



INFORMATION DIRECTIVE INTERIM POLICY

Interim Open Source Software (OSS) Policy		
Directive No.: CIO 2125.0	CIO Approval: 1-11-2018	Transmittal No.: 18-001

*Issued by the EPA Chief Information Officer,
Pursuant to Delegation 1-19, dated 07/07/2005*

Interim Open Source Software (OSS) Policy

1. PURPOSE

To establish a framework to implement the requirements of the Office of Management and Budget's (OMB) Federal Source Code Policy to achieve efficiency, transparency and innovation through reusable and open source software (OSS).

2. SCOPE

This policy applies to new custom-developed code created or procured by EPA consistent with the scope and applicability requirements of OMB's Federal Source Code Policy. The final EPA Open Source Software Policy and Procedure will include further scope details for implementation.

3. AUDIENCE

The audience for this policy includes, but is not limited to, EPA employees, contractors and volunteers (e.g., unpaid interns) who develop, implement, install, acquire, manage or publish custom-developed code.

4. BACKGROUND

In August 2016, OMB published the Federal Source Code Policy (Memorandum M-16-21)¹, which requires that federal agencies share new custom-developed code they create or procure for broad reuse across the federal government. The policy also requires agencies to release at least 20 percent of new custom-developed code to the public as OSS under a three-year pilot program. OMB additionally establishes principles and guidelines for federal agencies to engage with the open source community to collaborate on code development and improvement and solve shared challenges. These requirements aim to improve federal government software development within and across agencies, eliminating duplicative costs, reducing costs and fostering technological innovation through increased competition, and promoting openness, transparency and accessibility to the public. OMB directed each federal agency Chief Information Officer (CIO) – in consultation with the Chief Acquisition Officer (CAO) – to develop an agency-wide policy to implement the requirements of the Federal Source Code Policy.

¹ OMB's Federal Source Code Policy is available online at https://obamawhitehouse.archives.gov/sites/default/files/omb/memoranda/2016/m_16_21.pdf.



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5. AUTHORITY

The information directive is issued by the EPA Chief Information Officer, pursuant to Delegation 1-19, dated 07/07/2005.

Additional legal foundations for the policy include:

- OMB Memorandum M-16-21, "Federal Source Code Policy: Achieving Efficiency, Transparency, and Innovation through Reusable and Open Source Software," August 8, 2016
- Federal Acquisition Regulation (FAR) Part 27 – Patents, Data, and Copyrights
- Clinger-Cohen Act of 1996, Public Law 104-106
- Digital Government Strategy: "Digital Government: Building a 21st Century Platform to Better Serve the American People," May 23, 2012
- E-Government Act of 2002, Public Law 107-347
- Federal Information Technology Acquisition Reform Act (FITARA), December 2014 (National Defense Authorization Act for Fiscal Year 2015, Title VIII, Subtitle D)

6. POLICY

This policy establishes a framework to implement the requirements of OMB's Federal Source Code Policy and requires EPA to share, document and manage its custom-developed code in accordance with M-16-21. Specifically, EPA will:

1. Share custom-developed code that EPA develops or procures for broad reuse across the federal government, subject to limited exceptions.
2. Release at least 20 percent of new custom-developed code to the public as OSS under a three-year pilot program.
3. Maintain an Agency-wide posture of being "open first," meaning it is EPA's primary choice to develop or acquire custom-developed code that is broadly available to the public for inspection, improvement and reuse.
4. Ensure program offices follow OMB's three-step software analysis outlined in M-16-21 and include contract requirements for open source code requirements when applicable. This three-step analysis first leverages existing federal solutions, followed by existing commercial solutions and finally custom development. Contracts for custom-developed code must also acquire and enforce rights sufficient to enable government-wide reuse of custom-developed code.



