



The Open Government Directive: A Formula for Open Source

(Social Publishing + Document Management + Records
Management) x Open Source = Government 2.0

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Executive Overview

From the day he took office, President Barack Obama made it absolutely clear that he would lead a major change in how federal agencies, departments and offices of his administration interact with the citizens whom they serve.

“My Administration is committed to creating an unprecedented level of openness in Government... Public engagement enhances the Government’s effectiveness and improves the quality of its decisions... Executive departments and agencies should offer Americans increased opportunities to participate in policymaking and to provide their Government with the benefits of their collective expertise and information.”¹

President Obama articulated three principles to the heads of his executive departments and agencies, and directed them to implement accordingly. The principles are:

- Transparency – being open and taking government out to the public
- Participation – getting social and bringing the public’s opinion to the government
- Collaboration – working across Federal and non-Federal agencies, the public, non-profit and private entities

These principles were published on www.whitehouse.gov and were communicated as follows:

“We will work together to ensure the public trust and establish a system of transparency, public participation, and collaboration. Openness will strengthen our democracy and promote efficiency and effectiveness in Government.”

The new Open Government Directive (OGD) is designed to improve citizen interaction and engagement. The first place the administration chose to implement the OGD is with an overhaul of the www.whitehouse.gov web site. From this action, it is clear that the Internet serves as a critical part of President Obama’s directive providing a way for the government and its agencies and departments to communicate and collaborate with the American people.

The OGD requires that government agencies, departments and offices examine how they can use technology to become more open. In most cases it requires a new approach to software infrastructure. Fortunately, the government can utilize best practices learned from the rise of Web 2.0 to develop a new user experience that is social, highly participatory, and low-cost. The key lesson the government can learn from Web 2.0 is the use of open source technology. Open source technology allows for greater flexibility when developing social applications and is more cost effective than proprietary solutions.

As a result of the OGD, the new technology formula for Government 2.0 looks like:

(Social Publishing + Document Management + Records Management) x Open Source = Government 2.0

This whitepaper examines the information requirements behind the Open Government Directive as well as guidelines set by the Freedom of Information Act (FOIA), Paperless Office Act and records management requirements set by the Department of Defense. It examines how the use of social publishing, document management, records management and open source technology can help government agencies, departments and federal offices cost effectively deliver on the OGD and increase government and citizen participation and engagement.

Open Government Directive – Memorandum of Transparency

President Obama's memorandum for the heads of executive departments and agencies expanded on the core principles of transparency, participation and collaboration giving further details, clarification and timelines. The following are summaries of each principle.

Transparency – Being Open and Taking Government Out to the Public

Transparency involves creating publicly available websites that make accessible high value data and content that was not previously available in a downloadable format. These data sets need to be registered via Data.gov. In addition, departmental activities, staffing, organizational structure and a process for analyzing and responding to congressional requests for information is required.

An open planning and rollout process needs to be followed in implementing the OGD that describes how transparency and integration of public participation and collaboration will be improved. Progress is tracked and monitored via the Open Government Dashboard making available each agency's Open Government Plan. The dashboard together with aggregate statistics and visualizations will provide an assessment of the 'state of open government' in the Executive Branch and its progress over time. Specifically, the memorandum details 45, 60 and 20-day timelines.

Participation – Getting Social and Bringing the Public's Opinion into Government

The web is social and accessible to all citizens. Government needs to get social, listen and interact with its citizens. The government and its agencies can learn from sites such as Facebook, LinkedIn and Twitter which have become part of citizens' daily life. On these social sites, citizens interact, comment, talk about their activities and give feedback. Government web pages must incorporate a mechanism for the public to:

- Give feedback on and assess of the quality of published information;
- Provide input about which information to prioritize for publication; and
- Provide input on the agency's Open Government Plan.

Participation is a two-way process. The memorandum states that feedback must not be ignored. Each agency must respond to public input received on its Open Government webpage on a regular basis. The Open Government Plan should include descriptions of and links to appropriate websites where the public can engage in the existing participatory processes of each agency. The Plan should also include proposals for new feedback mechanisms, including innovative tools and practices that create new and easier methods for public engagement.

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Collaboration – Working across Federal and non-Federal Agencies, the Public, non-Profit and Private entities

Private industry has tapped into the “wisdom of crowds”, sharing best practices not only within an organization but with other organizations and the public, taking collaboration to new Web 2.0 levels. The government needs to provide a forum to take advantage of the expertise and insight of people both inside and outside the Federal Government, and form high-impact collaborations with researchers, the private sector, and civil society.

