



PRIVATE CLOUD BOOSTS ENTERPRISE EFFICIENCY

A guide to managing security, costs
and flexibility in a private cloud.

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“Application development, collaborative low-transaction-volume databases and workgroup file shares are a good target for gaining efficiency with private cloud.”

GUY CURRIER

Director of global cloud solutions marketing at Dell

INTRODUCTION

Companies are increasingly turning to [cloud computing](#) for on-demand access to applications, and the flexibility to scale quickly, but what type of cloud is best suited for the job? Unlike a public cloud, where a company's applications are accessible over the public Internet, [private clouds](#) offer a way for organizations

to share resources behind a corporate firewall. Intel defines a private cloud as a “single-tenant computing environment built on a highly efficient automated and virtualized infrastructure.”

A [2013 survey](#) by Palmer Research and online marketing and media company QuinStreet found that private cloud was the preference over public or hybrid for 65 percent of IT professionals and executives. Adoption of private clouds will result in \$69 billion in revenue for enterprise users by 2018, a 116 percent increase from \$32 billion in 2013, according to a report by [Technology Business Research](#).

Of large enterprises, 89 percent have either deployed or plan to adopt a private cloud service through 2014, finds a [Gartner research report](#).

“Private cloud has truly come into its own as a delivery mechanism that customers understand and are using to achieve the benefits of cloud where public options are either not available or viable,” Allan Krans, lead



INTRODUCTION

cloud practice analyst for Technology Business Research, said in a [statement](#). “It’s an interesting space because the vendor landscape is so diverse and should evolve tremendously as offerings, regulations and open standards play out over the coming years.”

Companies are turning to private clouds to gain an automated dynamic environment to test and develop applications quickly, as well as boost efficiency through the pooling of IT resources, according to J. Craig Lowery, Ph.D., senior distinguished engineer and executive director of cloud architecture for Dell Software Group. “The shared, multiplexed use of the resource pool enables more efficient use of fewer resources,” Lowery said.

“An enterprise private cloud offers many of the agility and efficiency benefits of public clouds without the potential risks associated with having highly sensitive applications and data outside the enterprise perimeter,” Intel stated in its June 2014 [white paper](#) “Simplifying the Path for Building an Enterprise Private Cloud.”

A private cloud also offers organizations a more stable and efficient platform for data backup and redundancy. After Hurricane Sandy, redundancy through [cloud storage](#) helped hospital systems such as New York City Health and Hospitals Corp. restore data after power systems failed. “If a system should fail you’ll have mirrored systems to restore,” said Judith Hurwitz, president and CEO of consulting firm Hurwitz & Associates.

COMPANIES GAIN EFFICIENCY IN THE PRIVATE CLOUD IN 3 KEY WAYS

- *Increased compute and processing capabilities*
- *More efficient use of line-of-business cloud applications*
- *Closer monitoring of who’s using IT services and whether IT is being properly compensated*

Source: Charles King, principal analyst at Pund-IT

PRIVATE CLOUD HURDLES

A well-designed [cloud computing environment](#) can overcome the hurdles of IT resource silos, notes Lowery. With separate teams overseeing servers, storage and networking, IT resources can become unmanageable, he says. A managed private cloud avoids this complexity by allowing a third party to manage the entire IT resource pool as a single software instance.

Cloud infrastructure is not a magic pill, though. When companies look to private cloud platforms as a “cure-all” for IT infrastructure, this presents another common obstacle, says Charles King principal analyst at Pund-IT. Instead, enterprises should evaluate which IT components they’d like to replace and what they hope to achieve before deciding to pursue a cloud solution.

Another common pitfall when companies are considering a private cloud is that they fail to plan for elasticity. Enterprises reach a maximum amount of space because they don’t realize private clouds come with a disclaimer, “as capacity is available,” says Jeffrey Lush, CTO of Dell Services Federal Government.



