

Arista NetVisor UNUM

Unified Management, Automation and Analytics for the Unified Cloud Fabric

Highlights

- Advanced management platform that enhances the intrinsic automation of the Unified Cloud Fabric
- Simplifies provisioning and operating a complex network, or groups of networks
- Workflow automation with pre-built templates for zero-touch provisioning
- Dynamic topology mapping with multi-vendor network visualization
- Advanced diagnostics and analytics
- Intuitive and consistent user interface for seamless navigation across management and analysis modules
- Optional Insight Analytics supports extensive performance management and analytics

New with NetVisor UNUM 6.3

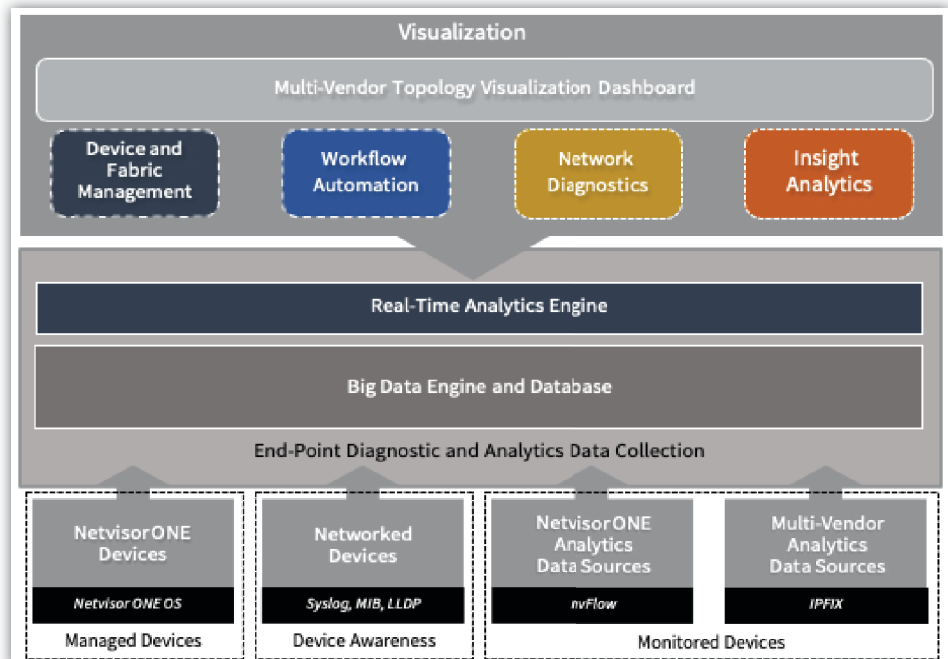
- Fabric Designer - Draw fabrics on a canvas and let NetVisor UNUM create them
- Micro-segmentation Dashboard - simplifies micro-segmentation of the fabric
- Templates and Workflows - Reduce repetitive configuration steps
- Fabric Resource Groups - Manage groups of resources as a single logical entity
- NetVisor OS FlowTracker support for UDP, DHCP and more analytics

NetVisor UNUM Platform

Arista NetVisor UNUM is a unified management platform that integrates a comprehensive range of advanced management, automation and analytics capabilities. At the highest level it consists of two main modules: NetVisor UNUM Fabric Manager and NetVisor UNUM Insight Analytics. NetVisor UNUM Fabric Manager enhances the intrinsic automation of the Unified Cloud Fabric™ architecture with graphical workflow automation, topology visualization and switch diagnostics. NetVisor UNUM Insight Analytics, which requires an add-on license, provides integrated performance analytics for every flow across the fabric with rich graphical dashboards, a time machine function and a powerful search capability. Together, these two NetVisor UNUM solutions liberate network operators from the complexity of provisioning and operating a complex network, or groups of networks, by automating the complete network lifecycle from implementation to operation and optimization, enabling intent-based network operations with vastly reduced deployment times. It simplifies management interactions, eliminates the command line interface (CLI) learning curve and allows a broader range of users to operate the network while minimizing the potential for errors by minimizing direct human interactions with individual devices.

Arista NetVisor UNUM is an agile, multi-functional web management portal that front-ends the distributed peer-to-peer Unified Cloud Fabric architecture. It combines an elastic big data database and intelligent analytics engine with an intuitive and consistent user interface that allows seamless navigation across fully integrated management and analysis modules. The NetVisor UNUM platform combines deep intelligence with powerful real-time and historical visualization to provide a unified tool set to provision, manage, troubleshoot and proactively manage the fabric environment. Key capabilities include:

- Device and fabric management and provisioning
- Workflow automation with zero-touch provisioning
- Dynamic multi-vendor topology mapping
- Real-time network-wide monitoring with diagnostics and advanced analytics



The NetVisor UNUM architecture consists of a multi-function web portal with a big data database and intelligent analytics engine that unifies automation, management and analytics.

NetVisor UNUM Fabric Manager

Automation Speeds Time to Deployment

NetVisor UNUM Fabric Manager permits operators to automate common deployment and configuration tasks from a single visual touch-point so one click can equal 1000 actions. The combination of fabric and workflow automation dramatically reduces operational complexity and significantly speeds deployments for large-scale networks by up to 95 percent faster over box-by-box manual configurations. NetVisor UNUM Fabric Manager leverages the fabric APIs to distribute configurations across the topology, enabling rapid execution with accuracy and consistency.

