

Infoblox next level cloud platform appliances

SCALABLE, AUTOMATED, FUTURE-PROOF DDI INFRASTRUCTURE FOR ALL CLOUD ENVIRONMENTS

As enterprises adopt cloud deployments, the orchestration and automation functions become paramount. Infoblox Cloud Platform Appliances improve the scalability and resilience of data center deployments by distributing API processing and keeping API calls and DNS/DHCP protocol services local to each data center or cloud environment. This lets enterprises scale their core network services with an architecture that satisfies the needs of today's distributed cloud deployments as well as future deployment topologies.

THE CHALLENGE: CREATING A SCALABLE DNS AND IPAM ARCHITECTURE

Automation and distribution of core networking services (DNS, DHCP and IPAM) are critical for cloud and next-generation data center (NGDC) environments due to the dynamics of the infrastructure. Applications can be deployed on premises in private clouds, off premises in public clouds, or in a hybrid environment simply by changing configurations in the cloud management or orchestration platform. Similarly, applications can be moved to make better use of infrastructure-as-a-service (IaaS) resources. Therefore, it is critical that DNS, DHCP, and IPAM be both flexible and distributed across these environments.

As part of the provisioning workflow, integration is needed between the server/cloud teams to provision the compute, storage and network requirements for each VM.

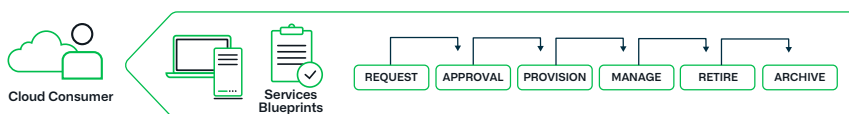


Figure 1: Creation of Virtual Machines crosses server/cloud and network teams to provision, manage, and retire virtual machines

KEY BENEFITS

- Distributed API processing:** Multiple Cloud Platform Appliances can be deployed for scaling API performance and distributing API load locally.
- Delegated administration and multitenancy:** Administrators can delegate sets of IPAM, DNS and DHCP objects for programmatic management by specific cloud or automation projects and can segment and manage the objects by tenant while maintaining centralized visibility.
- Improved survivability:** Since API automation happens at the local appliance level, cloud and virtualization creation can continue to occur even if connectivity to the Grid Master is not available.
- Full integration with Infoblox DDI:** Cloud Platform Appliances work in conjunction with traditional DDI appliances in an Infoblox Grid™ and support Infoblox Internal DNS Security.
- Direct integration with leading platforms:** Infoblox has pre-built integrations with VMware vRA/vRO, AWS EC2, GCP, Azure and OpenStack that are optimized for fast deployment and provide out-of-the-box integration to these and other cloud management platforms.

SCALABLE, ENTERPRISE-GRADE DDI FOR CLOUD AND NGDC

Infoblox Cloud Platform Appliances solve this challenge by combining the ability to serve DNS and DHCP protocols with API management of DNS, DHCP, and IPAM records in a single virtual platform that is directly integrated into the Infoblox Grid. As virtual machines are provisioned, Cloud Platform Appliances allocate IP addresses and automatically create DNS records for each virtual machine, eliminating the bottlenecks created by manually provisioning blocks of IP addresses and individual DNS records. Cloud Platform Appliances are grid members with additional capabilities such as API survivability, distributed API processing and authority delegation.

Infoblox integrates with leading Cloud Management Platforms using RESTful APIs to improve agility by providing IP address management and automated DNS provisioning for workloads. Cloud-orchestration platforms use API calls to provision network services for DNS and IP address automation. Servicing these API calls becomes critical to the virtual machine provisioning process and requires a scalable, resilient solution with no single point of failure.

Improved API Handling with Cloud Management Platforms

Without Cloud Platform Appliances, API calls are sent to the Infoblox Grid Master as part of the Infoblox Cloud Network Automation deployment. While this works fine if communication with the Grid Master is available, but if network connectivity is disrupted between the data center hosting the cloud management platform/orchestrator and the primary data center hosting the Grid Master, DNS and IP address management will be impacted, and the risk of a service outage is increased.

