

SOLUTION NOTE

INFOBLOX AND AWS: ENABLING THE MODERN WORKPLACE

THE CASE FOR HYBRID, MULTI-CLOUD NETWORK ENVIRONMENTS

Enterprise networking for the modern workplace is transforming. Work from anywhere (WFA), mobility, IoT and the cloud have changed the way people connect and conduct business.

Mobile devices are an essential part of daily life. The number of connected devices and locations supporting them continue to increase. To ensure faster, more reliable network connectivity for all users wherever they may be, networking teams require solutions that simplify the deployment, automate management and provide control of distributed environments.

The move toward cloud-first networking is gaining momentum and growing numbers of organizations have moved or are moving enterprise networks and workloads to the cloud. Many others, however, must continue to rely on on-premises infrastructure as they transition to the cloud. As a result, today's networks must be able to span both realms—on-premises and cloud. A hybrid, multi-cloud network architecture does just that. It enables enterprises to meet the many demands of cloud-first transformation.

Infoblox, the industry leader in unified network and security solutions, and Amazon Web Services (AWS), a leading provider of cloud services, have combined to deliver innovative solutions that simplify the management and control of networking and security services in hybrid, multi-cloud infrastructures. These solutions improve visibility, reduce provisioning errors, enhance agility and management, decrease risk from cyberthreats and enable your organization to scale across distributed enterprise environments.

BENEFITS OF HYBRID NETWORKING AND SECURITY

As organizations move to a hybrid, multi-cloud approach to managing distributed environments, many lack a consolidated view of all assets. They are also unable to consistently manage critical network services — DNS, DHCP and IP address management (DDI) — that make all modern networking possible. Nor can they easily extend security throughout their environments. Although many workloads are increasingly cloud based, physical on-premises infrastructures remain prevalent. Without an enterprise-grade solution to centralize management, operations teams have limited visibility of the networks, virtual private clouds (VPCs), IP addresses and assigned DNS records. They also have no correlation of common resources such as DNS zones and networks across platforms. Infoblox and AWS solutions ensure consistent on-premises and cloud network services, enhanced visibility, foundational security and support for NetOps, DevOps and SecOps to support both traditional and hybrid networking environments.

Infoblox's hybrid on-premises and cloud-managed DDI model (Figure 1) enables the deployment, management and control of multiple data centers and globally distributed sites, all from a central location, while protecting investments, optimizing ROI and scaling to meet future business requirements.

