

NIST releases draft cloud computing technology roadmap for comments

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The U.S. Commerce Department's National Institute of Standards and Technology (NIST) has released for public comment a draft "roadmap" that is designed to foster federal agencies' adoption of cloud computing, support the private sector, improve the information available to decision makers and facilitate the continued development of the cloud computing model.

In February 2011, the government issued the Federal Cloud Computing Strategy* that describes cloud computing as a "profound economic and technical shift (with) great potential to reduce the cost of Federal Information [Technology](#) (IT) systems while ... improving IT capabilities and stimulating innovation in IT solutions."

As part of that strategy, NIST has been assigned "a central [role] in defining and advancing standards, and collaborating with U.S. government agency CIOs, [private-sector](#) experts and international bodies to identify and reach consensus on cloud computing technology and standardization priorities." [U.S. Government Cloud Computing Technology Roadmap, Release 1.0](#) (NIST Special Publication 500-293) is designed to support the secure and effective adoption of the cloud computing model by federal agencies to reduce costs and improve services. The public comment period is open through Dec. 2.

The draft publication defines high-priority requirements for standards, official guidance and technology developments that need to be met in order for agencies to accelerate their migration of existing IT systems to

the cloud computing model. "A key contribution of the roadmap effort is to focus the discussion to achieve a clear understanding between the government and private sector," said Senior Advisor for Cloud Computing Dawn Leaf, "particularly on the specific technical steps (standards, guidance and technology solutions) needed to move federal IT from its current early-cloud state to a cloud-based foundation, as envisioned in the U.S. Federal Cloud Computing Strategy."

NIST plans to issue the final U.S. Government Cloud Computing Roadmap as a three-volume work. The first two volumes are being released today.

Volume I, High-Priority Requirements to Further USG Agency Cloud Computing Adoption, provides a general understanding and overview of the roadmap initiative, including:

- prioritized interoperability, portability and security requirements that must be met to further government cloud adoption;
- standards, guidelines and technology that must be in place to satisfy these requirements; and
- a list of Priority Action Plans (PAPs) recommended for voluntary self-tasking by the cloud stakeholder community to support standards, guidelines and technology development.

Volume II, Useful Information for Cloud Adopters, is the nuts and bolts publication. It is a technical reference that is useful for those working on strategic and tactical cloud computing initiatives—whether they work in government agencies or not. Volume II integrates and summarizes the work completed to date, explains the assessment findings based on this work and how these findings support the roadmap introduced in Volume I.

The third volume, Technical Considerations for USG Cloud Computing

Deployment Decisions, is under development as part of an interagency and public working group collaborative effort. It is intended as a guide for [decision makers](#) who are planning and implementing cloud computing solutions. The document explains how the technical work in Volume II can be applied to the decision framework defined in the Federal Cloud Computing Strategy.

Much of the work that forms the basis for the roadmap has been completed through public working groups open to interested parties from industry, academia and government. Hundreds of people are registered in the five NIST Cloud Computing Working Groups that were established in November 2010. The working groups also contributed to the content of two related cloud publications released earlier this year—[NIST Cloud Computing Standards Roadmap](#) (SP 500-291) and [NIST Cloud Computing Reference Architecture](#) (NIST SP 500-292).

The roadmap has undergone a 60-day review exercise through the Federal Cloud Computing Standards and Technology Working Group. This NIST-led group was formed in July 2011 under the auspices of the United States Federal CIO Council and includes representatives from approximately 30 U.S. government agencies. The review focused heavily on the list of USG Cloud Computing Technology Roadmap requirements.

The roadmap document is intended for a diverse audience including those with key roles identified in the Federal Cloud Computing Strategy and academia, government, industry and standards development organizations interested in cloud computing.

Volumes I and II of U.S. Government Cloud Computing Technology [Roadmap](#), Release 1.0 (SP 500-293) can be retrieved, along with the Technical Considerations for USG [Cloud Computing](#) Deployment Decisions working document, which will eventually be released as the

third volume of SP 500-293, and other cloud publications at www.nist.gov/itl/cloud/index.cfm .

Comments on the first two volumes are due by 5 p.m. Eastern time Dec. 2, 2011. Electronic comments should be sent to ccroadmap.comments@nist.gov or written ones can be mailed to Robert Bohn, National Institute of Standards and Technology, 100 Bureau Dr., Stop 2000, Gaithersburg, MD 20899-2000.

More information: * Available at www.cio.gov/documents/Federal-mputing-Strategy.pdf.

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