Center for American Progress

twitter   Login Join Twitter!

Hey there! **whitehouse** is using Twitter.   **Join today!**

Twitter is a free service that lets you keep in touch with people
through the exchange of quick, frequent answers to one simple   Already using Twitter
question: What are you doing? **Join today** to start receiving   from your phone? Click here.
whitehouse's updates.

whitehouse

Stay up-to-date on health care   **Name** The White House
reform and other important   **Location** Washington, DC
issues with email updates: USA
http://bit.ly/jKNlk   **Web** http://www.whiteh...
                                        Bio Welcome to the official
about 3 hours ago from web   Twitter page of the White
                                        House.

                                        66   87,995
                                        following   followers

On Thursday, the President will hold a town hall at Rancho   Updates   64
Rio High School in NM to discuss credit card reform &
consumer protections   Favorites
about 14 hours ago from web
                                                            Following

How to Buy Free Software

Procuring Web 2.0 Technology for the Federal Government

Peter Swire   May 2009

How to Buy Free Software

Procuring Web 2.0 Technology for the Federal Government

Peter Swire   May 2009

Executive summary

Federal procurement laws that dictate how the government selects software predate the rise of Web 2.0 technologies. Congress passed the Competition in Contracting Act in 1984, which requires "full and open" competition for all software and other governmental purchases. These regulations, which require a formal bidding process before selecting any new service, do not appear to apply to free Web 2.0 technologies. Yet they do highlight important considerations for the federal government, which will not want to show favoritism for any one service over another, and will need to comply to the extent possible with privacy, security, accessibility, and other regulations.

The Obama administration favors the development of Web 2.0 technologies in the federal government, and its first websites, such as whitehouse.gov and recovery.gov will serve as the model and test case for all other federal sites. The central decision is whether it should put Web 2.0 technologies through a formal procurement process, or whether it should allow more flexible, open use of Web 2.0 technologies.

The Bush administration created essentially no government-wide policy for how to use Web 2.0 technologies. The Obama-Biden campaign pioneered the political use of many Web 2.0 technologies. Change.gov continued that pattern, with weekly addresses posted on YouTube, public comments on health care and other issues, and other initiatives. Whitehouse.gov and recovery.gov have since picked up the mantle by beginning to use some of these same tools, such as including embedded YouTube videos on whitehouse.gov

What is Web 2.0?

Precise definitions of Web 2.0 vary, but Web 2.0 technologies generally feature free, hosted services that enable users to post and share content. These include social-networking sites, video sharing sites, wikis, and blogs. Roughly speaking, Web 1.0 highlighted one-way communication from a website to its users. Web 2.0 enables much richer, two-way communication that includes the users themselves. Web 2.0 technologies can help the federal government foster a sense of community, increase transparency, and provide ways for more people to participate in governmental processes.[1]

and accepting public comments on recovery.gov. But wider and deeper use on whitehouse.gov and all agency websites will require the Obama administration to make a decision about how strict or open the federal approach to Web 2.0 should be.

The approach that whitehouse.gov takes will have far-reaching implications all the way down to "typical" federal websites, such as the National Weather Service site for Boise, Idaho.[2] Boise's National Weather Service site has an extensive set of Web 1.0 links that allow visitors to learn a great deal about local weather, road reports, etc. The site does not yet appear to have any Web 2.0 applications, but there are a variety of possibilities. The National Weather Service, for example, might team up with the United States Forest Service to help develop user communities for hunting or hiking. If Web 2.0 applications are easy for the government to use, Idaho federal employees can display nimbleness and innovation at the edges. If strict rules make it difficult to use Web 2.0 technologies, then the Idaho offices quite likely lack clout with headquarters, find it time-consuming to get approvals, and be much slower to deploy the new technologies.

There are three principal options for the federal government's treatment of Web 2.0 technologies:

Option 1: Procurement. This option emphasizes procedural fairness. The basic idea is that government use of a Web 2.0 technology is an implicit "endorsement" of that technology. Agencies should, therefore, conduct a thorough procurement process to avoid any appearance of impropriety and assure that the government is getting the best possible services.

