

# Automated DNS and IP Address Provisioning

Reducing network delays in virtualized and cloud environments

## VMWARE vREALIZE SUITE

vRealize Suite is a hybrid cloud management solution that helps IT enable developers to quickly build applications in any cloud with secure and consistent operations. It provides developer-friendly infrastructure (supporting VMs and containers) and a common approach to hybrid and multi-cloud, supporting major public clouds such as Amazon Web Services, Azure, and Google Cloud Platform.



## INFOBLOX DDI WITH VMWARE vREALIZE INTEGRATION

Infoblox DDI with native integration with VMware vRealize Automation automates the processes of providing an IP address to a newly created virtual machine, updating DNS and configuring network devices quickly and efficiently.

Key capabilities include:

- Provision systems in minutes, instead of days, by enabling automatic IP allocation and de-allocation as VMs are spun up and shut down
- Shorten time to provision NSX load balancers by automating core network service provisioning
- Simplify troubleshooting and reduce downtime with realtime visibility into physical and virtualized network infrastructure
- Manage movement between VM clusters easily with synchronization of critical DNS, DHCP and IP address services

## Eliminating Manual Network Configuration

Manually provisioning DNS records and IP addresses requires multiple handoffs between various teams and adds hours, days, or even weeks to the delivery time of new cloud/virtualized deployments. In addition to the delays, a lack of automation for these core network services causes inconsistency, outages, and security risks when provisioning and destroying VMs. Once a project is deployed, tracking virtual resources and corresponding network components create significant overhead and results in issues with compliance, serviceability, and scalability. When VMs are destroyed, many organizations fail to clean up the DNS records and IP addresses leading to stale data. This puts an unnecessary burden on network admins who have to manually re-claim IP addresses and update DNS records in an ongoing attempt to avoid service disruptions due to IP address conflicts or DNS misconfiguration.

## Automating Core Network Services with VMware and Infoblox

To address these challenges, Infoblox has developed native integration with VMware vRealize Automation™ and VMware vRealize Orchestrator™, fully automating IPAM and DNS provisioning. Infoblox stores and manages the network properties needed to connect VMs to the network and provision NSX devices (ex: an NSX edge gateway/logical router), acting as a single, authoritative system for network configuration management for both physical and virtual environments.

As VMs are created by vRealize Automation, the Infoblox-VMware integration automatically assigns IP addresses and creates DNS records for each network interface on the VM. This data in addition to corresponding network properties such as default gateway, netmask, and DNS server settings are injected directly into the VM, dramatically reducing VM provisioning time. When VMs are destroyed in vRealize Automation, the IP addresses and DNS records are de-allocated and become available immediately for use by new VMs. Every IP address assignment and DNS record change is tracked in Infoblox, providing visibility into virtual assets, and ensuring consistent network resource utilization across the enterprise.

Adding Infoblox to vRealize Automation deployments speeds up provisioning by streamlining the processes between server and networking teams. Server/cloud teams can manage their VMs without having to worry about asking for new blocks of IPs or DNS records from the network team.