Open Government Plans need to provide details on how to use technology platforms to improve collaboration among people within and outside each agency. The Plans should also include links to appropriate websites where the public can learn about the existing collaboration efforts of each agency.

Government Policy Guidelines on Making Content Freely Available

In order to implement the idea of “Transparency, Participation and Collaboration” there are a number of guidelines that agencies must adhere to with regard to managing and accessing information. The OGD impacts the way people share knowledge, content and data. As a result, it is essential that any Open Government Plans take into account guidelines related to how documents and records – including electronic information – are managed, stored, accessed and their quality of content.

Freedom of Information Act

Freedom of information is at the core of a civilized society. There are two common approaches to making information freely available:

- Be available when asked for; or
- Be proactively made available.

Each approach requires a sophisticated document management solution to manage, version, search and access information that is up-to-date and appropriate for public consumption. The Freedom of Information Act (FOIA) states that information must be distributed in the form that the citizen can access and most readily uses. As technology usage has evolved to include more Web 2.0 applications, information needs to be available in formats other than Microsoft Word. It needs to be delivered in an open format or into a website or social feed utilized by citizens such as Facebook, Twitter, or another chosen environment.

In 2009, Attorney General Eric Holder issued new guidelines for agencies with regard to the FOIA. In the guidelines, the Attorney General reinforced the principle that openness is the Federal Government’s default position for FOIA issues. Under the new guidelines, agencies should proactively use modern technology to disseminate useful information, rather than waiting for specific requests under FOIA. Other key 2009 guidelines include:

- Each agency is required to publish its annual FOIA Report in an open format on its Open Government webpage, in addition to any other planned dissemination methods, and provide a link to a website that includes a description of staffing, organizational structure, and process for analyzing and responding to FOIA requests and also an assessment of the agency’s capacity to analyze, coordinate, and respond to such requests in a timely manner, together with proposed changes.

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- Each agency with a significant backlog of outstanding freedom of information requests shall take steps to reduce any such backlog by ten percent each year, which will require significantly improved document management processes.

Paperwork Reduction Act - Legal Obligations

Information dissemination is far more practical when delivered electronically in a format accessible to everyone. The OGD recognizes this fact. As part of the OGD to enhance the release of information, each agency should describe how it is currently meeting its legal information dissemination obligations detailed in the Paperwork Reduction Act.

As part of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has the authority to regulate matters regarding federal information and to establish information policies. To improve the quality of government information available to the public, the OMB has established guidelines on information quality making sure that adequate systems and processes are in place within the agencies to promote such conformity. This requires that content has gone through a review, approval, distribution workflow quality control process.

Records Management, US DoD 5025.02 Standard and Security

While making information available to citizens is a primary objective of the OGD, it is also important to know when information should be disseminated and what information should not be released. The ability to manage information is known as records management and is defined by the U.S. Department of Defense (DoD) 5015.02 standard. The standard addresses the management of records in a media neutral format in accordance with approved policies, procedures and schedules. Records Management specifically deals with the creation, protection, retrieval and disposal of an agency's records over time. Different types of documents may have different retention policies according to an agency's legal, regulatory and operational requirements.

As part of the Open Government Plan, agencies must preserve and maintain electronic information, consistent with the Federal Records Act and other applicable laws and policies. Nothing in the directive shall be construed to suggest that the presumption of openness precludes the legitimate protection of information, the release of which would threaten national security, invade personal privacy, breach confidentiality, or damage other genuinely compelling interests.

Agencies must also make a link to a publicly available website that shows how it is meeting its existing records management requirement. It must include details on activities such as identifying and scheduling all electronic records and their timely transfer, where appropriate, to the National Archives. Other areas such as declassification programs and the procedures to ensure the freedom to access declassified information must also be published.

Open Government and Open Formats

No one questions that freedom of information increases accountability, informed public participation and collaboration. However, what happens if one government agency uses a different format to access information than another, or if a citizen cannot access government information? The result can lead to uninformed decision making by government officials and a lack of participation by citizens. To have the desired effect, freedom of information is contingent upon being able to access it in a format that allows everyone to read and interact with it.

As agencies implement the OGD, information must be published online in an open format that can be retrieved, downloaded, indexed, and searched by commonly used web applications. An open format



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can be defined as platform independent, machine readable, and made available without restrictions that would impede the re-use of that information.

