

# Brocade Network Advisor: Storage Networking

## HIGHLIGHTS

- Automates tasks across the network to simplify management and reduce operating expenses
- Redefines storage management by monitoring both Fibre Channel and IP storage health and performance indicators using customizable, browser-accessible dashboards
- Accelerates the deployment of Fabric Vision technology across the network with one click
- Enables fast troubleshooting and problem isolation through comprehensive Brocade Fabric Vision diagnostics and dashboard playback
- Gives other systems visibility and provisioning access to Fibre Channel fabrics to simplify deployment tasks and ensure operational stability
- Maximizes existing investments with seamless integration into VMware, Microsoft, EMC, HP, and IBM management tools

## Simplified Network Management for Dynamic Storage Fabrics

Under pressure to reduce costs and increase agility, organizations can get stuck in a reactive mode, overspending through inefficiencies to keep their networks up and running. By standardizing and automating processes, however, network teams can proactively address availability and performance issues, and dramatically reduce costs.

Brocade® Network Advisor simplifies storage network management and helps organizations proactively diagnose and troubleshoot issues to maximize uptime, increase operational efficiency, and reduce costs. Customizable, browser-accessible dashboards present data from discovered devices, including advanced diagnostic information delivered through integration with Brocade Fabric Vision® technology (see Figure 1). As network issues arise, teams can drill down through the user-friendly interface for more details and rapidly identify, diagnose, and troubleshoot problems before operations are affected.

Fabric Vision technology features that can be managed through Brocade Network Advisor include:

- **IO Insight:** Proactively and non-intrusively monitors storage device IO performance and behavior through integrated network sensors at the storage tier, providing deep insight into problems and ensuring service levels.

- **VM Insight:** Seamlessly monitors Virtual Machine (VM) performance throughout a storage fabric with standards-based, end-to-end VM tagging. Administrators can quickly determine the source of VM/application performance anomalies, as well as provision and fine-tune the infrastructure based on VM/application requirements to meet service-level objectives.
- **Monitoring and Alerting Policy Suite (MAPS):** Leverages prebuilt, rule-/policy-based templates within MAPS to simplify fabric-wide threshold configuration, monitoring, and alerting. Administrators can configure the entire fabric (or multiple fabrics) at one time using common rules and policies, or customize policies for specific ports or switch elements. With Flow Vision and VM Insight, administrators set thresholds for VM flow metrics in MAPS policies in order to be notified of VM performance degradation.

