



Federal Open Technology Report Card  
Report and Methodology

## Executive Summary

### **Introduction**

In December 2009, President Obama issued the Open Government Directive to the head of every federal department and agency instructing them to take specific actions to open their operations to the public. The open source principles of transparency, participation and collaboration were at the center of the directive. In April 2010, the agencies submitted their Open Government Plans, outlining the steps they planned to take to achieve the directive's goals.

Open Source for America commends the Administration for the steps it has taken, in the initial period following adoption of the policy, to enable and invite public scrutiny of the U.S. federal government. Open technologies are the key to achieving the open, transparent, efficient, and collaborative government that U.S. citizens desire.

### **Benefits of Open Technologies**

The recent [25 Point Implementation Plan to Reform Federal Information Technology Management](#) released by the Federal CIO's office notes that, "the Federal Government too often relies on large, custom, proprietary systems," and that "IT will open government, providing deep visibility into all operations." The plan, while not specifically addressing proprietary vs. open technologies demonstrates the Federal government's understanding of the ways that technology can help the government achieve broad goals, not just of efficiency, but of providing transparency and collaboration for better serving U.S. citizens.

The use of open formats, open source software, and open standards enables the government to make data freely available to the public for a variety of purposes, as well as to create programs that are more efficient and consumer-driven. Many state and local governments have implemented open technologies to better serve their citizens. For example, in September 2009, the Massachusetts Bay Transit Authority (MBTA) opened its transit data, including bus and train schedules, for software developers. Within two months, six trip planning applications had been built *at no cost to the MBTA* by citizen developers. The MBTA's experience is just one example of how opening government data to the public can spur innovation, create jobs for those who use the data to develop new applications, and save taxpayer money.

Using open technologies creates cost efficiencies, more responsive and innovative software, and can help governments, enterprises and individual users avoid being dependent on a single vendor for software solutions. A 2009 [Meritalk study](#) indicated the U.S. federal government could save \$3.7 billion by switching to open source solutions. Further, open source code is publicly available for review, meaning that flaws are more easily discovered and fixed. Open technologies are also a key ingredient to achieving the administration's drive to align the Federal budget and acquisition process with the technology cycle, strengthen program management, increase engagement with the IT community, and adopt light

technologies and shared solutions. (See [Driving IT Reform: An Update](#), November 19, 2010). In many respects, the success of this reform effort will be more likely with continued emphasis and utilization of open technologies.

In light of the benefits that open technologies can bring to governments, and ultimately its citizens, Open Source for America (OSFA) conducted a review of fifteen (15) Cabinet-level departments and agencies to determine their use of open source technologies, open formats, and technology tools for citizen engagement. The results are summarized in this Federal Open Technology Report Card.

### **Methodology**

The survey included questions regarding public budgets, use of social media, and open source technologies practices. OSFA invited participation and review by agency representatives from the Administration's newly formed Open Government Working Group. Report card results combine direct agency input as well as independent research conducted by OSFA.

All line-items required substantiation through publicly available government websites. This independent research was intentionally limited to public agency websites, recognizing that public access and transparency are inseparable in the government context. Answers to the questions determined the score of each agency, with the use of open source technologies and open formats weighing most heavily. This included items such as publishing public documents in open file formats, participating in open source software creation and providing guidance on procurement policies surrounding open technologies.

### **Major Findings**

This study was conducted three months after the agencies submitted their Open Government Plans and is intended to demonstrate baseline data in the beginning of a long journey towards openness and transparency in the federal government. While some of the agencies scored very well, most agencies fell below the 50 percent. Given that this is the first year that the agencies are operating under the Directive and the Open Government Plans, Open Source for America feels the results demonstrate a positive beginning, but with some room for improvement.

The Department of Defense (DOD) achieved the highest score. The DOD has issued procurement policies for open technologies as well as guidance facilitating participation by government employees in open source projects. The Department is demonstrably ahead of the curve in terms of recognizing the benefits and using open technologies. OSFA would encourage other agencies to use DOD policies and practices as a model for implementation within their own departments. Other findings, according to the survey:

- The highest scorers (Defense and Energy) have published agency-created software code as open source and provide clear guidance identifying open source as a permitted procurement option.

- All agencies publish at least some forms in open file format standards and accept files from the public in multiple document formats.
- Agencies generally scored well on transparency questions, by publishing budgets in search-able formats and Freedom of Information (FOIA) information on their websites.

## **Conclusion**

As previously discussed, Open Source for America recognizes that this is the first year under which agencies are operating under their Open Government Plans. As such, the results show solid commitment to transparency and public feedback, as well as recognition and growing use of open technologies within the federal government. Based on this initial benchmark, it will be essential for agencies to evaluate and incorporate open technologies into their IT plans. For most agencies, there is certainly room for improvement in the coming year. OSFA encourages agencies to take the following actions to achieving the Administration's goals of openness, transparency, and collaboration within the federal government:

1. Adopt policies and guidance allowing for procurement of open source software and recognizing it as 'commercial' software
2. Adopt policies that favor open standards in technology procurement and development
3. Adopt policies that allow government employees as well as citizen volunteers to collaborate on open source projects
4. Release all public data in open, search-able formats on the agency's website

Open Source for America hopes government agencies will use the Federal Open Technology Report Card and its results to continue working toward the exchange of open information and the use of open source technologies and open formats within their department.