Implementing the Open Government Directive with Open Source

Managing the Budget

Only five years ago, a mandate to overhaul the infrastructure of the entire executive branch of the US Government would have sent shivers through the CIOs of government agencies. The cost of such a mandate would be significant with new technology investments, maintenance costs, licensing fees, consulting costs, etc. The same mandate would have had proprietary software vendors' sales teams smiling with the potential to make large revenues for their companies.

Today there is a very different technology landscape with the rise of open source technology offering enterprise class functionality at a fraction of the cost. For example, analysis of enterprise content management vendors pricing was conducted by Alfresco Software. The analysis looked at the various costs associated with proprietary vendors, EMC/Documentum, OpenText, and SharePoint as well as open source Alfresco. Pricing was based on numbers publically available through the GSA Advantage website. Alfresco found that organizations and governments can save up to 96 percent of their costs by exploring and optimizing alternative open source ECM solutions.ⁱⁱ

Open source technology offers an affordable way for the government to begin implementing its open initiative. Web 2.0 sites have already commoditized the scaling process and changed the way content is both accessed and mashed-up. They serve as a model for the government. With the requirements of being open, participatory and collaborative, Web 2.0 sites would not have been economical without open source. The same will be true for the OGD. Open source technology will allow the government to do more with less by providing:

- Lower Cost – A low cost, subscription model with minimal upfront investment that can be driven out of operating expense as opposed to capital expense;
- Greater Flexibility – The ability to modify the source code enables agencies to respond more rapidly to changing situations, evolving requirements; and,
- Greater Customer Choice – Lower Total Cost of Ownership (TCO) by reusing existing hardware, software and skills. No lock-in to one enterprise content management (ECM) vendor or one stack which means when a vendor tries to dramatically increase maintenance fees, organizations have a choice to go elsewhere.

Open Source Support

In October, 2009, David M. Wennergren, Department of Defense CIO, issued a memorandum entitled "Clarifying Guidance Regarding Open Source Software." Wennergren found:

- Continuous and broad peer-review enabled by publicly available source code supports software reliability and security efforts
- The unrestricted ability to modify software source code enables the Department to respond more rapidly to changing situations, missions, and future threats
- Reliance on a particular software developer or vendor for proprietary restrictions may be reduced by the use of open source software (OSS)

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The memorandum goes on to outline additional benefits of open source, including cost and deployment flexibility aspects. Summarizing his findings, Wennergren said open source offers a reliable platform for agile development, free of the lock-in typical of proprietary vendor technologies.

The memorandum showed that the open source option is safe and secure – even in the view of the most safety and security-minded agency in the public sector.

A New Software Infrastructure for the Open Government

President Obama's Open Government requires a new approach to software infrastructure. Agencies, departments, and government offices need to re-examine how they are supporting Transparency, Participation and Collaboration and the technology they use. To meet the Open Government goals any new Government 2.0 site need to incorporate the following open source technology:

(Social Publishing + Document Management + Records Management) x Open Source = Government 2.0

The following section discusses this technology equation for an open government.

Open Source Social Publishing

First generation websites were like electronic brochures. Open source publishing tools have been powering the social web and transforming static sites into ones that can interact with the public and easily provide users with the information they need in the way they need it.

The Drupal Open Source project, for example, is one of the leading social publishing technologies and the technology behind over 400,000 sites including whitehouse.gov. Drupal provides a unified technical foundation for a broad range of collaboration patterns including public affairs, transparency, data mash-ups, intranets, and directories. Acquia is the leading provider of enterprise-class support for Drupal users. Acquia is already helping many government agencies take advantage of Drupal to develop social and collaborative sites as part of the OGD.

Drupal and other open source social publishing management systems have been delivering core functionality such as:

- Rapid website assembly - Build internal and external-facing websites in a matter of hours, with minimal custom programming. Interactive sites supporting new agency or department initiatives can be launched simultaneously with program launch announcements.
- Web content – Create custom content types to create standard forms to publish information within preconfigured design and layout templates. Simplify content submission for non-technical users while improving control of content across an entire site.
- User profiles – Social software is as much, if not more, about people than content. Information about the background of the user, what they are interested in, have worked on, current projects, and feeds are critical.
- Blogs – Personal publishing with regular entries of commentary on a particular subject, description of events, commonly displayed in reverse chronological order.

