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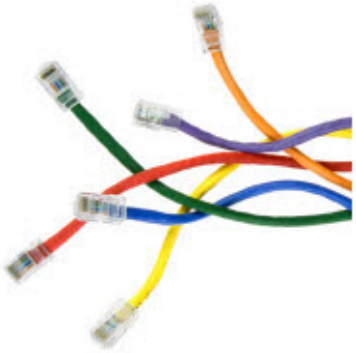
Cloud computing in government explodes

By Bill Eggers - February 02, 2011

Governments struggle with technology. Be it the procurement of hardware, vendor selection, or storage capacity, all of these things can present grim bureaucratic hurdles for public administrators.



This is changing. Today, anyone with an Amazon account can instantly access nearly unlimited computing power on Amazon's Web Services platform in a matter of minutes. No contract is needed. With a few clicks—the procurement process is as simple as buying a book—anyone can rent virtually unlimited computing capacity and storage. Popular services such as Gmail and Flickr operate on the same principle: Information is stored on the Web, where it is accessible from any machine, anytime. Similar cloud services are available from IBM, Google and others.

This is cloud computing, a technology with the potential to dramatically overhaul IT in the public sector.

It's hard to recall a recent technological development that has generated more hype than cloud computing. Why all the excitement? Simple. Cloud computing offers governments a clear and compelling value proposition: All the technological firepower you need without any of the headaches of ownership and maintenance.

Government's use of cloud computing is exploding, and the federal government is taking the lead. Federal CIO Vivek Kundra recently **announced a "cloud first"**: "When evaluating options for new IT deployments, OMB [Office of Management and Budget] will require that agencies default to cloud-based solutions whenever a secure, reliable, cost-effective cloud option exists. To facilitate this shift, we will be standing up secure government-wide cloud computing platforms."

Cost efficiencies are the goal, and the feds expect to close 800 of their roughly 2,100 data centers by 2015. In December, the General Services Administration announced it would become **the first federal agency to adopt a cloud solution for e-mail**.

The qualities that define cloud computing—on-demand service, elastic capacity and variable consumption—represent a powerful new way to deliver IT services. You no longer have to predict demand; the cloud is infinitely scalable. The convergence of standardized Internet technologies, virtualization and automation of large-scale data centers has created a set of software services that were unthinkable even a few years ago.

Cloud computing represents a fundamentally different way for government to architect computing resources. It allows CIOs to leverage powerful IT infrastructures in a fraction of the time it takes to provision, develop and deploy similar assets in-house.

The cost saving potential is huge. Adopting cloud technologies eliminates capital and operational expenses associated with servers, software licenses, maintenance fees, data center space and the employment of IT personnel. Thanks to the cloud, government won't be stuck with obsolete legacy systems and outdated hardware that require expensive maintenance.

Unlike many technological advancements, cloud computing can provide a quick, dramatic return with limited investment. The biggest hurdle to widespread cloud use by government is data security. Whether held in-house or located in the cloud, governments possess reams of personal data that must remain confidential.

Looking ahead, cloud computing will bring significant disruptions. Both the private sector and government operations will undergo turmoil during this transition. For government agencies, a thoughtful, staged approach would consist of the following four steps.

Develop a cloud strategy tailored to your state. Cloud computing is not a one-size-fits-all solution. You need to tailor it to your specific environment in order to garner the greatest benefit to your government organization. The state of Utah is looking to save $4 million a year in hosting services by consolidating data centers, virtualizing servers and **moving to a private cloud platform**. It is expected that Utah's hybrid private cloud will eventually deliver hosted e-mail and Web applications to cities and counties throughout the state.

Start small with non-mission-critical applications. Develop a business case for a simple pilot project -- preferably supporting a new, non-mission-critical application -- and follow it closely. Plan, measure and evaluate costs and benefits before, during, and after implementation. Ensure that the state information technology shop understands and becomes comfortable with cloud computing before proceeding to more central, operational applications.

Oregon, for example, will save an estimated $1.5 million annually by partnering with Google to offer the state's schools cloud-based computing. The initiative provides Oregon's public schools the ability to transition e-mail, calendars, online documents, video conferencing and website creation to Google's Apps for Education services.

Gradually expand utilization of cloud computing. Once a government successfully deploys cloud computing technologies, it is time to expand to more strategic government services. This entails being more conscious of the implications of cloud computing on employee workflow and business processes. Cloud computing is an enabling technology, deploying it to central services of the government requires being conscious from the start about how that will change the way your government does things.

Bring other government entities into the cloud. The big benefits from cloud computing will come from numerous state, higher education and local entities all sharing a common computing platform. "Eventually, there is no reason to believe we shouldn't have a common cloud platform for unemployment insurance, Medicaid and other large systems," says Gopal Khanna, the former CIO of Minnesota.

The Ohio Academic Resource Network (OARnet), the technology arm of the University System of Ohio, is developing a **common technology platform** for itself and four other organizations involved with higher education in the state. The facility will include networked storage, virtualized servers, clustered applications and a consolidated storage area network. OARNet also will provide a common infrastructure for delivering cloud computing services to higher education in Ohio.

Government at all levels should look at cloud computing as an emerging technology that has the potential to significantly streamline the way they use technology to deliver public services. This cloud definitely has a silver lining.

This article is adapted in part from his new book (with Robert Campbell III and Tiffany Fishman), **Letting Go of the Status Quo: A Playbook for Transforming State Government**.

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