NIOS 8.6.0

Microsoft Management for Windows Server 2019 – Better Together

Infoblox Microsoft Management is a DNS/DHCP protocols overlay compatible with Microsoft Windows Server 2019 that retains existing Microsoft infrastructure and enhances your investment:

- Centralized DNS/DHCP integration and management

- Agentless connection with no server impact

- Automated DDI component syncing

- Cross-team collaboration

- Active Directory (AD) Sites and Services integration

- User/IP identity mapping

- Reporting and analytics

For years, mid-size to large enterprises attempted to reduce the cost of DNS, DHCP and IP Address Management (DDI) network services by using freeware bundled with Microsoft Windows DNS and DHCP Server. Adding spreadsheet tools and manual processes helped manage routine network tasks—and it (somewhat) worked for a while, but the world has changed. Traditional architectures are transitioning to hybrid-SaaS models. Users are accessing cloud applications everywhere. Policy-driven networks and virtualized network functions are escalating. BYOD, mobility and IoT endpoints are skyrocketing, exposing ever increasing threat surfaces and scalability limits. If your business, your revenue and your future depend on your core network services, why risk building your mission-critical environment on freeware, especially when reliable enterprise tools are available?

Challenges

Organizations know that to stay competitive, their networks need to enable the distributed workplace, support geo-diverse branch and remote offices, and ensure high performance at scale from the datacenter to the network edge. Adopting modern technologies including virtualization, private cloud, public cloud, SaaS and IPv6 can help reach these goals, yet control, automation and security are essential. Freeware can't address all of these issues, and while its initial costs seem lower at the outset, actual daily costs and challenges far outweigh the advantages. Have your Windows and NetOps teams experienced any of the following?

Architecture and Deployment

A simplified design and deployment support network agility. However, freeware like Microsoft IPAM cannot run on the same operating system with DHCP without also adding SQL Server. In turn, SQL Server with redundancy requires SQL Cluster. Five servers—IPAM, DNS, DHCP, SQL Server and Active Directory (AD)—are often required to run your core network services. Reboots are then needed for deployment and maintenance resulting in ongoing periodic operational disruptions. Rather than saving costs and simplifying for agility and uptime, freeware adds the ongoing burden of maintaining Microsoft DNS, DHCP, IPAM SQL and AD servers with the "hidden" costs of complex DDI architecture, significant overhead, periodic downtime and conditional forwarding and delegation.

Cross-Functional Team Dependencies

DevOps teams rely on quick Windows and NetOps team response to configure DNS for development, lab and test environments. Yet work can be delayed by staff availability, priorities and data quality issues. API automation for DNS configuration and management can help resolve response time, consistency and data errors, but a robust, well-documented API with a broad menu of templated integrations is seldom part of the freeware toolset. Delays are costly as is the time spent trying to develop needed solutions.

DDI Discovery

Discovering and managing DDI network data on legacy, private and public cloud networks is essential for control. But if you can't see what's on your network, you can't manage it. While Microsoft provides some discovery, Microsoft IPAM is only a subset of what's fully on the network and does not detect all of the Layer-2 and Layer-3 assets. With the proliferation of BYOD, mobile and IoT devices, this lack of visibility can quickly become a problem resulting in conflicts and outages. Not only is visibility an issue, network assets become virtually impossible to track with spreadsheets or manual tools, adding unanticipated operational costs to the process.

Active Directory (AD) Replication

DNS configuration delays across Windows DNS servers can range from minutes to hours, especially in poorly configured environments. Further, DNS changes made on one server may not be detected on another, resulting in data replication inconsistencies and even outages. While such delays are not uncommon in the local or regional datacenter, replication delays worsen for global deployments, adding costs and impacting user experience.

Network Segment Boundaries

Microsoft Next IP boundaries can sometimes have difficulties processing network segment boundaries (e.g., /24). This is especially true if network or IP addresses are inadvertently sent through DHCP. This action can cause costly outages— even impacting addresses outside the DHCP range.

Sites and Services

It's essential to bind the correct network segments to the local AD server, or risk impacting access to authentication, processing speed, files or computing tasks. By default, the client authenticates to the last known good AD server which could be thousands of miles away. Further, accidentally associating public wireless networks with AD could cause a security risk. Without the tools to confirm the correct allocation of Networks to the AD Server, networks can be misallocated, increasing the cost and work required for investigation and resolution.

