

**SOLUTION NOTE**

# ENSURING DNS CONSISTENCY AND IP ADDRESS VISIBILITY IN AWS PUBLIC CLOUD

## SUMMARY

**Enterprises are increasingly deploying workloads in Amazon Web Services (AWS) Elastic Compute Cloud (EC2) to gain increased agility and elasticity.**

However, public cloud deployments add unplanned risks including manual processes, policy inconsistency, and lack of visibility across the enterprise. Infoblox DDI for AWS extends industry-leading DNS and IP address management capabilities to AWS EC2. Fully integrated with Infoblox Grid technology, this solution increases cloud agility, supports consistent network policies across the enterprise, and improves visibility into public cloud workloads.

## AVOID “CLOUDED” VIEWS WHEN DEPLOYING IN AWS

Application delivery infrastructures are changing rapidly. IT organizations are increasingly utilizing AWS EC2 as a public cloud platform, hoping to increase agility, elasticity and flexibility for their growing workloads. However, too often, the hype and promise of cloud is a far cry from reality because of the differences between simply spinning up a new compute instance and actually getting a working instance onto a production network, into service and in sync with the traditional network infrastructure.

Critical network service automation such as DNS and IP address provisioning often lags behind compute and storage processes within AWS, delaying application rollout and increasing inconsistency of network policies. Without centralized management for DNS and IP addresses in a private, hybrid- or public, multi-cloud, IT teams often have incomplete and out-of-date visibility of the networks, virtual private clouds (VPCs), IP addresses, and DNS records being assigned. And if there are multiple platforms, there is no correlation and consistency of common resources such as DNS zones and networks.

## FORECAST: PERFECT VISIBILITY AND CONTROL WITH INFOBLOX DDI FOR AWS

Infoblox helps enterprises deploying AWS (or AWS multi-clouds) with visibility, security and control. Instead of standing up a basic DNS server in the cloud that needs continuous updates and patches or using the Route 53 service that doesn't integrate with your traditional network and DNS policies, Infoblox DDI for AWS provides the industry-leading platform to ensure visibility, consistency and agility for AWS workloads—and correlated views with other platforms.

Infoblox provides fully automated allocation of IP address and DNS record creation for AWS workloads and automated discovery of virtual instances and VPCs within AWS deployments. Whether IT teams are testing AWS for a single application, using AWS for disaster recovery or deploying a widespread public or hybrid environment, Infoblox has multiple deployment options for high availability and scale.

By bringing industry-leading, commercial-, enterprise- and service provider-grade critical network services together with AWS public cloud in a single management interface, Infoblox eliminates many of the challenges raised by the complexity of private, hybrid- and public, multi-cloud environments, and overcomes the insufficiency of traditional approaches and processes for managing network services in a cloud environment.

## FOUR MAJOR BENEFITS

Infoblox DDI for AWS provides automated virtual instance discovery, IP address allocation, and DNS provisioning, and flexible deployment empowering organizations to improve agility, reduce provisioning errors, and enhance visibility of virtual machine (VM) network infrastructure inside AWS deployments. Benefits of the solution include:

### Automated Discovery, Visibility, and Auditing for AWS

Keeping track of dynamic public cloud instances and workloads is hard with legacy management solutions. With Infoblox's automatic discovery and visibility of VPCs and instances, IT teams have complete visibility and can greatly reduce the time needed to audit DNS and IP address information across networks and geographic regions for compliance, operational and executive reporting. Infoblox further empowers cloud visibility and control by detecting and including or excluding network resources using Selective Classless Inter-Domain Routing (CIDR or private IP) vDiscovery to ensure efficient distribution of IP addresses in AWS.

### Extending Industry-leading DNS and IP Address Management into 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 VMs to eliminate the challenge in maintaining consistency across complex deployments. Infoblox further extends vNIOS support to EC2 R6 instance types, thereby improving performance while lowering the total cost of ownership. Infoblox also improves troubleshooting by allowing a direct connection to AWS Nitro Systems and the EC2 Serial Console for better user experience and control in AWS. 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.

### Faster, Automated AWS Workload Provisioning

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. 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 comprehensive DDI platform can support AWS public cloud, private cloud environments (e.g., including 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.

### INFOBLOX DNS AND IPAM VIRTUAL APPLIANCE OPTIONS FOR AWS ENTERPRISE PLATFORM (R6 INSTANCE)

Infoblox Appliance	Grid Role	Inter-faces	DNS Queries Per Second	Public Cloud Mapping			
				Instance Type	vCPU	Memory (GB)	2 <sup>nd</sup> Disk Size
TE-v825	Grid Manager or Member	2	22,500	r6i.large	2	16	-
TE-v1425	Grid Manager or Member	2	75,000	r6i.xlarge	4	32	-
TE-v2225	Grid Manager or Member	2	200,000	r6i.2xlarge	8	64	-
TE-v4015	Grid Manager or Member	2	300,000	r6i.4xlarge	16	128	-
TE-v4025	Grid Manager or Member	2	300,000	r6i.4xlarge	16	128	-
ND-v805	Network Insight Discovery Member	2	N/A	r6i.xlarge	4	32	-
ND-v1405	Network Insight Discovery Member	2	N/A	r6i.xlarge	4	32	-
ND-v2205	Network Insight Discovery Member	2	N/A	r6i.2xlarge	8	64	-
ND-v4005	Network Insight Discovery Member	2	N/A	r6i.4xlarge	16	128	-
TR-v5005	Reporting Member	2	N/A	r6i.large r6i.xlarge r6i.2xlarge r6i.4xlarge	User Defined		250GB

