DATASHEET

NIOS 8.4.8 / 8.5.2 / 8.6.0
Rock-solid reliability. Future-ready capability.

In the midst of local and global change, companies can ill-afford to take risks at the core of what drives business. More than ever, organizations need reliable, robust, mission critical DDI that simply works. Infoblox continues more than two decades of customer commitment with the latest investments in the market-leading Network Identity Operating System – NIOS 8.4.8, 8.5.2 and 8.6.0. NIOS delivers customer-centric, unified management visibility and control, DNS encrypted security, templated API integrations, multi-cloud automation and flexible, costeffective DDI services for hybrid networks of any size today and for the future.

BUSINESS CHALLENGES

Across a rapidly changing IT landscape, workplace transformation technologies, security and global network demands are presenting more challenges than ever before. Technology adoption from legacy to modern environments is escalating, and organizations must adapt if they hope to thrive. Users access cloud applications from everywhere, requiring cloud-first enterprise transformation. Policy driven networks and virtualized network functions are driving software defined networks. BYOD, mobility and IoT endpoints are skyrocketing, fueling challenges with scale and security. To stay competitive, companies must improve processes, integrating existing technologies with new tools and transforming to control costs, improve performance and reliability. Organizations need business agility, simplified workflows, automation, and solutions for mitigating security risk. With the releases of NIOS 8.4.8, 8.5.2 and 8.6.0 Infoblox gives you the edge to face and overcome modern challenges. The following summary showcases the key benefits delivered in each release including new features designed to deliver rock-solid reliability today and future-ready capability for the future.

KEY BENEFITS IN NIOS 8.4.8

Stronger DDI – Improved Visibility, Reliability and Performance

DHCP Failover Upgrade

Resiliency is essential for today's network operations. NIOS 8.4.8 delivers greater reliability by minimizing synchronization and recovery wait times and processes for client-associated leases on new and existing peers through database replication.

RELEASE BENEFITS SUMMARY

- Advanced Enterprise Security-Enhanced Protection and Privacy

- Modernized Workplace Transformation – Increased Multi-Cloud and Integration Flexibility and Automation

- Stronger DDI – Improved Visibility, Reliability and Performance

- Extended Service Provider Capabilities – Added Privacy, Security and Control

DHCP in Pure IPv6 DDNS Environments

IPv6 helps address the shortfall of IP addresses under IPv4, and improves packet-handling efficiency, performance and security in locating devices across the internet. With NIOS 8.4.8, Infoblox DHCP servers can update the names of host objects and fixed addresses in hybrid IPv4, IPv6 and pure IPv6 environments, improving visibility, flexibility and performance.

Anycast Service Restart Enhancement

Anycast sends incoming requests to the best available name server. NIOS 8.4.8 increases reliability and user experience by allowing the configuration of the anycast and DNS start/stop/restart sequence to eliminate potential DNS outages, enhance stability, improve user experience and make NIOS more flexible.

KEY BENEFITS IN NIOS 8.5.2

Advanced Enterprise Security – Enhanced Protection and Privacy

DNS over TLS (DoT)

NIOS 8.5.2 provides DoT, a standard security protocol that encrypts DNS queries to keep them secure and private. It forces all connections with DNS servers to be made securely using Transport Layer Security (TLS) encryption. Using a dedicated port (853), DoT encrypts and authenticates the communication from the client to the DNS server, and adds TLS encryption on top of the User Datagram Protocol (UDP) used in DNS queries. As a result, DoT improves security by obscuring all communication and activity to prevent ISPs from seeing what websites users are accessing and allows users to use DoT with support from the internal DNS infrastructure. From the network security view, DoT gives network admins the ability to monitor and block DNS queries against malicious traffic and ensures that DNS requests and responses are not compromised with man-in-the-middle forgeries or attacks.

DNS over HTTPS (DoH)

NIOS 8.5.2 also provides DoH encryption of DNS queries and responses via HTTP/HTTP/2 protocols instead of UDP. DoH uses Port 443 along with all other HTTPS traffic. DoH increases security by ensuring that hackers can't forge or alter DNS traffic by camouflaging queries and responses within other HTTPS traffic. From a privacy perspective, DoH hides DNS queries with the flow of HTTPS, giving network admins less visibility, but users more privacy.

FIPS 140-2 Level 2 Updates

Security standards changes are on the horizon including the sunset of Triple-DES for encryption and the use of RSA Key Agreement/Key Transport for PKCS v1.5 after 2023. The NIOS 8.5.2 enhancement provides the option to disable the Infoblox customer experience program in FIPS mode and updates NIOS 8.5.2 to meet FIPS 140-2 Level 2 security requirements including Level 2 requirements for physical tamper-evidence and role-based authentication.