If these challenges sound painfully familiar and you're tired of paying the backend costs of frontend freeware, Infoblox Microsoft Management can help. By partnering with Microsoft, Infoblox allows you to retain your existing Microsoft-based DNS/DHCP servers, solve common challenges, and adapt to new technologies, so you can keep pace with increased IP addresses demand, scalability, redundancy and security needs.

Microsoft Windows Server 2019 and Infoblox Microsoft Management: Better Together		
Attribute	Microsoft Windows Server 2019	Infoblox Microsoft Management Overlay
Architecture and Deployment	5 servers, periodic disruptions	Gridmaster simplification, resiliency and uptime
DNS Configuration and Management	Missing change detection, verification and audit tools	Real-time reporting and analytics
Cross-Team Dependencies	Basic API	Robust API, extended templated integrations and toolsets
DDI Discovery	Discovers Microsoft assets	Discovers all DDI assets across private, public and hybrid clouds
AD Replication	Delays from minutes to hours and longer especially in global networks	Gridmaster real-time replication
Network Segment Boundaries	Processing challenges with potential outages	Reliable DDI network segmentation and management
Sites and Services AD Allocation	Authentication access, processing speed, files and printing impacts	Exclusive Infoblox network AD alignment toolsets

Infoblox Microsoft Management

While market competitors are discontinuing Microsoft Windows Server support, Infoblox continues its Microsoft Gold Certified Partner commitment to support concurrent management of all of the new features and functionalities offered in Microsoft Windows 2019 DNS and DHCP servers for enhanced customer visibility, data sync and sharing, team collaboration and control.

By keeping the existing Microsoft DNS/DHCP protocols, Infoblox Microsoft Management provides a non-intrusive overlay that retains existing Microsoft infrastructure to enhance the value of your existing investment. Since Infoblox Microsoft Management uses RPC via DCOM for communication, no installed agents are required. Microsoft Management adds full visibility to solve IP conflicts, DHCP availability issues and network outages. Below are some of the key benefits for Infoblox's Microsoft Management overlay:

- DNS/DHCP integration for full visibility to avoid IP DNS conflicts and network outages

- Centralized management of Infoblox and Microsoft server-based DNS/DHCP infrastructures

- Automated syncing of DDI components for time and workflow savings

- AD Sites integration for streamlined management of sites and services

- Identity mapping to connect identities to IP addresses

- Agentless connection to IPAM servers without extra overhead or performance impacts

- Cross-team collaboration allowing network and MS servers teams to access real-time data through the Infoblox or Microsoft Management Console (MMC)

- API automation for DNS configuration and management helps with consistency, error mitigation and time savings

- Reporting & Analytics for historical trending, audits, usage tracking, IP metrics and capacity planning
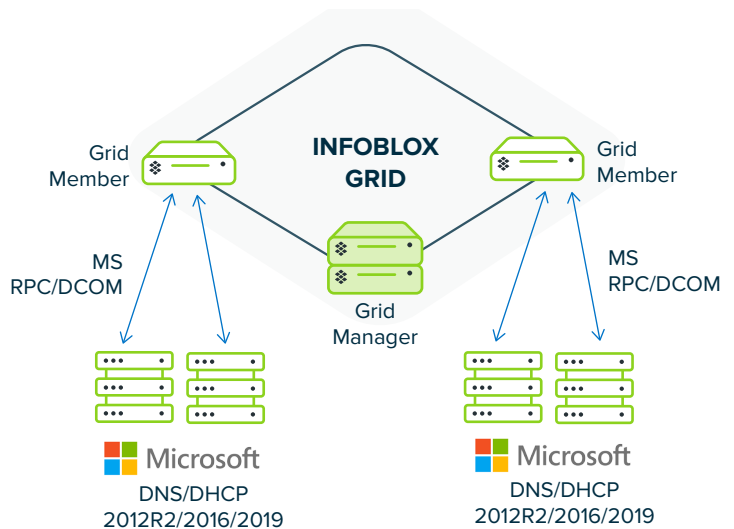
Key Use Cases for Visibility, Automation and Control

Full Discovery of DDI Assets

Full network visibility is essential for network control, so Infoblox discovers data from all networks, IP addresses, Layer-2 and Layer-3 assets (e.g., switches, routers, firewalls, wireless access points, Linux, Microsoft, Windows, etc.), private and public clouds, IoT devices and more to give your NetOps and Windows teams concurrent visibility and control across your network.

