SOLUTION NOTE

NIOS 8.6.0

Network Insight SDN and SD-WAN Discovery for Better Remote Visibility and Control

Technology and workplace transformation are driving changes in traditional network models like never before.

World events have moved many workers from the office and worksite to a work-from-anywhere model as users gain access to cloud applications from everywhere. This trend has only accelerated enterprise cloudfirst initiatives already in motion. At the same time, fast, reliable local internet access and business resiliency for distributed locations and branch operations remain a priority across verticals.

One rapidly growing trend seeks to bring virtualization to the network through two unique but related methods: Software-Defined Networking (SDN) and Network Function Virtualization (NFV). SDN aims to make networking more flexible and easier to manage through a centralized approach that decouples applications from infrastructure to drive rapid innovation and new service delivery. In the process, SDN enables rapid network provisioning, programming and management, and provides choices in datacenter, campus and WAN programmability and automation. SDN is achieving wide adoption because it simplifies operations, speeds time to market, enables programmable networks and centralizes automation. Yet many organizations still use network services (e.g., routers, firewalls and load balancers) deployed on proprietary hardware. Network Function Virtualization (NFV) seeks to replace dedicated hardware with software running on more flexible, commodity-grade virtual machines. This approach promises to save capital and operating costs, yet ensures operations can scale as needed to meet capacity demands.

Another related and quickly expanding trend is the spread of software-defined wide area networks (SD-WAN), a cheaper, more agile and secure approach that uses software to connect branch offices to the internet and company datacenter. Like SDN, SD-WAN disconnects the control plane from the data plane. It offers simplified deployment, centralized manageability, improved connectivity and lower cost. SD-WANs support multiple connection types (e.g., internet, LTE or MPLS), share network loads across WAN connections, simplify interfaces for WAN management and support third party services including WAN controllers, firewalls and web gateways. The key business value is how SD-WANs help large enterprises and service providers simplify the release of new links to branch offices, improve how those links are used (e.g., for voice, video or data), and lower overall cost.

Infoblox Network Insight discovery integration enhances the investment value of Cisco ACI SDN, and Cisco Meraki and Cisco Viptela SD-WAN deployments for branch offices and remote locations:

- Application Centric data delivered in an easily consumable Network Centric context

- Full IPAM visibility across traditional and hybrid deployments and connected clients

- Robust NIOS API for easy SDN and SD-WAN integrations

- Access to historical forensic data for client and user mobility in the network

- Find unauthorized networks and shine a light on shadow IT

CHALLENGES

These trends are gaining momentum because enterprise customers are facing agility, scalability and cost management challenges with limited resources. Many network functions run on expensive, propriety legacy gear often at the end of the service lifecycle, driving the transition to modern platforms. The transition to remote workforce is accelerating this process as organizations now require local, fast, reliable direct internet access for all sites. Additionally, new priorities are emerging, including deployment flexibility, simplified provisioning and deprovisioning of workflows, orchestration and business resiliency across a geo-diverse network.
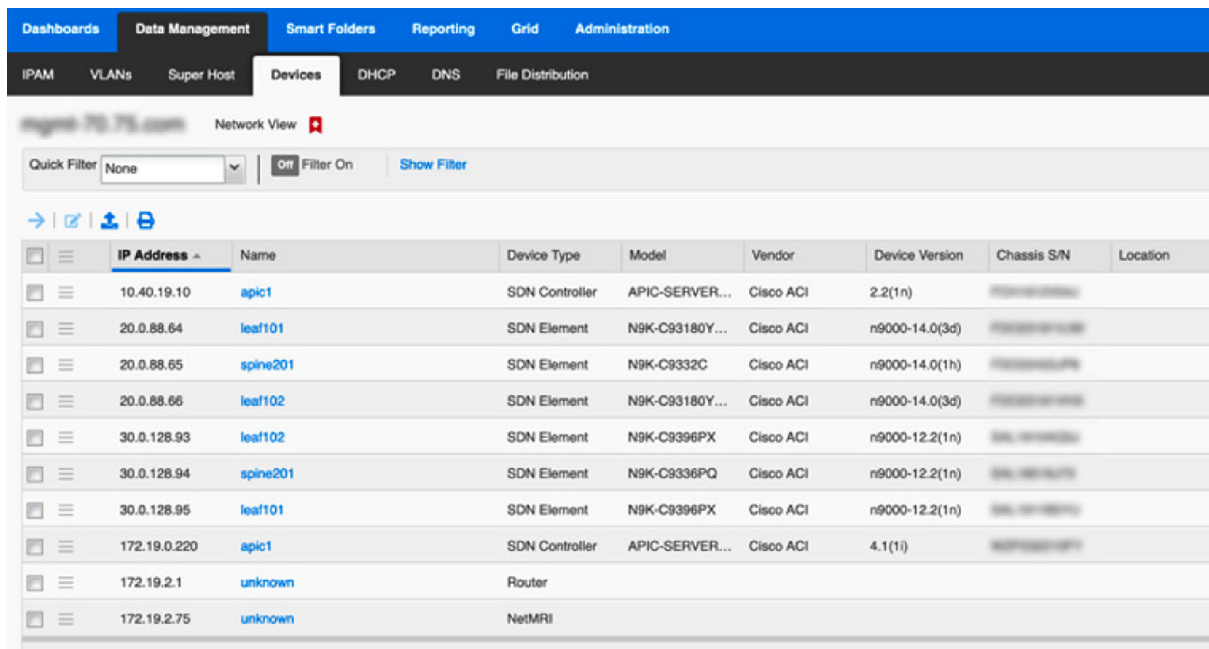
Network Insight Cisco SDN and SD-WAN Discovery Expansion

