

# DIAMOND IP CLOUD DDI

## Automated Cloud DHCP/ DNS/IPAM (DDI) solutions



### Streamline cloud provisioning

Reap the benefits of rapid network, computing and services provisioning with flexibility, efficiency and elasticity with core network services automation.

These benefits are realized primarily through the cloud's characteristic use of virtualization technologies, which enable them to rapidly instantiate additional capacity for a required service element within minutes. Whether in your public or private cloud platform, if capacity demands fluctuate over time, capacity can just as quickly be withdrawn or allocated elsewhere. This elasticity affords organizations agility and cost efficiencies in offering network, computing and services resources dynamically sized to dynamic capacity needs over time.

### Core cloud network services

Core network services are so named in that they are network services, servicing network and computing elements in initializing their respective IP configurations to enable communications on the IP network and core in the sense that without which, such IP communications would be impossible.

IT managers require centralized, cohesive DDI capabilities for managing a growing variety of heterogeneous networks from traditional LAN/WAN, SDWAN, SASE, multi-cloud, IoT, and proprietary network environments.

### Cloud network initialization

Virtual network functions (VNFs) or generically, virtual machines (VMs), require provisioning of basic IP network information upon instantiation as would any network device upon deployment on the network. As such, core network services are critical for virtual environments. Certainly, each VNF/VM requiring network connectivity will

require assignment of an IP address, perhaps multiple IP addresses.

In most cases, the VM will be assigned a hostname such that it can be referenced by name instead of its IP address. This name reference is necessary not only to simplify navigation by humans, being able to connect to a VM using its name, but also potentially by other VMs.

### Elastic DDI in step with your cloud

As particular network function capacity demands fluctuate, you can reliably instantiate and destroy VNF/VMs to grow and shrink network capacity accordingly, leveraging private and public cloud services. Along the way, Diamond IP DDI solutions enable you to automate the address and DNS assignment tasks during instantiation, as well as freeing up addresses and DNS entries with the destruction process. This integrated process streamlines the provisioning and de-provisioning process for your cloud while accurately tracking your IP address and DNS assignments within a centralized consistent database.

### Diamond IP Cloud DDI Automation

Diamond IP helps you automate your cloud management tasks in key ways:

- Sapphire Cloud Automation Appliance (CAA) streamlines cloud orchestration by automating DHCP/DNS/IPAM (DDI) assignments required for new VNF/VMs.
- Cloud orchestrator plug-in modules automate IP address and DNS assignment for all VNF/VMs created and destroyed via your orchestrator.
- Virtual Sapphire DHCP/DNS appliances serve as core network services VNF/VMs.
- Centrally manage your IP address space for all VNF/VMs and all enterprise devices alike with IPControl software from Diamond IP.

## Sapphire CAA

The Sapphire Cloud Automation Appliance (CAA) enables simple, scalable cloud automation. Used canned or custom automation flows to capture IPControl alerts and callouts or use cloud management systems to call the CAA within your cloud orchestration workflows to automate IP address and name assignment.

- Eliminate the IP address spreadsheet and manual updates with automated assignment.
- Discover and reconcile cloud IP address assignments with IPControl to retain centralized multi-cloud visibility
- Keep your IP address plan of record updated with rapidly fluctuating VNF/VM instantiation and decommissioning.
- Instantiate on demand on AWS, Azure, GCP, Oracle Cloud, VMware, KVM, Xen or HyperV platforms

## Virtual DHCP/DNS/IPAM appliances

Dynamically instantiate DHCP and DNS services with BT's Sapphire virtual appliances to attain the following benefits:

- Instantiate Sapphire DNS/DHCP/IPAM/CAA appliances on AWS, Azure, GCP, OCI, VMware, KVM, Xen, or HyperV
- Instantly provision virtual DNS, DHCP, IPAM and cloud automation appliances on-demand.
- Elastically scale your DNS, DHCP and IPAM capacity.
- Seamlessly manage DHCP, DNS, DNSSEC, IPAM, IPAM failover, and CAA VNF/VMs.
- Configure DHCP pools, options, policies, alerts from the centralized IPControl web interface or REST API.
- Configure DNS zones, parameters and resource records from the IPControl web interface or REST API.
- Reduce energy consumption, rack space requirements, shipping costs and import charges.
- Deploy virtual appliances with redundancy including DNS anycast and DHCP failover, as well as IPAM and CAA redundancy.
- Virtual Sapphire appliances support IPv4 and IPv6 as well as DHCP/DHCPv6 and DNS for IPv4 and IPv6.

## Centralized IP management

Easily create and destroy virtual Sapphire DHCP and DNS VNF/VMs and manage their respective configurations and status through Diamond IP's comprehensive DDI solution, IPControl™.

- IPControl provides centralized monitoring of virtual Sapphire services status as well as DNS and DHCP alerts and performance statistics.
- Upgrade your virtual Sapphire systems centrally from IPControl.
- Centrally manage your cloud and non-cloud IP address space holistically in one centralized repository
- Discovery features enable verification of IP address and DNS assignments to assure plan accuracy.

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