Workflow Automation

NetVisor UNUM Fabric Manager workflow automation simplifies the process of building and provisioning next-generation software-defined networks. Pre-built customizable playbooks leverage deployment-proven best practice designs, allowing network operators to quickly define, provision and deploy network configurations for an entire fabric topology at scale in minutes. This significantly speeds time to deployment and helps to prevent inconsistencies and misconfigurations.

NetVisor UNUM Fabric Manager workflow automation enables precise zero-touch provisioning for any sized network – scaling from single-switch and two-switch clusters to more advanced leaf and spine topologies. NetVisor UNUM Fabric Manager automatically discovers eligible devices and allows the network operator to select which devices to include in the fabric configuration. Once the devices are selected, NetVisor UNUM Fabric Manager automates the topology build-out in minutes with only a few clicks without touching a single device.

15 pre-defined automated playbooks are available for multi-vendor brownfield environments where Netvisor OS-powered switches are only deployed in either a leaf or spine placement, or greenfield environments where the Unified Cloud Fabric will be used in both the leaf and spine placements.

Playbooks include automated designs for Layer 2 or Layer 3 implementations, such as BGP and OSPF, as well as various high-availability options. Operators can quickly modify the pre-built playbooks to meet unique operational needs and can create customized playbooks to automate and consistently replicate configurations.

Fabric Commit Process

To help eliminate the risk of inconsistent network configurations, NetVisor UNUM Fabric Manager leverages the advanced transactional model of the Unified Cloud Fabric to validate that all provisioning and policy has been consistently implemented across every member network device.

As NetVisor UNUM Fabric Manager begins to implement the desired configuration, the NetVisor OS validates that all targeted switch devices have the capacity to physically support the requested configuration. To assure operational consistency, NetVisor OS verifies that all devices have received the configuration and simultaneously executes the configuration across all devices.

Network Diagnostics and Fault Management

NetVisor UNUM Fabric Manager continuously monitors the fabric and collects extensive physical link layer and device-level data from Netvisor embedded telemetry. Metrics are stored in the common database and leveraged across NetVisor UNUM Fabric Manager to proactively identify emerging anomalies that can affect network availability and performance.

Real-time and historical diagnostic views enable contextual analysis, with event-driven insights into network and device health enabling operators to rapidly identify, troubleshoot and resolve network fault, availability and performance issues. Device statistics provide a picture of device health with CPU, memory and table utilization statistics, and link-level metrics identify congestion, traffic errors, interface flapping, and packet drops.

Flexible filtering allows operators to fine-tune an investigation to focus on specific time periods, devices or activities to speed root cause isolation. Historical diagnostic data is maintained for a rolling seven-day window, allowing the network operator to analyze previous performance levels with five-second granularity.

Flexible Alerting

The optional alerting module enables flexible, user-defined alerting notifications to quickly identify emerging operational issues based upon network status changes, error state or individual device issues. The NetVisor UNUM Fabric Manager big data engine continuously monitors key performance indicators (KPI) to identify anomalies and generates real-time alert notifications when measured data crosses specific thresholds. Operators can leverage predefined KPIs or build customize alerting for user-definable KPI triggers and thresholds.

Real-time alert notifications can be delivered to any number of people or defined groups. Different classes of alerts can be targeted to specific IT staff based upon a specific incident type or affected portion of the network. NetVisor UNUM Fabric Manager alert notifications can contain a unique link with one-click access to alert detail and the analysis workflow, permitting operators to quickly drill down for rapid triage, targeted troubleshooting and remediation.

Real-Time Topology Visualization

NetVisor UNUM Fabric Manager provides an interactive live network topology map to visualize an Unified Cloud Fabric network. NetVisor UNUM Fabric Manager automatically discovers all connected devices and builds a dynamic view of the network topology, including compatible adjacent third-party networked devices and endpoints that support the Link Layer Discovery Protocol (LLDP). NetVisor OS Port intelligence allows the visualization of servers and services correlated to endpoints.

The topology view delivers an accurate representation of the fabric topology, with real-time traffic and state information overlaid on the topology. A single instance of NetVisor UNUM Fabric Manager can seamlessly scale to visualize very large distributed fabrics and multiple interconnected fabrics in a single unified topology view.

Device Auto Discovery

Leveraging the automated intelligence of the Unified Cloud Fabric, NetVisor UNUM Fabric Manager performs autonomous multi-level network discovery to scan the network and auto-detect changes to network topology and state as devices or endpoints are moved, added or removed.

The discovery process is an automated background task that is non-disruptive to network operations and does not create an unnecessary load on the network. The topology view is automatically updated in real time, notifications are indicated on the live topology dashboard and alerts can be generated based upon user-defined criteria.

Interactive Real-time Visualization

The interactive topology map provides a real-time holistic view of the active network topology and is an ideal primary dashboard for managing network operations. Operators easily and quickly create customized physical network topology views for a specific fabric, or multiple fabrics, with simple drag-and-click operation to meet diverse operational needs.

