Network Agility in Virtualized and Cloud Environments

Infoblox
CONTROL YOUR NETWORK

Summary: Today roughly 80% of all enterprises are highly virtualized—taking advantage of efficient resource utilization, agility, and reduction of overall IT costs of public, private, and hybrid cloud infrastructure. These organizations must not overlook the criticality and the cost benefits of automating key network tasks. Infoblox solutions enable such organizations to fully automate their virtual and cloud infrastructure, while seamlessly integrating with existing leading virtualization technologies.

The Challenge

Enterprises are deploying private, public, and hybrid cloud environments, furthering the benefits of virtualization to a self-service, fully automated, and measured model. Service providers are keenly interested in virtualization as a means to boost revenue by providing cloud-based services such as infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS) to their customers. These public cloud providers need to deploy huge customer environments quickly to meet their SLA requirements. They need the entire infrastructure, including the network, to be fully automated, dynamic, highly reliable, and scalable.

This means that IT and server admins 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 an agile network infrastructure. Manual processes are error prone, labor intensive, and non-scalable, which forces IT administrators to perform non-value-add activities instead of focusing on higher-value value business initiatives.

The Solution

Infoblox DDI for Cloud and Virtualization solves the challenges of automating key elements of network infrastructure in virtualized and cloud environments. The solution provides:

- Automated provisioning and deprovisioning of IP addresses and DNS records for VMs as they are created and destroyed
- Monitoring and accelerated troubleshooting through a single pane of glass, which allows detailed views of the network, including physical and virtual infrastructure
- Highly available critical network services by extending the DNS, DHCP, and IP address management (IPAM) capabilities to virtual and cloud environments

Automated Provisioning and Deprovisioning: Integrations with Cloud Orchestration Technologies

Infoblox adapters for cloud orchestration technologies such as VMware vRealize Orchestrator, Microsoft System Center Orchestrator, OpenStack, and others simplify and streamline provisioning and deprovisioning of IP addresses to newly created VMs, update DNS records, and release 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, faster time to service, and reduction in manual processes. Infoblox also has extensive APIs that work to integrate vendors including AWS, HP, Cisco, BMC, and many others. Infoblox adapters also provide agility and elasticity to highly dynamic virtual environments.
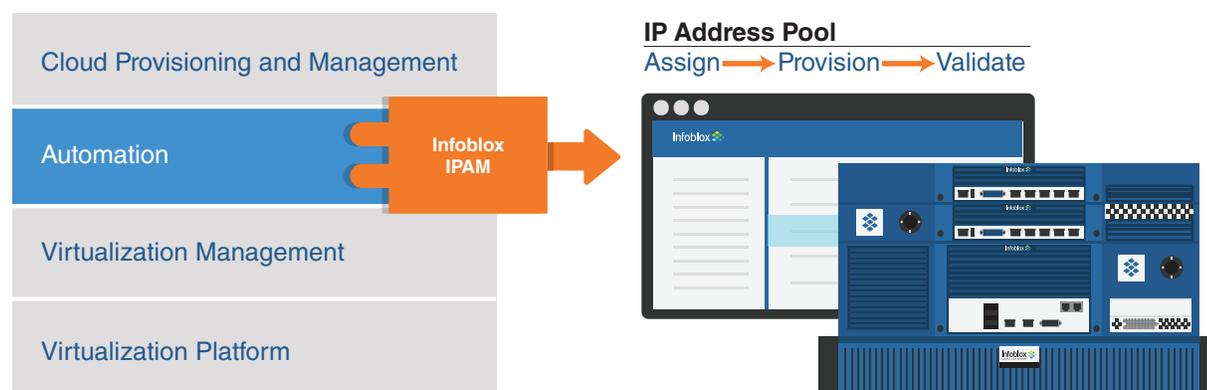

Infoblox adapters and integrations are available for VMware, Microsoft, BMC, OpenStack, AWS, Cisco, and HP cloud orchestrators.

