Best practices in public sector data center efficiency

Public sector data centers are evolving rapidly as they face relentless pressure to meet the changing needs of their organizations. Despite, or perhaps because of the current stresses on public sector funding, many public sector data centers are embracing policy-based innovation in datacenter design, use, and operations.

With 40 percent of the public sector respondents indicating plans to significantly increase their data center investment in the next two years and 61 percent indicating that they anticipate rapid new technology adoption, it is useful to learn what leaders in data center operational efficiency are implementing to lower the resources spent to maintain and extend existing IT infrastructures.

Optimization remains a top priority

Virtualization is table stakes for data center efficiency and has been a top priority for the public sector for many years. Leaders in public data centers have virtualized 52 percent of their servers—slightly higher than the global responses of 47 percent. These organizations enjoy four times the staff productivity based on servers managed per administrator. With leaders planning 36 percent growth in virtualization over the next year, optimization remains a key component of how public sector entities can reduce total cost of ownership for their data centers.
Storage and networks designed for flexibility

The pace of change continues to accelerate, so designing a more flexible data center infrastructure to quickly respond to change is critical. This flexibility includes being able to set the right level of availability and redundancy to ensure meeting more demanding requests for service.

Compared to respondents around the globe, leaders in the public sector reported 15 percent greater use of more sophisticated storage capabilities and methods to provide improved availability. These methods include use of geographical replication for storage backup to address new regulations, security threats, and service outages for mission critical applications.

Similarly, public sector data centers take advantage of more sophisticated network design than respondents in the global study. The dispersed nature of public sector activities and the mandate to extend services/information to citizens makes network design critical for meeting availability and performance SLAs.

Large efforts are underway in both federal and state governments to consolidate sprawling data centers. This often means that government employees will now interact with a virtualized machine that’s located many miles away instead of doing their daily work on a server that’s located down the hall. This, in turn, increases the need to boost external network connections and bandwidth for government buildings.

Likewise, with centralized storage of government data, more data will be moving in and out of agencies as workers do their daily tasks. Again, having a robust network architecture which can support this kind of activity is becoming increasingly important, and should be considered part of the of an organization’s upfront investment as government facilities obtain more of their services from the cloud.

Higher use of automation, but slower cloud implementation

When it comes to taking the next step of moving to a private cloud, only 7 percent of the public sector leaders have implemented a self-service portal to provision virtual machines for faster deployment of services. This slower adoption has less to do with technical or IT limitations and more to do with organizational policy and oversight practices which have not adjusted yet to the rapid pace of service development/provisioning made possible by cloud implementations. For example, in some government offices adoption of cloud has been slowed by compliance with government requirements for security (being able to meet specific Federal Information Processing Standards, or FIPS), and being able to meet requirements for things like long-term archiving and data privacy. But as reliable private clouds have emerged to meet these needs, public sector sites have shown a willingness to move to the cloud if it makes economic sense to do so.

Aggressive use of storage automation to address data explosion

Use of storage automation tools and policy management is also significantly higher—by more than 10 percent—in the public sector. Public sector organizations in government, education, life sciences, and health care are at the center of a data explosion and most have mandates to collect, use, archive, secure, and share growing volumes of data.

Storage automation allows storage architects in leading public sector data centers to handle growing data volumes (e.g., public safety video surveillance), accelerating data velocity (e.g., smart sensor data), and data variety (e.g., medical images, scans, and records). They can meet data growth demands while spending less time provisioning storage systems and spend more time ensuring data governance, security, and accessibility.
**Have a plan**

Organizations with efficient data centers are better prepared to be even more responsive to constituents as the economy rebounds. They rely on fact-based planning to be more responsive to change.

Public sector organizations are on a par with the global responses in their use of forecasting for power, space and availability in planning a new data center facility to meet the business needs. However, they are 20 points lower than the global respondents with their plans to build capacity in smaller increments. There is a significantly opportunity to “pay as you grow” and reduce the capital and operating costs associated with a major new data center investment.

**Recommended investments for public sector**

The evolving and powerful new visions for digital government, health care, and education establish goals for entities of all types to move even further away from the traditional siloed approach to information processing. By establishing a robust services oriented architecture (SOA), it becomes easier for organizations to move away from discreet applications, and separate databases, into a design where it can truly be said that the full system is a shared computing, storage, and networking resource.

As the public entities’ SOA efforts evolve, these solutions have great potential to become more standard and interconnected across organizations and industry boundaries, supported by common IT services, infrastructure, open platforms, facilities, functions and business processes.

Here are some tips to help organizations better enable this transition:

- Make sure that your organization’s IT plans to support business or policy mandates are continuously updated, not only to help boost efficiency, but also to take advantage of an ever-changing set of technologies and services
- Build a robust optimization strategy that drives cost containment with increased server, storage and data center optimization while also enabling a more flexible IT architecture for your organization
- Leverage automation to reduce the costs to support the infrastructure but to increase the speed by which services are provided to users
- Whenever possible, align commodity computing capability with each business need—separate complex tasks into discreet functions— if it allows you to move away from complex, highly customized IT systems and toward integrated cloud services

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