SOLUTION NOTE

vNIOS FOR DNS, DHCP AND IPAM ON GOOGLE CLOUD PLATFORM

Industry-Leading Virtualized Network Services for GCP

THE CHALLENGE

CONSISTENT, SECURE, CRITICAL NETWORK SERVICE DEPLOYMENTS ACROSS HYBRID, PUBLIC CLOUD ENVIRONMENTS

Organizations are deploying workloads to cloud platforms to increase agility, reduce costs and focus on strategic initiatives. Many deployments use the hybrid cloud model. These hybrid clouds encompass traditional on-premises infrastructure and private- and public multi-cloud services, including Google Cloud Platform (GCP). The hybrid cloud environment has many advantages, but it may also introduce inefficiencies in managing DNS, DHCP and IP addresses (DDI). Without a unified view of these critical network services, organizations have limited visibility into the virtual networks, VLANs, IP addresses and assigned DNS records—and little correlation of common resources across platforms. In the absence of cloud network automation, service delays can arise from multiple handoffs among the teams that manage networks, applications, clouds and security. The lack of automation can also cause inconsistencies and an increase in trouble tickets and security gaps. Infoblox vNIOS for GCP can help resolve these challenges.

THE SOLUTION

MARKET-LEADING, ENTERPRISE-GRADE DNS, DHCP AND IP ADDRESS MANAGEMENT FOR HYBRID, MULTI-CLOUDS

Extend Infoblox DDI to GCP

Infoblox has extended its vNIOS cloud automation platform for DDI to the GCP, enabling better visibility, automation and control of private, hybrid- and public, multi-cloud environments. Fully integrated with Infoblox Grid™ technology, Infoblox cloud automation enables the discovery and visibility of virtual resources, ensures consistent policy deployment and increases reliability and agility. By automating DNS provisioning into new and existing workflows, Infoblox avoids common bottlenecks that impact successful application rollouts and implementations by eliminating manual processes, IP conflicts and unnecessary service requests. A single, unified reporting interface further improves resource planning and reduces security risks.

Ensure DNS Consistency and User Experience

Admins can configure read synchronization to match GCP Cloud-Native DNS applications for Infoblox objects and the user interface. This capability improves accuracy, consistency and user experience across cloud platforms.

BENEFITS

Gain Industry-Leading DNS and IP Address Management (IPAM) for GPC
Automate IPAM provisioning, deprovisioning and modifications of DNS records for GCP workloads

Ensure DNS Consistency
Enhance DNS and IPAM with NIOS read synchronization for GCP Cloud-Native DNS applications across GCP and traditional networks for greater accuracy, consistency and user experience

Enable DHCP for GCP
Configure DHCP services on vNIOS GCP instances and serve DHCP to on-premises clients

Deliver High Availability (HA)
Configure NIOS appliances for HA redundancy to improve uptime and avoid single points of failure in GCP

Improve Discovery and Visibility
Eliminate blind spots with automated discovery, unified and forensic visibility of virtual networks and machines on GCP

Enhance VPC Efficiency and User Experience
Use vDiscovery to find all resources on hosts and service projects across all GCP shared Virtual Private Clouds (VPCs) for greater visibility, efficiency and user experience

Empower DHCP for GCP

Organizations with cloud-first initiatives, or those interested in decommissioning physical data centers and simplifying migration to the cloud, can deploy DHCP for GCP. This capability ensures service consistency by allowing DHCP services to be configured on vNIOS instances in GCP while also serving DHCP to on-prem clients.

Automate Network Services in Hybrid Google Cloud Applications

Automatically provision and de-provision DNS records to eliminate manual steps and ticket handoffs between teams. Document the destruction of a virtual machine (VM), clean up the DNS record and release the IP address to ensure that information is correct and current. An easy-to-use graphical user interface supplies template-based configuration, automated error prevention and real-time visibility for monitoring and reporting. Leverage powerful integration with multiple platforms, automation and orchestration solutions to maximize agility. Customize templated implementations using Infoblox's rich APIs based on individual needs to optimize hybrid cloud deployments via a single platform.

Deliver High Availability (HA) and Uptime

NIOS allows customers running cloud platform (CP) appliances to configure two NIOS appliances for High Availability (HA) and uptime. HA measures how reliably users can access the system, impacted by planned maintenance and unscheduled downtime. Uptime measures the time a system is operational. With HA, admins can achieve both and avoid single points of failure in GCP and other public cloud environments, especially for mission-critical applications and workloads.

