Issue Brief

Data Center Consolidation

Increasing IT efficiency in local governments

What is it?

The economic crisis is presenting a unique opportunity for state and local governments across the nation. As tight budgets drive government agencies to identify innovative solutions to increase IT efficiencies, aging systems and networks can drive consolidation and allow agencies to realize big cost savings.

IT consolidation — the process of removing certain common technology functions from a number of separate operating divisions and combining them to form a common shared services entity that acts as a services provider back to the original division — is a high priority on CIOs' to-do list and examples are continuing to emerge across the country. Many states — including Michigan, Utah and California — are using data center consolidation as one way to lower their total cost of operations, reduce redundancies across the enterprise, improve security and standardize solutions to enhance service delivery. Local government is quickly following suit, bringing on the next wave of IT data center consolidation initiatives.

Why is it important?

It is commonplace to find many jurisdictions operating with siloed IT infrastructure and relying on the use of legacy systems. These in-house systems are maintained and supported by agency-specific IT personnel. However, this dispersed and disjointed development leads to fragmented service, redundant infrastructure and personnel, and a lack of seamless communication between agencies across the jurisdiction. The technology and facilities used across many agencies are old and nearing end of life, leading to increased expenditures for maintenance. Any time an agency is running on a legacy environment, security concerns abound, making cross-agency access to information difficult.

Why now?

At the federal and state levels, data center consolidation efforts have been identified as a necessity to stretch fiscal resources. The Obama Administration presented a federal government data center consolidation plan that is expected to be finalized in late 2010 and begin in 2011. Under this plan, over 1,100 federal data centers will be consolidated.

Following suit, many state governments are implementing statewide government data center consolidations. In California, an executive order was issued by Gov. Schwarzenegger that will ultimately reduce data center space by 50 percent by July 2011 and cut energy usage from IT operations by 30 percent by July 2012. Utah recently completed a successful consolidation, reducing the number of data centers used by state agencies from 35 to 2. This effort is expected to yield at least $4 million in annual savings.

The Center for Digital Government's 2010 Digital Counties Survey shows that increasing numbers of local IT departments are consolidating as well. Among the counties that responded, 78 percent were consolidating data centers, applications, servers and staff. This was a 10 percent increase over 2009 results.

What are the benefits?

- **Cost Reductions**
  The federal government consolidation plan alone is expected to save $3 billion by 2015 in the reduction of energy consumption, facilities needed to house IT infrastructure and IT personnel needed to support each center.
- **Improved Energy Efficiency**
  Each redundant data center results in additional electricity consumption, from equipment to facility usage. Data center consolidation reduces the overall energy consumption by eliminating underutilized storage and taking advantage of equipment's maximum capacity.
- **Increased IT Security**
  Agencies and their constituents will benefit from improved cross-agency communication, as many processes such as security access and content management

become standardized. Standardized security mechanisms for information sharing between government agencies eliminate the need for lowered security privileges.

- **Improved IT Quality of Service**
Local government data center consolidation improves IT quality of service by providing common, shared resources among agencies. Standardizing systems such as e-mail and using standards-based networks and security services allows for compatibility across agencies and simplified government-wide maintenance and updates.

Who's doing it?

New York City

In New York City, the Department of IT and Telecommunications has planned a five-year consolidation effort that will modernize and consolidate 50 data centers at more than 40 city agencies to one shared system. The Citywide IT Infrastructure Services program will initially offer standardized IT infrastructure to the city's Education, Buildings, Housing Preservation and Development, Sanitation, and Finance Departments. The initial services offered will include help desk, storage, e-mail, virtualization, Web and application hosting. In addition, the city is researching the use of cloud computing for on-demand access to shared computing resources with the goal of meeting evolving customer demands while saving money through reduced hardware and energy costs. The goal of this effort is to make the city's IT infrastructure more efficient and a model for other cities exploring the same option. It will reportedly save the city over $100 million across the five-year plan.

Grundy County, Ill.

In Grundy County, Ill., individual agencies were once lightening rods of risk, lacking the resources for high availability. After enduring many WAN outages, the county implemented parallel high-bandwidth network backbones with sophisticated failover. The county's central IT organization now acts as a resilient network service provider to 18 departments and a number of other local government entities.

IT consolidation raises questions about how initiatives like Grundy County's resilient WAN are funded. A chargeback model tends to be the most common way to allocate costs, but Grundy County Information Technology Director J.P. Watters says chargeback should not get in the way of doing the right thing for the taxpayer. "When we must handle unexpected needs from the smaller entities we support, we can only do it by operating from the consolidated budget. The smaller institution could not do it on its own."

Orange County, Calif.

In Orange County, Calif., the Orange County Data Center was developed to address the issue of multiple data centers with no centralized management. This centralized data center provided a virtual infrastructure for county agencies to maintain low infrastructure costs while adapting to changing requirements. Although the transition to the centralized data center was optional, 37 to 45 Orange County agencies have transitioned to the Orange County Data Center successfully providing the county $500,000 in savings.

Where can I find more?

"Federal Data Center Consolidation Initiative"
www.cio.gov/pages.cfm/page/FDCCI
"Maximizing Efficiency in NYC Government: A Plan to Consolidate and Modernize Back-Office Operations"
www.nyc.gov/html/om/pdf/2010/pr316-10_report.pdf
"Riding the Government Virtualization Wave"
http://quovum.com/dlink/Riding-the-Government-Virtualization-Wave.pdf
"Future Proofing the Core of Your Consolidated Data Center"
http://quovum.com/dlink/Dlink-Future-Proofing.pdf
"Don't Virtualize Your Servers without Hardware-Independent, VMware-Aware Backup and Replication"
http://quovum.com/dlink/Dlink-Virtualization-Best-Approach-to-DR.pdf

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