Option 2: Open use. This option encourages all agencies and other federal employees to use Web 2.0 technologies. The basic idea is that federal employees should use Web 2.0 technologies in their interactions with the public in the same ways that individuals and private-sector organizations use the technologies, and those sign-up processes should be approximately as easy for federal agencies as for private companies.

Option 3: Conditional use. This option falls between the strict procurement and open use options and could require either fairly mild substantive and procedural requirements or very strict requirements.

Each of the three options has benefits and drawbacks, which are detailed in this report. But the Obama administration should ultimately aim for a variation of conditional use that leans toward the more open end of the spectrum. This approach would enable the far reaches of the federal government to experiment with and rapidly use Web 2.0 technologies. At the same time, it would allow high-visibility sites, such as whitehouse.gov, to use their leverage to help secure improved licenses for all federal web sites.

It would be a mistake for the Obama administration to move forward with Web 2.0 technologies without considering and encouraging Web 2.0 technologies to offer or adopt services that comply with federal privacy and security guidelines, Section 508 compliance for Americans with disabilities, and other open access regulations. Some Web 2.0 services have already made strides toward federal compliance since the inauguration, including YouTube creating a version of its video player that doesn't use cookies and Facebook announcing that it will make its website more accessible for the blind and visually impaired.

The federal government should also make sure to include a public comment feature so that agencies receive feedback on how to improve their use of Web 2.0 technology. But while the Obama administration should actively encourage public feedback and work to ensure that all content is as accessible and compliant with federal guidelines as possible, it should not hinder the great advances that are possible with the adoption of Web 2.0 technologies.

The three phases of federal software procurement

The federal government has gone through three major phases in how it obtains software, and each has come with its own accompanying legal rules. The first was custom software, which was followed by commercial off the shelf software by the 1980s, and now Web 2.0 applications.

Custom software

The U.S. government was a global pioneer in early uses of computer hardware and software. Many early projects were uniquely governmental and often implicated national security, such as World War II encryption projects, launch codes for nuclear missiles, and software for NASA projects. The private sector did not have a well-developed market for similar software, and so the federal government had to go through a formal procurement process to develop custom software. This procurement process had to comply with the elaborate Federal Acquisitions Regulations and Defense Federal Acquisitions Regulations.

Commercial off the shelf software

The private sector began to develop a wide range of commercial off the shelf software, or COTS, in the 1980s. Milestones included the development of the IBM PC in 1981 and the rise of the Windows operating system, which supported a growing range of commercial applications. It became increasingly wrongheaded in the new world of COTS software for the Pentagon to issue a contract to design a custom word processing program. The Pentagon was likely to get better software, at a lower cost, by buying packages such as Word or WordPerfect. The costs of writing and testing COTS software were spread over a much larger market, and updated versions appeared more rapidly than in a custom system.

Congress passed the Competition in Contracting Act in 1984,[3] which requires "full and open" competition for software and other governmental purchases. Some purchases continued to use custom software, especially where the governmental function was significantly different from commercial activities. Many other purchases shifted to COTS hardware and software, and the General Services Administration, which provides professional services and procurement for the federal government, developed "schedules" and other tools to streamline the purchase of COTS products.

Web 2.0

The procurement laws that regulate custom and COTS software purchases do not appear to apply to government selection of free software services. The Federal Acquisitions Regulations and Defense Federal Acquisitions Regulations apply to "the acquiring by contract with appropriated funds."[4] While typical Web 2.0 services, such as Facebook and YouTube, are free, and their use does not require a contract that uses appropriated funds.[5]

If web services bid for the government service, then the situation may be a "concession," similar to when restaurants bid for the privilege of operating in a national park.[6] But research to date indicates that "concessions" involve payment of money to the government, and this sort of payment is not characteristic of Web 2.0 applications.

If the government neither provides money to, nor receives money, from a software company, the procurement legal rules should not apply. The government agency, of course, still has an obligation to use its resources wisely and lower the total cost of ownership. Even where software is available at no charge, the agency may find that custom or COTS software best meets the agency's mission.