Infoblox Cloud Platform Appliances serve DNS and DHCP just as traditional Grid Members do, but have the added capability of being able to manage IPAM records. This keeps all of the API calls within the same data center or cloud environment while DNS/DHCP changes happen in real time. This eliminates availability and latency issues even if connectivity to the Grid Master is lost. When the connectivity resumes, data is synchronized between the Grid Master and cloud platform members automatically. This ensures local survivability while still providing centralized visibility and management. In scaled-out cloud environments where VMs are spun up across multiple locations, the local API capability improves overall system reliability and avoids latency with API calls that have to be sent over a WAN.

Distributed DDI Management and Multi-tenancy Support

Infoblox Cloud Platform Appliances are designed to support a delegation model enabling organizations to segment sets of DNS, DHCP, and IPAM Figure 2: Sample deployment scenario using Cloud Platform Appliances with Infoblox DDI data for management through specific appliances. This is an ideal way to delegate management of records for zones, subzones, networks/subnets, or ranges to particular organizations or projects within an organization. When used with Infoblox Cloud Network Automation, Cloud Platform Appliances can delegate and isolate management of DDI records specific to OpenStack or VMware vRA tenants or AWS EC2 VPCs, facilitating management of multi-tenant environments.

Additional Cloud Platform Appliances can be deployed on-demand to increase protocol and API capacity or to provide core network services for new cloud environments as they are provisioned. This improves overall time to service while providing additional scalability and resiliency for cloud deployments. Cloud Platform Appliances are critical tools for providing the dynamic and scalable core network services required by cloud and NGDC deployments.