In addition, Infoblox virtual appliance software for GCP has all the redundancy, high-availability, access control and disaster-recovery features of Infoblox hardware appliances. Users gain the proven reliability and uptime benefits of an Infoblox solution while taking advantage of the cost benefits of GCP cloud offerings. With a single authoritative IPAM database serving as a centralized repository for all physical and virtual appliances and network connections, rich contextual real-time network metadata is not only easily visible through a single control plane but backed up and available to ensure network resiliency and uptime.

Improve Discovery and Visibility to Reduce Blind Spots

Infoblox IPAM provides advanced network discovery, including virtual resources, network and IP mapping and advanced filtering through innovative features such as Smart Folders. Infoblox 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 GCP.

Discover and track virtual networks and machines and network components across disparate platforms and cloud environments with a unified console that unifies different terms and naming conventions. Audit dynamic virtual resources with current and historical views to streamline and simplify compliance. Improve your detection and response time with IPAM visibility that extends from traditional networks to hybrid, multi-clouds.

Enable Dynamic Networking and Security Policies

Deploy DNS, DHCP and IPAM consistently across traditional networks using dynamic network and security policies for your users and groups in GCP

Detect, Block and Remediate Threats

Combine threat intelligence with BloxOne® Threat Defense for anytime, anywhere security on GCP

Lower Costs with Eco-Friendly Solutions

Reduce the total cost of ownership (TCO) by decreasing hardware, power, cooling and real-estate costs

Speed Processes with Easy Deployment

Deploy easily using your standard virtualization practices

Extend Flexibility

Combine multiple physical and virtual appliance options into a single deployment

KEY CAPABILITIES

Virtual Cloud Appliances
Speed time to value with Infoblox DNS, DHCP, and IPAM integration in hybrid or public clouds

Single Control Plane Visibility
Gain visibility into your network address space via a single control plane

Fast, Flexible DNS Deployment and Performance
Extend your network with fast external or internal DNS deployment for GCP applications

Increase Efficiency with Shared VPCs to Save Time and Enhance User Experience

Shared Virtual Private Clouds (VPCs) save space, deliver high security and performance and are agile and easy to deploy. NIOS allows admins to discover resources across all shared VPCs on host and service projects. It also enables an admin to include or exclude any service project(s) in a host, improving visibility, workload efficiency and user experience.

Delegate DNS and IPAM Tasks to Relevant Owners

With Infoblox, the network team can collaborate effectively with applications, cloud and security teams across traditional and virtual resources. Infoblox delivers secure role-based administration and auditing capabilities to allow effective delegation of responsibilities in a virtualized environment.

Set Policies for Multi-Cloud Consistency

Empower individual departments by distributing authorization for provisioning while maintaining complete oversight as the hybrid cloud evolves. Analyze current and historical policy settings to ensure consistency and improve reliability and security. Leverage elastic scaling to add DDI capacity as hybrid clouds grow, while reducing upfront costs.

Extend Security to Detect, Block and Remediate Threats

Infoblox vNIOS DDI for GCP also supports BloxOne® Threat Defense, Infoblox's foundational hybrid security solution. BloxOne Threat Defense allows organizations to detect and block modern malware, command and control (C&C), data exfiltration and DGA threats, consolidate and distribute threat intelligence to the entire ecosystem and improve SOC efficiency through automation and ecosystem integrations.

Run VMware Workloads without Re-Architecting Applications

vNIOS DDI for GCP supports Google Cloud VMware Engine (GCVE), allowing organizations to better migrate and manage on-prem VMware/vSphere/ESXi workloads without having to re-architect applications for GCP. Admins can continue using standard VMware tools, processes and apps including ESXi hypervisors, vCenter, vSphere, NSX-T networking and Hybrid Cloud Extension (HCX) for greater efficiency and control.

Flexible Deployment Options

Infoblox vNIOS for DDI is tightly integrated with industry-leading, on-premises virtual and cloud appliances. Infoblox supports GCP private cloud environments (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 secure, purpose-built physical and software appliances for small remote and branch offices, medium-sized organizations and large enterprises and services providers with data centers and distributed sites. The Trinzic X6 physical and software appliance platform offers up to 50% better DNS and DHCP performance over prior models. It also includes cost-saving licenses for Cloud Platform API

automation, DNS Firewall and DNS Traffic Control global server load balancing. 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.