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Monitoring and Accelerated Troubleshooting: vDiscovery

Infoblox vDiscovery automatically and dynamically tracks and correlates relationships between virtual machines and the network infrastructure. It collects information about a specific VM such as its virtual data center, virtual switch, and virtual cluster. It also creates intelligent groupings of virtual resources using Infoblox Smart Folders, enabling easier monitoring and troubleshooting. The vDiscovery feature uses standard APIs and integrates tightly with our cloud integration partners.
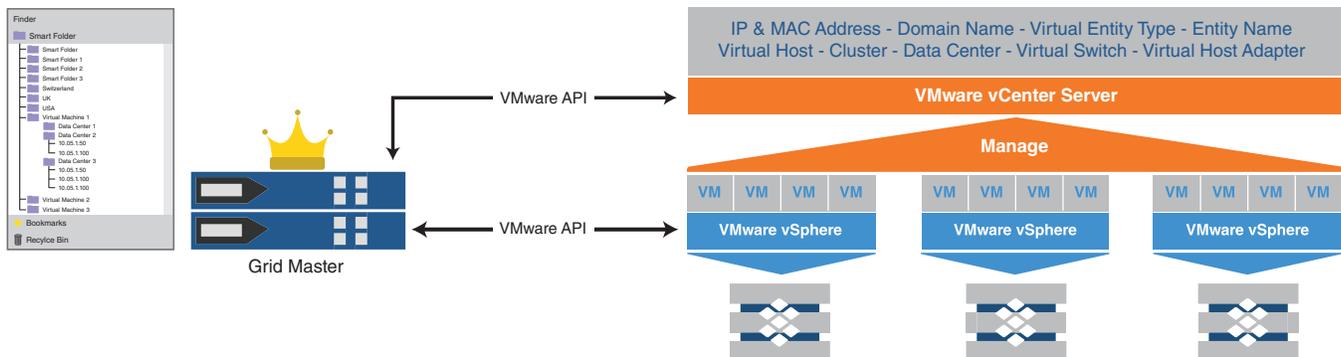
Example integration with VMware

Providing Highly Available Critical Network Services: Infoblox Grid

Virtualization and cloud environments are very dynamic, and can rapidly grow to thousands of virtual machines. The Infoblox Grid is a highly available, reliable, and scalable enterprise-grade DDI solution than can be extended to support the network management needs of such environments, thereby ensuring business continuity.

Solution Benefits

Cost and Efficiency Benefits

- Enables full automation and faster time to service
- Manages movement between VM clusters easily, with synchronization of critical DNS and IPAM services
- Improves IT efficiency and helps IT focus on value-add activities
- Reduces manual processes and manual errors
- Reduces cost and complexity of bulk deployments of virtual servers
- Provides deep visibility into physical and virtual infrastructure and accelerates troubleshooting
- Provides agility and elasticity to highly dynamic virtual environments

Infoblox Grid Benefits

- High availability and reliability in virtual and cloud environments
- Highly scalable DNS and IPAM services for rapidly growing virtualized and cloud environments

Conclusion

In order to fully reap the benefits of virtualization and cloud computing, organizations that are highly virtualized, or service providers relying on dynamic cloud provisioning, must not overlook the criticality and the cost benefits of automating key network tasks. Infoblox solutions enable such organizations to fully automate their virtual and cloud infrastructure, while seamlessly integrating with existing leading virtualization technologies. Organizations can therefore realize maximum value from their infrastructure investments. To find out more, visit http://www.infoblox.com/cloud.

About Infoblox

Infoblox delivers critical network services that protect Domain Name System (DNS) infrastructure, automate cloud deployments, and increase the reliability of enterprise and service provider networks around the world. As the industry leader in DNS, DHCP, and IP address management, the category known as DDI, Infoblox (www.infoblox.com) reduces the risk and complexity of networking.

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