

## SOLUTION NOTE

# UNPRECEDENTED VISIBILITY FOR NETWORK MANAGEMENT WITH INFOBLOX NETWORK INSIGHT

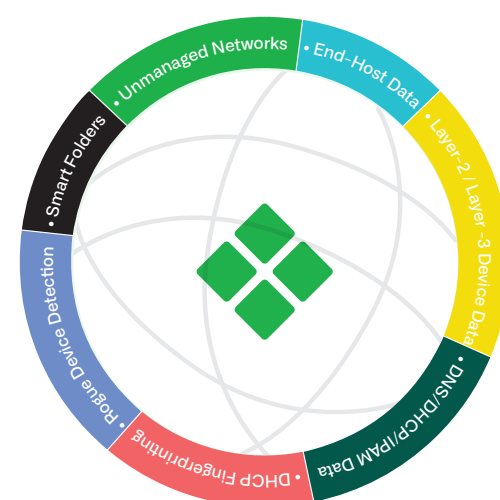
## PRODUCT SUMMARY

Infoblox Network Insight delivers actionable network intelligence by integrating DNS, DHCP and IPAM data with network infrastructure data—providing unprecedented visibility across the entire network.

It automates the collection of information on all layer-2 and layer-3 devices connected to the network, enabling network administrators to easily gather, correlate and view network data to increase agility, reduce risk and lower costs.

Network engineers, administrators and architects are flooded with data and information in a myriad of logs, reports, alerts and anecdotal notes. They have to quickly prioritize day-to-day issues and perform a variety of operational tasks, along with troubleshooting both reported and suspected problems—all in the face of dynamic scaling supporting a wide range of services. These jobs are further complicated by disparate, sometimes conflicting data because operational silos each have their own set of tools for collecting and analyzing data and using it to plan actions.

To address these challenges, Infoblox Network Insight delivers actionable network intelligence by integrating Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP) and IP address management (IPAM) data with network infrastructure data—providing unprecedented visibility across the entire network. Network administrators can easily gather information, analyze it and take the appropriate actions to better manage their networks and deliver network services. Network Insight also improves security, reduces service interruption risk and breaks down operational silos in IT.



## GATHER. ANALYZE. TAKE ACTION!

### Gather the Right Information

Network Insight automates the gathering of information on all layer-2 and layer-3 devices—such as routers, switches, firewalls and load balancers—connected to the network, and it can be fine-tuned by intervals, schedules, targeted networks, IP ranges and individual IP addresses. While the task of gathering information is automated, an on-demand mechanism is also readily available. The garnered data contains:

- Network infrastructure device data
- Network infrastructure interface data
- VMware ESXi/virtualization data

To ensure that device data is gathered properly, various techniques are used to collect it, including:

- SNMP
- Smart IPv4 subnet ping sweeps
- NetBIOS scanning
- Switch-port data collection
- Port scanning
- Complete ping sweeps
- Auto ARP refresh before switch-port polling

Polling intervals for switch port data collection are user-defined and can be set on an hourly, daily, weekly or monthly schedule with various parameters, such as “hourly polling started 10 minutes after the hour” or “every 2 days.” Network teams can use this flexible scheduling mechanism to optimize data collection around their specific needs as well as to control bandwidth usage during peak service times. Network admins can also accelerate asset discovery to save time or reduce discovery rates to avoid overloading the system.

IPAM data, along with real-time DNS and DHCP data, is integrated with infrastructure device data and presented in Network Insight. In today’s market, some products collect device data and other products provide IPAM, DNS and DHCP data; Infoblox Network Insight does both, creating intelligent IPAM data and integrated workflows in a single GUI.

## Analyze: Better Data Means Better Decisions

Network Insight’s graphical user interface (GUI) with easy-to-use navigation across integrated data enables network administrators to quickly draw conclusions about network issues and tasks. Networks, devices and end-hosts—currently managed or not—are visible within the Network Insight GUI. Port administration and operation status information, interface characteristics, trunk status, assigned virtual local-area networks and virtual extensible local-area networks (VXLAN) are all available. End-host (asset) data provides insight into the type of asset, the interface it connects to, its MAC address, its IP address and its assigned VLANs.

Cross-sectional data views are accomplished through Smart Folders, which narrow the scope of data presented through filters and logic. More than 50 different filters can be applied in a virtually unlimited number of combinations. The slicing and dicing of the data using Smart Folders provides powerful logic by getting to the core of what network teams monitor and control.

## Take Action!

With the network data logically presented in the GUI and automatically populated within Smart Folders, network professionals can take the necessary actions for the tasks at hand. The integrated data views and workflows deliver the critical business benefits of greater agility, reduced risk and lowered cost derived through process improvements and the breakdown of operational silos.