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- Wikis – A way for users to collaborate and read and write to a website creating and editing interlinked pages.
- Forums – A way to post a question and have a threaded discussion around that topic.
- Ratings – A way to rank or rate a piece of content typically done via a 5-star rating or thumbs up/down. This has been extensively used in sites such as Digg.
- Comments – A way to comment on a piece of content or often a blog post to give feedback.
- Tagging – Search was typically done on the classification, full-text content or attributes of a document. Social tagging allows users to tag or personally classify any piece of content e.g. photo, video or text. The tags can then be used to search for the content and are displayed in a tag cloud.
- Social network integration – Users often want to access new content, not by going to a website but through a feed. This may be an RSS feed or, more commonly today, a Facebook or Twitter social feed. Systems also allow users to login using their social credential and authentication.

Open Source Document Management

Document management enables the storage and management of any digital content – be it documents, images, audio, email or video, in a secure repository. For any organization or government, document management systems provide the tools to manage information from creation, review, approval and storage. The right DMS helps ensure that organizations are meeting the guidelines/regulations relating to information management.

For example, Alfresco Document Management captures, shares and retains content, enabling users to version, search and simply build their own content applications - all with the tools they use today. Alfresco Document Management uses familiar interfaces to enable rapid user adoption. Alfresco couples the innovation of open source with the stability of a true enterprise-class platform. The open source model allows Alfresco to use best-of-breed open source technologies and contributions from the open source community to get higher quality software produced more quickly at much lower cost. Alfresco software has over two million downloads and over 1000 enterprise customers.

Features of an open source document management system, such as Alfresco, include:

- Version Control - Updating a document and creating a new version (version 2) while retaining the previous version (version 1). This includes the ability to track who updated the document and when as well as the ability to go back to a previous version at any point in time.
- Locking – Preventing two users from making changes to the same document at the same time and overwriting each other's work. Typically used in conjunction with version control.
- Access control – Leveraging both of user and group privileges to control security and access to a document or folder for either an individual or group of people. Typical access levels include: none (no access), read, comment, update, write, and site administration.



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- Audit trail – Auditing every change to a document such as who, what, when.
- Rendition and Open Format Support – Importing and converting a document to another format and maintaining both together as one document with two alternative content renditions. This is often used when converting from a proprietary format to an open format and managing the document in the open format going forwards or to allow access to users who have not purchased the editing software. For instance, this allows users who have not purchased Microsoft Word to read a Microsoft Word document.
- Search – Searching based on classification, content of the document (full-text indexing) or metadata.
- Folder-based organization – Organizing a group of related documents together in a folder that can only be accessed by a group of people who have been given access to the folder.
- Workflow – Allows a group of people to review a document in a “draft, review, approval” cycle. The workflow engine audits the time of review and approval and the presence of the document in the user’s inbox.
- Information lifecycle management – Managing how a document is accessed, interacted with and stored during its lifecycle. This is often done in conjunction with the workflow engine. At each stage in the lifecycle of a document a different format or rendition may be used. For instance, a PDF version might be used for review and distribution, with different security at each stage. Using PDF renditions means that reviewers cannot change the document only comment on it. As the document moves through its lifecycle and is accessed less frequently it may be moved to a lower-cost storage medium.

Open Source Records Management

A record could be any document that has been used to make a key decision. These documents are often classified as administrative, financial, legal, operational or historical and may include documents, web pages, email, drawings, proposals, contracts, video and audio files.

Record management systems can help ensure that agencies are complying with US DoD 5015.02 standard. They become a critical component of implementing the OGD by providing the technology tools to better capture, manage and control government information, which may reside as documents, emails, reports etc.

For example, Alfresco Records Management (RM) enables government agencies to address the strict legal requirements associated with managing key business records. Alfresco is the first and only 5015.02 compliant open source RM solution and helps government organizations to manage all document content with retention ranging from lightweight to 5015.02-compliant in a single repository. By having a single repository for both document and records management, Alfresco takes the complexity out of managing separate systems and further lowers technology costs.

