DELL EMC AUTOMATES ENTERPRISE HYBRID CLOUD USING VMWARE vREALIZE SUITE TO DELIVER SERVICES FASTER

DELL EMC

INDUSTRY
TECHNOLOGY

LOCATION
HOPKINTON, MASSACHUSETTS

KEY CHALLENGES
• Evolve data center infrastructure to support IT-as-a-service environment.
• Automate manual IT tasks and service provisioning.
• Reduce time to provision new services.

SOLUTION
Dell EMC deployed VMware vRealize Suite to automate and manage its new hybrid cloud infrastructure and deliver IT as a service, including self-service provisioning that rivals third-party cloud provider offerings.

BUSINESS BENEFITS
• Reduces time to provision from 45 days to same-day delivery
• Improves workload placement, troubleshooting, and capacity planning to achieve optimized utilization of 80 percent
• Charges back 90 percent of operational expenses to enable better decisions about technology investments

Dell EMC began its data center transformation with virtualization from VMware, first consolidating and then converging the Dell EMC infrastructure. Today, it's deploying a software-defined, enterprise hybrid cloud infrastructure with VMware vRealize® Suite for managing the cloud environment and delivering IT services from a self-service portal. With automated provisioning using the vRealize platform, Dell EMC has reduced the time to provision IT resources from 45 days to same-day delivery, providing greater speed and agility to the business.

Dell EMC, a part of Dell Technologies, enables organizations to modernize, automate and transform their data center using industry-leading converged infrastructure, servers, storage and data protection technologies. This provides a trusted foundation for businesses to transform IT, through the creation of a hybrid cloud, and transform their business through the creation of cloud-native applications and big data solutions. Dell EMC services customers across 180 countries – including 98 percent of the Fortune 500 – with the industry's most comprehensive and innovative portfolio from edge to core to cloud.

The Challenge

Managing seven data centers around the world is no minor feat. Just ask Paul DiVittorio, senior director of cloud infrastructure for Dell EMC. "We run applications supporting our 70,000 internal users 24/7, around the globe," says DiVittorio. "We're running close to 20,000 virtual machines and store more than 40 petabytes of data."

To keep up with its changing business needs, Dell EMC embarked on an ambitious data center transformation. It began that journey with virtualization from VMware, first consolidating and then converging the Dell EMC infrastructure. "We're now 98 percent virtualized and have achieved cost savings while optimizing our IT environment," says DiVittorio.

vmware®

"Before, provisioning what I call a useful service—with authentication, load balancing, storage, firewall, and more—would take as long as 45 days. With automation, we're shrinking that down to same-day delivery."

PAUL DIVITTORIO
SENIOR DIRECTOR OF CLOUD INFRASTRUCTURE
DELL EMC

VMWARE FOOTPRINT
- VMware vSphere
- VMware NSX
- VMware vRealize Suite Enterprise
- VMware vRealize Operations Enterprise
- VMware vRealize Log Insight
- VMware vRealize Automation Enterprise
- VMware vRealize Business for Cloud Standard
- VMware vCloud® Air™

APPLICATIONS VIRTUALIZED
- More than 50 legacy systems
- SAP applications
- Oracle, SAP HANA, and Microsoft SQL Server databases

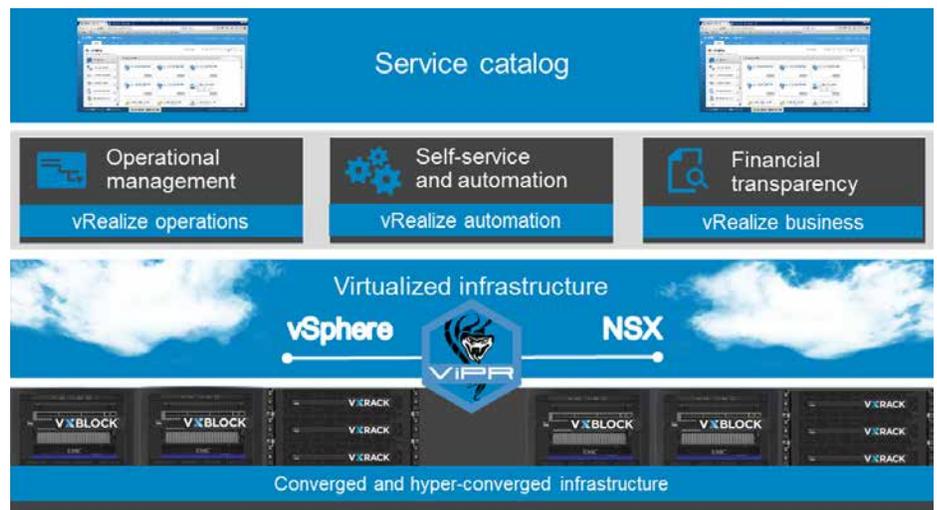**PLATFORM**
- VCE Vblock Systems

Figure 1: Dell EMC Cloud Solution

Today, the company is deploying an enterprise hybrid cloud infrastructure, with VMware vRealize Suite at the very heart of the reference architecture. "Now it's time to continue our evolution to data center automation and IT as a service," explains DiVittorio. Dell EMC was burdened with lengthy processes for provisioning of services, where 85 percent of IT tasks were manual. "Our goal is to take that manual effort and automate it," says DiVittorio. Greater automation would allow the IT department to accelerate the provisioning of new IT services and become a true service provider. "We want to give our internal customers—Dell EMC employees—an even better experience than they would get with an external cloud services provider," says DiVittorio.