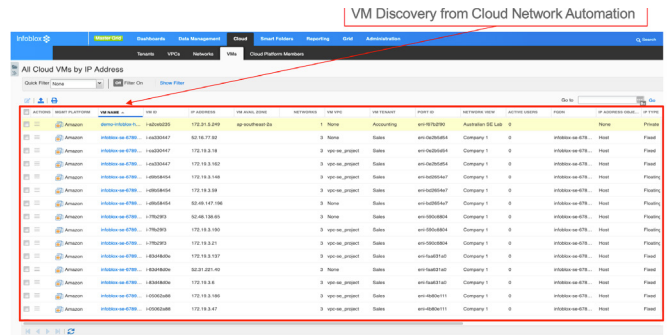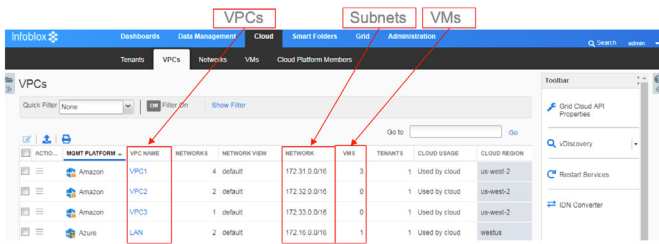### Centralized Visibility: Hybrid Cloud Microsoft DHCP

Infoblox can be used in the private, public or hybrid cloud. Due to its deep DHCP integration, Microsoft Management allows you to access Microsoft DHCP data to see things like address range, usage status, lease state and more, all from a centralized view.

Centralized Visibility: Hybrid Cloud Resources

Infoblox delivers single control plane visibility into Virtual Private Clouds (VPCs), Subnets, and Virtual Machines (VMs). It also discovers modifications made in your cloud environment and provides a detailed view of VMs in a VPC. Extensible attributes can also be imported as configurable metadata.

## Centralized Visibility: Hybrid Cloud Microsoft Sites and Services and Users

Infoblox saves time and makes your job easier by capturing Microsoft Active Directory (AD) domains, Sites, networks for replication, user data and more, bringing it all together in a single view. Since NetOps and Microsoft teams can often be siloed, network misallocation can occur, costing time and money. Infoblox is the only company to give Microsoft Admins and Network Engineers tools for confirming the correct allocation of networks to the AD server.
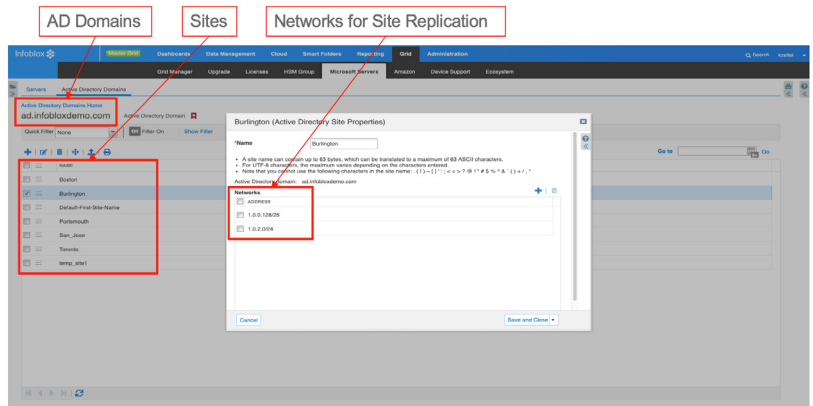

Individual IP/User Identity Mapping

Infoblox Identity Mapping associates people and devices, enabling contextual information sharing among network and security teams. IP and MAC address data is linked with end-username identities in a central authoritative IPAM database, integrated into Infoblox DDI management and accessible through the UI and Infoblox's Reporting and Analytics solution. Should a security event occur, Identity Mapping determines which device had the IP address at the time of the event and reports on which user was logged into the device at that time. This provides historical contextual data and allows the teams to quickly identify which user's account or device may have been compromised.
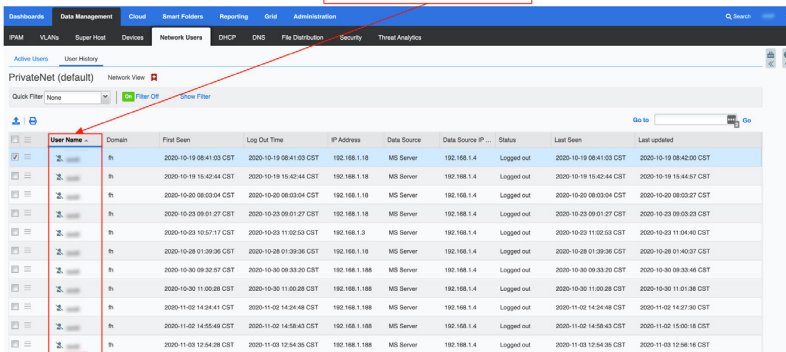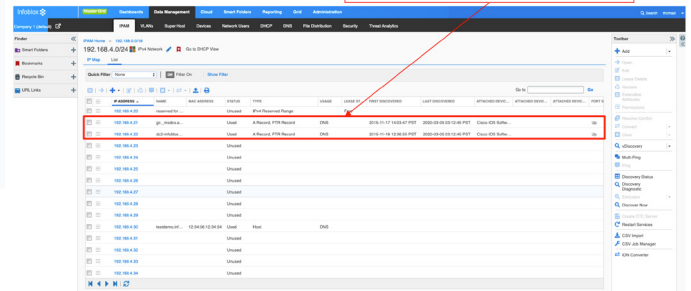
Extensible Attributes