## **About Open Source for America**

Open Source for America (OSFA) is an organization of technology industry leaders, non-government associations and academic and research institutions dedicated to advocating the use of open source software in the U.S. federal government. Participation in Open Source for America is open to any individual or entity signing the campaign's mission pledge at: [www.opensourceforamerica.org](http://www.opensourceforamerica.org).

This study represents OSFA's first effort to evaluate this historical policy initiative. Comments, suggestions, and input regarding this and future research projects is always welcome and can be sent to [info@opensourceforamerica.org](mailto:info@opensourceforamerica.org).

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## I. CRITERIA

### **A. Department & Agency Selection**

Open Source for America (OSFA) leadership determined that the study would include all fifteen Cabinet-level departments and agencies, and evaluated the following: Department of State, Department of the Treasury, Department of Defense, Department of Justice, Department of the Interior, Department of Agriculture, Department of Commerce, Department of Labor, Department of Health and Human Services, Department of Housing and Urban Development, Department of Transportation, Department of Energy, Department of Education, Department of Veterans Affairs, and Department of Homeland Security.

### **B. Agency Representatives**

OSFA identified agency representatives from among the membership of the Open Government Working Group (<http://www.whitehouse.gov/open/documents/open-government-directive/working-group>). Those representatives or their designees received all communications between OSFA and their agency regarding this study. They were given opportunities to participate and review results on behalf of their agency.

### **C. Question Sets & Criteria**

The study criteria were developed in two phases. The OSFA team developed a preliminary set of criteria to measure an environment friendly to open source software and the open source development model. The criteria were then made available for online comment and revision by members of the public on <http://osfa.ideascale.com/>, a site used by numerous federal agencies as part of their Open Government outreach efforts. Criteria were then consolidated and rephrased where appropriate conforming to the need for either affirmative or negative results. In some cases, the criteria measure policies that explicitly encourage open source. In other cases, the criteria measure policies that encourage a broader ecosystem for open source software, especially around in the areas of open access to information and open data. OSFA believes that

successful open source adoption requires transparency in the agency's operations as well as direct policy guidance. The criteria have been weighted accordingly.

This two-phase process yielded a set of statements grouped into seven (7) general categories pertaining to each agency as follows:

1(a) Publishes budget on publicly accessible agency website

1(b) Publishes budget in search-able format

2(a) Publishes visitor/solicitation logs on publicly accessible agency website

2(b) Publishes visitor/solicitation logs in search-able format

2(c) Publishes substance of visitor/solicitation discussion on publicly accessible agency website

2(d) Publishes product samples received from third parties on publicly accessible agency website

2(e) Publishes fact-finding trips (non-classified) on publicly accessible agency website

3(a) Publishes forms in open file format standards

3(b) Published open formatted records include digital certification of authenticity

3(c) Accepts files from the public in multiple formats, including at least one open format

4(a) Agency site uses wikis to solicit public feedback

4(b) Agency site uses online forums to solicit public feedback

4(c) Agency site uses social media to solicit public feedback

4(d) Agency site uses e-mail lists to solicit public feedback

4(e) Agency site uses other online outreach tool(s) to solicit public feedback

5(a) Freedom of Information Act (FOIA) information is available via a link from agency homepage

- 5(b) FOIA requests are considered with a presumption in favor of disclosure
- 5(c) FOIA requests are assigned a tracking number if they are not answered within ten days
- 5(d) Agency provides a phone line where individuals can track their FOIA request using the assigned tracking number
- 5(e) Agency provides website where individuals can track their FOIA request using the assigned tracking number
- 5(f) Agency has Chief Freedom of Information Act Officer who is an Assistant Secretary or equivalent level

- 6(a) Procurement policy directs that software purchase consideration includes a total cost of ownership analysis
- 6(b) Procurement policy cites open technologies as an option
- 6(c) Policy permits publication of agency-developed source code as open source

- 7(a) Has published agency-created software code as open source
- 7(b) Provides policy guidance/explanation identifying open source as a permitted procurement option

## **D. Rationale**

OSFA compiled the reasoning behind each question set to allow agencies and the public to understand why particular criteria were considered. The following justifications were included with the criteria in all interactions with agency representatives

### Question Set 1

Published budgets allow the technology community to quantify an agency's IT software/services cost and find opportunities for an agency to increase its efficiency with open source software.

### Question Set 2

Solicitation logs and discussion records increase the transparency of procurement decisions and underscore the importance of accountability in government. In many cases, open source software is insufficiently represented in agency discussions, and having this data available provides valuable insight into the process.

