision of the gift rule, as such materials do not constitute informational materials within the meaning of this provision. Informational software may be acceptable, but only if the database is entirely self-contained, such as on a compact disc. Software that provides access to a database that otherwise is available only on a subscription basis (e.g., LEXISNEXIS or Westlaw) is not acceptable under this provision." See: "House Ethics Manual: 2008 Edition," U.S. House of Representatives, 55. **https://ethics.house.gov/sites/ethics.house.gov/files/documents/2008_House_Ethics_Manual.pdf#page=143**.

98 House official #1. Telephone interview. November, 2018.

Talent acquisition and retention: Top tech talent is expensive, particularly in areas like cybersecurity. A recent NIST report found that the while U.S. is facing a growing cybersecurity workforce shortage, compensation for these positions in the federal government is "below the level needed to attract the necessary talent."[99] Congressional rules limit staff pay at levels that are below the private market, and below their executive branch counterparts.[100] While some offices use contractors to avoid this restriction, this is likely a suboptimal arrangement.[101]

CONCLUSION



"What we're seeing is a nineteenth-century institution often using twentieth-century technology to respond to twenty-first-century problems. We need to change that."

– Rep. Cathy McMorris Rodgers (2015)

Our twenty-first century society needs a Congress that's empowered with state-of-the-art tools and technologies. Improving IT infrastructure in Congress can make it a more effective institution and can bring Members of Congress closer to their constituents. To facilitate a better and more effective IT landscape, we recommend the following reforms:

99 "A report to the President on Supporting the Growth and Sustainment of the Nation's Cybersecurity Workforce," National Institute of Standards and Technology, May 30, 2018, 1-2. **https://www.nist.gov/sites/default/files/documents/2018/07/24/eo_wf_report_to_potus.pdf**.

100 See, e.g., Ida A. Brudnick, "Congressional Salaries and Allowances: In Brief," Congressional Research Service, April 11, 2018. **https://www.senate.gov/CRSpubs/9c14ec69-c4e4-4bd8-8953-f73daa1640e4.pdf**.

101 House official #1. Telephone interview. November, 2018.

Establish a Congressional Digital Service (CDS):[102] Just as 18F and USDS have helped the executive branch overcome technology challenges, a CDS could be instrumental in building technology infrastructure. If done right, CDS could help transform congressional IT by making IT issues more salient for leadership, circumventing bureaucratic hurdles, recruiting and empowering UX/UI specialists, and creating a new culture that's incentivized to make transformative changes rather than maintain the status quo. This is not without potential downsides. A poorly-implemented CDS could also create jurisdictional conflicts, poach talent that's more effective elsewhere, and create an extra layer of bureaucracy that lacks institutional knowledge.

Focus on fixing constituent communications: The current constituent communications process in Congress is broken.[103] Congress needs to create a better experience for both constituents and the staff that interface with them. To accomplish this, House and Senate leadership will need to make it a priority. Potential approaches could include establishing a CDS, , fostering a more competitive vendor ecosystem, or creating an open source CMS/CSS platform.

Clarify open source rules: Congress should be able to take advantage of open source resources. Both House and Senate should clarify ethics rules and guidelines around the use of and participation in free and open source software projects. As a starting point, they should consider adapting 18F's open source policy.[104] They should also look at ways to proactively cultivate an open source community of civic hackers and philanthropies working on congressional software.[105]

Create a help desk service for vendors: A major challenge to attracting a broader vendor ecosystem is the lack of approachability. CAO and SAA should each consider creating a dedicated help desk service to work with new prospective vendors and civic hackers. This should include a public email for communications, and a resource page with greater detail about the technology acquisitions process.

Address Speech or Debate issues with legislation: Congress should enact legislation that addresses their concerns with keeping data

102 "The Congressional Digital Service Act of 2017 - Draft Legislation," Madison. **https://mymadison.io/documents/CDS-bill**.