Extensible attributes (EAs) are predefined and configurable identifiers you can use to define and track NIOS objects. Predefined EAs can include Region, Country, State, Site, Building, VLAN and ReportingSite (Report Clustering). Each EA is further defined by the type of data (e.g., text strings, integers or email addresses), default and multiple values, if the attribute is required and inheritable, which objects are associated with it (e.g., admin groups, DNS views or DHCP networks) and if the EA records an audit log entry when modified. EAs provide the flexibility and valuable contextual information for network, asset and service management teams.

Predefined and Configurable Extensible Attributes
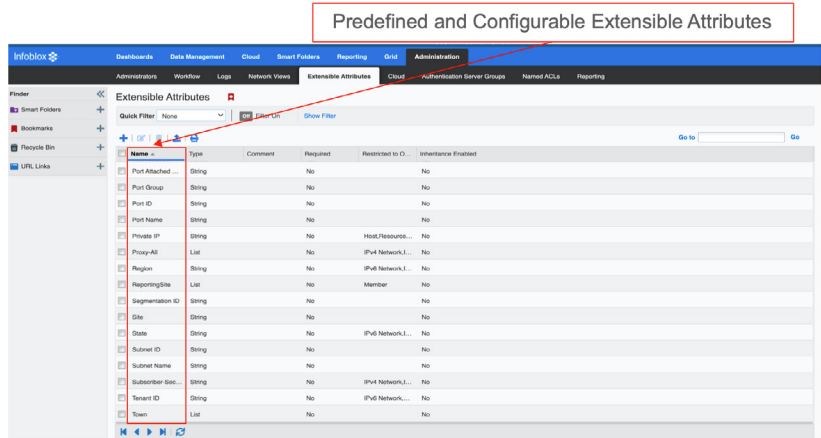
Role-Based Access Control

As part of the security posture, Role-Based Access Control (RBAC) establishes a permissions model for controlled delegation of administrative duties based on authority and operational needs. It operates on the principle of least privilege access in which users, programs and processes are granted access only to the information and resources necessary to fulfil their purpose. Infoblox Microsoft Management provides RBAC to support security policies for core network services.

Role-Based Permission Management
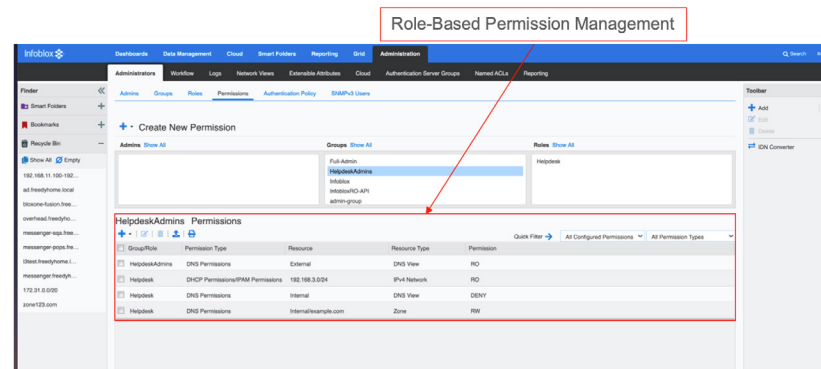
API Automation

As part of the security posture, Role-Based Infoblox's API automation helps resolve the cross-team dependencies between the Windows, NetOps and DevOps teams mentioned earlier. Infoblox's easy, robust and well-documented APIs can be developed and deployed quickly for DNS configuration and management to support dev, lab and test environments, and resolve friction and delays relating to response times, workflow consistency and data errors. Further, Infoblox offers a broad menu of templated integrations and automation that DevOps teams are using for orchestration, provisioning and deprovisioning, build/test/deliver processes, replication, reuse and much more.