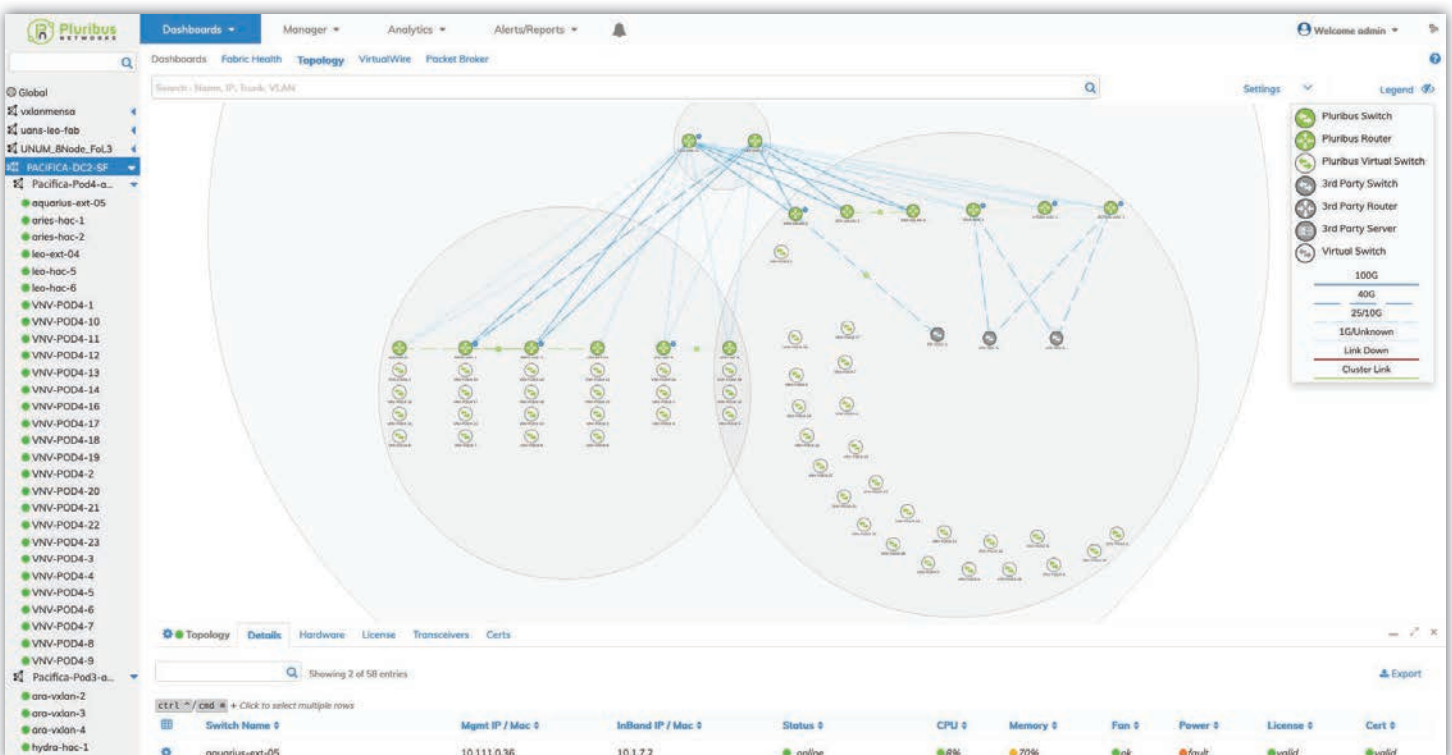
The topology dashboard provides a comprehensive at-a-glance view of the current state and health of network operations. Granular flow-on-flow traffic path visualization superimposes traffic flows across the topology to expose traffic volume and applications traversing the network.

Unified cross-platform workflows speed analysis and simplify troubleshooting, allowing operators to quickly isolate flows between any two endpoints and drill down to launch debugging tools or Insight Analytics for deeper analysis and troubleshooting.

Device-level diagnostics and configuration updates can also be initiated from the interactive topology view with a single click from any connected Netvisor device icon. Operators can view a device health snapshot or health over time for metrics such as CPU, memory and table utilization, link layer utilization and device state.

NetVisor OS Backup & Restore

Backup your fabrics automatically and restore switch nodes directly from the NetVisor UNUM Fabric Manager Topology Dashboard. Backup files are stored in a network file share and can be exported for storage elsewhere.



The real-time Topology Dashboard provides a comprehensive and interactive view of the Unified Cloud Fabric topology along with connected networked devices, endpoints and services with drill-down access to diagnostic and analytics data.

Endpoint Intelligence

NetVisor UNUM Fabric Manager leverages Netvisor OS vPort intelligence to identify fabric-connected endpoints. Operators can click and view all active endpoints connected to each switch directly from the network topology dashboard. When the Insight Analytics module is activated, operators can drill down to view real-time and historical endpoint performance metrics for an entire switch, a specific switch port or a specific endpoint.

VirtualWire

NetVisor UNUM Fabric Manager incorporates VirtualWire Technology in an easy-to-use, graphical dashboard, allowing administrators to create virtual links between ports. With VirtualWire, you can quickly build new topologies in software in a matter of minutes with visibility and troubleshooting built in, all at a fraction of the cost of traditional Layer 1 matrix switches. VirtualWire was formerly known as virtual link extension or vLE.