Typical functions of an open source records management system, such as Alfresco RM, are:



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- File – Add a document to the records management repository. This typically happens after a document has gone through the normal document management creation / review / approval process.
- Declare – Complete the necessary information to identify the purpose of vital records. This would also include defining its disposition (how long it would be kept and what happens at the end of its useful life). Declaring is simply the process of completing the meta-data associated with the file.
- Storage – Storage and preserve a document's format in a neutral, non-proprietary storage system.
- Access control – Determine the visibility of a record and the operations a user can perform on the record.
- Vital record review – Ensure the ongoing review of certain critical records. This includes setting time periods (i.e. 3 months, 1 year, etc.) for review, automatically notifying the reviewer that the file needs to be reviewed and tracking that the reviews have happened.
- Auditing – Provide an audit log for actions performed against a record. For example, this should include a log on who viewed a record, at what time and when a document was reviewed and any actions arising from the review.
- Search and eDiscovery – Ability to rapidly gather all of the relevant evidence or collection of records when a query is made. The inability to do this can result in fines and litigation. This requires the ability to search by: full-text, category or subject, attribute and location.
- File plan – Provides a structured, subject-based filing scheme required to support a records retention schedule so that proper retention and disposition can be carried out for the appropriate records.
- Freeze – Enables a temporary extension of the approved record retention period. This may occur when a record cannot be destroyed on schedule because of special circumstances, such as a court order or an investigation.
- Disposition – Establish policies for what happens to a record at the end of its retention period and whether it is archived or destroyed. This needs to include the workflow to track what human intervention and approval is required before records can be destroyed.
- Administration – Access to Administration tools that allow audit trails, queries, dashboards and reports to be simply developed and executed.

Alfresco & Acquia – The open source route to implementing OGD

Alfresco and Acquia offer a powerful combined solution for government agencies looking to implement open source technology as part of their Open Government Plan. They offer comprehensive social publishing, document and records management functionality required to comply with the OGD. Benefits include:



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- Open source products such as Alfresco and Drupal are built on open standards and support open architectures do not tie customers into any particular proprietary stack.
- Alfresco and Drupal both have large user communities, availability of developers and a strong network of systems integration partners.
- Drupal is the de-facto social publishing software platform
- Alfresco is the leader in open source ECM and only open source ECM solution to have DoD 5015.02 Records Management Certification.
- No high license costs, yet fully supported with commercial Service Level Agreements via Acquia and Alfresco.
- Users benefit from multi-site management for turnkey site deployment and proven security track record.

Conclusion

The goal of an Open Government is to create a more transparent, participatory and collaborative environment between its agencies/departments, officials and citizens. In order to achieve this, the government needs to rethink how it communicates and the tools it uses to do so. By embracing open and social technologies, government information can be made more accessible and allow citizens new ways to participate and interact with it.

As we shift towards the new Government 2.0 approach, we must also be mindful of the budgetary costs to do so. Luckily there is a new paradigm in software - open source technology. Open source software is a tenth of the cost of proprietary software and offers the proven enterprise-class functionality and security required by the government. For OGD projects focused on improving citizen interaction and participation in government – open source social publishing, document and record management technologies can offer a clear solution with Alfresco and Acquia.

Useful Resources

<http://it.usaspending.gov/>
<http://www.nysenate.gov/>
<http://buytaert.net/open-government-directive-and-drupal>
<http://www.whitehouse.gov/open/documents/open-government-directive>
<http://www.ed.gov/>
<http://www.whitehouse.gov/open/innovations>
<http://www.whitehouse.gov/Open>
<http://www.whitehouse.gov/open/innovations/it-dashboard>
<http://www.whitehouse.gov/open/innovations/OpenforQuestions>
<http://www.whitehouse.gov/open/innovations/Development-2-point-0-Challenge>

About Acquia

Acquia helps organizations of all sizes build social publishing websites quickly, easily and with a lower total cost of ownership by leveraging Drupal, the open source social publishing platform that blends content and community. Acquia products, services and support enable companies to leverage the power, technical innovation and economic value of Drupal while simplifying the experience, removing the complexity and minimizing the risk. Please visit: <http://acquia.com>. Download Acquia Drupal, the completely free Drupal distribution, at <http://acquia.com/downloads>.

About Alfresco

Alfresco Software (www.alfresco.com) is the leader in the open source enterprise content management (ECM) market. The company couples the innovation of open source with the stability of a true enterprise-class platform at a tenth of the cost. The Alfresco content platform uses a flexible architecture to provide document management, Web content management, records management and collaboration software to customers and partners in 40 countries. Headquartered in London, Alfresco was founded in 2005 by a team of content management veterans including the co-founder of Documentum, John Newton, and former COO of Business Objects, John Powell.

References

- ⁱ President Barack Obama, "Memorandum on Transparency," January 2009
ⁱⁱ [Alfresco White Paper – Total Cost of Ownership for Enterprise Content Management](#)