Building the Business Case for Cloud: Real Ways Private Cloud Can Benefit Your Organization

In This Paper

- Leveraging cloud technology can help drive down costs while enabling service-oriented IT.

- Private and hybrid cloud approaches improve application delivery.

- Cloud implementations increase agility and help organizations adjust to meet customer and worker expectations.

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Executive Brief

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Introduction

Companies and IT organizations are exploring migrating to a cloud architecture today in order to rein in IT costs, gain the flexibility and agility to deliver new and better services, and meet rapidly evolving business requirements.

To put the move to cloud into perspective, consider that overall the $41 billion private cloud market in 2014 will grow at a 14 percent compound annual growth rate (CAGR) to $69 billion vendor opportunity by 2018, according to one recent industry survey.[1]

When moving to cloud, most companies and organizations will use a hybrid approach that lets them deploy some applications on private clouds and others on vertical, community, or public clouds. Customers want to leverage existing investments, and creating standard infrastructure building blocks are essential to simplifying the foundation for Infrastructure-as-a-Service (IaaS). Just like challenges of traditional IT deployments, deploying single or multi-cloud environments requires effective management and governance.

Business Benefits of a Private Cloud

A private cloud offers improved flexibility and scalability, as well as improved disaster avoidance and business continuity. Such business agility is the leading driver for adopting cloud, according to a recent Harvard Business Review survey[2] of managers in large and mid-sized companies. Among the respondents, 32 percent said business agility was their primary reason for pursuing cloud — followed by increased innovation (14 percent), lower costs (14 percent) and the capability to scale up and down in response to demand (13 percent). These benefits are the driving force for most organizations, and it is not a matter of "if", but "when" they will begin the journey toward datacenter optimization through a private cloud model. Some of the business benefits of standing up a private cloud include:

Enablement of service-centric IT: A private cloud solution can help streamline operations by simplifying and automating many processes needed to deploy applications and services. Specifically, a properly managed cloud infrastructure automates many tasks that have historically been managed by manual, and sometimes inefficient processes.

Such improvements would include, for example:

- Automating service requests and approval chains, and providing self-service options.

- Simplify provisioning of application ecosystems using application templates and standardized building blocks of compute, capacity and networking for both physical and virtual environments.

- Performing comprehensive Quality Assurance (QA) and testing methodology.

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- Setting up default service levels for availability like snapshots, backup and recovery, or business continuity.

These tasks have traditionally consumed weeks or even months, and can span half a dozen or more specialist teams across an organization.

Automating such tasks helps IT organizations transform. IT has typically organized around the various technology domains and will normally take on new work when it receives project requests from the business. As a result, IT has taken a reactive, technology-centric approach to its mission.

This approach has come under examination lately, particularly as organizations seek to quantify IT's contribution to the business. To be successful in today's business environment, IT needs to transform to a more service-oriented approach. Leveraging cloud technology allows IT to operate as a service provider that delivers sets of products, solutions, and services to the lines of business.

Cost Controls and Visibility

Chargeback and showback reporting empowers IT leaders with the usage-based data needed to quantify the value of services being delivered. (Showback consists of providing IT management, departments, and corporate management with an analysis of the IT costs due to each department, or cost-center, without actually cross-charging those costs. While chargeback tools enable entry of cost-center info, duration of use, and other options for governance.) In an era when IT budgets are shrinking and business requests continue to rise having this information is critical for negotiation and planning between the CIO and CFO. This data can also be used to model the financial advantages of private versus public cloud services consumption. While many organizations are moving anything and everything to the public cloud at a rapid pace, few have a solid grasp on the actual impact or benefit being provided.

Empowerment of users: A private cloud management solution can help ensure users get the service and service levels they need to do their jobs.

This is accomplished by taking automation to a higher level by enabling self-service features. Self-service allows authorized users to request and even provision their own IT services through an online service-catalog. Users select a service, such as setting up a database or Web server, and software activates an automated provisioning workflow that deploys the service without IT's involvement. In this process, the cloud management software enforces policies based on the user's profile and the type of service requested. Self-service accelerates the delivery of IT services and cuts the cost of that delivery. This approach also helps eliminate infrastructure excess that can be caused by project-based buying, allowing IT to provision resources for finite periods of time and reclaim those resources when projects conclude.

Automating image creation and deployment of IT services reduces the need for staff to manage routine tasks manually. This allows IT managers responsible for private clouds to focus on objectives such as delivering new applications and helping to meet business goals.

Optimize application delivery: A private cloud solution can help IT accelerate responsiveness to the business, delivering a better ROI by virtue of using aggregated resources.