103 See, e.g., Mollie Ruskin et al., "From Voicemails to Votes," OpenGov Foundation. **https://files.opengovfoundation.org/fromvoicemailstovotes.pdf**; Samantha McDonald, "Staff perspectives on the state of constituent correspondence in the U.S. Congress," LegBranch.com, December 19, 2018. **https://www.legbranch.org/staff-perspectives-on-the-state-of-constituent-correspondence-in-the-u-s-congress/**.

104 18F, "Open source policy," General Services Administration. **https://18f.gsa.gov/open-source-policy/**.

105 Daniel Schuman, "Legislative Language Proposals for the House Rules," Demand Progress, December 2018, 11. **https://s3.amazonaws.com/demandprogress/reports/116th_Congress_House_Rules_Reform_Legislative_Language_2018-12-05.pdf**.

in the cloud, and limits the ability of other branches of government from improperly accessing it. Vehicles for reform may include the USA FREEDOM Act's 2019 reauthorization, or the relevant appropriations bills.[106]

Senate should improve prioritization of IT: The Senate must be able to fully utilize modern technologies to fulfill its representational and legislative duties. While the Senate has a different culture and risk posture than the House, in our view there's much more it can do to build a 21st century information technology infrastructure. For this to be successful, Senate leadership and relevant committees will need to make this a priority. This may include expanding available resources for SAA, studying how to make a better constituent experience, as well as exploring ways to create more uniform processes and standards between chambers.

Raise the ceiling on staff pay: To attract the necessary in-house talent to help improve Congress's information technology infrastructure, it should explore ways to improve compensation and retention for these positions. The ceiling for staff pay should be decoupled from Member pay and raised, at minimum, to match the GS Scale.

Convene a new discussion around congressional reform: Past committees on congressional reorganization have helped push forward reforms for how Congress utilizes information technology. As a Congressional Institute report notes, these committees "are invaluable tools for generating ideas and legislation."[107] However, the last such committee wrapped up in 1993.[108] Convening a new select or joint select committee for this purpose could help Congress focus on tackling some of its most difficult modernization challenges.

As we head towards the beginning of the 116th Congress, congressional leaders on both sides of the aisle should take this opportunity to enact these meaningful reforms to enhance our democracy. Meanwhile, we hope that this document serves as a useful guide for those interested in helping improve information technology in Congress.

106 Public Law No: 114-23

107 "Joint Committees on the Organization of Congress: A Short History," Congressional Institute, October 15, 2015, 3. **http://conginst.org/wp-content/uploads/2015/10/brief_history_reform_committees.pdf**.

108 Ibid.

APPENDICES

APPENDIX A:
U.S. HOUSE OF REPRESENTATIVES LIST OF REVIEWED CLOUD SERVICES

Product	Status	Category	Details
Adobe Creative Cloud Enterprise	Authorized	Business Productivity, Desktop Publishing	Company: Adobe FedRAMP Certified: Yes Authorized for: Sensitive information
Adobe Document Cloud	Authorized	Business Productivity, Desktop Publishing	Company: Adobe Authorized for: Sensitive Information FedRAMP Certified: Yes Description: Adobe suite of creative applications for content creation as well as file sharing and storage.
AirTable	Pending	Business Productivity, File Sharing	Company: Formagrid, Inc. Description: Data collaboration. Scope of review: Full review of application.
ArcGIS	Authorized	Other	Company: ESRI Authorized for: Sensitive Information FedRAMP Certified: Yes Description: Geographic Information System (GIS)/Mapping software that enables offices to “visualize, question, analyze, and interpret data to understand relationships, patterns, and trends”.