Infoblox understands these challenges. That's why with NIOS 8.6.0, Infoblox expands Network Insight's discovery capabilities to include integrations for SDN with Cisco ACI and SD-WAN for Cisco Meraki and Cisco Viptela. These capabilities unify deep IPAM visibility, and make IP address and network management more flexible, comprehensive and usable, especially for discovery of assets and end-hosts supporting branch and remote offices.

Cisco ACI SDN

Infoblox Makes ACI Transition Easier

For many Cisco ACI customers, the transition from a Network Centric model to an Application Centric model is difficult. This is because ACI uses comparatively new terminology, hides traditional expressions, embeds the default gateway in the ACI fabric, defines policies on application names and security requirements, changes how applications are mapped, and focuses on application orchestration. On the other hand, the Network Centric approach is closer to the traditional design and easier for network resources to operate. Fortunately, Infoblox's Network Insight discovery solves these challenges by delivering Application Centric data in a Network Centric user experience, making it easier for network admins to see, understand and use the data.

Infoblox Improves Visibility in Hybrid Deployments

Virtually all Cisco ACI deployments are hybrid implementations with limited visibility. Network Insight solves this problem by combining deep data discovery from ACI with traditional network infrastructure data. This offers unparalleled visibility in hybrid deployments. Having all IPAM data available prevents teams from creating conflicting networks or VLAN issues. You can even combine the data from multiple ACI instances integrating pushes from development to production has never been easier.

Infoblox Supplies Missing IPAM Data and Robust API for

Cisco ACI lacks IPAM integration, yet customers still need all of the rich contextual insight from their SDN to better manage branch offices and remote end-hosts. Infoblox's NIOS 8.6.0 Cisco ACI integration adds authoritative IPAM data along with all of the robust, easy-to-use NIOS API features for custom data collection, reporting and usage. Combining discovery with API integrations ensures teams cannot step on each other's toes during provisioning and deprovisioning, and results in a single source of truth for all DDI data whether in traditional networks or SDNs. In addition, the rich NIOS API provides an easy-to-use, well documented toolset that matches the Infoblox UI and makes scripting and automations fast and easy. The API allows for efficient use of IP space where applications can request the footprint they require without producing claimed but unused IP space.

Cisco Meraki SD-WAN

Infoblox Provides Full Hybrid Network and Connected Client Visibility

For many organizations, Cisco Meraki is deployed for cloud-controlled WiFi and SD-WAN networking to gain unified, multi-platform device management across mobile devices, Macs, PCs and the entire network from a centralized network dashboard. Meraki enforces device security polices, deploys software and apps, configures endpoints, manages content on devices, provides secure support for BYOD, and performs managed device troubleshooting support, device policy management and reporting. However, customers who deploy Meraki lose the single visibility control plane of networks and connected clients. This is because without Network Insight, each vendor offers their own dashboards and insights. With NIOS 8.6.0, Infoblox Network Insight with Meraki SD-WAN integration solves this challenge by providing deep discovery and visibility across Meraki deployments. By ingesting the data available in the Meraki control pane, Network Insight can track assets in use, as well as clients in your network. For organizations running Meraki SD-WAN, Infoblox Network Insight enhances the value of your investment and gives you the discovery and visibility into networks and connected clients you need to better manage your network.