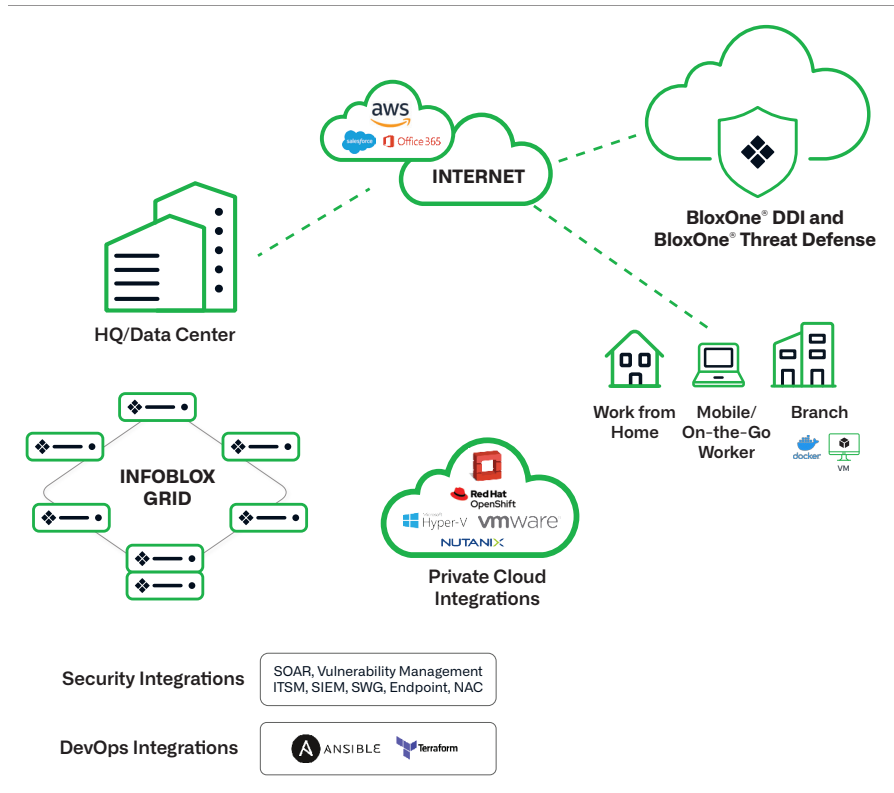


Figure 1: Components of Infoblox's hybrid on-premises and cloud-managed DDI

CONSISTENT ON-PREMISES AND CLOUD NETWORK SERVICES WITH INFOBLOX AND AWS

With on-premises Infoblox NIOS DDI and cloud-managed BloxOne® DDI, teams can consistently manage their network environments from the critical core to the network edge. Many organizations deploy a hybrid environment combining on-premises, virtual private, hybrid- and public, multi-cloud infrastructures including AWS. Instead of manual, out-of-date spreadsheets or the complexity of disparate solutions, Infoblox reduces the need to spin up general-purpose DNS servers and enables on-premises to AWS communications, integrating DNS records across multiple platforms within a single control plane to improve consistency and manageability.

Creating, tracking and managing numerous virtual and/or dynamic public cloud instances and workloads with legacy management solutions can be a difficult, tedious and time-consuming endeavor. If the time is right to migrate to or expand existing public cloud deployments, Infoblox with the Amazon Elastic Compute Cloud (EC2) platform ensures DNS and IPAM consistency across on-premises and cloud networks. Infoblox helps administrators consistently manage networks, IP addresses and DNS records with a virtual appliance option inside AWS.

IMPROVED DISCOVERY, VISIBILITY AND MANAGEMENT

Automated Discovery and Visibility

Contextual network visibility is critical in today's hybrid multi-cloud environments. The Infoblox and AWS solution provides automated discovery, enhanced visibility and tracking of VPCs and EC2 instances in a single platform, making it easy to bring public cloud assets under common DNS and IP address management. Infoblox simplifies creating and cleaning up records after instances are destroyed. It detects and includes or excludes network resources using Selective Classless Inter-Domain Routing (CIDR or private IP) vDiscovery to ensure efficient distribution of IP addresses in AWS. IT teams can greatly

reduce the time needed to audit DNS and IP address information with a consistent view of AWS and non-AWS parameters within a single control plane across networks and geographic regions for compliance, operational and executive reporting.

Infoblox discovery for the Cloud Services Portal (CSP) further allows hybrid on-premises NIOS to BloxOne® cloud migration by sending network data discovered by Network Insight (or NetMRI) to the CSP for visibility through the BloxOne platform. As a result, BloxOne customers can use a small Network Insight Grid (or NetMRI) and gain all the visibility of on-premises discovery in their BloxOne deployment.

DNS and IP Address Provisioning and Management in AWS EC2

The Infoblox unified solution for DNS and IP address management ensures a uniform and consistent policy of DNS naming conventions and network/IP address provisioning. In multi-cloud environments, Infoblox reconciles disparate terminologies such as tenants, VPCs and Virtual Machines (VMs) to eliminate the challenge of maintaining consistency across complex deployments.

By using automation to eliminate manual provisioning of DNS records and multiple handoffs between cloud and network teams, Infoblox dramatically shortens the time needed to spin-up new workloads in AWS. And when the virtual resources are decommissioned, Infoblox handles the mundane, labor-intensive work of reclaiming IP address and DNS records so overburdened staff can limit time on manual, tedious processes in favor of higher-value assignments. Further, for teams needing to manage and sync multiple accounts in AWS Route 53, Infoblox saves significant time and AWS usage fees by eliminating vNIOS member deployments in each account and synchronizing all Route 53 hosted zones to the Infoblox Grid.

Infoblox also supports EC2 R6 instance types, thereby improving performance while lowering the total cost of ownership. Infoblox allows a direct connection to AWS Nitro Systems and the EC2 Serial Console for faster troubleshooting, better user experience and control. vNIOS further enhances cloud security and control by allowing Elastic Block Store (EBS) encryption for data at rest, data in transit and all volume backups.

Additionally, Infoblox's cloud-managed BloxOne DDI solution empowers organizations with automated provisioning and centralized management of the distributed enterprise. It ensures that application and service requests are directed to the most efficient entry points and delivers local survivability of active sessions even if data center connections are lost. A unified console supports all platforms and ensures a uniform policy of DNS naming conventions and network/IP address provisioning across on-premises sites and the cloud.

For federal and other government customers, Infoblox enables Route 53 support for AWS GovCloud for highly available and scalable DNS to connect user requests to AWS Internet applications, customize routing policies and reduce latency.

Flexible Deployment Options

Infoblox DDI for AWS is tightly integrated with industry-leading on-premises virtual and physical appliances. The DDI platform can support AWS public cloud, private cloud environments (e.g., VMware, OpenStack, Microsoft and others) and traditional networks — or any combination in a hybrid deployment. The unified solution ensures maximum flexibility, scalability and service availability.