IP Address	Name	Device Type	Model	Vendor	Device Version	Location	Description	Discover Now	Managed	Active Us
198.16.16.129	unknown	Power Controller		HP				No	0	
198.16.16.127	unknown	Power Controller		HP				No	0	
10.66.100.1	core-dems-01	Router		Cytera			VyOS 1.3-rollin...	Yes	0	
198.16.0.254	i05-rb-discov...	Switch-Router	N3K2304TP1GE	Cisco	7.0(3)7(1)		*Not so secret... Cisco NX-OS2...	No	0	
198.16.200.30	int27-primary-a...	Security Manager	IsaVnIQ	Cisco			Linkswan Cisco Identity S...	No	0	
192.168.1.82	gm1p2	vNIOS	ND-V805	Infoblox	8.6.2-49947		Sunnyvale Infoblox ND-V8...	Yes	0	
192.168.1.5	demogn1	vNIOS	IB-V825	Infoblox	8.6.2-49947		Santa Clara Infoblox IB-V82...	Yes	0	
198.16.16.122	unknown	Power Controller		HP				No	0	
198.16.0.252	PA-VM	Firewall	PA-VM	PaloAltoNetworks	5.1.0.1		isolated environ... Palo Alto Netw...	No	0	
198.16.200.15	int1_switch	Switch	PowerConnect ...	Dell	3.3.3.3		PowerConnect ... Cisco IOS Soft...	No	0	
198.16.200.20	ime-3060-48-p...	Router	WS-C3660X-48...	Cisco	12.2(15)3SE2			No	0	
192.168.1.81	gm1p1	vNIOS	ND-V805	Infoblox	8.6.2-49947		Santa Clara Infoblox ND-V8...	Yes	0	
192.168.1.10	demogn1	vNIOS	IB-V4025	Infoblox	8.6.2-49947		Santa Clara Infoblox IB-V40...	Yes	0	
198.16.194.110	PA-3020	Firewall	PA-3020	PaloAltoNetworks	9.1.11-A2		colo Palo Alto Netw...	No	0	
10.66.100.91	unknown	Router						No	0	
192.168.1.25	demogn3	vNIOS	IB-V1425	Infoblox	8.3.8		INFO-SC-rbJ4 Infoblox IB-V14...	Yes	0	
198.16.200.16	unknown	Switch	Powerconnect	Dell	4.9.0.4		Powerconnect	No	0	

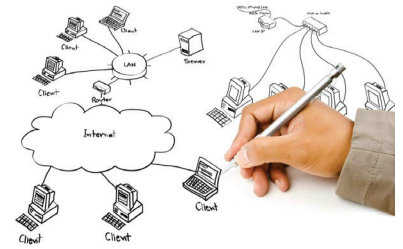
Figure 1: Network Infrastructure data in the “Devices” tab

## Improved Workflow Experiences

Network Insight reduces the risk, time and cost associated with specific tasks in several areas.

### 1. Validating Deployment of New Networks and Assets

Networks are no longer static grids of copper, fiber and hardware. The introduction of the cloud, virtualization and mobility have made today's networks more dynamic than ever. Building networks out and then tearing them down is a common practice for network administrators. Such activities support growing, fast-paced enterprises as they extend their geographical presence into branch offices, create DevOp environments and support a variety of external users with various needs. Teams that design these networks do so with a number of considerations, including targeted use, capacity, expected network traffic flows, redundancy requirements and other design parameters. The final deployment can be easily viewed with Network Insight, making it a simple task for network administrators to confirm the deployed network matches the original design.



### 2. Locating and Remediating Potential Security Breaches

Nearly 60% of organizations surveyed believe that a lack of network visibility poses a high or very high risk to the organization.<sup>1</sup> This lack of visibility is allowing users to personalize their work environments with everything from private printers to home routers. This lack of visibility is also good cover for anyone with more malicious intent to access the network. Clear visibility across the entire network helps improve security and reduce service interruption risk.

Take, for instance, the enterprise that, on two separate occasions, had two branch offices lose connectivity to the central data center, with the only symptom being that users in each branch office could not access corporate applications in the HQ data center.

The troubleshooting for such an issue brought a team of IT professionals together for a full day of comparing their operational siloed data, pointing fingers, and conjecturing—with each team's effort focused on excluding its area of responsibility as the root cause rather than collaborating to resolve the issue.

The team determined that the PCs in the branch office all had IP addresses that were not part of the networks defined on the routers serving that office. The PC IP addresses all started with 192.168 rather than the expected 10.10. Ultimately, a home router was found plugged in, and it was clear that the router was using its own DHCP to issue IP address leases in the branch office. This issue would be immediately detectable with Network Insight.

### 3. Handling M&As and Other Expansions

When corporations merge through business acquisition, the adoption of another network can be a very difficult task, fraught with IP address –overlap issues, lack of original design documentation and other information gaps. Without the proper tools and visibility, in some acquisitions, deciphering details and executing a plan to merge the two networks into a single, cohesive one can take more than nine months. Firms that have, on a regular basis, acquired companies and adopted their networks have the luxury of past experience to guide their processes and fine-tune the steps, but even for them, not every situation is the same. For firms that may go through this process only once or twice, there is too much emphasis on getting the job done with little or no time spent on developing a working, efficient process. Network Insight integrates the data collection process and re-assignment process into a single solution set with workflows that enable the untangling and re-introduction of an acquired network—all from a single pane of glass. This integration can turn a nine-month project into a two-week project.