3 BEST PRACTICES FOR PRIVATE CLOUD EFFICIENCY

- *Use object-based storage rather than block storage. A cloud environment is optimized for object-based storage, which can better handle unstructured data.*
- *Automate provisioning of services in a private cloud environment. By using automation, companies save time and money.*
- *Make sure your cloud vendor incorporates a software performance framework. It establishes a core foundation from which to manage the performance of applications, such as an image database. Metrics can then be generated to gauge customer satisfaction.*

SECURITY AND THE CLOUD

Data security, performance and reliability will be essential for private cloud adoption, according to Krans. “Those are the things that will truly be a driver for private cloud on a continued basis,” he said.

Confidence of IT executives will also be key for companies to adopt cloud infrastructure, according to the [Intel survey](#) “What’s Holding Back the Cloud?” For the report, the chipmaker interviewed 800 IT professionals in China, Germany, the United Kingdom and the United States to gauge their comfort with cloud security. The top three security concerns among IT professionals when adopting a private cloud were about a lack of control of access to data and services, poor visibility into virtual and shared resources, and inadequate firewalling. In addition, the Intel study revealed that 87 percent of IT professionals were concerned about hypervisors—the software that runs virtual machines—allowing hackers to access data and spread malware.

“You may want to have a lot of control over who can see what application at what time. In a private cloud you can get a lot more granularity and much more control.”

JUDITH HURWITZ

President and CEO of consulting firm
Hurwitz & Associates

SECURITY AND THE CLOUD

Despite these concerns, a private cloud platform can provide an easier way to manage security threats as well as provide a deep view of your entire IT infrastructure. This complete view and ability to better control your security profiles enables companies to maintain a consistent [approach to security](#). When adding new services, cloud architecture allows you to adjust policies in a way that reflects your existing security strategy.

“In a cloud, you don’t reinvent security policy,” said Lush. “You don’t reinvent malware or backup or recovery because you want to add email. You just add email and inherit the security infrastructure already in place.”

Security in a private cloud comes down to effective security-management practices. “You can make a mess of security in a private cloud as easily as you can anything else,” Hurwitz says. “It depends on how you manage security.”



COST SAVINGS IN A PRIVATE CLOUD

Cost, speed and security were the three biggest factors in choosing between a public and private cloud, according to a [2013 cloud-computing report](#) by IDG Enterprise.

With cloud applications able to speed up computing and processing capabilities by pooling resources in a cloud environment, IT managers are able to lower the costs of IT infrastructure and free up staff for more-essential tasks, according to King. Cloud applications also let companies keep better track of IT services and enable them to be properly compensated through accurate chargeback processes.



FLEXIBILITY IN THE CLOUD

Of the organizations polled by Forrester Research in a [September 2013 report](#) commissioned by Dell, 72 percent found cloud computing had improved their scalability. The flexibility of the private cloud is increasing demand for it, [Technology Business Research reported](#).

“The whole point of private cloud is that you now have a pool of resources that you can dynamically apply to launch new applications but also recognize that some applications may have higher demands in the morning and some more at night,” said Richard Villars, an analyst at IDC. “Some applications may need more capacity at the end of the month and some at the beginning of the month.”

This demand is resulting in a 29 percent increase year over year for company workloads run on a private cloud platform, according to TBR. Scaling applications and infrastructure is how companies can gain efficiency by adopting private clouds.

“You have the flexibility to move workloads and dynamically move processes in the [private cloud environment],” said Lush. “You can set rules to say when this application is running on this server.”



CONCLUSION

By leveraging the automation capabilities of a cloud environment to provision applications and pool IT resources, enterprises can cut costs while increasing efficiency. Private cloud environments

also offer organizations a more consistent approach to security than the one afforded through conventional architecture.

Although a private cloud can't replace on-premise IT operations altogether, it can augment them to make companies run more efficiently and securely.

“Expectations of private cloud completely replacing well-established traditional data centers are generally not realistic and should be tempered with the realization that transformations of this magnitude take time and patience,” says Lowery.