- VirtualWire enables the creation of point-to-point and point-to-multi-point virtual links across a fabric
- Facilitates the efficient sharing of expensive test tools (e.g., traffic generators), which can be dynamically moved across test environments
- Transparency to Ethernet frames and control plane protocols
- Distributed architecture enables flexible and geographically distributed deployments
- Creation by port description for simpler management
- Now includes an interactive dashboard of connected devices

Please refer to the VirtualWire solutions webpage for more information on IP VirtualWire and other VirtualWire Solutions.

Packet Broker

Arista's packet broker architecture provides pervasive and deep visibility across geographically distributed data centers leveraging open networking Ethernet switches. Now admins are able to manage the Packet Broker directly from NetVisor UNUM Fabric Manager via the new Packet Broker Dashboard. Please refer to the Network Packet Broker solution brief for more information.

Latest Features

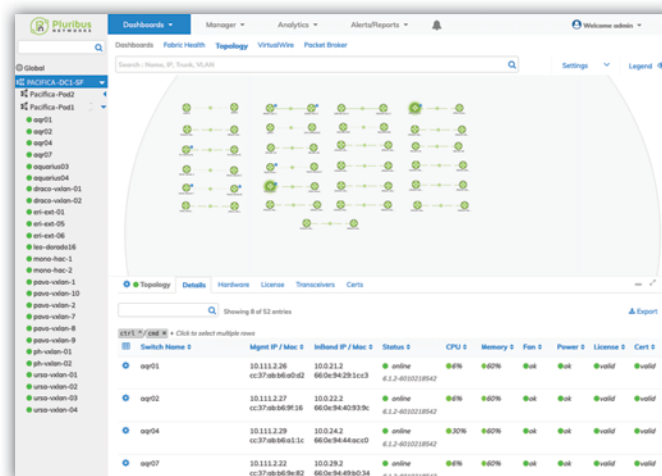
- Fabric Resource Groups – Administrators can conduct operations on a defined group of fabrics, switches, and/or ports as one logical entity, with a single action.
- Background Fabric Upgrades – Pre-stage your upgrade and trigger during downtime windows.
- Introductory Insight Analytics License – A new low-cost, one million flow license is now available allowing customers to kick the tires on Insight Analytics.
- Support for Netvisor ONE FlowTracker, expanding analytics visibility to UDP, DHCP, ICMP, and more.
- Fabric Designer – By simply drawing the network diagram on the fabric designer canvas, admins can now automate the creation of spine/leaf topologies with either an in-band Fabric over a Layer-3 network or an out-of-band Fabric over a management network.
- Micro-segmentation Dashboard - Graphical dashboard that simplifies the deployment of micro-segmentation by aggregating endpoints into security groups, then provisioning policy rules to permit/deny specific services and classes of traffic between them.
- Templates and Workflows - Automate repetitive configuration steps using templates containing multiple configlets in conjunction with port resource groups and use workflows to apply specific configuration details.

NetVisor UNUM Super Fabric Highlight

NetVisor UNUM Super Fabric enables the management of up to four pods as one, allowing a single command to propagate across all of the fabrics. A pod is simply a fabric being managed as part of a Super Fabric.

Customers requiring maximum uptime can use the VMWare vSphere High Availability solution in conjunction with the NetVisor UNUM Super Fabric for cost-effective failover protection against hardware and operating system outages.

Super Fabric deployments currently require a Professional Services engagement.



The NetVisor UNUM Super Fabric

NetVisor UNUM Archiver

Flow metadata and switch analytics can now be stored beyond the 30-day limit onto a user defined NFS solid state repository. The add-on UNUM-ARCHIVE-LIC license comes with a read-only viewer NetVisor UNUM that can load and display the saved metadata files, so there will be no impact to live operations. Admins can copy the archived files to other long- term storage for historical analysis and compliance purposes.

Switch Analytics

NetVisor UNUM Switch Analytics enables port telemetry and device diagnostics via a selection of searchable options such as fabric node, switch port, virtual port (vPort) and state, including a dashboard of all ports in the fabric.

- Switch Notifications - Allow users to sort and analyze syslog and SNMP data, as well as schedule reports and configure alerts.
- Port Stats - View port utilization and plot traffic across multiple ports over an adjustable period of time.