Option 1: Procurement

This option would require federal agencies to go through a formal procurement process before beginning to use Web 2.0 technologies, just as it has done historically when obtaining software. Important values are served by having a thorough process—the rules for bidding are clearly established, decisions are made after a fair procedure, and there is an opportunity to protest if anything unlawful or improper occurs. And a formal procurement can help the government discover the range of available products and services, as bidders come forward to explain the advantages of their offerings.

The formality of the procurement process may also be a good match for the regulation of "terms of use" and other licenses that are a common feature when signing up for Web 2.0 applications. The procurement process may offer the opportunity for procurement professionals to modify a company's standard terms of use so that they are more compliant with federal regulations and open access guidelines. For instance, procurement might enable the federal government secure favorable terms of use on the following:

Section 508 compliance. Section 508 of the Rehabilitation Act requires federal agencies to make their information technology accessible to persons with disabilities. Many Web 2.0 applications do not currently meet the standards of Section 508, so a procurement approach might help create modifications to these applications.

Privacy. The Privacy Act creates obligations for federal agencies with respect to personally identifiable information. Yet the federal government cannot ensure that third-party websites will guard users' privacy to the same degree as federal agencies. Many Web 2.0 applications do not currently meet the standards of the Privacy Act—for example, by using persistent cookies, which are banned on federal websites.

Security. Federal computer systems are subject to a number of cybersecurity requirements under the Federal Information Security Management Act that are generally stricter than those on Web 2.0 applications.

Endorsement and advertisements. All websites that use the .gov domain must follow GSA guidelines that limit advertising and the "endorsement" of commercial products or services. Negotiations by procurement professionals might result in limits on advertising and endorsement, such as suppressing advertisements on a Facebook page or removing the YouTube logo on videos.

Inappropriate images or other content. Federal agencies do not want their material to appear in settings where there are inappropriate images or other content. Negotiation with the Web 2.0 provider might create stronger assurances that such content will not appear with government content.

State law and indemnity provisions in the terms of use. The standard terms of use for many Web 2.0 applications provide that state law applies and that the user agrees to indemnify the provider for copyright violations or other expenses. These provisions violate federal law, and negotiations with the Web 2.0 provider could directly address these sorts of issues.

A formal procurement process is one approach to addressing this list of legal concerns. Yet because the majority of possible Web 2.0 activities would occur outside of a federal website where federal regulations do not necessarily apply, there could be alternative approaches to addressing many possible Section 508, privacy, security, and other issues. For example, federal website could clearly inform users that they are no longer on a federal agency website. After this warning, users would be on notice that the privacy, security, and other policies of the Web 2.0 application apply.

One of the chief policy decisions with Web 2.0 applications is whether to require compliance with the various legal regimes as a condition of procurement or instead give notice to users that they are leaving the official federal site and are thus subject to the Web 2.0 provider's policies.

The pros and cons of procurement

Pros

· The procurement process is well defined, creating clear procedures that give vendors a full and fair opportunity to compete.

· Web 2.0 providers could receive a significant benefit if the federal government adopts their application, especially for a high-visibility site such as whitehouse.gov. Multiple providers should therefore have an opportunity to have their services considered.

· The procurement process reduces the risk of actual or perceived favoritism in the choice of Web 2.0 technologies.

· A procurement process may encourage federal managers to make a more informed choice between free and proprietary services in order to minimize the total cost of ownership. If free services are chosen outside of the procurement process, while proprietary goods and services are subject to greater procedural burdens, then the federal government may over-use "free" services without considering the full advantages and disadvantages of different approaches.

Cons

· A full procurement process for each free Web 2.0 technology will substantially slow the use of such technologies in the federal government. The effect is likely to be especially great for smaller agency website where the innovative use of a Web 2.0 technology may not be worth the management time and effort to sustain procurement.

· Federal acquisition regulations do not appear to require a procurement contract when there is no appropriation of funds, so legal changes might be needed to use procurement procedures for what is currently a non-procurement activity.

· Web 2.0 procurement could create significant costs in time and resources for procurement and program offices as these technologies rapidly become more common. The zero- or low-dollar feature of Web 2.0 procurements may not get priority attention in agency procurement offices, slowing the adoption of Web 2.0 technologies.