Common Criteria EAL 2 Updates

Infoblox continues its commitment to meet government security standards by certifying NIOS 8.5.2 to the Common Criteria EAL 2 standard. In so doing, Infoblox delivers confidence for organizations running software implementations that must comply with EAL 2 certified Operating Systems.

Modernized Workplace Transformation – Increased Multi-Cloud and Integration Flexibility and Automation

Amazon Web Services Public Cloud (AWS) vNIOS Expansion

Capacity and scalability are table stakes for public cloud deployments. NIOS 8.5.2 answers by extending support through the larger TE-v4025 virtual appliance with IPv6 support. The larger appliance enables greater Queries Per Second (QPS) and Leases Per Second (LPS) scaling and capacity in AWS public cloud.

Oracle Cloud Infrastructure (OCI) vNIOS Support

To continue Infoblox's commitment to modern workplace transformation, NIOS 8.5.2 introduces our first-ever offer for OCI through the vNIOS CP-2205. This not only enables customers to deploy vNIOS functionality on OCI, but further extends cloud platform services for greater flexibility.

Cisco ISE 2.6/2.7/3.0 Validation

Infoblox publishes critical network and DNS security event data and context over Cisco ISE to enrich Network Access Control (NAC). This provides automatic threat detection notification for faster response, contextual information for prioritizing threats and policies and improved ROI for security investments already made. With NIOS 8.5.2, Infoblox extends security and automation by validating integrations across multiple Cisco-ISE versions.

VMware vRA 7.6 IPAM Validation

Infoblox continues its ongoing commitment to VMware integration through this NIOS 8.5.2 validation of the Infoblox IPAM plugin for vRealize Automation (vRA 7.6) to support VM provisioning and automation.

Extended Service Provider Capabilities – Added Privacy, Security and Control

DoT/DoH for Service Providers

In addition to the Enterprise provisions noted above, DoT/DoH delivers greater Service Provider workflow simplification and security. NIOS 8.5.2 supports ultra-fast encrypted DNS and enables a single service instance for all CSP DNS needs by running all standard features (e.g., vDCA, ADP, high-speed query logging and subscriber value-added services) from the same "service provider scale" DNS service.

vDCA Proxy Policy Enforcement

NIOS 8.5.2 increases security by enabling policy enforcement on virtual DNS Cache Acceleration (vDCA) for Dynamic, Portal Content Publishing (PCP), IBM® WebSphere Portal Content Publishing (WPCP) and all traffic (Proxy-All). (Note: Non-cached domains still depend on NIOS for initial resolution, categorization and other operations.)

Proxy RPZ to Configured Managed Servic Providers (MSPs)

With NIOS 8.5.2, Service Providers seeking faster processing performance may now proxy Response Policy Zones (RPZs) to configured MSPs. Infoblox enables URL filtering on the MSP and includes DNS as a pre-filtering element to send only the traffic of relevant domains (FQDNs) to the MSP for inspection, thus eliminating extraneous traffic to improve performance.

KEY BENEFITS IN NIOS 8.6.0

Advanced Enterprise Security – Enhanced Protection and Privacy

Ecosystem Outbound Notifications

Visibility is essential to security, so NIOS 8.6.0 adds additional outbound ecosystem notifications for DNS zone, record and unmanaged IP/device deletions for improved alerting and greater awareness of potentially impactful network operations.

Modernized Workplace Transformation –Increased Multi-Cloud and Integration Flexibility and Automation

Network Insight Cisco SDN and SD-WAN Discovery Expansion

NIOS 8.6.0 expands Network Insight's discovery capabilities to include integrations for SDN with Cisco ACI and SD-WAN for Meraki and Viptela. These capabilities unify IPAM visibility while making IP address and network management more comprehensive, increasing deployment flexibility and usability, especially for discovery of assets and endpoints supporting branch and remote offices.

Network Interface and Shared Virtual Private Cloud (VPC) for Google Cloud Platform (GCP)

Customers receive another simplification, usability and security boost in NIOS 8.6.0 with the ability to deploy NIOS with a single NIC for GCP. This extends flexibility in deployment and enhances the options for providing NIOS cloud services including deployment into a shared VPC on GCP.

Red Hat CoreOS (RHCOS) vNIOS Support

Greater security and operational efficiency for container-based workloads through automation are key benefits for container operating system technologies. With NIOS 8.6.0, Infoblox provides VM support for OpenShift (Red Hat's version of Kubernetes) and leverages a Kubernetes technology called KubeVirt to run non-containerized VMs inside Docker containers. These updates simplify orchestration workflows and saves time and money for virtual deployments.

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Stronger DDI – Improved Visibility, Reliability and Performance

Resolving CNAME Chains in Apex Alias ("A" and "AAAA") Records

For large enterprise customers, especially those with complex public website configurations, NIOS 8.6.0 improves DNS resolution by enabling the use of apex Alias ("A" and "AAAA") records with Common Content Delivery Networks ("CDNs" like Akamai) where a nested CNAME structure is required for CDN operation. It also helps avoid potential DNS failures in cases where an "A" record fails to return data if the target record does not resolve directly to an IP Address. "A" record CNAME resolution strengthens DDI for greater reliability and customer experience.