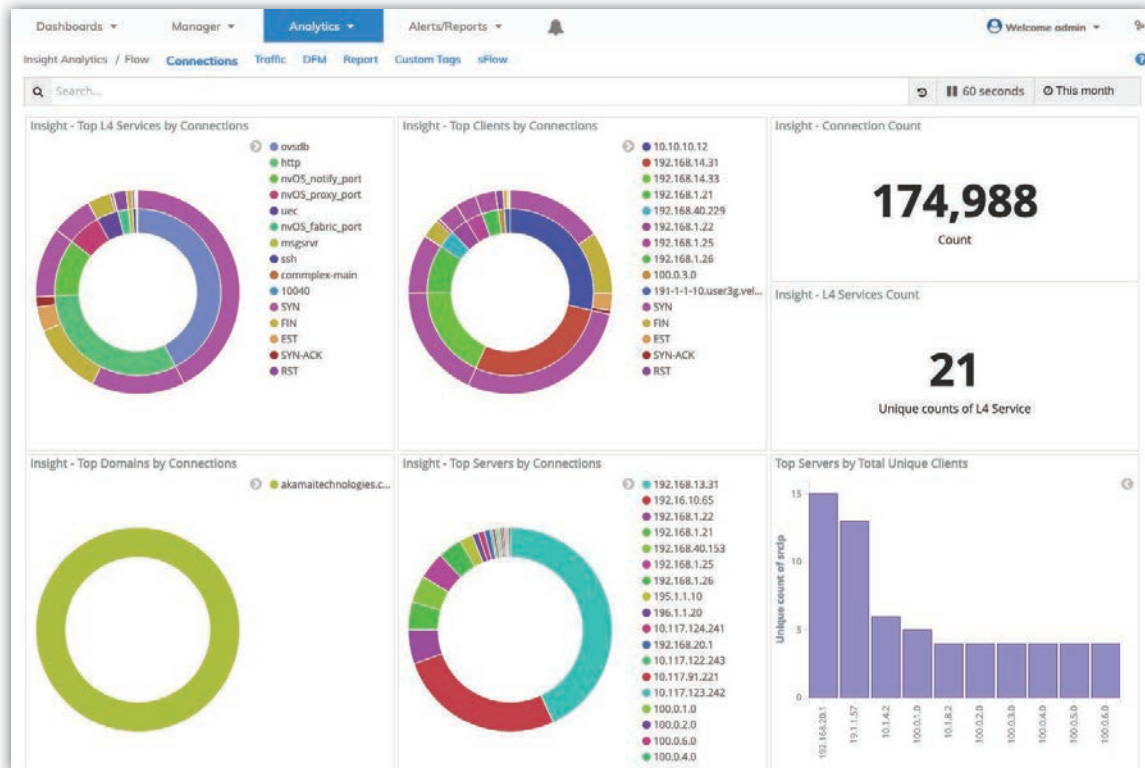
- Policy Stats (vFlow) - Administrators can now see the impact of the traffic policies set with the Pluribus Policy (vFlow) dashboard.
- Tunnel Stats - The Tunnel Stats dashboard displays information on VXLAN tunnels such as top input/output traffic and packet errors.
- The Schedule Reports module provides a method of creating customized reports, which are then sent by email to the user. Schedule Reports notifies the user of useful monitoring information, such as the information in the standardized view reporting high-level flow statistics over the past seven days. Use of the scheduler is an option that requires an additional license.
- The Alerts module provides a method of creating alerts notifying the user of critical monitored events. Alert Details, Alert Conditions, Schedule Details and Alert Action parameters can all be adjusted depending on the monitoring and alerting requirements. *Use of the Alerts module is an option that requires an additional license.*



NetVisor UNUM Switch Analytics Syslog Notifications Dashboard

Insight Analytics

Insight Analytics is a powerful optional analytics module within the Arista NetVisor UNUM platform that provides the IT operations team with proactive insight into network and application performance to assure peak operating performance and meet user experience expectations. Insight Analytics leverages embedded Netvisor monitoring telemetry and packet flow data sources to enable pervasive visibility across the network – eliminating the need for expensive probes or complex monitoring overlay networks. Also analyze Kubernetes containers and cluster components, application availability, and performance issues via NetVisor OS KubeTracker. Insight Analytics is an add-on license for NetVisor UNUM. For more information, please refer to the Insight Analytics datasheet on the [NetVisor UNUM Product Page](#).



NetVisor UNUM - Insight Analytics Flow Traffic Dashboard

Search

NetVisor UNUM Insight Analytics utilizes a powerful, distributed engine to store, filter, correlate and visualize vast amounts of data in real time, while isolating and filtering specific flows from millions, all in a fraction of a second.

Features of the search engine include:

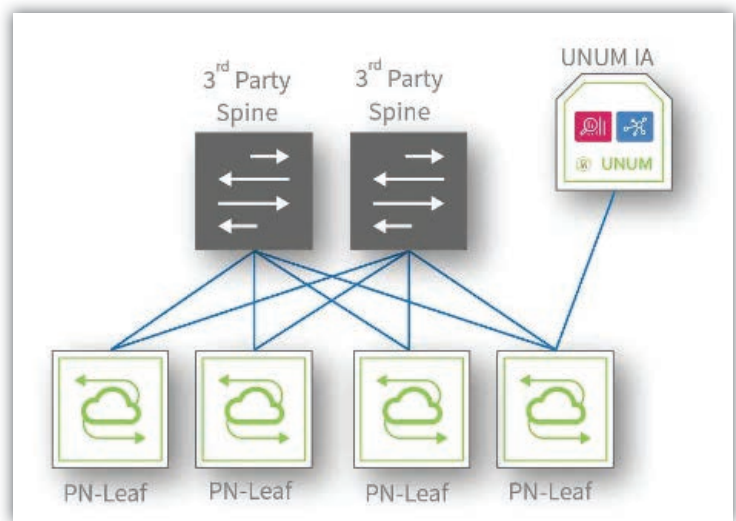
- Powerful query syntax to filter flow metadata information based on: field-based exact matches, regular expressions, ranges, Boolean operators.
- Selected views from the Connection Dashboard.
- Aggregated flow statistics: duration, latency, total bytes per connection.
- Extensive “time machine” functionality with absolute or relative year-month-day-hour-minute-second granularity.
- IP geolocation for client and servers.
- Detailed flow table consisting of over 30 metadata fields associated with each flow.