· This sort of formal procurement procedure for Web 2.0 applications is rarely done in the private sector, suggesting the costs of such procedures may outweigh the benefits.

Option 2: Open use

Open use would enable federal employees to use Web 2.0 technologies in approximately the same way as individuals or private-sector organizations. This would likely enable the most rapid adoption of Web 2.0 technologies by the federal government as it would allow agencies, from the largest to the smallest, to experiment with blogs, social networking sites, and other technologies without the need for a full procurement and possibly without even having to check with legal counsel.

This "open use" approach would send the signal that the government favors experimentation with emerging Web 2.0 technologies. Just as President Obama has said he wishes it to become "cool" to work in government service, innovation with Web 2.0 technologies would make federal computing "cool." Free Web 2.0 services may also save federal dollars and should improve government functioning. Web 2.0 technologies also are likely to foster a sense of community, increase transparency, and provide ways for more people to participate in governmental processes.

This sort of open use of free software, without a procurement process, already occurs. For instance, federal employees routinely use free search engines, such as Google, without approval of top management or legal counsel, even though the search engine sites do not meet all the rules that apply to federal websites: they rely extensively on advertisements, set cookies in ways not generally permitted on federal sites, and may not comply with federal accessibility standards.

Open use of Web 2.0 technologies should be accompanied by a comment function about the use of Web 2.0 technologies. The procurement process allows disappointed bidders to file a protest. A powerful and intuitive way to reduce mistakes in the Web 2.0 world is to have a public comment process. This sort of public comment process uses the Web 2.0 approach to fix Web 2.0 problems. Instead of a protracted legal protest, the public comments can be viewed as a sort of "Web 2.0 protest."

The details could vary, but the basic idea is that comments would come from the individual users of a government Web 2.0. technologies, who could give on what they like and dislike, suggest new approaches, and link to other organizations that have deployed technology in an effective way. Comments would also come from vendors, who could explain why their services are better than those currently used by the agency. The com-

ments would presumably be viewable by the public—subject to moderation for profanity, among others—and a "comment on this site" link could appear on pages that use Web 2.0 technologies, perhaps next to the link for the privacy policy.

If the comments give strong reasons to shift to a different approach, then that would inexpensively inform the agency about how to update its use of Web 2.0 applications. The press, Congress, and other stakeholders would have an informed basis for asking the agency to change its practices. And there could be useful procedures to ensure that agencies periodically review the comments. For instance, the webmaster might certify periodically—perhaps quarterly or every six months—that he or she has reviewed the comments, or comment review might be part of the webmaster's personnel review.

The pros and cons of open use

Pros

- Open use encourages federal use of Web 2.0 technologies. It is also consistent with President Obama's embrace of Web 2.0 approaches during the campaign and transition, and has advantages such as greater transparency and participation in the government.

- Widespread use of free Web 2.0 technologies can save money while bringing cutting-edge functionality to federal web operations. The advantages of shifting to Web technologies today are similar to the advantages of replacing custom software with off-the-shelf software. It allows the federal government to piggyback off development efforts in the private sector, thereby obtaining software with greater functionality, faster updates, and more thorough product testing.

- Open use promotes experimentation with Web 2.0 technologies. It is difficult to write authoritative guidance for Web 2.0 technologies today due to the newness of the technology and its rapid change. But the government can better identify and respond to any specific problems with Web 2.0 deployment after a period of experimentation.

- Open use would return the federal government to its historic role of promoting the Internet and other cutting-edge computing technologies. Many Web 2.0 providers are based in the United States, and rapid adoption of Web 2.0 by the government may continue to spur American leadership in this sector.

- Free Web 2.0 applications do not involve payment to software vendors, so the risk of actual or perceived favoritism is limited.

Cons

- There is some risk of actual or perceived favoritism when high-profile sites such as whitehouse.gov or many typical federal sites adopt a particular Web 2.0 technology. The public comment mechanism provides a response to this concern, but may not be sufficient.