**“** Network Insight has been very useful to us in discovering multiple networks. It also gives us a certain amount of perspective when it comes to security. When I get questions from security about what is known about an IP address, I can go and look it up and see what DHCP host identification information is registered and what network infrastructure information is revealed by the discovery agent.”

**Brent Hetherwick,**  
Senior Systems Engineer,  
Adobe Systems

#### 4. Enhance Discovery, Visibility and Management for SDNs and SD-WANs

Network Insight extends discovery, visibility and control with integrations for leading Software Defined Networks (SDNs, e.g., Cisco ACI, Juniper Mist and Silver Peak) and Software Defined Wide Area Networks (SD-WANs, e.g., Cisco Meraki and Viptela). By integrating Infoblox APIs with vendor software, Network Insight unifies IP address visibility, expands deployment flexibility and improves consistency, user experience and branch and remote network management.



#### 5. Breaking Down Operational Silos in IT

In today's IT organizations, there are naturally occurring operational silos. These silos exist in response to the level of knowledge that subject-matter experts must have in order to perform the complicated work in their given areas. However, the nature of today's dynamic network requires cohesiveness across IT services, and that necessitates shared, authoritative data. Operationally there is a "tax" that these silos synthetically impose on the organization. Network Insight can tear down these silos by providing granular, role-based administration so multiple teams can use the same tool and the same integrated data. This means network administrators in charge of IPAM have complete visibility into other teams' use of assigned IP addresses while the teams themselves have the permissions and ability to manage their own IP range within Network Insight. Collaboration and visibility across teams are simple yet powerful benefits of Network Insight.

### SOLUTION DEPLOYMENT

#### The Foundation: Infoblox Grid

The Infoblox Grid enables a collection of appliances to perform and be managed as a single, unified system. An Infoblox appliance assigned as the Grid Manager pushes global configuration data and updates out to Grid Members, monitors member operations and synchronizes member changes back into the central database.

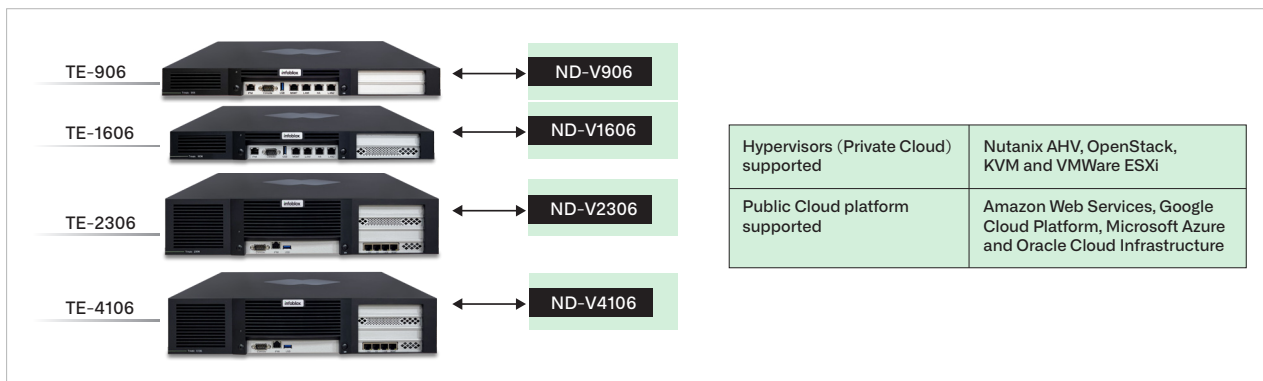
Network Insight leverages Infoblox Grid technology to provide flexible deployment options. Whether you use a centralized approach or a distributed architecture, Network Insight on Trinizic X6 appliances can be configured to suit your networking strategy.

#### Discover IP Addresses via SDN and SD-WAN

Integrate with leading Software Defined Networks (SDNs) and Wide Area Networks (SD-WANs) to discover and manage IP addresses for branch and remote offices, enabling greater deployment flexibility, unified visibility, consistent user experience and control.

#### Platform Options

Network Insight on Trinizic X6 appliances offers a wide range of models that are designed to deliver enhanced performance, capacity and availability. They also provide deployment flexibility as physical or software appliances.



## Infoblox Network Insight Improves Agility While Reducing Risk and Operating Expenses

Network Insight delivers actionable network intelligence by integrating, in real time, DNS, DHCP and IPAM data with network infrastructure data to provide unprecedented visibility across your entire network. The collection and correlation of this data enables network administrators to easily gather the necessary information, analyze it and then take the appropriate actions to better manage their networks, validate designs, effectively provision, troubleshoot and deliver network services. Network Insight improves decision-making, reduces security and service interruption risk and breaks down operational silos in IT.

To learn more, go to [www.infoblox.com/NetworkInsight](https://www.infoblox.com/NetworkInsight) or contact [sales@infoblox.com](mailto:sales@infoblox.com).

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1 | 2020 SANS Network Visibility and Threat Detection Survey



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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