Alerts

Potential use cases for NetVisor UNUM Insight Analytics Alerts and programmable tagging include the detection of unauthorized access attempts, DDOS attacks or fabric node failure.

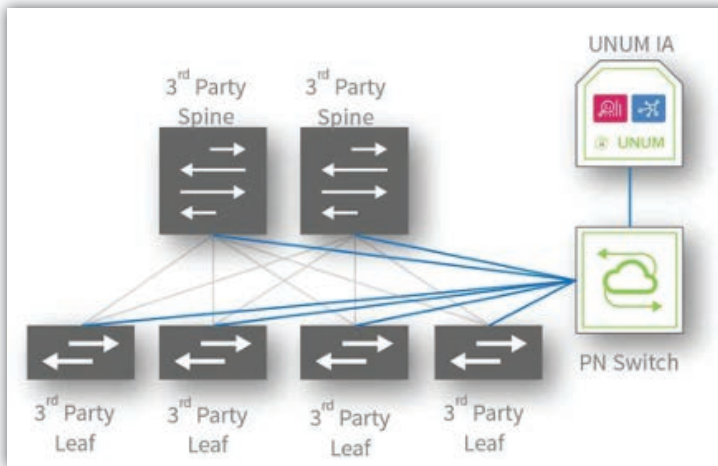
Deployment Options

Arista NetVisor UNUM Insight Analytics is deployed in one of two scenarios. The first is with NetVisor switches in-line to maximize the capture of switch telemetry for analysis, providing a comprehensive view of the fabric, including syslog and SNMP. Netvisor Flow, or nvFlow, is the technology used by NetVisor OS to collect metadata and telemetry for the Insight Analytics database.



Deployment Option #1
NetVisor UNUM Insight Analytics with Pluribus Netvisor OS switches in-line.

The second scenario is when a customer has an already-deployed network and would like to use IA as a collection and analysis tool for syslog data.



Deployment Option #2
NetVisor UNUM Insight Analytics with Pluribus Netvisor OS mirror switch

Licensing

The Arista NetVisor UNUM platform is simple to deploy and can manage and support any sized network with multiple fabrics distributed across multiple locations. Licensing is elastic, enabling pay-as-you-grow flexibility. Insight Analytics is a fully integrated module of NetVisor UNUM that is optionally activated through a license key.

Ordering Information

NetVisor UNUM software is available in three flavors: a BASE virtual machine, a medium capacity virtual machine, and a high-capacity option which can be ordered on an appliance or installed on four Dell RX740 servers. Refer to the Hardware Requirements and Scalability tables for more information on the different NetVisor UNUM options. See the ordering information below for Arista NetVisor UNUM, Insight Analytics, server appliances, and add-on reports/alerts. Support is ordered separately, and subscription options are available.

Arista NetVisor UNUM Software is available in three options.

- **UNUM-LIC** — Arista NetVisor UNUM BASE license.
- **UNUM-MC-LIC** — Arista NetVisor UNUM medium-capacity license.
- **UNUM-HC-LIC** — Arista NetVisor UNUM high-capacity license. Requires either the appliance option below or four Dell RX740 servers ordered directly from Dell, as well as professional services for deployment.

Insight Analytics Module License is optionally licensed in addition to the Pluribus UNUM software.

- **IA-MOD-LIC** — Arista NetVisor UNUM Insight Analytics module BASE license. Supports up to 100 million flows.
- **IA-MC-MOD-LIC** — Arista NetVisor UNUM Insight Analytics Medium-Capacity (MC) module license. Supports up to 500 million flows.
- **IA-HC-MOD-LIC** — Arista NetVisor UNUM Insight Analytics High-Capacity (HC) module license. Supports up to 2 billion flows. Cannot be deployed on existing customer hardware – HC server appliance or four Dell RX740 are required.
- **IA-SC-MOD-LIC** — Introductory, low-cost license for Insight Analytics that will enable the storage of 1 million flows.

NetVisor UNUM Appliance Hardware

- **AP-HC-HW** — NetVisor UNUM high capacity hardware server appliance. Hardware only (software licenses are required) – add to order when a high-capacity appliance is needed. Requires professional services deployment.

Other Optional, add-on NetVisor UNUM Licenses

- **UNUM-RPRT-LIC** — Arista NetVisor UNUM add-on reporting license.
- **UNUM-ALRT-LIC** — Arista NetVisor UNUM add-on e-mail alert license.
- **UNUM-ARCHIVE-LIC** — Archive daily snapshots capturing Insight & Switch Analytics meta data to an NFS repository (network folder) for long term storage. Includes a second Arista NetVisor UNUM “viewer” virtual machine so that archived data can be loaded and analyzed.

Insight Analytics is available in two versions depending on the monitoring capacity required. The BASE version supports up to 100 million flows, the medium capacity up to 500 million flows, and the high-capacity version up to 2 billion flows.