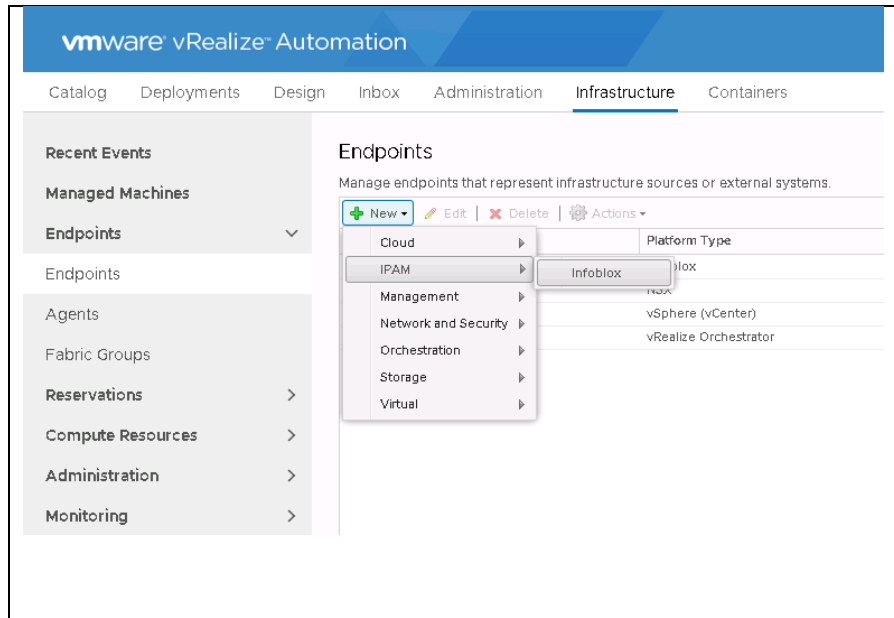


Figure 1: Infoblox Endpoint in VMware vRealize Automation

### Automated DNS and IP Address Management

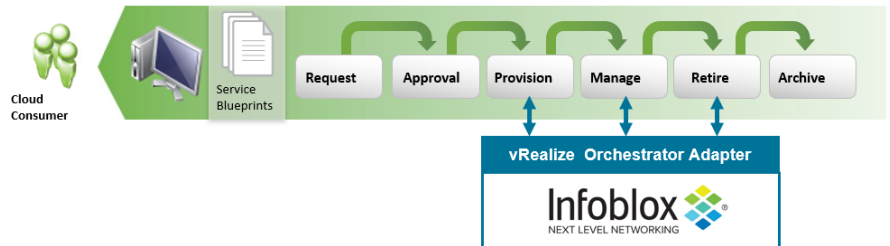


Figure 2: Provision, manage and retire a VM using VMware vRealize Automation and leveraging the Infoblox IPAM endpoint.

Infoblox delivers critical network services that protect Domain Name System (DNS) infrastructure, automate cloud/virtualization deployments, and increase network reliability.

Use Cases

• **DDI Automation**

Provision systems in minutes by automating IP address allocation and DNS record provisioning as part of orchestration

• **VM Visibility**

Extend enhanced visibility of VMs with automated discovery and reporting

• **Error Elimination**

Eliminate common errors introduced by manual processes

• **Extensive Management**

Maintain comprehensive, integrated DDI management for on premises, virtualized and cloud environments

• **Compliance**

Meet audit requirements with detailed reporting

• **DNS Record Teardown**

Clean up records from destroyed VMs

See Our Solutions in the VMware Solution Exchange

<https://marketplace.vmware.com/vsx/solutions/the-infoblox-ipam-plugin-for-vrealize-orchestrator?ref=search>

Increasing Time to Value with VMware and Infoblox

Infoblox with the industry-leading VMware vRealize Suite platform helps realize the promise of virtualization and cloud – agility, cost savings, and flexibility. The Infoblox-VMware integration provides a pre-built and tested integrations with vRealize Automation and vRealize Orchestrator, respectively, so users are not required to write their own custom integration using Infoblox APIs. The integration also maximizes investment in VMware and Infoblox by expanding capabilities and functionality within existing deployments. The automation happens behind the scenes so both network and server teams can focus on their enterprise’s requirements and goals while having complete control and visibility. Infoblox integration with vRealize Automation provides a fully automated DNS, DHCP, and IP address management solution for your Software Defined Data Center deployments.

Network Automation Overview

The workflow for provisioning a VM typically follows five simple steps: 1) vRealize Automation admin requests a VM, 2) RESTful API call is made to Infoblox to allocate an IP address, 3) Infoblox allocates next available IP and creates the corresponding DNS record and sends it along with the network properties to vCenter Server™, 4) vCenter Server creates and spins up VM and injects the network properties, 5) New VM is running on VMware ESXi® host and immediately accessible via DNS. When the VM is destroyed, the process reverses and the IP address is reclaimed and DNS record(s) removed. All network data is available within Infoblox for current and historical views with a full audit trail available of IP address and DNS record allocations to each VM, including the MAC address and other VM properties.

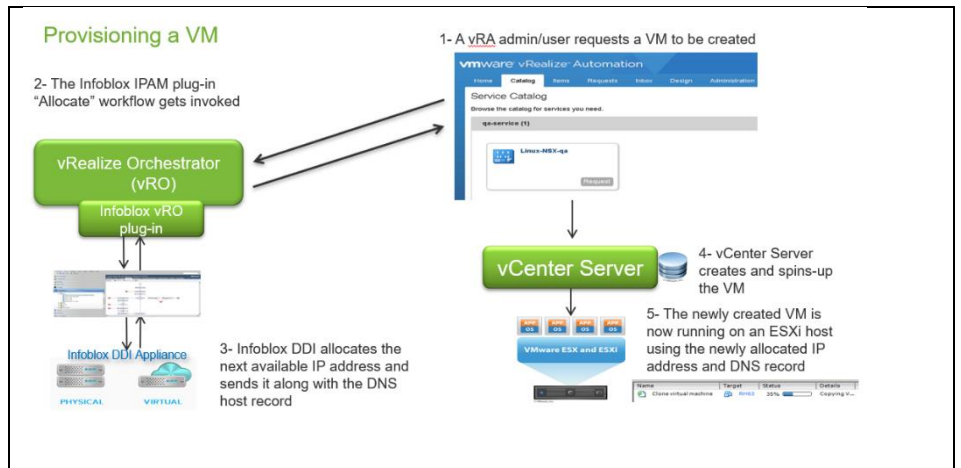


Figure 2: Provisioning a VM using the VMware vRealize Automation leveraging the Infoblox IPAM endpoint.

Don't Delay

Don't let manual network processes and lack of visibility slow your VMware virtualization and cloud deployments. To learn more about how Infoblox empowers VMware vRealize Automation, please visit [www.infoblox.com/vmware](http://www.infoblox.com/vmware) or contact your Infoblox or VMware partner or sales representative.