SOLUTION NOTE

AUTOMATE CRITICAL NETWORK SERVICES WITH VMWARE ARIA AUTOMATION PROVIDER FOR INFOBLOX

SUMMARY

As enterprises continue to adopt virtualization and cloud, automation is essential to achieving agility, consistency and cost efficiency across IT operations.

While VMware Aria Automation focuses on orchestrating infrastructure, it does not natively manage DNS or IP address assignments—critical elements for complete end-to-end automation. The VMware Aria Automation Provider bridges this gap by integrating with Infoblox Universal DDI™ and Infoblox NIOS DDI to automatically request and release IP addresses and DNS records throughout the lifecycle of virtual machines (VMs). This integration streamlines operations, reduces configuration errors and ensures consistent, reliable delivery of critical network services across hybrid and multi-cloud environments.

CHALLENGES

Every VM deployed in a private or hybrid cloud requires a unique IP address and a corresponding DNS record to communicate, be discovered and operate correctly within the network. Yet, despite advances in virtualization and automation, the provisioning of these essential network resources remains a common bottleneck.

The early gains achieved through server virtualization and pilot cloud projects often stall in production due to process inefficiencies and a lack of automation across network services. Network teams continue to rely on manual processes for provisioning IP addresses and DNS records, leading to errors, delays and limited visibility.

For private cloud initiatives to succeed, network automation must advance alongside compute and storage automation. **VMware Aria Automation**, a modern infrastructure automation platform, has made significant progress in enabling a scalable and flexible private cloud foundation. However, a critical gap remains—**automated IP address management (IPAM) and DNS integration**. Virtual machines can now be spun up in minutes, but assigning IP addresses and DNS names often takes significantly longer because these processes remain manual. This disconnect prevents full automation, slows service delivery and undermines the efficiency gains that cloud orchestration is designed to achieve.

KEY BENEFITS

Streamline Operations: Automate IP address allocation and DNS record provisioning directly within VMware Aria Automation, eliminating manual coordination and errors.

Ensure Consistency and Reliability: Maintain synchronized, policy-driven IPAM and DNS data across hybrid, multi-cloud environments, improving reliability and compliance.

Accelerate Service Delivery: Provision complete, network-ready VMs in minutes rather than hours or days, enabling faster deployment cycles and greater business agility.

VMware Aria Automation™

THE INFOBLOX SOLUTION

The **VMware Aria Automation Provider for Infoblox** closes the automation gap between cloud orchestration and network provisioning. By integrating with **Infoblox Universal DDI** and **Infoblox NIOS DDI** platforms, VMware Aria Automation enables dynamic IP address allocation and DNS operations as part of VM provisioning and deprovisioning workflows.

This seamless integration eliminates manual coordination between teams, ensuring that every VM receives the correct IP address and DNS record at the time of deployment. When resources are removed, the integration automatically releases IP addresses and cleans up DNS entries—maintaining data accuracy and freeing network resources for reuse.

The integration adds support for VMware NSX and external network profiles, further enhancing network automation. External network profiles use existing vCenter networks and require only vCenter and IPAM integration. For NSX network profiles, the VMware Aria Automation Provider automatically creates and configures NSX segments, Tier-1 gateways and NAT rules while synchronizing IP addresses and DNS records in Infoblox DDI.

During provisioning and deprovisioning, a series of action-based extensibility (ABX) workflows synchronize subnets, IP blocks and DNS and DHCP objects between VMware Aria Automation and Infoblox DDI, ensuring data consistency across both systems in real time.

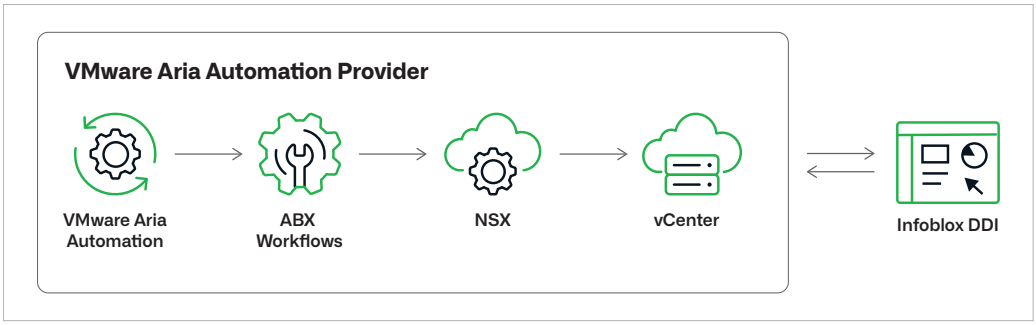

Figure 1. VMware Aria Automation Provider for Infoblox

The result is a fully automated and policy-driven workflow that ensures consistency, reduces human error and accelerates service delivery across hybrid and multi-cloud environments.