Support and Professional Services

Arista Networks offers a wide range of advanced services spanning the entire network lifecycle to protect investments and help accelerate success from initial deployment to ongoing optimization. Multiple extended support options are available, including on-demand global support, on-site support, advanced hardware replacements and customized technical training.

Professional implementation services can help design, deploy and optimize the operating environment tailored to your organization’s specific requirements. Maintenance options include direct access to a team of expert network engineers with deep networking experience and our self-service online Customer Portal. For more information about Pluribus support options, visit <http://www.pluribusnetworks.com/support> or contact a Arista Networks authorized reseller.

NetVisor UNUM and NetVisor OS Compatibility

Arista NetVisor UNUM supports the equivalent release of NetVisor OS, plus the prior version. For example, NetVisor UNUM 5.1.x supports NVOS versions 5.1.x and 5.0.x. For other combinations, please contact Arista Networks customer service before deploying.

Software Requirements & Specifications

Specifications provided are operational requirements to use NetVisor UNUM virtual machines. Values do not include ESXi resource requirements.

NetVisor UNUM Appliance	vCPU (cores)	RAM	Storage
NetVisor UNUM Base Capacity VM ⁴	8vCPU (4-core)	64 GB	480 GB SSD
<i>NetVisor UNUM Base Capacity VM - Archive Viewer</i> ^{1,3,4}	8vCPU (4-core)	64 GB	480 GB SSD
NetVisor UNUM Medium Capacity VM ⁴	8vCPU (4-core)	64 GB	960 GB SSD
<i>NetVisor UNUM Medium Capacity VM - Archive Viewer</i> ^{1,3,4}	8vCPU (4-core)	64 GB	960 GB SSD
NetVisor UNUM High Capacity VM Cluster ^{2,4}	Special	Special	Special
<i>NetVisor UNUM High Capacity VM Cluster - Archive Viewer</i> ^{1,3,4}	Special	Special	Special

¹ UNUM Archiver requires the Archiver license and a shared NFS SSD storage to store daily analytics snapshots.

² The High Capacity VM cluster runs on four servers. Direct software download for existing servers is not supported, dedicated hardware needs to be purchased. See the Hardware Requirements and Specifications table.

³ Customers wishing to use UNUM Archiver will require resources for a second VM (provided with the license).

⁴ All UNUM virtual machines require ESXi 6.7.

Server Hardware Specifications for NetVisor UNUM Virtual Machines

Specifications provided are the minimum necessary server resources to run the NetVisor UNUM virtual machine on dedicated hardware. This includes ESXi hardware requirements and resources for planned future expansions of NetVisor UNUM.

Bring Your Own Server	NetVisor UNUM Base Capacity Virtual Machine ⁵	NetVisor UNUM Medium Capacity Virtual Machine ⁵	NetVisor UNUM High Capacity Virtual Machine Cluster ^{1,5}
CPU	16 vCPU (8-core) ²	16 vCPU (8-core) ²	32 vCPU (8-core) ² per server
Memory	96 GB	96 GB	256 GB per server
Local SSD	480 GB ^{4,6}	960 GB ^{4,6}	1920 GB ^{4,7} per server
Shared NFS SSD	480 GB required for HA ^{3,4}	960 GB required for HA ^{3,4}	960 GB required for HA ^{3,4}
VMWare ESXi Hypervisor	6.7, 7.0	6.7, 7.0	6.7, 7.0
Client Requirements	Google Chrome (Version 44+) Mozilla Firefox (Version 39+)	Google Chrome (Version 44+) Mozilla Firefox (Version 39+)	Google Chrome (Version 44+) Mozilla Firefox (Version 39+)
NIC	Dual 10G Base-T NIC ⁸	Dual 10G Base-T NIC ⁸	Dual 10G Base-T NIC ⁸
High Availability (HA)	Yes ^{3,7}	Yes ^{3,7}	Yes ^{3,7}

¹ The High Capacity VM cluster can be installed as a cluster on four dedicated DELL RX740 servers. Direct software download for existing servers is not supported, dedicated hardware or the appliance needs to be purchased. The Dell configuration requires professional services installation as well as an external 10 Gbps switch is needed to enable internal cluster communication.

² All versions of UNUM require CPU clock speeds of 2.4 GHz CPU's or higher.

³ All High Availability configurations require the following: UNUM 6.0+, the VMware vSphere 6 Enterprise Plus or Standard License, the UNUM base license + any optional UNUM licenses, and a shared NFS SSD storage. Redundant (RAID-1) storage is recommended for the shared storage, as is a minimum of a 10 Gbps connection between the NFS storage and the servers.

⁴ Solid State Drives are required on all UNUM platforms.

⁵ No specific VMware license requirements for non-HA environments (ESXi free is OK).

⁶ In HA deployments, the local storage for the Base VM and Medium Capacity VM must meet recommended VMware hardware requirements. Pluribus recommends a minimum of 480 GB. 960 GB of shared NFS storage is still required.

⁷ In HA deployments, the local storage for two of the four servers in the High Capacity VM cluster can be reduced to 960 GB. 960 GB of shared NFS storage is still required.