IPAM Integration for orchestration & automation

vNIOS deployments on Cloud Platforms

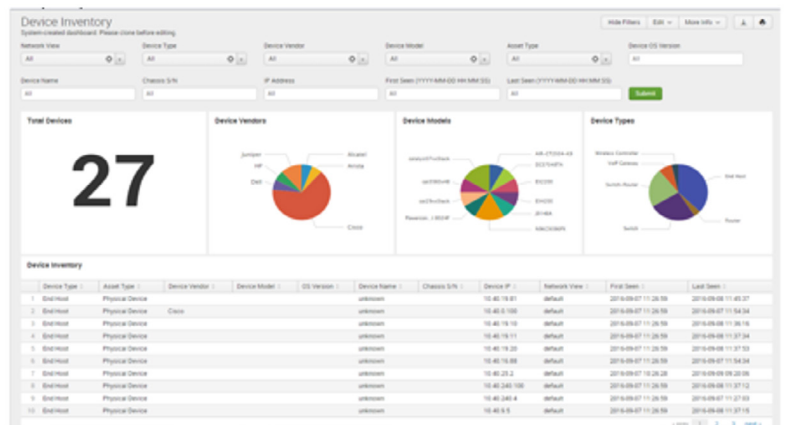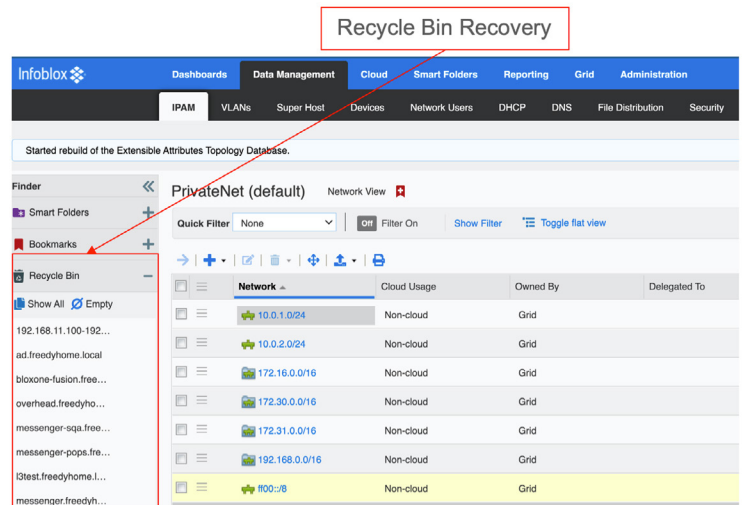Supported Hypervisors

Recycle Bin

Actively managing your network means that items are going to wind-up in the Recycle Bin. Deleting items no longer needed places them in a holding location until you're ready for permanent deletion. Infoblox's Recycle Bin lets you easily recover deleted addresses, files or other assets that you still need or that should not have been deleted.

Reporting & Analytics

Your network contains a wealth of integrated DDI data—users, MAC and IP addresses, subnets, VLANs, devices, end-hosts, events, date/time records and so much more. Contextual insights provide faster triage, prioritization, troubleshooting, root cause analysis and proof of what actually happened. Infoblox Reporting & Analytics delivers summarized, forensic and predictive analytics for full network visibility and quick problem resolution. Built on Infoblox DDI and the Splunk reporting and visualization engine, it delivers fast plug-and play deployment, role-based access control, historical search, real-time alerting and predictive analytics to help you get the most from your data and network. The solution provides deep visibility into network data on premises and in hybrid multi-cloud implementations through a central management platform. Including over 100 pre-built, customizable dashboards and reports, Reporting & Analytics provides the flexibility to adjust filters, create new dashboards and reports, set distribution lists, alerting thresholds and frequencies, and much more. It gives you easy access to the information you need, when you need it to better manage your network.

Conclusion

Freeware once had its place. But if you're past spreadsheets, manual tools and processes, need to avoid network conflicts and outages, want to avoid hidden costs and are actively pursuing the advantages of modern workplace transformation, consider Infoblox's Microsoft Management. For more information, set up a meeting today to see firsthand how Infoblox's Microsoft Management can give you more value from your existing investment and better network visibility, automation and control to manage your network.