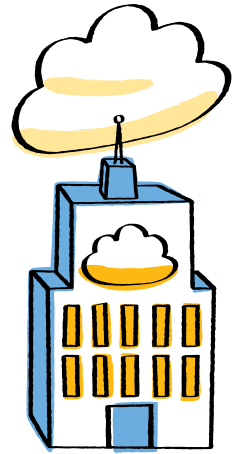




NetApp®



Solution Brief

fluidOps eCloudManager Brings Enterprise Applications to the Cloud

SOLUTION HIGHLIGHTS

Cloud Management

Unified view over all data center resources, from storage to hypervisor to application.

Customizable Policy Engine

Error tracking and handling data center wide.

Provisioning Automation

Enterprise applications made easy to deliver and easy to consume through storage-assisted provisioning.

Self-service IT

Delivery of enterprise applications as standardized services through a fully customizable portal.

Data Center Intelligence Management

Search, exploration, documentation, and analytics.

The Challenge

“Cloudifying” enterprise apps

To compete and be relevant in the marketplace, companies need strategic differentiation. They must scale mission-critical processes to market-relevant proportions, which can be achieved only through custom IT automation. The enterprise applications that support these processes are known for their complexity. This complexity is a reflection of the immense power of these applications to drive entire organizations, but also a burden for administrators, who must continuously monitor, provision, update, maintain, and retire them.

Thus virtualization and IT automation benefits are visible and straight-forward in the enterprise in terms of infrastructure resources, but they are not yet fully leveraged in the enterprise application space, both due to the intricate requirements entailed by enterprise apps and to their large system sizes.

The cloudification of enterprise applications has therefore been slow to come about, offering organizations no alternative to their traditional and tedious

manual processes. Businesses are still struggling to respond to requests from internal and external clients, who are demanding new enterprise application systems and system landscapes, while end users are growing increasingly frustrated with long delivery times.

Unified data center monitoring

Maintaining the enterprise data center is also increasingly a burden for enterprises that monitor and manage resource silos individually. The need to manage resource silos slows down processes such as root cause analysis and error handling, because data from different resources must be correlated manually.

The Solution

Cloud management

Delivering an open platform that can integrate with practically any resource in an enterprise data center, regardless of the vendor, as well as with public cloud resources, fluidOps eCloudManager provides its customers with an innovative cloud monitoring and management solution.



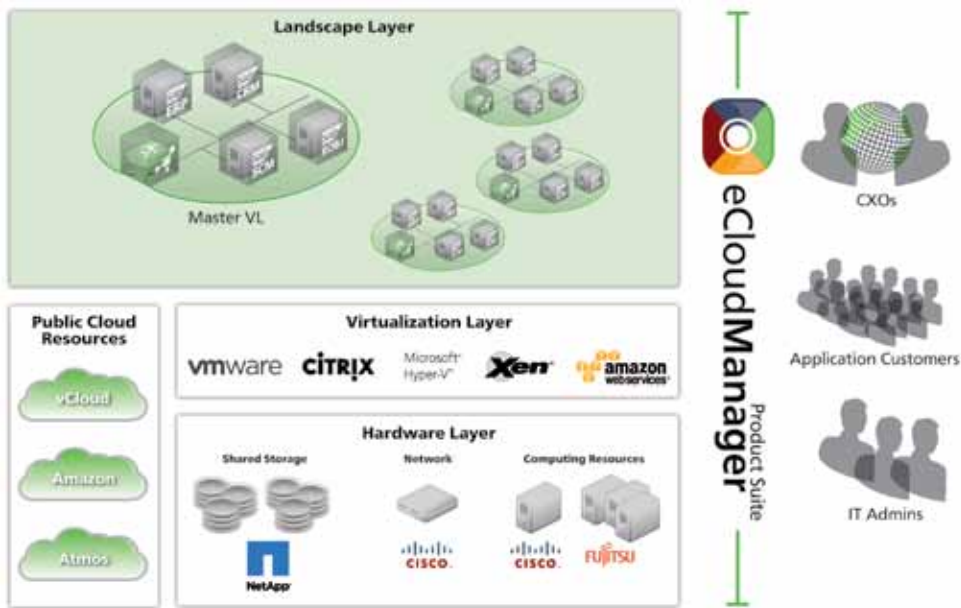


Figure 1) Infrastructure resources and enterprise applications are managed through one-console and made available to end users on-demand. (graphic provided by fluidOps)

The various data center resources are integrated directly through their APIs. The information gathered on a near-real-time basis is semantically correlated and stored in an in-memory database, enabling out of the box integration and management across the entire IT stack. Thus, multiple NetApp® (or third-party) enterprise storage arrays, multiple compute infrastructures, and multiple virtual landscapes equipped with enterprise applications such as SAP®, Oracle®, and Microsoft® can be managed and controlled from the eCloudManager user interface.