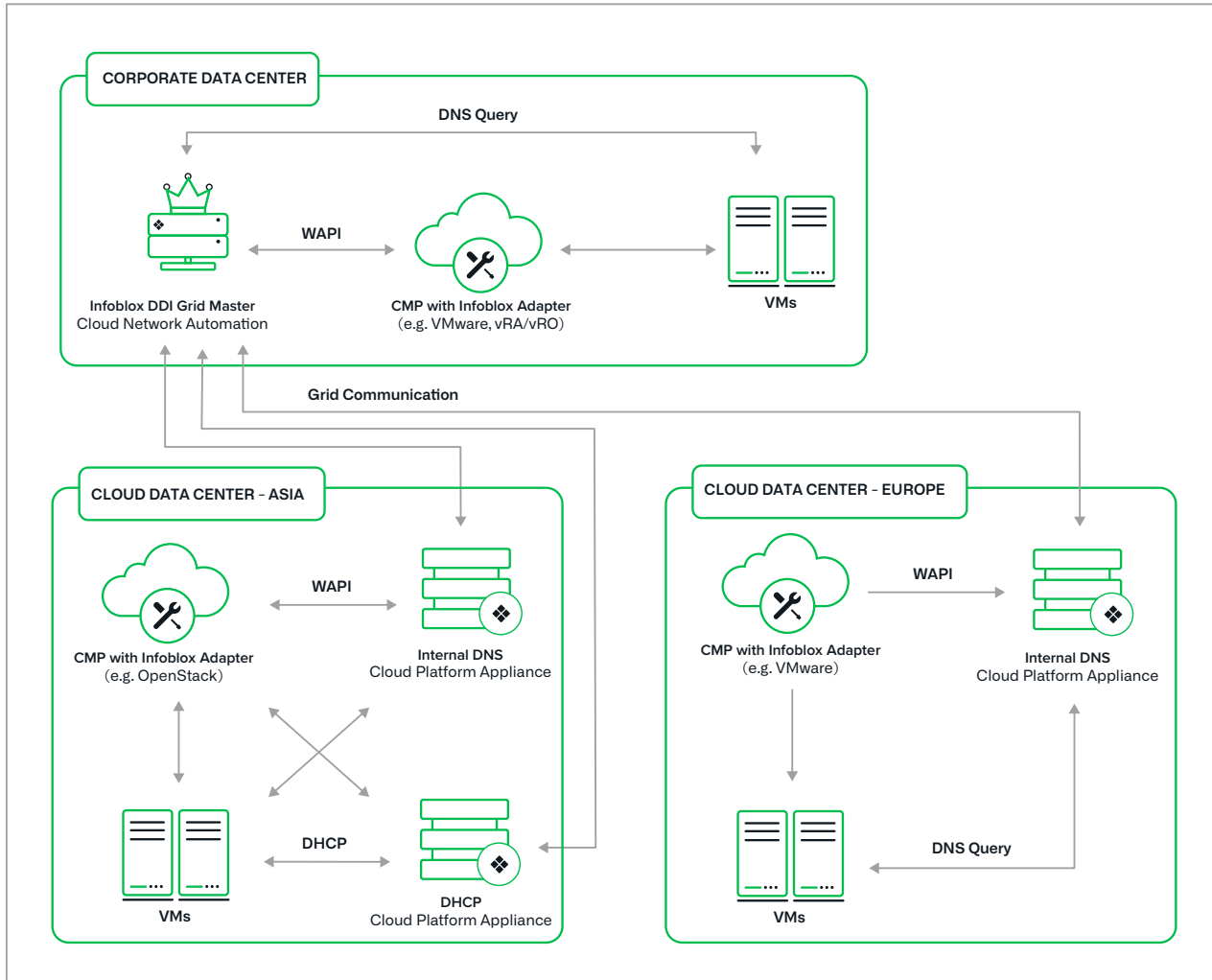


Figure 2: Sample deployment scenario using Cloud Platform Appliances with Infoblox DDI

Centralized Visibility and Management for Hybrid Cloud Deployments

The data synchronization and distributed database capabilities of the Infoblox Grid make it easy to centrally manage all DDI data while distributing DNS and DHCP protocol support. Cloud Platform Appliances take this concept a step further by enabling API updates on the same Infoblox members that serve DNS/DHCP. The Infoblox Grid performs bi-directional synchronization of all data within the Grid in near real time, providing the unique capability to allow updates of critical DNS, DHCP, and IPAM records through the Grid Master and/or through Cloud Platform Appliances. This gives enterprises the same benefits of distributed, highly available API processing as they get for serving DNS/DHCP protocols from their Infoblox Grid.

Cloud Platform Appliances (virtual appliance only)				
Model	Recommended number of VMs	API Calls per minute	DNS Queries per Second	DHCP Leases per Second
CP-805	1,000	10	4,000	60
CP-1405	5,000	50	30,000	210
CP-2205	20,000	200	143,000	600

Virtual Appliance Specifications

CP-805 Virtual Appliances	
Hypervisor (Private Cloud) supported	MS Hyper-V, Nutanix AHV, OpenStack KVM, and VMWare ESXi
Public Cloud platform supported	AWS, GCP, and MS Azure

CP-1405 Virtual Appliances	
Hypervisor (Private Cloud) supported	MS Hyper-V, Nutanix AHV, OpenStack KVM, and VMWare ESXi
Public Cloud platform supported	AWS, GCP, and MS Azure

CP-2205 Virtual Appliances	
Hypervisor (Private Cloud) supported	MS Hyper-V, Nutanix AHV, OpenStack KVM, and VMWare ESXi
Public Cloud platform supported	AWS, GCP, and MS Azure

** Some of these platforms may support a subset of these appliances. Please contact your account representative for more details.*

WHY INFOBLOX

- Industry-leading enterprise grade DDI platform
- Grid technology that leverages Cloud Platform Appliances for scalable and reliable cloud network automation
- The most comprehensive API integrations, including AWS, GCP, Microsoft Azure, OpenStack and VMware
- Complete visibility of virtual and physical resources with single control plane management



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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