High Availability (HA) in GCP
Ensure reliability for mission-critical applications by configuring two NIOS cloud platform (CP) appliances for HA and network uptime

Discovery and IPAM Sync
Automate vendor-agnostic discovery, visibility, multi-Grid IPAM sync and mass conv ersion of IP addresses to managed assets for greater accuracy, user experience and efficiency

vDiscovery for Shared Virtual Private Clouds (VPCs)
Discover resources across all shared VPCs on host and service projects and include or exclude any service project(s) in a host to improving visibility, workload efficiency and user experience

Dynamic Network and Security Policies
Provide identity data and dynamic network and security policies for your users and groups in GCP

Fault Tolerance and Disaster Recovery
NIOS provides fault tolerance and support for disaster recovery to ensure platform resiliency

Threat Detection and Remediation
Integrate with BloxOne® Threat Defense to detect, block and resolve security threats

Contextual Network Intelligence
Get alerts, historical and current data and analytics for better network control

VMware Workloads on GCP
Save time using Google Cloud VMware Engine (GCVE) to migrate and manage on-prem VMware/vSphere/ESXi workloads without re-designing applications for GCP

Reduce Rack Space, Power and Cooling Requirements

By leveraging the GCP, Infoblox virtual appliance software runs on public cloud resources that save equipment rack space and reduce power and cooling costs. This approach enables organizations to lower their TCO and build an environment-friendly infrastructure.

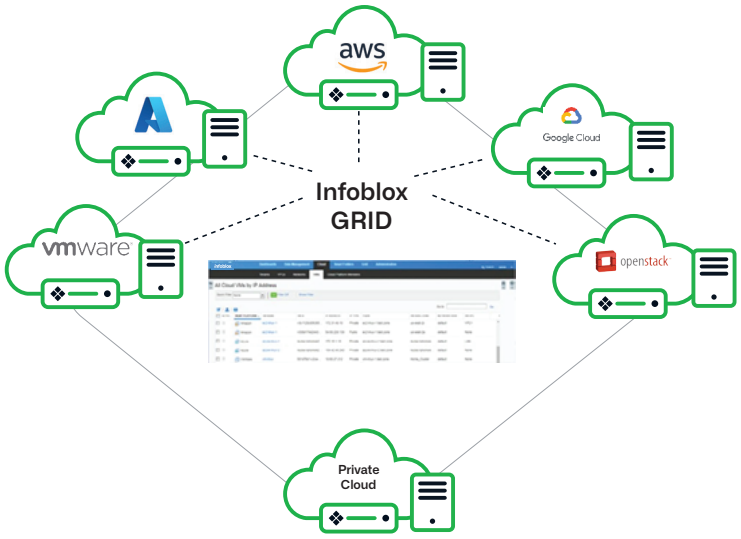

Figure 1: Infoblox virtualized network services for GCP deployed in a hybrid- or multi-cloud environment

Flexible Deployment and Easy Updates
Ensure flexibility, scalability and service uptime with streamlined software upgrades on purpose- built appliances for on-prem, virtual and cloud deployments

Eco-Friendly Solutions
Save power and protect the environment by reducing the number of servers and appliances

INFOBLOX PLATFORM SPECIFICATIONS FOR GOOGLE CLOUD PLATFORM

Software Model	DNS Queries Per Second (QPS)	DHCP Leases Per Second (LPS)	GCP Instance Type	Network Discovery (ND) Model		Reporting (RPT)
TE-926	33,750	225	n1-highmem-8	ND-906	⊖	N/A
TE-1516	67,500	400	n1-highmem-16	ND-1516	N/A	N/A
TE-1526	112,500	675	n1-highmem-16	ND-1526	⊖	N/A
TE-2326	250,000	1,200	n1-highmem-32	ND-2326	⊖	N/A
TE-4126	450,000	1,500	n1-highmem-64	ND-4126	⊖	N/A
TR-v5005	N/A	N/A	N/A	N/A		⊖

☑ Supported / included
⊖ Feature is supported on this model but not this platform
N/A Feature is not supported on this model or platform

** 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.*

CONTACT US

For more information or to get answers on Infoblox DDI for GCP, connect with your Infoblox account team, see our critical-network integrations or contact us at Infoblox.com

infoblox.

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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