Part of the vision for the new infrastructure was to implement full chargeback, moving from a less cost-effective, capital-expenditure-driven mode of buying new servers for every new project, to an operating-expense mode where IT charges back the actual costs of running applications to the Dell EMC department using the application. This would help departments within Dell EMC make better decisions about their IT spending.

The Solution

To support an IT-as-a-service (ITaaS) model, DiVittorio and his team needed to build an infrastructure with Software-Defined Storage, virtual networking, security, and full chargeback capabilities. The result of this effort was the creation of what Dell EMC calls the Enterprise Hybrid Cloud (EHC). This solution is based on the VMware Software-Defined Data Center architecture and Dell EMC ViPR, a Software-Defined Storage solution. The EHC platform is consolidated, scaled-out, tiered, multitenant, and 100 percent virtualized.

In addition to taking advantage of VMware vSphere® cloud infrastructure and VMware NSX® network virtualization for networking and security, Dell EMC deployed solutions within the VMware vRealize Suite, including: VMware vRealize Operations™ for operations management, VMware vRealize Automation™ for automation management, VMware vRealize Log Insight™, and VMware vRealize

Business™ for Cloud Standard. "It's a set of pre-engineered software that all works together," says DiVittorio. "We definitely wanted to take a buy versus build approach to our cloud infrastructure."

The new infrastructure provides a comprehensive ITaaS solution for managing day-to-day operations, including troubleshooting, capacity planning, performance monitoring, and workload placement. It also allows Dell EMC to quickly provision and deliver network and security services that work in lockstep with compute and storage services—all from a single pane. "All new applications and services will be provisioned through our EHC environment," says DiVittorio. "Today we're rolling out the environment for our IT practitioners, with our vRealize Automation catalog as the portal for them to consume IT services."

It's an environment purpose-built for automation. "We're using VMware vRealize Suite to automate everything involved in delivering IT services," says DiVittorio. "For instance, vRealize Automation talks to vRealize Operations to figure out which cluster has capacity for a new Linux virtual machine." Once IT develops automation templates, vRealize Automation will communicate with Dell EMC ViPR for provisioning storage on demand when it is needed. That means "no more guessing where and when we might need storage," says DiVittorio.

Business Results & Benefits

With automation, DiVittorio expects provisioning time to drop dramatically. "We are building the blueprints and templates that will allow us to deliver a ready-to-use virtual machine in a matter of minutes," he says. "Before, provisioning what I call a useful service—with authentication, load balancing, storage, firewall, and more—would take as long as 45 days. With automation, we're shrinking that down to same-day delivery." That gives business units more flexibility to react quickly to new opportunities.

In addition to providing faster provisioning, EHC helps Dell EMC deliver a better user experience to its internal customers. "With vRealize Automation, we can abstract away details about resources and simplify our offerings," says DiVittorio. "If a customer needs a framework for a three-tiered application, we can create a template so that all the customer has to do is push one button." Now developers who need IT resources can be sure that the template provisions everything they might need.

Another major benefit for Dell EMC is automatic management of the hybrid cloud environment. "We want the system to make real-time decisions for us," says DiVittorio. "With vRealize Suite, we can set performance characteristics and let the platform maintain those performance goals." This enables Dell EMC to offer different service levels for varying business requirements without requiring additional IT staff to manage them.

The real-time analytics that the vRealize solution provides helps Dell EMC make better decisions and save money. "We have greater insight into our capacity today than we did even three years ago," says DiVittorio. "That helps us make smarter decisions on when and what hardware to buy. Just in the past year, we avoided purchasing 100 servers because we had tighter capacity and better management of performance and workload placement through vRealize Operations." Through improved workload placement, troubleshooting, and capacity planning, Dell EMC achieved optimized utilization of 80 percent.

More informed decision-making thanks to EHC extends beyond the data center team. "By implementing chargeback capabilities for 90 percent of our operational expenses, we're giving our internal customers real information about what applications cost," says DiVittorio. "That way, they can make more informed decisions about how they're investing their money."

Looking Ahead

For DiVittorio, the relevance and success of the Dell EMC IT department is dependent on engaging with and responding to the requirements of the business. "We have to anticipate business needs and be ready to support them before they even happen," says DiVittorio. "That means speed and agility are our top priorities now and into the future." With its VMware-based EHC solution, Dell EMC will have the control, speed, and agility it needs to respond quickly and meet future expectations.

vmware®