- The open use option would not require Web 2.0 providers to comply with federal practices for privacy, security, Section 508, and other issues. The federal government has often used its purchasing power to encourage best practices in the private sector. Yet open use would not maximize the federal government's ability to change practices in the private sector.

Option 3: Conditional use

Procurement and open use define the key dimensions of policy choice concerning Web 2.0: How much formality should be required before a federal agency employs a free Web 2.0 technology? Conditional use develops intermediate possibilities. There is essentially a sliding scale between procurement and open use. Policies that are closer to the procurement end of the scale will better uphold federal regulations at the cost of creating more hurdles in the adoption of Web 2.0 technologies. Policies that are closer to the open use end of the scale will enable greater experimentation with Web 2.0 technologies but with fewer assurances that other federal policies are maintained.

The decision of where to fall on the sliding scale is primarily a policy choice rather than a legal choice for two reasons: First, the preponderance of the privacy, security, and Section 508 concerns happen after a user leaves the federal site and goes to the Web 2.0 site. Federal website can therefore warn users that they are leaving the site, which fulfills federal legal obligations. Second, there are manageable legal options for the small number of topics that do not fit this pattern, such as terms of use that do not comply with federal requirements.

Conditional use would essentially create regulations on the use of Web 2.0 technology by federal agencies. These regulations can be substantive or procedural—or a combination of the two. Substantive regulations would allow use of Web 2.0 technologies once they meet criteria for issues such as privacy, security, Section 508, total cost of ownership, commercial endorsement, etc. Procedural regulations would allow use of Web 2.0 technologies upon completion of procedural criteria, such as approval by counsel or senior management, or negotiation by GSA of a government-wide license for a particular application.

Substantive requirements

One light touch approach would be to adopt the open use approach, but ask agencies to consider a list of issues when adopting Web 2.0 technologies. The list of issues might include: privacy; security; Section 508 compliance; total cost of ownership; use of open formats; and excessive advertising, endorsement of commercial products, or display with inappropriate content.

A stricter substantive approach would prohibit federal agencies from adopting Web 2.0 technologies that do not comply with specific substantive requirements. For example, federal

agencies might be able to adopt Web 2.0 technologies only where they are fully compliant with Section 508 requirements. This stricter approach would provide Web 2.0 providers with an incentive to become more accessible. But many Web 2.0 providers are unlikely to change their platforms and services in order to service federal agencies. In those instances, a strict substantive requirement could make Web 2.0 service off-limits to federal agencies.

Procedural requirements

Procedural requirements can help protect government priorities when it is difficult to specify substantive standards in advance. The basic trade-off is between ease-of-use for Web 2.0 technologies and the risk that federal employees will adopt Web 2.0 technologies in inappropriate or controversial ways. Procedures could address those risks by requiring agencies to receive sign-off by one or more appropriate persons before adopting a Web 2.0 technology. Sign off might come from legal counsel, management at a certain level, or a designated webmaster for the agency.

The federal government could also employ other procedures. There could be reporting requirements to GSA or OMB, which could help government-wide experts spot trends and address problems as they arise.

One useful procedure is to continue the recent work by GSA to negotiate terms of use with Web 2.0 providers that can apply to all federal agencies. This approach is especially helpful for popular applications such as YouTube or Facebook. GSA has more bargaining power if negotiations are conducted jointly with high-status and high-traffic sites such as whitehouse.gov. A strict version of this approach would forbid use of a Web 2.0 application until GSA had completed negotiations. A more flexible approach would permit federal agencies to experiment with Web 2.0 applications, but with the understanding that GSA may at some point negotiate a government-wide agreement.

The pros and cons of conditional use

Pros
- The conditional use option pushes the federal government to seek improved practices in the Web 2.0 space, such as on privacy, security, and Section 508 compliance.

- Conditional use is more flexible than a procurement system and would foster faster use of Web 2.0 technologies.

Cons
- The requirements imposed by the conditional use approach could still significantly slow the adoption of Web 2.0 technologies.

- The conditional use option may not be as effective as a procurement system at ensuring that federal agencies fully meet current expectations about privacy, security, Section 508 compliance, and other federal policies.