Product	Status	Category	Details
Article One	Authorized	Communication	Company: OpenGov Authorized for: Sensitive Information; Important Note: Authorized for integration with CMS products only. FedRAMP Certified: No Description: Voicemail transcription to text for import to correspondence management system (CMS).
Basecamp	Authorized	Business Productivity, Communication	Company: Basecamp Authorized for: Sensitive Information FedRAMP Certified: No Description: Project management and communication dashboard that allows for discussion threads, chat, task assignments, and more.
Bomgar Cloud	Not Authorized	Business Productivity, Other	Company: Bomgar Description: Remote support tool. Allows for remote support and privileged access for desktop support personnel. Rationale: The House is not willing to accept risks and vulnerabilities to Member data when using the product.
Box (Enterprise version only)	Authorized	Business Productivity, Desktop Publishing, Document Storage	Company: Box Authorized for: Sensitive Information FedRAMP Certified: Yes Description: Provides do cument storage, file sharing, content management, content security, and team workflow automation from web-accessible devices.
Calendly	Not Authorized	Business Productivity	Company: Calendly Description: Calendar and scheduling application. Rationale: Vendor non-responsive, lack of information.

Product	Status	Category	Details
Campaign Monitor	Not Authorized	Communication	Company: Campaign Monitor Pty, Ltd. Description: Email distribution and newsletter application. Rationale: Vendor non-responsive, lack of information. House users may use the following similar, authorized services: • Constant Contact
Campaigner	Authorized	Communication	Company: j2 Global Authorized for: Non-Sensitive Description: Email distribution and newsletter application.
Confide	Not Authorized	Security	Company: Confide Description: Encrypted mobile messaging Rationale: The House is not willing to accept risks and vulnerabilities which the product can create in the House enterprise network and jeopardize the safety and security of Members' data.
Constant Contact	Authorized	Communication	Company: Constant Contact, Inc. Authorized for: Non-Sensitive Information FedRAMP Certified: No Description: Email distribution and newsletter application. Scope of review: Full review of application.
Dropbox (Business Enterprise only)	Authorized	Business Productivity, Document Storage, File Sharing	Company: Dropbox Authorized for: Sensitive Information FedRAMP Certified: No Description: Document storage, collaboration, and access from various devices using the same account. *NOTE: Authorization for use extends to Dropbox Business Enterprise and Business Advanced versions ONLY. [...]

Product	Status	Category	Details
EventBrite	Authorized	Other	Company: EventBrite Authorized for: Non-sensitive information FedRAMP Certified: No Description: Event-creation service.
Evernote	Authorized	Business Productivity	Company: Evernote Description: Cross-platform office productivity, organization, and synchronization tool. Rationale: The House is not willing to accept risks and vulnerabilities which the product can create in the House enterprise network and jeopardize the safety and security of Members' data.
Geckoboard	Pending	Business Productivity	Company: Geckoboard FedRAMP Certification: No Description: Tool that allows for data dashboards to be created using business metrics. Scope of review: Full review of application.
Google Apps Unlimited (Google Services Suite)	Authorized	Business Productivity, Communication, Desktop Publishing, Document Storage, File Sharing	Company: Google Authorized for: Sensitive Information FedRAMP Certified: Yes Description: Google's premium business version of Google Apps at yearly subscription cost of $120/user. Product suite includes the following authorized modules: Hangouts, Calendar, Google+, Drive, and Docs. In addition, Google Apps Unlimited includes unlimited storage and Google Vault.
Grammarly	Not Authorized	Desktop Publishing	Company: Grammarly Description: A proofreading tool that checks spelling, grammar, punctuation errors and vocabulary usage. Rationale: Unacceptable terms and conditions.

Product	Status	Category	Details
HipChat	Authorized	Communication	Company: Atlassian Description: Team collaboration tool which allows for chat, video conferencing, file sharing, and screen sharing. Rationale: Unacceptable terms and conditions. House users may use the following similar, authorized services: • Basecamp
Lookout Mobile Endpoint Security	Authorized	Security	Company: Lookout, Inc. Authorized for: Sensitive Information FedRAMP Certified: In-Process Description: Data protection on mobile devices.
MailChimp	Not Authorized	Communication	Company: Rocket Science Group Description: Email distribution and newsletter application. Rationale: Unacceptable terms and conditions. House users may use the following similar, authorized services: • Constant Contact
Neat	Pending	Business Productivity, Document Storage	Company: Neat Description: Business card and receipt scanning software. Scope of review: Full review of application.
Office 365	Authorized	Business Productivity, Communication, Desktop Publishing, Document Storage, File Sharing	Company: Microsoft Authorized for: Sensitive Information FedRAMP Certified: Yes Description: The Office 365 suite includes email and calendaring, online conferencing, instant messaging and Skype, file storage and sharing, team sites (SharePoint), Microsoft Office Online, and synchronization between devices.