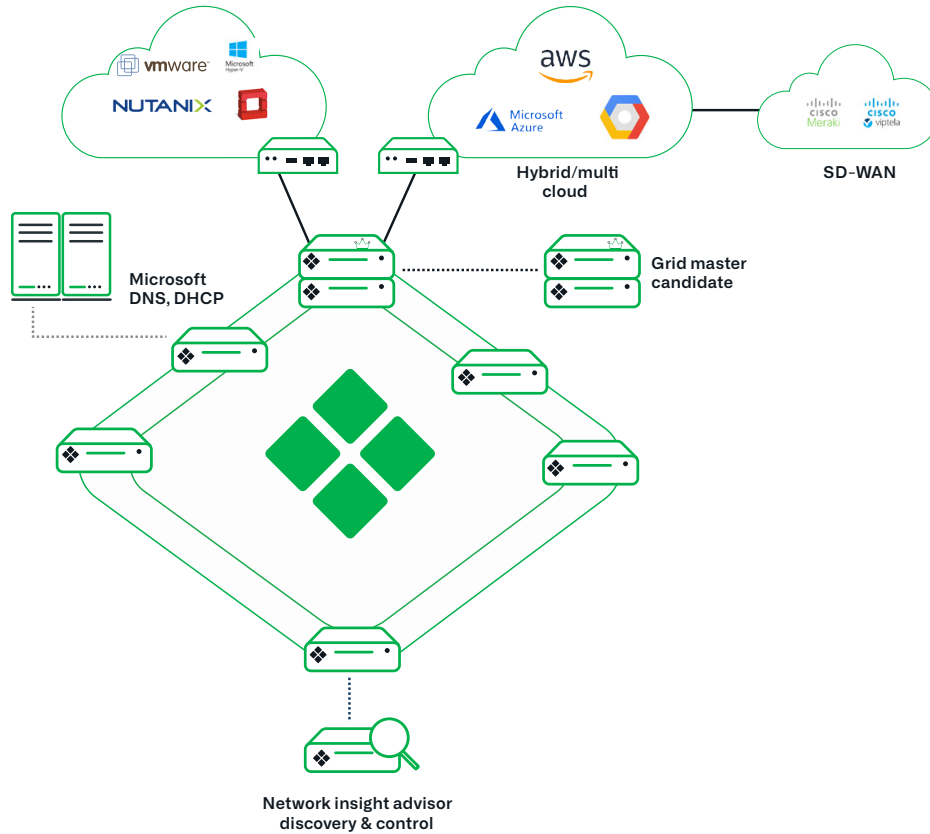## Infoblox Delivers Essential Missing IPAM Data and NIOS API Integration

Another challenge Cisco Meraki customers face is the lack of IPAM integration. Without it, these organizations are missing the rich contextual data and insights needed for managing their SD-WAN deployments. The NIOS 8.6.0 Network Insight SD-WAN Meraki integration helps customers by providing authoritative IPAM data along with the robust, easy-to-use NIOS API for custom data collection, reporting and usage. Provisioning and deprovisioning networks and VLANs is easy when you know the full context of the changes you are making to your network. Having this data integrated into your security ecosystem provides you with better visibility and a more complete picture, which reduces time to resolve incidents.

		IP Address ▲	Name	Device Type	Model	Vendor	Device Version	Chassis S/N	Location	Description	Discover Now	Managed
☐	≡	172.19.0.150	qa_22_Sept_30_68:3a:1e:18:76:d1	SDN Element	MX68W	Cisco Meraki	wired-14-53					Yes
☐	≡	172.19.0.200	qa_ac:17:c8:fc:d3:69	SDN Element	MR33	Cisco Meraki	wireless-25-13					Yes
☐	≡	172.19.1.234	unknown	Switch		Cisco Meraki						

Cisco Viptela SD-WAN

Infoblox Provides Full Hybrid Network and Connected

Large, complex organizations and service providers deploy Cisco Viptela to connect any user and any application anywhere in the world across the branch, the WAN and the cloud. Cloud-first SD-WAN architecture promises automation, virtualization and analytics. Cisco Viptela complements onpremises routing with cloud-centric management and orchestration. Viptela enables IT to automate manual operations at scale to manage millions of devices. Contextual data enables the network to deliver new insights for better security, customized experiences and faster operations. However, as with Meraki, enterprise customers who deploy Viptela can lose visibility of networks and connected clients. This loss of visibility occurs because new platforms come with their own management consoles, which in many cases fail to integrate data from other sources. Further, Viptela is fully focused on management of the solution without integration into most networks which are hybrid deployments. With NIOS 8.6.0, Infoblox Network Insight with Viptela SD-WAN integration improves data collection by providing deep discovery and visibility across traditional and hybrid deployments. Having a single source of truth that displays all of your infrastructure assets, whether traditional or software defined, allows you to control your network more effectively. Having a "one-stop-shop" for all network assets including software defined or part of a containerized solution offers a simplified integration path. If you have Viptela SDWAN, Infoblox Network Insight can raise the value of your investment by providing the discovery and visibility of networks and connected clients, plus the contextual information large enterprises and service providers need for optimal network visibility, management and control.

Microsoft DNS, DHCP

Hybrid/multi cloud

SD-WAN

Grid master candidate

Network insight advisor discovery & control

Infoblox Delivers Native IPAM Data and fast, powerful NIOS API integrations

Like the other Cisco SDN and SD-WAN solutions, Cisco is a bolt-on that does not offer the deep IPAM integration Infoblox provides. Thus, all of the rich contextual insight is not natively available. Infoblox's NIOS 8.6.0 Network Insight Viptela integration delivers the authoritative IPAM data enterprises and service providers need plus the rich NIOS API for a powerful, easy-to-use, well-documented toolset that saves time and money, and makes automations and integrations fast and easy.

CONCLUSION

If you use Cisco SDN and SD-WAN solutions, Infoblox Network Insight integrations can improve the value of your investment, equip you with native contextual IPAM data, increase the visibility of your traditional and hybrid networks and connected clients, and empower you to save time and money with the robust NIOS API for scripting and integrations. For more information, setup a meeting today to see how Infoblox's Network Insight improves your visibility, automation and control for Cisco SDN and SD-WAN deployments.