

## Why GAO Did This Study

Over time, the federal government's demand for information technology has led to a dramatic rise in the number of federal data centers and an increase in operational costs. Recognizing this increase, the Office of Management and Budget (OMB) has launched a governmentwide initiative to consolidate data centers.

GAO was asked to (1) assess whether agency consolidation documents include adequate detail for agencies to consolidate their centers, (2) identify the key consolidation challenges reported by agencies, and (3) evaluate whether lessons learned during state government consolidation efforts could be leveraged at the federal level. To address these objectives, GAO assessed the completeness of agency inventories and plans, interviewed agencies about their challenges, and evaluated the applicability of states' consolidation lessons to federal challenges.

## What GAO Recommends

GAO is recommending that the Federal Chief Information Officer, department secretaries, and agency heads take steps to ensure that agency data center inventories and consolidation plans are complete. Most agencies agreed with GAO's recommendations. Defense and SSA did not agree to complete all missing elements of their inventories and plans. Based on OMB guidance on the importance of these elements, GAO maintains these recommendations to be reasonable and appropriate.

# DATA CENTER CONSOLIDATION

## Agencies Need to Complete Inventories and Plans To Achieve Expected Savings

### What GAO Found

In launching its federal data center consolidation initiative, OMB required the 24 participating agencies to submit data center inventories and consolidation plans by the end of August 2010, and provided guidance on key elements to include in the inventories and plans—such as hardware and software assets, goals, schedules, and cost-benefit calculations. The plans indicate that agencies anticipate closing about 650 data centers by fiscal year 2015 and saving about \$700 million in doing so. However, only one of the agencies submitted a complete inventory and no agency submitted complete plans. Further, OMB did not require agencies to document the steps they took, if any, to verify the inventory data. For example, in their inventories, 14 agencies do not provide a complete listing of data centers and 15 do not list all of their software assets. Also, in their consolidation plans, 20 agencies do not reference a master schedule, 12 agencies do not address cost-benefit calculations, and 9 do not address risk management. The reason for these gaps, according to several agency officials, was that they had difficulty completing their inventories and plans within OMB's timelines. Until these inventories and plans are complete, agencies may not be able to implement their consolidation activities and realize expected cost savings. Moreover, without an understanding of the validity of agencies' consolidation data, OMB cannot be assured that agencies are providing a sound baseline for estimating consolidation savings and measuring progress against those goals.

Agencies identified multiple challenges during data center consolidation, including those that are specific to OMB's consolidation initiative as well as those that are cultural, funding-related, operational, and technical in nature. For example, in attempting to fulfill OMB's requirements, 19 agencies reported difficulty in obtaining power usage data. In addition, 9 agencies reported challenges in maintaining services during the transition to consolidated services. Moving forward, it will be important for agencies to focus on mitigating such challenges as they implement their consolidation plans.

Many state governments have undertaken data center consolidation initiatives in recent years and have encountered challenges similar to those reported by federal agencies. Specifically, 19 states reported lessons learned that could be leveraged at the federal level. For example, a West Virginia official reported that since the state had no funding for data center consolidation, it used the natural aging cycle of hardware to force consolidation; that is, when a piece of hardware was ready to be replaced, the new applications and software were put onto a consolidated server. Also, officials from North Carolina reported that organizations are typically concerned that by consolidating data centers, they will lose control of their data, service levels will decline, or costs will rise. The state learned that during the process of consolidation, the organizations' concerns should be documented, validated, and addressed.