DNS Scavenging Enhancements

Cleanup and removal of outdated DNS resources can be a hassle. Infoblox improves the customer experience by improving DNS scavenging. Historically, DNS queries from internal processes and other systems updated the last queried time stamp on DNS records, adversely impacting the ability to perform accurate DNS scavenging. NIOS 8.6.0 further improves the solution by using a block-list to prevent queries from updating the last queried date to improve workflow performance and deliver reliable cleanup and removal of outdated DNS resources.

Hybrid HA

High Availability (HA) for applications and deployment flexibility are especially helpful when transitioning between physical and virtual appliances. NIOS 8.6.0 answers this call by allowing physical and virtual machines to be paired for hybrid HA, improving customer experience during migration.

DHCP Address Conflict Notification

When conflicts occur among DHCP addresses, accessibility is impacted. With NIOS 8.6.0, Infoblox improves visibility and alerting by delivering an email to notify staff about DHCP conflicts including the conflicted DHCP address. This increases awareness and helps speed conflict resolution.

DHCP Fingerprinting Update

Infoblox improves network visibility by upgrading DHCP fingerprint versions in each NIOS release sourced from Fingerbank. This NIOS 8.6.0 upgrade identifies the device type, manufacturer name and the OS of clients and devices connecting to the network and can use them in network access control list (ACLs), controlling which devices can connect to the network and what they can do.

DTC Consolidated Monitor Health Settings Enhancements

DTC customers receive added network traffic reliability through improved health checks, status sharing and consolidated visibility. NIOS 8.6.0 adds a configuration option to allow full health communication, enabling all DTC members to perform health checks and share health statuses with each other. It also enables a server to be marked offline only if all the DNS members fail defined health checks but marks the server available if at least one health check is operational. These DTC enhancements improve network traffic management visibility, reliability and overall customer experience.

DTC LBDN Query Configuration

DTC offers a new configuration option in NIOS 8.6.0 for load balancing domain name (LBDN) queries to improve reliability. The update allows an administrator to configure DTC to drop all LBDN queries when the named server is waiting to receive a full health status update from the "healthd" daemon. This strengthens reliability by preventing an LBDN query from incorrectly resolving to an offline DTC server by dropping all LBDN queries until a full heath check update can be completed.

DTC Source IP Hash Load Balancing

NIOS 8.6.0 introduces a load balancing technique using the Source IP Hash method. It's ideal for cases where multiple DTC/DNS machines support a common pool of servers, and regardless which DTC/DNS machine is queried, the same server IP address needs to be returned. With this method, an algorithm uses a client's and server's source and destination

IP address to generate a unique hash key and allocates the client to a particular server. If the session is broken, the key can be regenerated to direct the client back to the same server previously in use. This is helpful during a disconnect and reconnect to allow the client to persist in the same active session. It also prevents "site slip" for a client that moves from one site to another. Source IP Hash load balancing matches the functionality of other more expensive marketplace Application Delivery Controllers (ADCs) to improve user experience, avoid session interruptions and ensure workflow continuity.

Microsoft Windows® 2019 DNS and DHCP Server Support

While other competitors are discontinuing Microsoft Windows Server support, Infoblox, a Microsoft® Gold Certified Partner, continues its ongoing commitment to support concurrent management of Microsoft Windows 2019 DNS and DHCP servers in NIOS 8.6.0 for enhanced customer visibility, data sync and sharing, team collaboration and control.

Network Insight Added Devices and Credential Grouping

The ability to discover and manage network devices and credentials simplifies workflows and saves time and money by assigning credentials by device groups using the Infoblox Extensible Attributes (EAs). In NIOS 8.6.0 administrators can assign credentials to devices and group devices based on metatags, improving visibility and simplifying device management.

BIND Stats, PStack Traces & Cache CLI Command

Having the right toolset for identifying and debugging DNS services issues can speed issue resolution. NIOS 8.6.0 offers a new CLI command that collects BIND data used for troubleshooting. For problematic periods, the CLI can collect named stats, UDP stats and stacks, and dump outstanding queries based on iterations and intervals. This feature improves data collection for troubleshooting and reduces the mean time to recovery.

WAPI GET Performance Optimization for SRV, CNAME, DNAME Records

With this new feature, NIOS 8.6.0 increases WAPI processing performance by optimizing record search for SRV, CNAME and DNAME records to accelerate GET functions, support external zone automation, and improve usability, customer experience and workflow performance.

For additional technical information, please see the NIOS 8.4.8/8.5.2/8.6.0 Release Notes located in the Infoblox Support Portal at https://support.infoblox.com.

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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