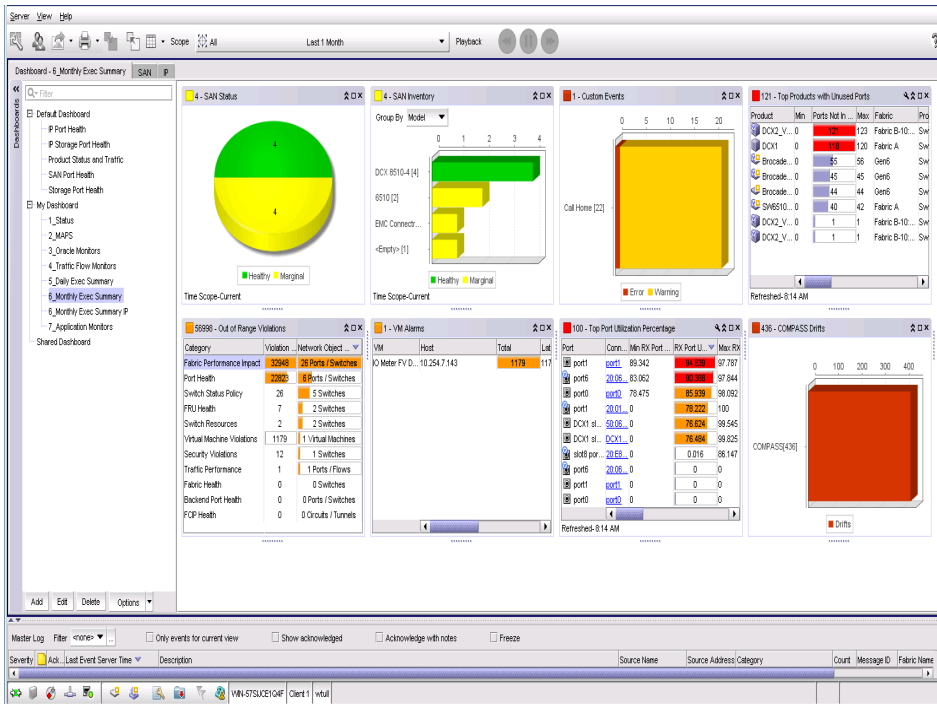


Figure 1: Brocade Network Advisor provides a complete dashboard view.

- **Fabric Performance Impact (FPI) Monitoring:** Leverages predefined MAPS policies to automatically detect and alert administrators to different latency severity levels, and to identify slow drain devices that could impact network performance. This feature identifies various latency severity levels, pinpointing exactly which devices are causing or are impacted by a bottlenecked port, and quarantines slow drain devices automatically to prevent buffer credit starvation.
- **Dashboards:** Provides integrated dashboards that display an overall SAN health view, along with details on out-of-range conditions, to help administrators easily identify trends and quickly pinpoint issues occurring on a switch or in a fabric.

- **Configuration and Operational Monitoring Policy Automation Services Suite (COMPASS):** Simplifies deployment, safeguards consistency, and increases operational efficiencies of larger environments with automated switch and fabric configuration services. Administrators can configure a template or adopt an existing configuration to seamlessly deploy a configuration across the fabric. In addition, they can ensure settings do not drift over time with COMPASS configuration and policy violation monitoring within the Brocade Network Advisor dashboards.
- **Brocade ClearLink® Diagnostics:** Ensures optical and signal integrity for Fibre Channel optics and cables, simplifying deployment and support of high-performance fabrics. ClearLink

Diagnostic Port (D\_Port) is an advanced capability of Fibre Channel platforms.

- **Flow Vision:** Enables administrators to identify, monitor, and analyze specific application flows in order to simplify troubleshooting, maximize performance, avoid congestion, and optimize resources.
- **Forward Error Correction (FEC):** Enables recovery from bit errors in device connections and ISLs, enhancing transmission reliability and performance.
- **Credit Loss Recovery:** Helps overcome performance degradation and congestion due to buffer credit loss.
- **Fabric Insight Portal:** A new Web client user interface designed with enhanced search capabilities to provide visibility into network inventory and basic performance data.

## Increase Availability

Once network issues have been identified, organizations need to be able to diagnose and fix problems quickly. Brocade Network Advisor enables rapid troubleshooting with multiple dashboard views, highlighting out-of-range conditions and providing drill-down menus for more performance details. As a result, administrators can correlate multiple data points across storage networks to make fast, informed decisions.

## Accelerate Troubleshooting

Brocade Network Advisor with Fabric Vision technology provides unprecedented insight and visibility into fabric health and performance through customizable dashboards and interactive topology views. In this way, Brocade Network Advisor transforms data into intelligence that storage teams can easily act upon to quickly identify potential issues, abnormal

behaviors, and trends at the device and fabric level. To further simplify network management and reduce costs, Brocade Network Advisor provides simple wizards and right-click menu options to automate critical tasks, from configuration through troubleshooting and reporting. These powerful capabilities enable storage teams to proactively manage their storage networks, maximize uptime, and optimize resources.

