The Challenges and Changing Landscape of Virtualized and Cloud Environments

Roughly 80 percent of all enterprises are virtualized, because virtualization has brought tremendous benefits like efficient utilization of resources and improved IT agility. According to Gartner, 44 percent of enterprises are deploying private clouds as an automated, self-service model for provisioning infrastructure and for delivering applications to their internal employees. More and more organizations are adopting the idea of providing IT as a service with service-level guarantees. In this context, we see two inflection points:

- **Large static workloads.** Enterprises are pushing larger and larger workloads into their virtual infrastructures—workloads like customer relationship management (CRM) human resources (HR), and enterprise resource planning (ERP) applications, as well as Microsoft applications such as Outlook and SharePoint.

- **Highly dynamic workloads.** Enterprise IT wants to respond faster to requests from employees. As an example, IT has to respond quickly to Dev/QA requests for more compute, i.e., virtual machines (VMs). IT needs to support an agile product development process to speed up development and deployment lifecycles. Dev/QA workloads are dynamic by nature, and sometimes need thousands of VMs spun up and spun down per week to support short projects.

In both of these cases, IT and server administrators have to manage significantly more VMs—sometimes hundreds at a time—in their virtual and cloud environments. The dynamic nature of these VMs, which get provisioned and destroyed several times a day, requires the network infrastructure to be agile. Manual processes to provision and de-provision IP addresses for these VMs are error prone, lead to service disruptions, increase costs, and thus reduce efficiency in the datacenter. It takes administrators hours or sometimes days to provision IP addresses for VMs manually, making it difficult to provide cloud services at a fast pace. Manual cleanup is cumbersome and error prone, leading to a sprawl of unused IP addresses and DNS records.

A recent survey conducted by Infoblox revealed that more than 60 percent of server administrators need a fully automated IPAM solution for their virtual and cloud environments.

Microsoft as a Vendor of Choice

We see a changing vendor landscape in the market today. Microsoft is increasingly becoming a vendor of choice for private cloud environments. Microsoft System Center 2012 has deep integration with Microsoft management solutions across the virtualization, infrastructure, and development layers. Microsoft has a simplified packaging and licensing model and a strong partner ecosystem, which includes a private cloud fast-track program. In addition, the company is benefiting from a desire in IT organizations to diversify their server virtualization vendors.
Automated Network Provisioning for Microsoft Private Cloud

In response to these trends, Infoblox has developed IPAM for Microsoft System Center Orchestrator (SCO). The integration simplifies and streamlines provisioning and de-provisioning of IP addresses to newly created VMs, updates DNS records, and releases IP addresses when the VMs are taken down—all in a matter of seconds instead of hours or days. This enables full automation of the workflow for provisioning VMs. The benefits are faster time to service of VMs and reduced manual processes. It also provides agility and elasticity to highly dynamic virtual environments.

Key Features and Benefits

Infoblox IPAM Integration

The integration with SCO/VMM fully automates network provisioning and de-provisioning for VMs. It includes “activities” designed to automate IPAM operations with Infoblox DNS/DHCP/IPAM (DDI) appliances. It provides a simple drag-and-drop design interface to create workflows from various activities. Cloud and server administrators can create highly effective customized workflows within minutes. This removes the need to write and test scripts, leading to improved efficiency and lower costs. Infoblox also offers pre-designed workflows that have been extensively tested for IT teams who want an out-of-the-box solution. Pre-built workflows further reduce the time to deploy automation solutions.
Centralized Management and Survivability
The solution delivers centralized and unified IPAM management of physical, virtual, and cloud environments. High availability ensures datacenter survivability and improves uptime. It also lowers operating costs and allows IT organizations to do more with less.

Visibility and Control
The solution provides a single pane of glass for visibility across multiple datacenters, so network administrators can keep track of VMs in each datacenter, identify problems easily, and reduce time to repair. It also provides classification of VMs using metadata, which enables better tracking of resources and improves overall datacenter efficiency.

The Infoblox Grid is a highly available, reliable, and scalable enterprise-grade DDI solution. The data related to Infoblox's SCO integration is stored in the Grid, providing an unmatched level of reliability by eliminating single points of failure.

Summary
Virtualization is at the very foundation of cloud computing, yet when it comes to cloud provisioning, many network-related processes are still done manually and are time consuming. With the Infoblox IPAM for Microsoft System Center Orchestrator, organizations can automate critical components of network provisioning, thereby achieving true agility in the datacenter.

About Infoblox
Infoblox (NYSE:BLOX) helps customers control their networks. Infoblox solutions help businesses automate complex network control functions to reduce costs and increase security and uptime. Our technology enables automatic discovery, real-time configuration and change management and compliance for network infrastructure, as well as critical network control functions such as DNS, DHCP, and IP Address Management (IPAM) for applications and endpoint devices. Infoblox solutions help over 6,900 enterprises and service providers in 25 countries control their networks.