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5. Update EPA's information technology (IT) acquisition processes to support and implement an OSS approach, as identified by the CAO and CIO.
6. Establish an inventory of new custom-developed code and provide this inventory and associated metadata established by OMB for each project's source code to appropriate repositories, including Code.gov.
7. Use EPA's standard version control system(s) allowing for compliance, as identified by the Chief Technology Officer (CTO).
8. Apply EPA's open source and rights license guidance for custom-developed code, government reuse and OSS application, as identified by M-16-21 in consultation with the Office of General Counsel (OGC).
9. Release open source code through a public-facing software version control platform.
10. Provide the metadata that will be included in EPA's code inventory.
11. Publish the OSS inventory metadata file in JavaScript Object Notation (JSON) format on www.epa.gov/code.json².

Exemption: Source code developed for National Security Systems (NSS), as defined in 40 U.S.C. § 11103, is exempt from the requirements of this policy.

Exceptions: Exceptions may be applied in specific instances to exempt EPA from sharing custom-developed code with other government agencies. Any exceptions used must be approved and documented by the CIO or his or her designee for the purposes of ensuring effective oversight and management of IT resources. For excepted software, EPA must provide OMB a brief narrative justification for each exception, with redactions as appropriate. Applicable exceptions are as follows:

- a. The sharing of the source code is restricted by law or regulation, including – but not limited to – patent or intellectual property law, the Export Asset Regulations, the International Traffic in Arms Regulation and the federal laws and regulations governing classified information.
- b. The sharing of the source code would create an identifiable risk to the detriment of national security, confidentiality of government information or individual privacy.
- c. The sharing of the source code would create an identifiable risk to the stability, security or integrity of EPA's systems or personnel.
- d. The sharing of the source code would create an identifiable risk to EPA mission, programs or operations.
- e. The CIO believes it is in the national interest to exempt sharing the source code.

EPA will develop a Procedure for Open Source Software to implement specific requirements of this policy.

² The JSON inventory file may be opened in the Google Chrome, Mozilla Firefox or Microsoft Edge browser.



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7. ROLES AND RESPONSIBILITIES

Chief Information Officer (CIO)

- Maintains the posture of being “open first” and requiring justification for custom-developed code that is not open source.
- Ensures custom-developed code that EPA develops or procures is shared for broad reuse across the federal government, subject to limited exceptions.
- Coordinates with the CAO in implementing M-16-21.
- Reviews and approves requests for exceptions to sharing custom-developed code under this policy or delegates review and approval to his or her designee.
- Notifies OMB of the excepted software, providing a brief narrative justification for each exception, with redactions as appropriate or delegates OMB notification to his or her designee.

Chief Technology Officer (CTO) and Director of Office of Digital Services & Technical Architecture (ODSTA)

- Selects and provides standard version control system(s) allowing for future compliance of the policy.
- Coordinates with the OEI Chief Operating Officer (COO) for implementing version control system(s) solutions and Code Repository Request process.
- Implements the OSS pilot program.

Chief Acquisition Officer (CAO) and Assistant Administrator for Administration and Resources Management

- Ensures EPA’s IT acquisition processes are updated to support an open source approach to the fullest extent intended by OMB’s M-16-21.
- Ensures Contracting Officers (CO) and Contracting Officer’s Representatives (COR) obtain the appropriate government data rights to custom-developed code, including, at a minimum, data right clauses, rights to distribute source code, rights to reuse and rights to modify code in order to share custom-developed code EPA develops or procures for broad reuse across the federal government, subject to limited exceptions.

Senior Information Officials (SIO)

- Ensure compliance with this policy within their offices.

Information Management Officers (IMO)

- Support SIOs in ensuring compliance with this policy.
- Review requests for exceptions to sharing custom-developed code under this policy and forward requests to the CIO or his or her designee.



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Information Security Officers (ISO)

- Support SIOs in ensuring compliance with this policy.

System Owners / Project Managers

- Share custom code developed within their offices with the Data Management Services Program Manager.
- Prepare and submit to the IMO a narrative justification for each exception to sharing custom-developed code with other federal agencies.