Product	Status	Category	Details
Product Plan	Authorized	Business Productivity	Company: Product Plan, LLC Authorized for: Sensitive Information FedRAMP Certified: No Description: Build product roadmap visualizations which can be shared with others.
RemedyForce	Authorized	Other	Company: BMC Authorized for: Sensitive Information FedRAMP Certified: Yes Description: IT service management
Retarus Global Messaging	Authorized	Business Productivity	Company: Retarus, Inc. Authorized for: Sensitive information, Uncontrolled Unclassified Information FedRAMP Certified: No Description: Enables users to send and receive faxes without a fax server.
SANS Securing the Human	Authorized	Security	Company: SANS Institute Authorized for: Non-sensitive information FedRAMP Certified: No Description: Security Awareness Training
Scribd	Authorized	Other	Company: Scribd Authorized for: Non-sensitive information FedRAMP Certified: No Description: Digital library and e-book, audiobook and comic book service
ServiceNow	Authorized	Business Productivity	Company: ServiceNow Authorized for: Sensitive information FedRAMP Certified: Yes Description: ServiceNow is a cloud-based service management platform supporting IT operations management, business management, and applications development.

Product	Status	Category	Details
Skype	Authorized	Communication	Company: Microsoft Authorized for: Non-sensitive information Description: Instant messaging and communication tool
Slack	Not Authorized	Communication	Company: Slack.com Description: Mobile messaging tool which also allows user to create communication "channels" by topic, share files with one or more persons. Rationale: The House is not willing to accept risks and vulnerabilities which the product can create in the House enterprise network and jeopardize the safety and security of Members' data.
Smartsheet	Pending	Business Productivity	Company: Smartsheet.com, Inc. Description: data management tool with dashboards. Scope of review: Full review of application.
SpringShare	Authorized	Other	Company: SpringShare Authorized for: Non-sensitive information Description: SpringShare is a web platform to help libraries share knowledge, analyze services, and connect users.
SurveyMonkey	Authorized	Communication	Company: SurveyMonkey Authorized for: Non-Sensitive Information FedRAMP Certified: No Description: Survey and marketing tool that allows users to create surveys and receive results.
ToDoIst	Authorized	Business Productivity	Company: DoIst Authorized for: Non-Sensitive Information Description: Task and project management for business and individuals. Keeps track of tasks, projects, and goals, and syncs across a user's devices.

Product	Status	Category	Details
TrackVia	Authorized	Business Productivity	Company: TrackVia Authorized for: Non-Sensitive Information FedRAMP Certified: No Description: Workflow management and data filtering.
Vera DRM	Authorized	Security	Company: Vera Authorized for: Sensitive Information FedRAMP Certified: No Description: Digital rights management tool that allows security controls over content on devices. Allows control of information shared by users.
VSee	Authorized	Communication	Company: VSee Authorized for: Non-Sensitive information FedRAMP Certified: No Description: VSee is a low-bandwidth video conferencing solution providing secure group video calls, video town hall, and telepresence capability.
Zoom	Pending	Communication	Company: Zoom Description: video teleconferencing and webinar application Scope of review: Full review of application.

The above data was retrieved on November 28, 2018. Product information listings have been edited out to conserve space.

“Sensitive data” is defined under House Information Security Policy 10 (HISPOL 10) as:

- Non-public legislative information;
- Non-public financial and procurement data;
- Personally Identifiable Information (PII); and
- Includes information that can be used to distinguish or trace House Members, staff, constituents (CMS), contractors, or vendors identity;
- Information technology-related data.