Private clouds leverage the power of virtualization, consolidation, and workload mobility. Because of virtualization, server capacity,

"When moving to cloud, most companies and organizations will use a hybrid approach."

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"Adopting a cloud architecture offers companies many business benefits."

application licenses, storage, and other resources can be shared and used to maximum efficiency. So rather than three business units each using their own server and storage infrastructure at, for example, 50 percent utilization rates (and keeping some capacity in reserve to meet new demands), the applications for the three units could be consolidated onto fewer systems while maintaining a reasonable amount of reserve capacity that allows dynamic growth and scalability as needed. Optimization of server and storage infrastructure usage also eases network burden, and new advances in software defined networking and network virtualization assist in streamlining for better QOS.

In all cases, a company gets a higher utilization rate out of their entire infrastructure. That means the same level of service can be provided usi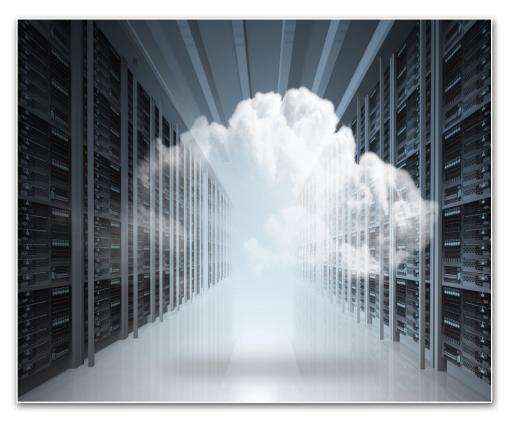ng fewer IT devices and less software. The immediate benefit of having to support fewer devices and software licenses is lower management and maintenance costs. This includes reduction of datacenter footprint, power and cooling costs, as well as long-term support/maintenance agreements. Every organization will have different results, but the benefit to Capex and Opex costs can be huge.

Furthermore, services deployed on private clouds let companies scale up and down quickly, to accommodate application development teams, cyclical business cycles, and new customers. If a business unit needs to launch a new service, cloud capacity can be provisioned rapidly and assigned to the new applications.

What's needed in a cloud management solution to achieve these benefits?

Private clouds enable businesses to take advantage of the efficiency of virtualization and cloud computing

without moving their data and applications outside the organization. Public clouds enable companies to leverage a provider's infrastructure, allowing companies to cut CAPEX and OPEX costs, while freeing up IT staff for other critical projects. A mixed environment helps companies realize the benefits of both. But to take full advantage of cloud capabilities and benefits in a hybrid environment requires special management solutions.

So what type of management solution is needed to help leverage both environments?

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A cloud management solution should provide visibility, management, and governance of activity in both on-premises clouds as well as public clouds being utilized.

For most customers, it is impractical to develop a cloud infrastructure based on a single vendor's products. IT may need to leverage existing infrastructure or systems management tools, or they may simply want to bring together best-of-breed solutions for different aspects of their private cloud. As such, a cloud management solution must supports today's heterogeneous data center environments allowing the use of the best solutions based on business requirements.

As IT transforms into a service-centric organization to meet the demands of today's business world, it must deliver services that have ever-higher service level agreements (SLAs) related to performance and availability. To accomplish that, IT requires a cloud management solution that provides monitoring capabilities. The monitoring must offer deep insight into the performance of applications and workloads allowing for performance optimization and to deliver predictable SLAs. Some cloud management solutions may allow for monitoring of certain aspects of

a cloud's operations, but may not convey the needed information about end-to-end service levels. A cloud management solution must be able to relate its device and application monitoring capabilities to stated service SLAs.

Most important, a cloud management solution must support hybrid environments. IT needs the flexibility to pick the best cloud for the job, be it private cloud or public cloud. The management tools must be able to streamline processes, automate, manage, and monitor regardless which platform an application is deployed on.

Finally, since business requirements are constantly changing, companies need a cloud management solution that supports application portability between on-premises private cloud and public cloud to simplify the way applications are built, deployed, and scaled.

Dell as your technology partner

Building a business-class cloud requires sophisticated management solutions that give IT the needed control over resources, while providing automation and self-serve capabilities to simplify IT processes.

This is an area where Dell can help. Dell offers solutions that help companies build and manage private and hybrid clouds.

To start, Dell offers on-premises infrastructure solutions for private cloud. The solutions support all virtualization-based platforms and allow companies to build out server, storage, and networking elements of their cloud infrastructure. Specifically, Dell offers:

- The broadest range of server choices on the market today with innovative form factors that help customers meet a variety of price/performance needs, while supporting today's massively scalable virtual environments

- Software defined networking options that help companies implement flatter, faster networks that benefit server-to-server communications and enhanced QOS

- Direct-attached and consolidated storage options to meet performance and availability requirements for mission critical data

- Management tools that simplify management of infrastructure, as well as virtual environments that are part of a private cloud.

