RED HAT® CLOUDFORMS™

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WHITEPAPER

THE AGILITY GAP IN TODAY'S PRIVATE CLOUDS

INTRODUCTION

If you're like most organizations, your users and even your CEO are demanding "a cloud like Amazon" where they can instantly spin up servers through a self-service portal. And you may have given them something that looks like that.

However, delivering a portal with scripted provisioning in a first-generation "cloud" isn't going to deliver the agility, service levels, and satisfaction that users are really looking for. They may be initially requesting self-service provisioning but what they really want are self-managed systems to increase their agility.

THE AGILITY GAP

Providing only initial self-service provisioning without continuous monitoring and management of those systems, as well as the supporting infrastructure, will significantly constrain the service levels that your cloud can achieve. Limited or "cloudwashed" implementations run a very real risk of user dissatisfaction and increased costs; and they foster perceptions that IT cannot really deliver the agility they need.

The management of underlying clouds must also be agile in order to handle fluctuations in user demand, to meet variable workload needs, and to continuously optimize resource allocation and utilization. Without back-end capabilities (e.g., service visibility, monitoring, life cycle management, dynamic resource allocation), deploying a front-end portal or service catalog will result in the rapid proliferation of unmanaged systems and increase resource and management costs.

ARE YOU TRULY AGILE?

Agility is what organizations want when they create private clouds, and IT decision makers are coming to terms with the limitations of their first-generation private cloud management strategies. Most are not getting the full benefits of their private clouds, because they've created on-demand infrastructure provisioning, but not the more sophisticated application-aware automation, workload balancing, and performance optimization tools needed to optimize the cloud over time as business needs change.

IT TRANSFORMATION

IT organizations should incorporate capabilities that require automatic, policy-based management for the entire life cycle of all cloud components (e.g., compute, storage, and network). This management must continuously adapt to meet enterprise requirements for security, efficiency, and agility. To meet these requirements, cloud management platforms must provide the following capabilities:

SIGNS YOU MAY HAVE A CLOUD AGILITY GAP:

- You can quickly provision new servers, but have trouble providing enough IP addresses for them.
- You cannot quickly find unused virtual machines, much less automatically remove them to free up resources for other applications.
- You can quickly provision (or de- provision) servers as demand changes, but you cannot easily or automatically do the same for the associated storage or networks.
- You cannot automatically reallocate compute, storage, and network resources for the best combination of agility, performance, and price as needs change.
- You are still using time-consuming, brittle configuration scripts that fail if one part of your infrastructure changes.

- A self-service portal or service catalog supported by features such as automated, policy-based provisioning and life cycle management
- A continuous, unified, holistic view of all cloud resources that proactively assures efficiency, performance, security, and compliance, and troubleshoots problems
- Automated policy enforcement and control for managed systems
- Intelligent workload management to ensure resources are automatically and optimally utilized to ensure service availability and performance
- Capacity planning to anticipate and plan for future resource needs based on capacity, trending, data, and analytics
- Capacity management to dynamically and automatically ensure the most efficient use of resources
- Highly available and scalable service management to enable the publication and consumption of IT cloud services with provisioning, ongoing tracking, life cycle management, auto-scaling, and retirement

An effective cloud management solution provides the intelligent orchestration of all IT resources. This orchestration enables resource allocations and configurations to be adjusted in real time, maximizing performance, security, and efficiency as business needs change.

WANTED: TRUE AGILITY

Enterprise IT organizations have made impressive strides in reducing initial provisioning costs by virtualizing servers, networks, and storage. However, they are finding that these first-generation private clouds cannot deliver true agility and cost savings over time, because they lack enterprise levels of adaptability, visibility, security, and management throughout the cloud lifecycle.

True agility from a private cloud requires intelligent, automated, policy-based management of the entire cloud infrastructure. Even those organizations that have not yet faced the limits of their private clouds will do so soon, as customers respond to new business initiatives, users develop new applications, enterprises enter new markets, and governments and corporations impose new security rules.

ABOUT RED HAT

Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Red Hat also offers award-winning support, training, and consulting services. Red Hat is an S&P company with more than 70 offices spanning the globe, empowering its customers' businesses.

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