Key Capabilities Include:

- **End-to-End Automation:** Automatically allocates and releases IP addresses and DNS records during provisioning and deprovisioning.
- **Seamless Integration:** Connects VMware Aria Automation with Infoblox DDI platforms using native APIs and extensible workflows.
- **Centralized Management:** Provides unified control and visibility for IPAM and DNS across hybrid, multi-cloud networks.
- **Improved Accuracy and Compliance:** Ensures network data is synchronized, policy-compliant and audit-ready.
- **Scalability:** Supports large-scale, dynamic environments where workloads are constantly created, moved or retired.

AUTOMATION USE CASES FOR VM PROVISIONING AND DEPROVISIONING

Each new VM requires IP allocation, DNS records and resource cleanup across multiple systems, which often takes hours or days and introduces risks of conflicts, delays and inconsistent data. With VMware Aria Automation Provider for Infoblox, these network operations become fully automated, ensuring that every VM receives accurate, compliant network configurations throughout its lifecycle.

- **Automated IP Address Allocation:** Manually finding and assigning available IP addresses across distributed environments is slow and error-prone. Network teams often rely on spreadsheets or outdated records, leading to conflicts, wasted address space and delays in provisioning. When a VM is deployed, VMware Aria Automation automatically requests the next available IP address from Infoblox DDI. Each network interface is assigned a valid, unique IP address, along with associated subnet and DHCP details, ensuring accurate configuration from the moment the VM is created.
- **Real-Time DNS Record Creation and Updates:** Manual DNS updates cannot keep pace with the rapid creation and deletion of VMs, leading to missing or outdated records that impact service availability. With integration, DNS records (A, PTR and aliases) are automatically created, updated or removed as part of the provisioning workflow. This ensures that all deployed VMs are immediately reachable and that DNS data remains synchronized and accurate across the entire environment.
- **Accurate Network Data:** Without up-to-date visibility into subnets, IP ranges and address utilization, administrators risk failed deployments or inefficient IP usage. Infoblox continuously synchronizes IP blocks, subnets and address ranges with VMware Aria Automation, ensuring that network data remains current and eliminating errors caused by outdated or unavailable information.
- **Automated IP and DNS Deallocation:** When VMs are deleted directly in vCenter, their associated IP addresses and DNS records often remain active, consuming address space and cluttering DNS databases. However, when VMs are deprovisioned through VMware Aria, the Infoblox integration automatically releases IP addresses, removes DNS and DHCP entries, and updates the IPAM database as part of the workflow. This ensures that network resources are properly reclaimed, prevents IP exhaustion, eliminates stale data and maintains a clean and accurate view of your infrastructure.
- **Dynamic Network Provisioning:** As environments scale, manually creating and managing new network ranges become increasingly complex and inconsistent. Infoblox automates the allocation and cleanup of IP ranges based on defined policies and network types, ensuring new networks are provisioned and deprovisioned accurately and efficiently across hybrid and multi-cloud environments.

By automating IPAM, DNS updates and lifecycle cleanup tasks, VMware Aria Automation Provider for Infoblox DDI delivers end-to-end infrastructure automation that eliminates manual steps, accelerates service delivery and ensures network accuracy across hybrid and multi-cloud deployments.

GETTING STARTED

The VMware Aria Automation Provider is available with both Infoblox Universal DDI™ Product Suite and Infoblox NIOS DDI platform. By integrating Infoblox DDI with VMware Aria Automation, organizations can achieve greater agility, drive operational excellence and support the evolving demands of modern hybrid and multi-cloud environments.

Explore Infoblox automation integrations to extend the value of your cloud and virtualization investments:

- VMware Aria Automation Provider for Universal DDI
- VMware Aria Automation Provider for NIOS DDI

infoblox.

Infoblox unites networking, security and cloud with a protective DDI platform that delivers enterprise resilience and agility. We integrate across hybrid and multi-cloud environments, automate critical network services and preemptively secure the business—providing the visibility and context needed to move fast without compromise.

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