- Includes IP addresses, sanctioned products, and security vulnerabilities.

"Non-sensitive data" is defined as "general information that cannot be attributed to an individual or office."

APPENDIX B:
U.S. HOUSE OF REPRESENTATIVES LIST OF APPROVED WEB VENDORS

1. 1BrightStar Media, **www.1brightstar.com**
2. 45Press Inc., **www.45press.com**
3. Applied Information Sciences, **www.appliedis.com**
4. Balance Interactive, **www.balanceinteractive.com**
5. Beacon IT Services, LLC, **www.beaconit.com**
6. BLEN, Inc., **www.blencorp.com**
7. CAO Web Solutions, **www.cao.house.gov**
8. CRAFT Media Digital, **www.craftdc.com**
9. CreativEngine Corporation, **www.creativengine.com**
10. DotGov Communications, **www.dotgov.com**
11. Eleven 11 Group, LLC, **www.e11group.com**
12. Engage LLC, **www.engagedc.com**
13. Fireside21, LLC, **www.fireside21.com**
14. Frontier Strategies, LLC, **www.frontier.ms**
15. GSL Solutions, **www.gslsolutions.com**
16. IB5k, LLC, **www.ib5k.com**
17. iConstituent, **www.iconstituent.com**
18. Jackson River, LLC, **www.jacksonriver.com**
19. Leidos, **www.leidos.com**
20. Liberty Concepts, Inc., **www.libertyconcepts.com**
21. N2 Innovations, LLC, **www.n2innovations.com**
22. New Target, Inc., **www.newtarget.com**
23. NJI Media, LLC, **www.njimedia.com**
24. Nucore Vision, **www.nucorevision.com**
25. OpenGov Foundation, **www.opengovfoundation.org**
26. Phase2 Technology, LLC, **www.phase2technology.com**

27. Prism International, **www.prism-intl.com**
28. Proof Interactive, Inc., **www.proofinteractive.com**
29. Prosper Group Corporation, **www.prospergroupcorp.com**
30. Red Edge, **www.rededge.com**
31. RedWire Online Marketing, LLC, **www.redwireonlinemarketing.com**
32. SGS Technologie, LLC, **www.sgstechnologies.net**
33. SpinWeb Media, Inc., **www.spinweb.net**
34. Tri-Force Consulting Services, **www.triforce-inc.com**
35. Veracity Media, LLC, **www.veracitymedia.com**

The above data was retrieved on November 28, 2018.

APPENDIX C:
U.S. HOUSE OF REPRESENTATIVES SUPPORTED SOFTWARE LIST

The following list indicates software supported by the House CAO.

a. Accounting
   i. Congressional Accounting and Personnel (CAPS)
   ii. FinMart Financial Reports
   iii. PeopleSoft Financials Inquiry
b. Anti-Virus
   i. FireEye
   ii. Communications
   iii. Cisco VPN Client AnyConnect – 4.5.x
c. Remote Desktop Connection
   i. Skype – Skype for Business 2013, O365 (2016 version)
   ii. Windows Remote Assistance
d. Productivity / Desktop Publishing
   i. Adobe Acrobat Reader DC
   ii. Acrobat Standard and Professional
   iii. Adobe Creative Cloud – 2017
   iv. Microsoft OFfice Suite 2010, 2013, 2016, O365 (2016 version)
e. Internet Software

i. Chrome – 65.0+
ii. Firefox – 59.x
iii. Internet Explorer – 11
iv. Safari – 11.x and higher

f. Operating Systems
i. Windows 7 – Enterprise 64 bit
ii. Windows 10 – Enterprise 64 bit
iii. Mac OS X – 10.12 (Sierra) through OS X 10.13 (High Sierra)

g. Scheduling / Mail
i. Outlook (PC) – 2010, 2013, 2016, O365 (2016 version)
ii. Outlook (for Mac) – O365 (2016 version)
iii. Outlook Web Access