Recommendations

President Obama was forward-looking with regard to Web 2.0 technologies both during the campaign and the transition. The Obama administration should continue its high-visibility use of new media by adopting a conditional approach that allows it to remain open in its use of new technology, but also leverages the federal government's power to help make Web 2.0 technologies more compliant with federal regulations that will make these technologies safer and more accessible for more Americans.

- The Obama administration's conditional use policies should stay fairly close to open use, but include the following recommendations:

- The Obama administration should release a policy statement that encourages federal agencies to experiment and innovate with Web 2.0 technologies.

- Whitehouse.gov should act as a model for the use of innovative Web 2.0 technologies within the federal government.

- Implementation of Web 2.0 technologies should include a public comment feature so that the public can provide feedback to agencies on how to improve their use of the applications.

- Policy guidance should encourage agencies to consider a list of relevant issues when adopting Web 2.0 technologies, including: privacy; security; Section 508 compliance; total cost of ownership; interoperability; use of open standards; and excessive advertising, endorsement of commercial products, or display with inappropriate content.

- GSA should work with the White House new media team to negotiate terms of use with prominent Web 2.0 providers. Federal adoption of Web 2.0 technologies, however, should not be contingent on completion of such negotiations.

A fairly open conditional approach would enable federal websites to experiment with and rapidly use Web 2.0 technologies. At the same time, it would allow high-visibility sites, such as whitehouse.gov, to move forward on Web 2.0 technologies while using their leverage to help secure improved licenses for all federal websites.

Endnotes

1 The focus in this report is on user-facing applications, such as where members of the general public view videos, comment on blogs, or participate in social networks. The Web 2.0 discussion here is not primarily intended to create criteria for software used as infrastructure within an agency's own activities. Additional issues may arise for activities within the government, including concerns about classified information or sensitive information about government personnel.

2 National Weatehr Service Forecast Office, Boise, Idaho, available at http://www.wrh.noaa.gov/boi/

3 41 U.S.C. § 253.

4 "'Acquisition means the acquiring by contract with appropriated funds of supplies or services (including construction) by and for the use of the Federal Government through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated, and evaluated. Acquisition begins at the point when agency needs are established and includes the description of requirements to satisfy agency needs, solicitation and selection of sources, award of contracts, contract financing, contract performance, contract administration, and those technical and management functions directly related to the process of fulfilling agency needs by contract," available at http://www.arnet.gov/far/current/html/Subpart%202_1.html#wp1145507.

5 Further support for the conclusions that contracting laws do not apply to free services comes from the text of the Competition in Contracting Act, which provides: "(2) In determining the competitive procedures appropriate under the circumstance, an executive agency—
(a) shall solicit sealed bids if—
    (i)   time permits the solicitation, submission, and evaluation of sealed bids;
    (ii) the award will be made on the basis of price and other price-related factors;
    (iii) it is not necessary to conduct discussions with the responding sources about their bids; and
    (iv) there is a reasonable expectation of receiving more than one sealed bid." 41 U.S.C. § 253(a)(2) (emphasis added). The statute only directs an agency to solicit sealed bids if "the award will be made on the basis of price and other price-related factors," which does not appear to apply where the agency obtains free software.

6 For an overview of concessions law, see Terrence M. O'Connor, *Understanding Government Contract Law 90-91* (Vienna: Management Concepts, 2007), available at http://books.google.com/books?id=ypMnf07eOxcC&pg=PA90&lpg=PA90&dq=concession+contracts+are+not+procurement&source=web&ots=xY-1K7fEUn&sig=XquQ2Idx7qP-Ik1W4aRgHq6Vy3Y&hl=en&sa=X&oi=book_result&resnum=1&ct=result#PPA90,M1.

The Center for American Progress is a nonpartisan research and educational institute dedicated to promoting a strong, just and free America that ensures opportunity for all. We believe that Americans are bound together by a common commitment to these values and we aspire to ensure that our national policies reflect these values. We work to find progressive and pragmatic solutions to significant domestic and international problems and develop policy proposals that foster a government that is "of the people, by the people, and for the people."

Center for American Progress