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Virtualization + Cloud, the new era

SDDC manages at cloud speed

The software-defined datacenter (SDDC) requires a new management approach. Why? Business leaders will never capture the essence of the SDDC without cloud computing harnessing the power of virtualization. In fact, management tools and practices must mimic the dynamic qualities of cloud infrastructure if the SDDC is going to fully realize its potential value.

IT planners and buyers are seeing a lack of capabilities, or incomplete portfolios, from cloud vendors targeting the enterprise market. Enterprise has critical needs met only through a powerful mix of cloud and virtualization. Enterprise requires a cloud platform fully invested in virtualization, including cloud-based management solutions.

Infrastructure savings can still be achieved using legacy IT management tools and practices. Though these tools and practices will hold you back in realizing the full potential of SDDC because cloud platforms can overwhelm the static, slow and manual nature of traditional IT operations. Management tools and practices must adapt to the cloud.

Corporate management loves the cloud's scale, speed and self-service. Infrastructure management must change to reflect those same qualities.

Market drivers forcing a management change:

Virtualized environments move faster – Changes occur faster in a virtualized environment than a physical one. Legacy management tools get overworked as virtual machines multiply, losing control and visibility of the IT infrastructure.

Too much of a good virtualized thing – Virtualization encourages self-service provisioning of on-demand resources. Virtual servers meet escalating business needs by enabling rapid application development. This phenomenon creates a sprawl effect that burdens administration and chokes application performance.

New applications and services test quality of service – The latest things like SaaS, mobile devices and big data have disrupted the IT status quo. Who owns the quality of service for these upstarts? The debate rages as IT scrambles to standardize and automate in a bustling environment full of heterogeneous resources.

According to IDC, over 50 percent of business applications run on virtual machines. Virtualization has delivered massive savings in capital and operational expenses for datacenters large and small. The SDDC - with the help of the cloud computing – aims to extend those savings throughout the datacenter. Together, at enterprise speeds, virtualization and cloud becomes one asset.

This alliance threatens infrastructure management.

Analysts suggest business leaders should respect the symbiotic relationship between virtualization and cloud when shopping solution providers. The Taneja Group states, "…look

for management that's optimized for virtualization and the cloud."

Why are virtualization and cloud computing joining forces?

- Large-scale deployments at the enterprise level require more availability, performance and security.

- Cloud platforms place continuously changing demands on IT resources.

- Application health and performance suffer when legacy management tools don't perform.

Virtualization is the key to enabling cloud applications. In the SDDC, management must reflect true nature of the cloud. Taneja says, "…virtualization is an essential foundation technology for cloud."

Beyond the server

The SDDC represents a new way to deliver IT services. At first glance the SDDC is nothing more than the logical extension of server virtualization. However, a deeper dive reveals a platform where all physical resources – compute, storage and network – are pooled and delivered as software. We get a datacenter reinvented for agility, efficiency and a lot more speed. We get a datacenter optimized for the cloud.

At this point, yes, virtual machines can be provisioned in minutes. But other physical resources needed for an application take days, or weeks, to finish the job. The SDDC will compress deployment times; yet not overload storage capacity. Thrilling for end users, of course.

What about IT staff? This new model requires managing across a complete set of infrastructure services. Therefore, viable management solutions in the SDDC must simplify and automate compute, storage and network services, and the applications running over them – all in a heterogeneous environment.

Looking for tangible benefits? IDC reports early adopters of centralized management and pooling have reduced downtime, accelerated deployment and reduced workload costs.

What core issues will shape this new management approach?

1.) Self-service and automation are two big reasons cloud computing is so attractive. End users want to deploy, manage and monitor applications without IT. Application management tools and practices must evolve to match the speed and flexibility of the cloud.

2.) Administrators need more intelligence and analytics to manage a cloud environment. Cloud solutions must deliver more visibility and integration for operations management. In the SDDC converged infrastructure morphs capacity, configuration and performance into one dynamic force.

3.) Heterogeneous infrastructure can put the brakes on provisioning. Hardware, software and internal forces are competing for IT resources that, in turn, struggle with governance and control. Solutions must help customers operate in a multi-platform, multi-cloud world.

Going forward, infrastructure management means virtual resources replace physical

ones and tools and practices fit the cloud. That's a simple approach.