Infoblox offers a full range of deployment options through purpose-built physical appliances, virtual members on-premises and/or virtual members in public clouds like AWS. TrinziC 8X5 models are ideal for remote and branch offices. The 14X5 and 22X5 series are for small-to-medium sized organizations for use in data centers and remote and distributed locations. The 40X5 series is designed for large enterprises and service providers. No matter what your organization needs, Infoblox provides commercial-, enterprise- and service provider-grade solutions that deliver a consistent, critical network experience with the reliability and flexibility to scale your environment as your business needs require.

Infoblox enables cloud migration by allowing administrators to deploy Network Insight discovery and Reporting and Analytics appliances in AWS public clouds. Network Insight provides integrated Layer-2 and Layer-3 discovery, IPAM sync with devices, end hosts and network ports, switch port management and lifecycle and compliance notification. In addition, the Infoblox Reporting and Analytics solution, built on Splunk, the market-leader in data search, delivers monitoring, visualization and SIEM capabilities. Placing solution-optimizing

appliances in AWS supports cloud-first initiatives, simplifies the migration of physical data centers to the cloud, reduces physical data center resources and delivers single- and multi-site visibility into DDI metadata for historic audit/compliance, real time alerting, network performance and capacity planning. As a result, organizations gain complete on-demand visibility, simplify compliance reporting and enable detailed audits of DNS and IP address information for AWS resources across networks and geographic regions.

ENHANCED FOUNDATIONAL SECURITY

Along with the consistent visibility, delivery and management of critical network services, Infoblox solutions help provide foundational security for workloads running on-premises and in the cloud. Infoblox BloxOne Threat Defense provides hybrid protective DNS services to secure networks, devices and users from cyberthreats on- and off- premises, including remote locations and home offices.

Threat Detection and Response

BloxOne Threat Defense analyzes DNS queries to detect and block malware C&C communications, DNS- based data exfiltration, phishing, ransomware and advanced threats such as domain generation algorithms (DGAs) and look-alike domains. The solution leverages AI/machine learning algorithms in addition to threat intelligence feeds to detect known and unknown threats for broader protection.

Ecosystem Integrations

BloxOne® Threat Defense also helps with faster threat response by using APIs and native out-of-the-box integrations with security ecosystem tools including SIEM, SOAR, ITSM, vulnerability scanners, NAC and endpoint security. The solution significantly improves security posture for hybrid environments. Leveraging DDI data, BloxOne Threat Defense uses valuable network context, such as which part of the network and which workloads are compromised, to quickly identify and initiate remediation action before the threat spreads laterally. DNS security provided by Infoblox also helps address requirements for several cybersecurity frameworks and standards, including CMMC and NIST.

SUPPORT FOR NETOPS, DEVOPS AND SECOPS INITIATIVES

Infoblox with AWS offers automation and orchestration to provision, deploy and manage infrastructure services for ops-driven control, automation and security. The ops-driven process helps organizations enhance and accelerate application deployments, automate security tasks, build security into applications and optimize them in a reliable and secure fashion for the cloud. The joint solution enables ops teams in the following ways:

- **NetOps:** Leverage advanced automation to help simplify the dynamic management of critical networking services on-premises and in public clouds and next-gen data centers via the broadest set of public cloud integrations (AWS) and cloud orchestration platforms (e.g., VMWare, Red Hat and OpenStack).
- **DevOps:** Extend automation to public clouds, private clouds and next-gen data centers, via the broadest set of public cloud integrations (AWS) and cloud orchestration platforms (e.g., VMWare, Red Hat and OpenStack).
- **SecOps:** Expand automation to secure hybrid-cloud and multi-cloud enterprises via the most comprehensive APIs targeting security analysts and a broad security ecosystem with leading NAC, SIEM, SOAR, endpoint and scanning solutions (e.g., Splunk, McAfee, Aruba and Tenable). Gain the foundation for a new security stack with valuable data (network and business context) that can be used to speed detection, remediation and response.

CONCLUSION

Fully integrated, the Infoblox and AWS hybrid solution offers comprehensive and efficient management to organizations by boosting cloud agility, supporting consistent network policies across the enterprise and improving visibility into on-premises and public cloud workloads. Together, Infoblox and AWS empower organizations to meet the growing demands of today's increasingly distributed enterprises.

For more information or to get answers on how Infoblox and AWS can enable the deployment, management and control of multiple data centers and globally distributed sites from a single control plane, connect with your Infoblox account team, see our [core network integrations](#) or [contact](#) us at [Infoblox.com](https://infoblox.com).



Infoblox unites networking and security to deliver unmatched performance and protection. Trusted by Fortune 100 companies and emerging innovators, we provide real-time visibility and control over who and what connects to your network, so your organization runs faster and stops threats earlier.

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