Brocade Network Advisor provides the following troubleshooting features:

- **Live monitoring and point-in-time playback:** Correlate real-time or historical device data across a choice of time scopes for advanced troubleshooting and performance management.
- **Network and time scope filters:** Set a variety of network and time scope filters across dashboard widgets to quickly isolate, correlate, and troubleshoot error conditions (see Figure 2).
- **Event management:** Receive SNMP traps, syslog event messages, and customizable event alerts for monitoring and reporting on specific conditions.
- **Configuration change management:** Select a default configuration and track changes between the current and default state to isolate the root cause. In the event of a failure, the default configuration can be restored to minimize disruption during troubleshooting.
- **Advanced Call Home:** Automatically collect diagnostic information and send notifications for fast fault diagnosis, isolation, and remote support operations.

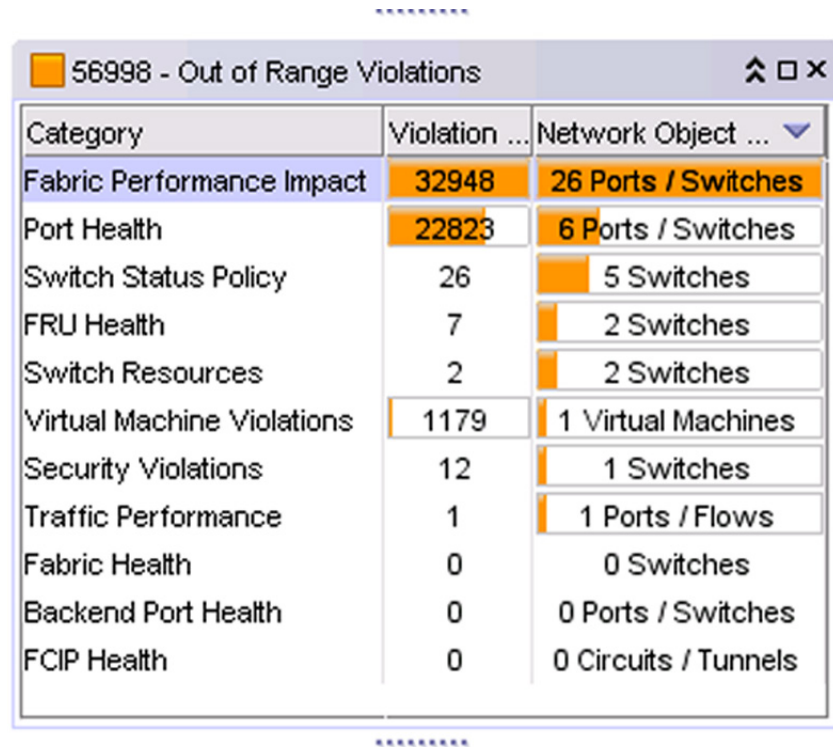


Figure 2: A dashboard widget displays out-of-range violations.

## Automate Operations

Brocade Network Advisor helps organizations manage the entire network management lifecycle, automating time-consuming tasks and freeing up valuable resources. The easy-to-use graphical user interface minimizes administrative effort for tasks such as network upgrades, guiding the user through otherwise complex operational tasks. In addition, bulk deployment and configuration automation provide significant time savings compared to repetitive switch-by-switch administrative tasks, reducing costs and increasing resource efficiency.

Brocade Network Advisor provides a programmable Web-based interface through a standard REST API that enables northbound systems to efficiently automate zoning, port provisioning, and status monitoring. Organizations can broaden visibility into storage networks by using the APIs to pull historical data and base inventory into storage and cloud management systems. In addition, the standard REST API leverages Brocade Fabric Vision technology to enable fabric-wide health and performance visibility via easy-to-read performance summaries.

## Flexibility through Partner Integration

To ensure organizations maximize their existing investments, Brocade Network Advisor integrates with a wide range of network management solutions—including tools from VMware, Microsoft, HP, EMC, and IBM—to provide end-to-end network visibility. Organizations also have the flexibility to extract data directly from Brocade Network Advisor for integration with homegrown applications by using the REST APIs, Open Database Connectivity (ODBC), or SMI-S.

