

# Reduce IPAM costs by automating and simplifying management, monitoring and control

IP address management (IPAM) is critical for the operation of today's IP networks. Your end users rely on seamless IP assignment with DHCP and rapid name resolution with DNS to easily utilise IP network resources and applications. Our Sapphire appliances offer hardware or virtualised platforms with our IPControl software pre-installed. Sapphire appliances offer pre-installed convenience with the added benefits of a secure, hardened operating system running on dedicated hardware or on a variety of virtual platforms.

## Sapphire hardware

### Purpose-built for security and reliability

Sapphire appliances provide reliability and security with the convenience of pre-packaged DHCP/DNS/IPAM (DDI) hardware appliances. Sapphire appliances are built from the ground up for security and robustness. Our appliances offer numerous security features including a platform-specific hardened operating system (OS), network interface access control lists (ACLs), minimal open ports, uninterruptible boot process, jailed file system, and rate limiting to mitigate reflector and denial of service (DOS) attacks, to name a few.

### Simple deployment with centralised management

All Sapphire models are simple to deploy and are shipped with IPControl IPAM, DHCP/DNS, DNSSEC or cloud automation services software pre-installed. Sapphire EX appliances provide centralised monitoring, services control, and patch management of distributed Sapphire appliances. Deployed Sapphire appliances can be centrally monitored via the IPControl appliance dashboard, log collectors, and/or via a third-party SNMP manager which can be used to poll Sapphire MIBs and receive traps.

### Sapphire appliance hardware models

- Sapphire 20 series, available as a centralised management (EX20), DNS/DHCP (x20), DNSSEC (Sx20), or cloud automation appliance (CAA20) offers hot-swappable dual power and RAID5 solid state hard drives
- Sapphire 10D series, also available as a centralised management (EX10), DHCP/DNS (x10), DNSSEC (Sx10D), or cloud automation appliance (CAA10D) appliance offers mid-range price/performance with dual power supplies for a wide variety of deployments
- Sapphire 10 series offers a lower cost single power supply platform within the Sapphire 10 family
- Sapphire 5 series, available only for DHCP/DNS network services, offers a remote office solution with exceptional price/performance.

Reduce your IPAM costs by automating and simplifying DDI management, monitoring and control

### Powerful, reliable platforms

A variety of Sapphire hardware platforms enable mix-and-match deployments for optimal price/performance:

- standard IPMI interface provides lights out operation on all Sapphire hardware platforms
- Sapphire 20 and 10D platforms feature hot-swappable power supplies, while the Sapphire 20 platform also provides hot-swappable solid state hard drives
- Sapphire x-series TwinMirror hardware pairs support auto-synchronisation and hardware redundancy
- OS, kernel and services upgrades can be deployed from the centralised IPControl interface
- centralised appliance monitoring via IPControl and via third party SNMP polling and syslog forwarding.

### Flexible deployment

- simplified procurement and deployment with one-stop integrated software and hardware or VMware installation
- flexible deployment options: server-based, appliance-based, virtual, and mixed
- configuration save and restore.

### Scalable, resilient architecture

- TwinMirror hardware cluster pairs for DHCP/DNS
- replication among Sapphire EX hardware pairs offer redundant IPAM deployments
- DNS anycast improves security and performance
- operate DHCP, DHCPv6, DNS, NTP, FTP/TFTP on a single robust appliance platform.

### Streamlined manageability

- centralised monitoring and control via EX or IPControl appliance dashboard
- SNMP MIBs and traps facilitate performance reporting and management integration
- VLAN and VXLAN tagging support
- network interface port bonding.

### Unsurpassed lifecycle support

- no three-year support expiration unlike competitive appliance offerings
- attractive refresh and sparing pricing available.
- inside and outside the network - including mobile, remote and BYOD use.



# Tap into private and public cloud elasticity with Sapphire virtual appliances

The power of today's cloud networking enables flexibility and scale with elastic allocation of virtualised resources. Whether for enterprise cloud or network function virtualisation (NFV), virtual Sapphire appliances enable on-demand allocation of DNS, DHCP, and IPAM (DDI) services/functions.

## Simple, on-demand deployment

The convenience of a virtual appliance enables rapid deployments and ease of management. Virtual Sapphire appliances offer reliability, elasticity, and security with the convenience of pre-packaged DNS/DHCP/IPAM appliances in virtual machine format. And Sapphire appliances are built from the ground up for security and robustness.

## Centralised monitoring and administration

Deployed Sapphire virtual appliances can be centrally monitored via the IPControl appliance dashboard and/or via a third-part SNMP manager which can be used to poll Sapphire MIBs and receive traps. The appliance dashboard provides a summary view as well as the ability to drill down to a particular appliance to perform diagnostics or administrative tasks.

### Virtual appliance benefits

- rapid deployment of DNS/DHCP/IPAM/CAA functions
- reduce energy consumption
- server consolidation
- reduce rack space requirements
- leverage current virtualisation architecture
- eliminate shipping and import charges
- support DNS/DHCP/IPAM/CAA functions in NFV or cloud deployments.

## Maximise network services flexibility

Sapphire virtual appliances offer another deployment option for customers desiring to maximise the return on network investments. Customers can leverage the benefits of virtualisation, including elasticity, lower power consumption and physical footprint as well as reduced shipping and installation costs, while retaining the power of Diamond IP IPAM solutions from BT.

You can select the virtual appliance type that best meets your services capacity requirements and your budget. Virtual appliances can be deployed and destroyed on demand. Both hardware and virtual appliances are managed and monitored via the centralised IPControl™ IPAM solution.

## Key features

Virtual Sapphire appliances help reduce your network costs through automation and simplification of DNS/DHCP/IPAM services management, monitoring and control.

## Multi-platform, multi-scale

- virtual Sapphire appliances are supported for VMware, Oracle VM, Xen, Microsoft® Hyper-V, Amazon Web Services (AWS) and Microsoft® Azure
- virtual Sapphire appliances are available in sizes comparable to their hardware counterparts:
  - V5 – 2 CPU cores and 4 GB memory
  - V10 – 4 CPU cores and 8 GB memory
  - V20 – 8 CPU cores and 16 GB memory
- Virtual Executive (EX) models are available in V10 and V20 sizes and offer cloud benefits for centralised IPAM
- the Virtual Sapphire Cloud Automation Appliance (CAA) is available in V20 sizing and enables cloud IP address assignment and reconciliation with BT's IPControl software.

## Streamlined manageability

- centralised monitoring and control via Sapphire EX or IPControl appliance dashboard
- Logs, SNMP MIBs and traps facilitate performance reporting and management integration
- Sapphire OS, kernel and services upgrades can be deployed from the centralised IPControl interface.

## Why choose BT?

### Take advantage of our experience

Members of our Diamond IP team were among those who founded the IPAM industry over twenty years ago. We've worked with ever evolving DHCP, DNS and IPv6 technologies over the years. We've also authored books on IPAM and IPv6 topics and have contributed to Internet standards as well.

Diamond IP from BT is the only major IPAM industry supplier that offers the most flexible and scalable solutions for today's complex IP networks. Our solutions help you reduce costs, enhance productivity and gain efficiencies while improving the management and security of multiple IP infrastructure devices and services.

Our products adhere to open standards, providing maximum interoperability within your existing network, including cloud and hybrid networks.

## What could Sapphire physical and virtual appliances do for you?

Visit [globalservices.bt.com/en/solutions/products/diamond-ip](http://globalservices.bt.com/en/solutions/products/diamond-ip)

Offices worldwide.

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Issued: December 2018