"IT today needs to transform to a more service-oriented approach."

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"Moving to cloud can improve service delivery, responsiveness, and drive down costs."

Additionally, Dell offers advanced management solutions for clouds, **Dell Cloud Manager** provides a suite of tools for managing a cloud infrastructure, including the provisioning, management, and automation of applications across the leading private and public cloud platforms. The solution can be used to deploy and manage enterprise-class applications across private, public, and hybrid clouds in either a single or multi-cloud environment.
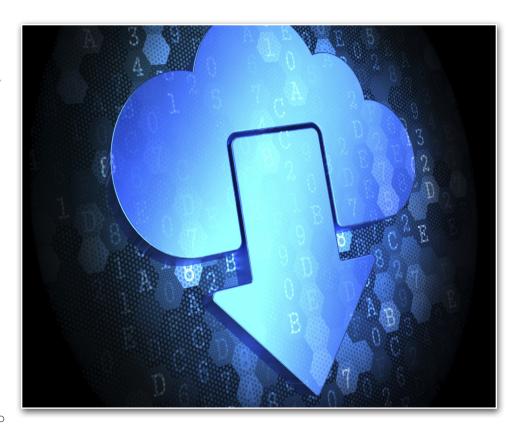
Dell Cloud Manager provides IT with the needed agility through automation and self-service tools, including auto-provisioning, auto-scaling, automated backups, recovery, cross-cloud bursting, and more. This lets companies provide consistency across all cloud platforms and helps companies improve service levels.

When companies think of cloud, security is a top concern. Dell Cloud Manager helps companies maintain control over their systems, which is crucial to reducing risk. In particular, Cloud Manager provides tight access controls including encryption, advanced user authentication, and budget management. This lets companies provide only the right people with the right level of access to a cloud environment.

Most important, Dell Cloud Manager gives companies the flexibility to use whatever solutions they want in their cloud environment. This provides increased efficiency and allows companies the freedom to choose the cloud services that work best for your organization. Dell Cloud Manager supports a broad range of public and community clouds and providers, with an ever growing list. The solution provides cloud management for the major virtualization-based cloud platforms as well.

Going hand-in-hand with Dell Cloud Manager, **Dell Active System Manager** delivers heterogeneous infrastructure support to help simplify IT service delivery in IT environments. The support for heterogeneous environments is a big benefit for companies that want to leverage existing infrastructure investments. Additionally, the solution offers comprehensive infrastructure and workload automation. Specifically, Active System Manager provides a unified

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console and highly intuitive user interface that lets workers automate the deployment and management of IT services. This speeds up workload delivery, streamlines infrastructure management, and enables companies to improve service levels.

Key characteristics of the solution include template-based provisioning, infrastructure lifecycle management, resource pooling and dynamic allocation, and dramatically simplified management.

Dell brings years of expertise as a leader in cloud solutions, powering many of the world's largest cloud hosters and service providers, as well as helping organizations of all sizes to build private and hybrid clouds. Dell also brings its real-world cloud experiences to help meet the specific challenges of deploying cloud in several major industries.

The Dell Cloud for U.S. Government, launched in 2013, is a secure solution designed to meet the stringent Federal Risk and Authorization Management Program (FedRAMP) approval process as well as National Institute of Standards and Technology (NIST) 800-53 criteria.

As one of the first IT providers to offer a solution designed to meet a full range of federal requirements, the Dell Cloud for U.S. Government allows government customers to leverage a powerful and flexible platform that will help them to do more with less in today's challenging budget environment.

Similarly, the Dell Secure Healthcare Cloud provides an environment that helps healthcare organizations easily comply with HIPAA requirements for security, disaster recovery, and patient privacy. With the solution, Dell can host applications, help organizations build their own private cloud, or integrate Dell solutions with an existing infrastructure.

For those just starting their move to cloud, Dell consulting services can help companies determine the right cloud solution for their needs, as well as help deploy the solution.

Dell offers managed services for on-premises private clouds, or customer clouds that are hosted in Dell datacenters or other service provider facilities. ■

To learn more about Dell cloud solutions, visit
http://www.dell.com/privatecloud

[1] http://www.eweek.com/cloud/private-cloud-market-to-reach-69-billion-by-2018.html
[2] http://www.cio.com/article/2455960/cloud-computingusiness-agility-drives-cloud-adopti/cloud-computing/business-agility-drives-cloud-adoption.html