Integration options include:

- **VMware vCenter integration:** Provides visibility into a VM's location on a Fibre Channel fabric.
- **Brocade integrations with VMware vRealize Operations:** Delivers Fibre Channel network health, risk, and efficiency insights to VMware vRealize Operations, enabling faster root-cause analysis and better VM and application performance. vRealize Log Insight integration helps virtualization and cloud teams further troubleshoot from within vRealize by presenting Brocade device log data.
- **OpenStack support via the community Cinder project:** Allows automation of Fibre Channel in an OpenStack cloud orchestration environment. This capability is leveraged by IBM PowerVC for Brocade Fibre Channel fabrics.
- **Brocade Network Advisor:** Provides automated zoning integration support via IBM Spectrum Control, HPE OneView, and Dell EMC ViPR Controller.

## Supported Technology and Platforms

Brocade Network Advisor provides comprehensive management for Fibre Channel and IP storage networks, including:

- Brocade Gen 6 Fibre Channel platforms
- Brocade Gen 5 Fibre Channel platforms
- Brocade DCX® Backbone family
- Brocade VDX® switches
- Emulex adapters
- QLogic adapters

## System Requirements

Brocade Network Advisor software and documentation are available via download. For full details on the recommended system specifications, refer to the [Brocade Network Advisor Installation and Migration Guide](#).

### Supported Client and Server Operating Systems

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- Windows Server 2008 R2 Standard, Data Center, and Enterprise Editions
- Windows Server 2012 and 2012 R2 Standard and Data Center Editions
- Windows 8.1 Enterprise and Windows 10 Enterprise
- Red Hat Enterprise Linux 6.6, 6.7, 7.0, and 7.1
- Oracle Enterprise Linux 6.6, 6.7, 7.0, and 7.1
- SUSE Linux Enterprise 11.3 and 12.0
- VMware ESXi (5.5, 6.0), VMware vCenter (5.5, 6.0), KVM RedHat Linux Enterprise 6.5, and Microsoft Hyper-V (Hyper-V Server 2008 R2, Windows Server 2012, and Windows Server 2012 R2 Data Center), including guest VMs of all of the above operating systems

### Server Requirements

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For 64-bit Windows and Linux systems: Intel Core 2 Duo Dual-CPU, 2.4 GHz or equivalent, 8 to 16 GB RAM, 80 GB disk are required. 32-bit systems are not supported. 16 GB RAM is required for the SAN+IP bundle and for medium or large networks. When deploying the Brocade Analytics Monitoring Platform, reference the Brocade Network Advisor server release notes.

### Browser Support

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Windows versions of Firefox, Internet Explorer, and Chrome are supported.

### Software Evaluation

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A 120-day, full-featured evaluation version of Brocade Network Advisor is available for download from [www.brocade.com/networkadvisor](http://www.brocade.com/networkadvisor). Install the software in minutes and start managing your network more effectively today.

## Ordering Information

Brocade Network Advisor is available in several packages, giving organizations the flexibility to choose what best meets their network requirements. Package options include SAN-only and SAN+IP. For additional details, refer to the [Brocade Network Advisor Software Licensing Guide](#).

License	License Description
SAN Professional (included, free of charge)	Up to 300 SAN switch ports and 2 SAN fabrics
SAN Professional Plus	SAN management, supports up to 2,560 switch ports and 36 SAN fabrics
SAN Enterprise	SAN management, supports up to 15,000 switch ports and 100 SAN fabrics

## Brocade Global Services

Brocade Global Services has the expertise to help organizations build scalable, efficient cloud infrastructures. Leveraging 20 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world-class professional services, technical support, and education services, enabling organizations to maximize their

Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

## Training and Education

Brocade Global Education Services offers Web-based training and instructor-led courses to share product information, tips, and best practices—and to provide hands-on experience with the product.

## Maximizing Investments

To help optimize technology investments, Brocade and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Brocade sales partner or visit [www.brocade.com](http://www.brocade.com).

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