h. Spreadsheet
i. Microsoft Excel (PC) – 20104, 20134, 20164, O365 (2016 version)
ii. Microsoft Excel (Mac) – O365 (2016 version)
iii. Word Processing
iv. Microsoft Word (PC) – 20104, 20134, 20164, O365 (2016 version)
v. Microsoft Word (Mac) – O365 (2016 version)

i. SMART Phone / Tablet Operating System Formerly titled “PDA Synchronization Software”
i. Android – 6.0 (Marshmallow) and higher
ii. iOS 11.2.x and higher (iPhone 5S and higher and iPad Mini 2 \ Air and higher and iPod Touch 6th Gen)
iii. iTunes 12.x
iv. Windows 10 Mobile (phone)

j. Other Systems
i. AirWatch MDM Agent – 5.7+ for iOS and 8.1+ for Android
ii. Financial Disclosure
iii. Microsoft PowerPoint (PC) – 20104, 20134, 20164, O365 (2016 version)
iv. Microsoft PowerPoint (Mac) – O365 (2016 version)
v. Microsoft Project – 20104, 20134, 20164, O365 (2016 version)
vi. Microsoft Visio – 20104, 20134, 20164, O365 (2016 version)

k. Software VTC
i. Oovoo
ii. Skype – Skype, Skype for Business 2016 (internal to the House)

iii. VSee

l. Server Operating System
   i. Windows Server – 2008, 2012, 2016

The above data was compiled in November 2018 from a House document with a listed effective date of October 2018.

APPENDIX D:
INFORMATION TECHNOLOGY PUBLICATIONS IN THE U.S. HOUSE OF REPRESENTATIVES

The following index is a non-exhaustive list of major documents related to information technology in the House.

Documents only available on HouseNet:

1. House Information Security Policies (HISPOLs)
2. House Information Security Publications (HISPUBs)
3. Standards for New Purchases of Computer-related Equipment
4. Policies and Standards
5. Site-Licensed Software List
6. Reviewed Cloud Services List (See Appendix A)
7. Authorized Web Vendors (See Appendix B)
8. Supported Software List (See Appendix C)

Documents available online:

1. Communicating with Congress Level of Service Standards (Advocacy Vendors). **https://www.house.gov/sites/default/files/uploads/documents/cwc-advocacy-vendor-level-of-service-standards.pdf**.
2. Communicating with Congress Usage Agreement and Access Application. **https://www.house.gov/sites/default/files/uploads/documents/CWC-USAGE-AGREEMENT.pdf**.
3. House Ethics Manual: 2008 Edition. **https://ethics.house.gov/sites/ethics.house.gov/files/documents/2008_House_Ethics_Manual.pdf#page=143/**

4. House IT Policy for Official Website Domain Names. **https://www.house.gov/sites/default/files/uploads/documents/hitpol3-domain-name-policy.pdf**.
5. Guide To Outfitting and Maintaining an Office of the U.S. House of Representatives. **https://cha.house.gov/handbooks/guide-outfitting-and-maintaining-office-us-house-representatives#software**.
6. House Members' Congressional Handbook. **https://cha.house.gov/handbooks/members-congressional-handbook**.
7. House Committees' Congressional Handbook. **https://cha.house.gov/handbooks/committee-handbook**.

APPENDIX E:
POINTS OF CONTACT IN CONGRESS FOR INFORMATION TECHNOLOGY VENDORS

The following non-exhaustive list shows the contact information of different legislative branch entities relevant for vendors. Complete lists of congressional staff and their contact information are also available through services such as Legistorm, Quorum, and Politico Pro.