Data Management Services Program Manager in Office of Information Management (OIM)

- Inventories all applicable custom-developed code in EPA's Official Code Inventory³.
- Ensures that all necessary metadata established by OMB is collected in EPA's Official Code Inventory, including but not limited to, determining what code is reportable (open source, for government-wide re-use, exceptions, etc.) and code key information.
- Coordinates with developers, contractors and ODSTA to calculate reportable metrics for the code.
- Publishes all applicable OSS using a standard JSON file format that contains metadata established by OMB.
- Publishes the OSS inventory metadata file in JSON format on www.epa.gov/code.json.
- Maintains EPA's Official Code Inventory and the publishes scripts to adjust to frequent changes in the JSON file format.
- Publishes all applicable OSS to www.epa.gov/code.json in such a way that allows EPA to be an example agency by exceeding the OMB-directed 20 percent open source code release.
- Coordinates with the Developers, Code Repository Owners and Administrators for collecting and updating code repository metadata.

Code Repository Administrators

- Implement a standard version control system as identified by the CTO.
- Implement open source and rights license guidance as identified by M-16-21.
- Coordinate with the Code Repository Owners, Developers and the Data Management Services Program Manager for collecting and updating code repository metadata.
- Review and approve requests to create Code Repositories.
- Appropriately notify the Data Management Services Program Manager of Code Repository Requests and approvals/disapprovals.

³ As of November 2017, EPA's Official Code Inventory is Reusable Component Services (RCS), which is available at https://ofmpub.epa.gov/sor_internet/registry2/reusereg/searchandretrieve/.



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- Notify the appropriate Code Repository Owner of Code Repository Requests and approvals/disapprovals.

Code Repository Owners

- Request a code repository for their team's source code.
- Select the appropriate open source license for broad reuse across the federal government, subject to limited exceptions.
- Select the appropriate rights license to provide the government's rights to share custom-developed code with other agencies where EPA is not seeking or able to obtain the rights to publicly release the code.
- Manage their team's code repository.
- Release public code that leverages existing communities in order to:
 - (1) foster solutions for shared challenges,
 - (2) improve the ability of the OSS community to provide feedback on, and make contributions to, the source code, and
 - (3) encourage federal employees and contractors to participate in the OSS community by making contributions to existing OSS projects.
- Foster open development practices when developing custom-developed code.
- Coordinate with the Developers, Code Repository Administrators and the Data Management Services Program Manager for collecting and updating code repository metadata.

Developers

- Apply open development practices when developing custom-developed code.
- Ensure custom-developed code is developed, maintained, shared and made available as OSS for broad reuse across the federal government, subject to limited exceptions.
- Participate in the open source community as outlined in M-16-21 Section 5.2, as appropriate.
- Follow OSS community documentation standards and, at a minimum, update OSS repositories with at least the following information:
 - (1) Status of software (e.g., prototype, alpha, beta, release, etc.),
 - (2) Intended purpose of software,
 - (3) Expected engagement level (i.e., how frequently the community can expect agency activity),
 - (4) License details,
 - (5) Any other relevant technical details on how to build, make, install or use the software, including dependencies (if applicable), and
 - (6) Repository Owner's contact information.
- Coordinate with the Code Repository Owners, Code Repository Administrators and the Data Management Services Program Manager for collecting and updating code repository metadata.



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8. RELATED INFORMATION

OMB Memorandum M-16-21, "Federal Source Code Policy: Achieving Efficiency, Transparency, and Innovation through Reusable and Open Source Software," August 8, 2016

https://obamawhitehouse.archives.gov/sites/default/files/omb/memoranda/2016/m_16_21.pdf

FAR Part 27 – Patents, Data, and Copyrights

<https://www.acquisition.gov/sites/default/files/current/far/html/FARTOCP27.html>

Digital Government Strategy: "Digital Government: Building a 21st Century Platform to Better Serve the American People," May 23, 2012

<https://obamawhitehouse.archives.gov/sites/default/files/omb/egov/digital-government/digital-government-strategy.pdf>

