INFORMATION TECHNOLOGY REFORM

Progress Made but Future Cloud Computing Efforts Should be Better Planned

What GAO Did This Study

As part of a comprehensive effort to increase the operational efficiency of federal technology assets, federal agencies are shifting how they deploy IT services. OMB issued a “Cloud First” policy in December 2010 that requires federal agencies to implement cloud-based solutions whenever a secure, reliable, and cost-effective cloud option exists; and to migrate three technology services to a cloud solution by June 2012. Cloud computing provides on-demand access to a shared pool of computing resources; can be provisioned on a scalable basis; and reportedly has the potential to deliver services faster, more efficiently, and at a lower cost than custom-developed systems.

GAO was asked to (1) assess the progress selected agencies have made in implementing this policy and (2) identify challenges they are facing in implementing the policy. To do so, GAO (1) selected seven agencies, analyzed agency documentation, and interviewed agency and OMB officials; and (2) identified, assessed, and categorized common challenges.

What GAO Recommends

GAO is making recommendations to seven agencies to develop key planning information, such as estimated costs and legacy IT systems’ retirement plans for existing and planned services. The agencies generally agreed with GAO’s recommendations. State disagreed with one recommendation, noting that legacy retirement plans were not applicable to its existing cloud services. GAO maintains that the recommendation is applicable for reasons discussed in this report.

Common Challenges to Cloud Computing

1. Meeting Federal Security Requirements
2. Obtaining guidance
3. Acquiring knowledge and expertise
4. Certifying and accrediting vendors
5. Ensuring data portability and interoperability
6. Overcoming cultural barriers
7. Procuring services on a consumption (on-demand) basis

Source: GAO analysis of agency data.

Recently issued federal guidance and initiatives recognize many of these challenges, such as the National Institute of Standards and Technology standards and guidance, and the General Services Administration’s program to assist federal agencies certify and accredit potential cloud service providers.

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1The selected agencies are the Departments of Agriculture, Health and Human Services, Homeland Security, State, and Treasury; the General Services Administration and the Small Business Administration.