Customizable policy engine

An open monitoring and management platform that can oversee the entire data center is an enormous step forward, but enterprises need a tool that can not only correlate data but also send out notifications when something goes wrong. fluidOps eCloudManager addresses this need and ships with a policy engine filled with pre-packaged rules that can be fully customized or added to, to meet the specific requirements of each customer.

Using eCloudManager, enterprises can set the underlying rules to meet their own needs. They can determine when and what events they should receive notifications for, thus dramatically simplifying and speeding up internal processes and reaction to errors. Storage errors, such as volumes running

out of space, which affect the virtual machines (VMs) residing on the central storage and can cause downtime of applications running on those VMs, can now be automatically identified, linked to all affected resources, and brought to the attention of the customer, all within seconds.

Intelligent data management

The ability of eCloudManager to integrate data from different sources also enables data center resources to be linked with business-level information, such as customer or project catalogs. The semantic data model leads to an integrated, resource-centric view of the data. This view makes vital relationships between resources explicit and supports daily data management tasks such as search, collaboration (enabled by a semantic wiki), and exploration, which help enterprises identify data center risks, problems, and optimization opportunities.

Provisioning automation

Aimed at enabling the easy consumption of enterprise apps, eCloudManager leverages native functionalities of the data center through tight API integration to deliver faster and more efficient system instantiation capabilities. For example, NetApp advanced storage features such as thin provisioning and storage-assisted cloning and snapping, as well as hypervisor functionalities are

used to enable the rapid provisioning of enterprise application workloads with little to no manual effort and with minimum use of infrastructure resources.

When a system or system landscape is being cloned (pre-configured template or as a running system), it will be isolated in a separate VLAN to make sure that the cloned systems can run without interfering with any existing systems. This allows several systems with the same hostname or system identifier to run in parallel, and it also enables test, development, QA, and training scenarios out of the box.

On-demand delivery of enterprise apps

By leveraging NetApp storage features, enterprise applications are made available to end users, either internal departments or external business clients, on demand and ready to run as Landscape as a Service™ through the fully customizable eCloudManager self-service portal.

The end user can log into eCloudManager self-service portal, review the offerings available in the service catalog, select the system or system landscape that best fits his or her needs, select the required SLAs and click "Create clone." Based on the selected SLAs, eCloudManager automatically determines which infrastructure resources to use for the deployment, thus abstracting the infrastructure from the end user.

“The eCloudManager, in combination with NetApp’s thin-provisioning capability, has enabled us to rapidly replicate customer environments, which meant that we could deliver more than 500 SAP virtual landscapes in 2010, with an average total size of 100TB, and help our customers solve their most challenging scenarios in minutes.”

Ralf Lindenlaub

Senior Director Infrastructure and Technology, SAP Value Prototyping/Center of Excellence

The clone is ready within a few minutes, regardless of the system size, and the end user is notified by e-mail or SMS as soon as the systems are accessible.

Once the systems are cloned, the end user has full control, enabling an automated process of requesting, approving, deploying, updating, and retiring enterprise applications.

In addition to its rapid cloning functionality, eCloudManager delivers a billing and metering component based on a fully customizable cost calculation formula, which can include anything from time of day to CPU or memory consumption to resource location. This allows end users to monitor and track their resource usage, thus providing full cost transparency.

Solution benefits

The fluidOps and NetApp joint solution enables customers to fully automate their data centers, from the infrastructure layer up to the enterprise application layer. The solution can be integrated directly into any environment and can support existing business processes defined with certain cloud orchestration tools, allowing customers to bring enterprise applications that are not cloud-ready to the cloud and make them available to the end user as Landscape as a Service—all within minutes and without any postprovisioning effort.

SOLUTION COMPONENT

NetApp Products

FAS6200 series
FAS6000 series
FAS3200 series
FAS3100 series
FAS2000 series
V-Series
FlexPod®

fluidOps Products

eCloudManager Product Suite
eCloudManager Infrastructure Edition
eCloudManager Self-Service Edition
eCloudManager SAP Edition
eCloudManager Intelligence Edition

By implementing the joint solution, customers can apply innovative technologies and unleash the application’s potential, providing IT services that truly empower and drive business strategy, leading to unprecedented cost and time savings in running enterprise applications over their entire lifecycle.

About fluidOps

fluidOps is the provider of a cloud management and automation platform based on innovative semantic technologies, featuring data center-wide monitoring and rapid on-demand provisioning of complete enterprise application landscapes as Landscape as a Service.

About NetApp

NetApp creates innovative storage and data management solutions that deliver outstanding cost efficiency and accelerate business breakthroughs. Discover our passion for helping companies around the world go further, faster at www.netapp.com.

Go further, faster®



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