⁸ UNUM can only support one direct in-band fabric connection via the eth2 interface. Management of multiple In-band fabrics requires the addition of an external switch.

Specifications for the NetVisor UNUM High Capacity Appliance

Customers without an ESXi infrastructure or limited compute resources can purchase a Pluribus Networks tested and validated, turnkey appliance with UNUM pre-installed. Simply rack, stack, and power on. UNUM is ready to go.

UNUM High Capacity Appliance ¹	
CPU	32 vCPU (16-core) per server
Memory	256 GB per server
Local SSD	1920 GB per server
Shared NFS SSD	960 GB required for HA
VMWare ESXi Hypervisor	6.7, 7.0
Client Requirements	Google Chrome (Version 44+) Mozilla Firefox (Version 39+)
NIC	Dual 10G Base-T NIC
High Availability (HA)	Yes
Rack Dimensions	1RU Base/Medium, 2RU High Capacity

¹The High Capacity appliance is four dedicated nodes of the listed specifications.

NetVisor UNUM Fabric Manager Scalability Matrix

	UNUM Base Capacity VM/Appliance	UNUM Medium Capacity VM/Appliance	UNUM High Capacity VM Cluster/Appliance
Maximum Netvisor One Switches	55	55	140
Maximum Unified Cloud Fabrics ⁵	10	10	10
Maximum Netvisor ONE Switches per Fabric ⁴	32	32	128 Leafs per Super Fabric ⁵
Syslog Records ¹	Up to 7 Days	Up to 30 Days	Up to 60 Days
Port Stats ^{2,6}	512	768	1536
Tunnel Stats ^{2,6,7}	246	384	768
vFlow Stats ^{2,3,6}	2560	3520	7040

¹Records storage is a rolling first-in first-out window of both flow (nvFlow) and switch analytics records.

²Numbers provided are aggregate values of active stats captured. To get a per switch value of active stats captured, divide the value provided by the total number of switches being managed by UNUM. For example, if the UNUM Base Capacity VM is managing 24 switches total, then 512 / 24 = 21 port stats per switch (rounding down).

³Local (switch) vFlows. Divide by number of switches to get fabric level vFlows, for example in an 8-node fabric, 2560 divided by 8 would be 320 fabric wide vFlows.

⁴Maximum fabric size of 32 switches is a Netvisor ONE limitation but is listed here for convenience. UNUM supports a number of fabrics and switches, up to the maximum amount of either switches or fabrics. For example, one fabric of 32 nodes, two fabrics of 24 and 26 nodes, three fabrics of 12, 18, and 20 nodes or five fabrics of 11 nodes each for the UNUM Base Capacity virtual machine.

⁵Super Fabric can manage up to four pods, up to 128 leafs and up to 12 spines. Without super fabric any combination of leafs and spines are supported up to 140 total, 32 nodes maximum per fabric.

⁶Number of simultaneous stats collected every ten seconds.

⁷A Tunnel is a virtual connection between two fabric end points.

NetVisor UNUM Insight Analytics Scalability Matrix

	UNUM Base Capacity VM/Appliance	UNUM Medium Capacity VM/Appliance	UNUM High Capacity VM Cluster/Appliance
IA Maximum Records Stored ^{1,2,3}	100 Million	500 Million	2 Billion
IA Analytics Records, Maximum Days ^{1,3}	Up to 30 Days	Up to 30 Days	Up to 30 Days 4
IA Peak Ingestion Rate ³	1000 flows/sec	1000 flows/sec	10,000 flows/sec

¹Records storage is a rolling first-in first-out window of both flow (nvFlow) and switch analytics records.

²Long-term retention of records, up to the value stated (100M, 500M, 2B). Variations based on network traffic can occur.

³Ingestion rate will affect the number of days of records are stored. This can vary based on fabric size and traffic patterns.

⁴Busy environments generating more than 1000 flows per second impact the number of days records are stored. If sustained 10,000 flows per second occur, the maximum days of records stored will be reduced to approximately one week. This environment can be mitigated using the UNUM Archiver license and external SSD storage.

Note: All UNUM fabrics are required to have a minimum of one switch with 16 GB of RAM to act as a communication node. Two 16 GB switches will be required if seed switch redundancy is implemented.

Specifications

The following are highlights of features provided by the Arista NetVisor UNUM platform. Many automation capabilities are integrated as part of the NetVisor OS and are not included in this summary.

Operational

- Runs in a VM as a virtual appliance
- Single node deployment
- High-performance cluster supported for analytics
- Device inventory
- Manual device discovery
- Automatic device discovery via LLDP
- Day-0 automation/Zero-touch provisioning (ZTP)
- Per-device logs of all actions taken by the portal
- Device connectivity status (up/down)
- Network provisioning - configuration
- Switch configuration management
- Change history tracking
- Device configuration validation
- View devices through network provisioning
- Filter view of network provisioning based on devices
- Topology mapping for Netvisor-enabled devices
- Third-party device topology mapping and visualization requires LLDP
- CLI/API command tracking via syslog dashboard
- vCenter Connection Service

Configuration

- Automated ongoing device configuration change management
- Automated detection and rollback of invalid configuration changes
- Network-wide rollback supported from Netvisor OS