## DNS SECURITY IS KEY TO STOPPING RANSOMWARE AND DATA THEFT

Infoblox Appliance	Grid Role	Inter-faces	VM Capacity	API Calls Per Minute	DNS Queries Per Second*	Public Cloud Mapping			
						Instance Type	vCPU	Memory (GB)	2 <sup>nd</sup> Disk Size
CP-v805	Grid Member	2	1,000	10	4,000	r6i.large	2	16	-
CP-v1405	Grid Member	2	5,000	50	30,000	r6i.xlarge	4	32	-
CP-v2205	Grid Member	2	20,000	200	143,000	r6i.2xlarge	8	64	-

\*The stated performance numbers are for reference only. They represent the results of lab testing in a controlled environment focused on individual protocol services. Enabling additional protocols, services, cache hit ratio for recursive DNS and customer environment variables will affect performance. To design and size a solution for a production environment, please contact your local Infoblox solution architect.

## OPTIMIZE YOUR AWS PUBLIC OR MULTI-CLOUD

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.

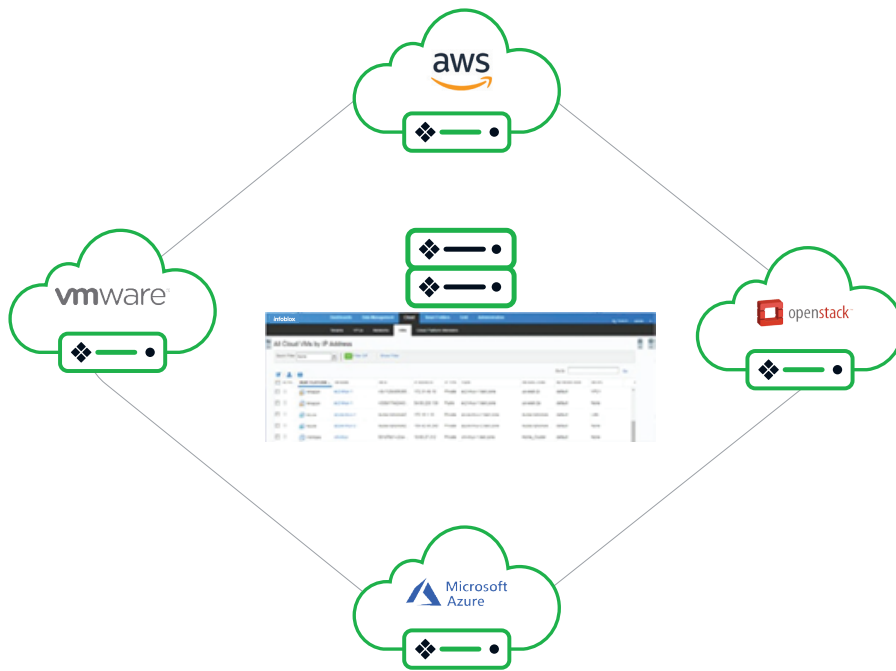
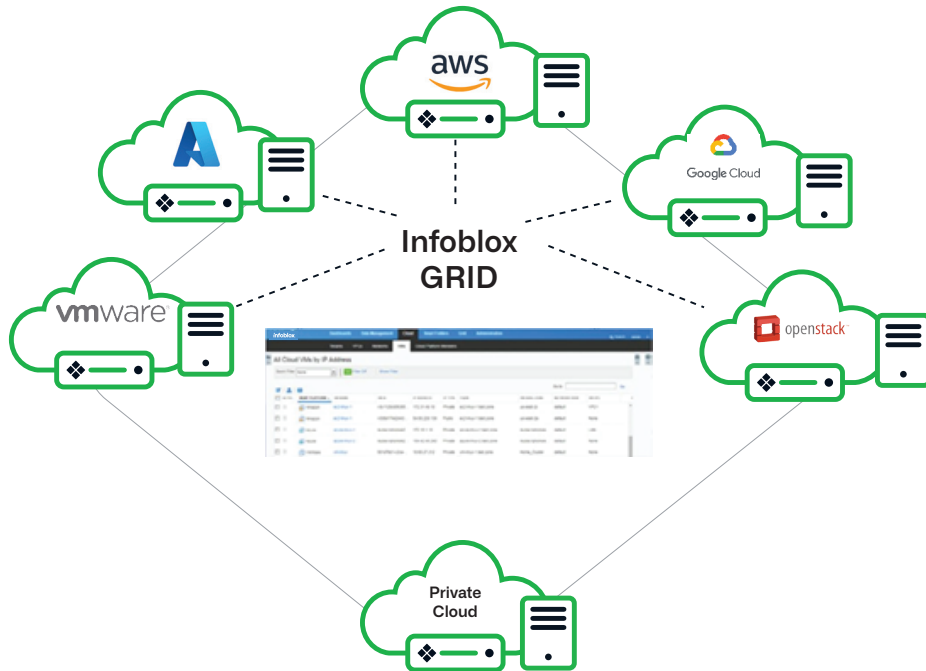


Figure 1: Infoblox is the only vendor supporting traditional networks and private, hybrid- and public, multi-clouds with authoritative single control plane visibility



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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