Code.gov website

<https://www.code.gov>

EPA JSON metadata file

www.epa.gov/code.json

Open Source Initiative website

<https://opensource.org/>

9. DEFINITIONS

Code.gov: This platform is primarily intended to serve two distinct functions. First, it will act as an online collection of tools, guides and best practices specifically designed to help federal agencies implement the framework presented in OMB's Federal Source Code Policy. Second, it will serve as the primary discoverability portal for custom-developed code intended both for government-wide reuse and for potential release as OSS. Code.gov is not intended to house the custom-developed code itself; rather, it is intended to serve as a tool for discovering custom-developed code that may be available for government-wide reuse or as OSS and to provide transparency into custom-developed code that is developed using federal funds. This discoverability portal will be publicly accessible and searchable via a variety of fields and constraints, such as the name of the project, its intended use and the agency releasing the source code. Code.gov will be accessible at <https://www.code.gov> and will evolve over time as a community resource to facilitate the adoption of good custom source code development, sharing and reuse practices.

Custom-Developed Code: Custom-developed code is code that is first produced in the performance of a federal contract or is otherwise fully funded by the federal government. It includes code, or segregable portions of code, for which the government could obtain unlimited rights under FAR Part 27 and relevant agency FAR Supplements. Custom-developed code also includes code developed by agency employees as part of their



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official duties. For the purposes of this policy, custom-developed code may include, but is not limited to, code written for software projects, modules, plugins, scripts, middleware and Application Programming Interfaces (API); it does not, however, include code that is truly exploratory or disposable in nature, such as that written by a developer experimenting with a new language or library.

Mixed Source Software: A mixed source software solution incorporates both open source and proprietary code.

Open Source Software (OSS): Software that can be accessed, used, modified and shared by anyone. OSS is often distributed under licenses that comply with the definition of "Open Source" provided by the Open Source Initiative⁴ and/or that meet the definition of "Free Software" provided by the Free Software Foundation⁵.

Proprietary Software: Software with intellectual property rights that are retained exclusively by a rights holder (e.g., an individual or a company).

Software: Refers to (i) computer programs that comprise a series of instructions, rules, routines or statements, regardless of the media in which recorded, that allow or cause a computer to perform a specific operation or series of operations; and (ii) recorded information comprising source code listings, design details, algorithms, processes, flow charts, formulas and related material that would enable the computer program to be produced, created or compiled. Software does not include computer databases or computer software documentation.

Source Code: Computer commands written in a computer programming language that is meant to be read by people. Generally, source code is a higher-level representation of computer commands as they are written by people and, therefore, must be assembled, interpreted or compiled before a computer can execute the code as a program.

Abbreviations including acronyms are summarized in *Appendix: Acronyms & Abbreviations*.

10. WAIVERS

N/A

11. MATERIAL SUPERSEDED

N/A

⁴ The Open Source Initiative's definition of "Open Source" is available online at <https://opensource.org/osd>.

⁵ The Free Software Foundation's definition of "Free Software" is available online at <https://www.gnu.org/philosophy/free-sw.html>.



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12. CONTACTS

For further information about this policy, please contact the Office of Environmental Information, Office of Digital Services & Technical Architecture, Director of Digital Services Division.

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APPENDIX: ACRONYMS & ABBREVIATIONS

API	Application Programming Interface
CAO	Chief Acquisition Officer
CIO	Chief Information Officer
CO	Contracting Officer
COO	Chief Operating Officer
COR	Contracting Officer's Representative
CTO	Chief Technology Officer
FAR	Federal Acquisition Regulation
FITARA	Federal Information Technology Acquisition Reform Act
IMO	Information Management Officer
ISO	Information Security Officer
IT	Information Technology
JSON	JavaScript Object Notation
NSS	National Security System
ODSTA	Office of Digital Services & Technical Architecture
OGC	Office of General Counsel
OIM	Office of Information Management
OMB	Office of Management and Budget
OSS	Open Source Software
RCS	Reusable Component Services
SIO	Senior Information Official