U.S. HOUSE OF REPRESENTATIVES

Office of the Chief Administrative Officer
Location: U.S. Capitol, Room HB-28
Phone: (202) 226-6660

Office of Acquisitions Management
Location: Ford House Office Building, Room H2-358
Office hours: 8:30 AM–5:30 PM (Monday–Friday)
Phone: (202) 225-2921
Fax: (202) 226-2214

House Information Resources Office
Location: Ford House Office Building, Room H2-694
Phone: (202) 225-6002
Email: web.vendors@mail.house.gov (web vendors)

Office of Finance
Location: Ford House Office Building, Room H2-330
Phone: (202) 226-4650

Office of Accounting
Location: O'Neill House Office Building, Room 3110
Fax: (202) 225-6914
Email: VendorEFT@mail.house.gov (vendor payments)

Web Systems Office
Location: Ford House Office Building, Room H2-642A
Phone: (202) 226-2140

Office of the Clerk
Location: U.S. Capitol, Room H-154
Office hours: 9:00 AM–6:00 PM (Monday–Friday)
Phone: (202) 225–7000
Email: info.clerkweb@mail.house.gov (general inquiries)

Legislative Computer Systems
Location: Rayburn House Office Building, Room 2401
Phone: (202) 225-1182

Office of Communications
Location: Cannon House Office Building, Room B-28
Phone: (202) 225-1908

U.S. SENATE

Sergeant at Arms and Doorkeeper
Location: U.S. Capitol, Room S-151
Phone: (202) 224-2341
Email: acquisitions@saa.senate.gov (procurement)

Office of Information Technology Development Services
Senate Hart Office Building, Room 121
Phone: (202) 228-4357

Office of Information Technology Support
Location: Postal Square Building, Sixth Floor
Phone: (202) 228-4357

Photograph Credits:

Cover photo: "Carl Albert of Oklahoma tries the House's new computer before an audience of House Leaders including Speaker of the House John McCormack of Massachusetts," House Photography Office, U.S. House of Representatives, Spring of 1969, **https://history.house.gov/Blog/2013/November/11-1-Computer/**

Photo 1: "Speaker Bankhead Looks Over New Loud Speaker System in House Chamber," Acme Newspapers, Inc., Collection of the U.S. House of Representatives, December 27, 1938, **https://history.house.gov/Collection/Detail/15032438519**

Photo 2: "Preparing for Opening of Congress," Acme Newspapers, Inc., Collection of the U.S. House of Representatives, December 22, 1934, **https://history.house.gov/Collection/Detail/15032450334?current_search_qs=%3FTerm%3DSearch%26Subjects%3DLife%2Bin%2Bthe%2BHouse%253a%2BTechnology%26PreviousSearch%3DSearch%252cLife%2Bin%2Bthe%2BHouse%253a%2BTechnology%252cTitle%26CurrentPage%3D1%26SortOrder%3DTitle%26ResultType%3DGrid%26Command%3D2**

ABOUT THE AUTHORS

Ken Ward is an expert in, among other things, civic technology. A long time ago, in a galaxy far, far away, he was a staffer on Capitol Hill who gained an in-depth understanding of the technical and logistical challenges faced by Congressional offices. He went on to become the founding CEO of Fireside21, where he was instrumental to the expansion of the company's product offerings as well as their successful adoption on the Hill. This fifteen years of experience gave him a front row seat to the challenges and opportunities of providing services to the legislative branch. Despite the difficulty of making change in government (see above), Ken continues to be an optimist for the future of our democracy.

Zach Graves is head of policy at Lincoln Network, where he works on technology and governance issues. Prior to joining Lincoln in July 2018, he was founder and former director of the technology and innovation policy program at the R Street Institute, a free-market think tank. Prior to joining R Street in 2013, he worked at the Cato Institute. In addition to his work at Lincoln, Zach is a Technology and Democracy Fellow at the Ash Center for Democratic Governance and Innovation at Harvard Kennedy School, a visiting fellow at the National Security Institute at George Mason University's Antonin Scalia Law School, a fellow at the Internet Law and Policy Foundry, and an associate fellow at the R Street Institute. He is also co-founder of the Congressional Data Coalition. Zach holds a master's from the California Institute of the Arts and a bachelor's from the University of California at Davis.