#### Question Set 3

Disclosure is not truly public if citizens must use a particular software package to view government documents. Worse, documents published in proprietary formats could force citizens to purchase software from a single vendor to work with the data. This has the effect of limiting the distribution of ostensibly public data, and unfairly favors one vendor's software over another.

#### Question Set 4

Meaningful collaboration between citizens and their government is increasingly facilitated by online technologies. Not coincidentally, the use of collaborative tools and social media ensure the transparent and free flow of information and ideas between citizen developers, and their government counterparts. The collaborative technologies are the foundation for an effective open source community that includes both citizens and government.

#### Question Set 5

Consistent with existing privacy laws and agency guidance, data collected at the taxpayers' expense should be publicly accessible, and FOIA is a crucial tool to ensure that such data is available. Once available, it forms the basis for valuable analysis, discussion, and collaboration. Public data is the raw material for open source projects.

#### Question Set 6

The government is rife with misunderstanding and misinformation about open source software licenses, and where and how open source software may be

used by agencies. This necessitates explicit guidance on open source procurement policy.

#### Question Set 7

Government work is paid for by the public, and code produced should be given back to the public whenever possible. The open source process is an excellent vehicle for this. Open source has the effect of increasing competition, thus lowering costs and increasing procurement efficacy.

## II. INFORMATION GATHERING

### **A. Online Citation**

All answers required a reference citation to a government website used for substantiation. OSFA determined that it would include only information publicly available and hosted by an agency website.

### **B. Agency Review**

Agencies were involved in the study at two points. First, agency representatives were given the opportunity to conduct their own research and submit results to OSFA for verification over a span of fifteen business days. Extensions were granted when requested. All externally obtained results were reviewed by OSFA. Second, final results after verification and independent study, were released to the agencies for amendment or clarification window of five business days. No extensions were requested.

### **C. Independent Research**

OSFA conducted independent online research on the agencies. Research methods included the use of agency website search terms, site maps, and links useful to obtain information. Explanations of all findings, and online reference citations and research comments were logged. Agencies were notified of the results, with citations, and were provided the opportunity to comment for amendment (explained above).

### III. POINT DISTRIBUTION AND RESULTS

#### A. Scores and Weighting

OSFA scored open source technology and open government criteria with a possible 1 or 0 per answer to each question. 0 was given for a negative answer or if no answer was available or able to be found, and 1 indicates an affirmative answer and/or positive policy. The results are separated into two categories:

- Open Technologies, Question Sets 3, 6, 7
- Open Government, Question Sets 1, 2, 4, 5

The raw score for each question set was divided by the number of questions in the set to provide the total score for each set. In this way, having five questions in one set and two in another set would not affect the overall outcome. Each set was then weighted according to its importance with respect to open technology and open government policies by a factor of 1 to 7.

- Open Technologies, Areas 3, 6, 7: total points = 18
  - Question Set 3 = 5 points
  - Question Set 6 = 6 points
  - Question Set 7 = 7 points
- Open Government, Areas 1, 2, 4, 5: total points = 10
  - Question Set 1 = 3 points
  - Question Set 2 = 2 points
  - Question Set 4 = 4 points
  - Question Set 5 = 1 point

The maximum number of achievable points was 28. Scores were converted to a percentage based on the number of points received divided by the total possible points. For example, the Department of Defense received the highest number of points, 23 of 28, a score of 82 percent.

## B. Results

DEPARTMENT	TOTAL SCORE	
Department of Defense	23	82%
Department of Energy	20	72%
Department of Health and Human Services	16	55%
Department of Homeland Security	16	55%
Department of Transportation	15	53%
Department of Veterans Affairs	14	49%
Department of Agriculture	13	47%
Department of Housing and Urban Development	13	45%
Department of State	12	44%
Department of the Treasury	12	44%
Department of Labor	12	44%
Department of Justice	12	43%
Department of Commerce	11	40%
Department of Education	11	40%
Department of the Interior	10	37%

As demonstrated in the table above, five Departments scored above 50 percent, including Defense, Energy, Health and Human Services, Homeland Security, and Transportation. The Departments of Commerce, Education, and the Interior earned the lowest scores. The table of raw data is available for download at <http://opensourceforamerica.com/federalscorecard>.

## C. Conclusion

This study was conducted three months after the agencies submitted their Open Government Plans and is intended to demonstrate baseline data in the beginning of a long journey towards openness and transparency in the federal government. Open Source for America hopes government agencies will use the Federal Open Technology Report Card and its results to continue working toward the exchange of open information and the use of open source technologies and open formats within their departments.

## IV. SPONSORSHIP

The Federal Open Technology Report Card is sponsored by Open Source for America (OSFA), an organization of technology industry leaders, non-government associations, and academic and research institutions promoting the use of open source technologies in the U.S. federal government.

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