

# BROCADE NETWORK ADVISOR

## NETWORK MANAGEMENT

## Unified Network Management for Data, Storage, and Converged Networks

### HIGHLIGHTS

- Simplifies operations by providing unified network management of Storage Area Network (SAN), IP (including Ethernet fabrics), and wireless environments
- Reduces operating expenses by providing comprehensive operations support within a single framework
- Simplifies data center automation through enhanced support for Brocade VCS Fabric technology
- Integrates seamlessly with industry-leading hypervisors and management solutions from Microsoft, VMware, EMC, HP, and IBM, maximizing the value of IT investments

The Brocade One® strategy helps simplify networking infrastructures through innovative technologies and solutions. Brocade Network Advisor supports this strategy by providing a single, easy-to-use network management platform for complete, unified control of SAN and IP environments across traditional operational boundaries.

Most IT organizations face similar challenges managing their networks—including minimizing downtime and managing application Service Level Agreements (SLAs). At the same time, they must find ways to reduce operational expenses. As networks are becoming increasingly complex and critical to business, many IT organizations rely on multiple point solutions that address only parts of the network, leading to cumbersome, error-prone operations. More than ever, these organizations need to simplify network management while meeting the demands of an evolving data center.

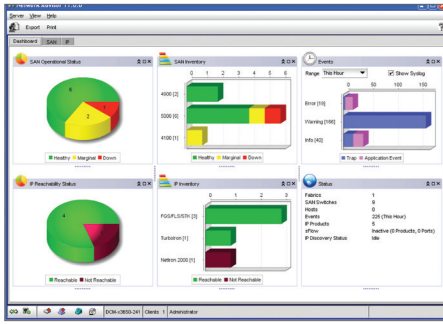
Brocade® Network Advisor provides the industry's first unified network management solution for data, storage, and converged networks. It supports Fibre Channel Storage Area Networks (SANs), including 16 Gbps platforms, Fibre Channel over Ethernet (FCoE) networks, Layer 2/3 IP networks (including those running Brocade VCS® Fabric technology), wireless networks, application delivery networks, and Multiprotocol Label Switching (MPLS) networks for service providers.

### RBAC FOR MORE EFFECTIVE MANAGEMENT

With Brocade Network Advisor, organizations have a single management framework for their entire network infrastructure, with intelligently designed interfaces and full Role-Based Access Control (RBAC) to support the needs of different network teams.

Organizations can use Brocade Network Advisor to manage their storage and data networks separately, or through a single instance of the product. This enables better coordination between storage and data networking administrators for provisioning, troubleshooting, and reporting. Similarly, organizations can manage wired and wireless enterprise campus networks within a single management application—propagating security and access policies across the entire enterprise and quarantining any malicious activity immediately.

# BROCADE



**Figure 1.**

Brocade Network Advisor provides a unified dashboard view of storage and IP networks.

Brocade Network Advisor provides several key capabilities that support unified management, including:

- Presents an at-a-glance summary of all discovered Brocade devices and third-party IP devices, including inventory and event summary information used to identify problem areas and help prevent network downtime (see Figure 1).
- Allows flexible definitions of administrator roles and responsibilities with RBAC for both SAN and IP management. This capability is seamlessly integrated with leading Authentication, Authorization, and Accounting (AAA) solutions.
- Provides an interface to configure and deploy Command Line Interface (CLI)-based configuration templates across one or more IP devices.
- Utilizes an easy-to-use Device Configuration wizard to configure and manage dynamically updated groups of devices. Using this feature, network administrators can manage software images and perform multi-switch management, including Virtual LAN (VLAN) configuration.
- Provides comprehensive management of MPLS services through the MPLS Manager. This includes an end-to-end visualization of MPLS topology across core and access networks, and the ability to drill down for advanced troubleshooting.
- Manages Brocade application delivery switches and provides easy-to-use Virtual IP (VIP), SSL certificate, and Global Server Load Balancing (GSLB) management.

## END-TO-END NETWORK MANAGEMENT

With Brocade Network Advisor, organizations can reduce operational expenditures by leveraging the same management solution

across different environments, including data center, enterprise campus, and service provider networks.

## Data Center Networks

Brocade Network Advisor provides comprehensive management of data center fabrics, including configuration, monitoring, and management of Brocade VDX® switches, the Brocade DCX® Backbone family, as well as Brocade routers, switches, Host Bus Adapters (HBAs), and Converged Network Adapters (CNAs). It also helps organizations discover, monitor, and manage converged FCoE network environments as well as IP switching and routing networks.

Brocade Network Advisor provides:

- Comprehensive management for Fibre Channel SANs (including Brocade 16 Gbps platforms), including zoning and end-to-end visualization spanning across HBA/CNA, storage, SAN fabrics, and Layer 2 switching; editing zone information and previewing its impact without affecting product fabrics; and SAN port diagnostics and bottleneck detection
- Proactive best-practices validation of SAN configurations
- Configuration, monitoring, and optimization of Fibre Channel over IP (FCIP) tunnels across WAN links
- FICON® and cascaded FICON environment configuration and management, as well as powerful analysis and diagnostic facilities

## Enterprise Campus Networks

The complexity of managing enterprise campus networks is increasing due to significant growth in services—such as Internet, e-mail, voice, video conferencing, real-time collaboration, and distance learning—that rely on highly available wired and wireless networks.

Brocade Network Advisor is an easy-to-use management solution for discovering, managing, and deploying configurations to dynamically updated groups of devices. Using the Device Configuration Manager tool, organizations can configure VLANs within the network, manage wireless Access Point (AP) realms, group Wireless LAN (WLAN) switches into domains for Layer 3 mobility support, or execute CLI commands on specific devices or groups of devices. Brocade Network Advisor centralizes

management of the entire family of Brocade Mobility wireless products, including APs and wireless controllers.

## Metro and Carrier Ethernet Networks

Today's exponential traffic growth in video, voice, data, and mobile broadband usage poses a challenge to administrators of regional service providers as well as large Telcos. All are seeking ways to simplify management, reduce operational costs, prevent bandwidth over-provisioning, and improve user service provisioning.

Brocade Network Advisor is a simplified yet powerful solution for discovering, monitoring, deploying, configuring, and managing Metro and Carrier Ethernet networks. It provides comprehensive management of MPLS services through the MPLS Manager and supports MPLS Virtual Private LAN Services (VPLS), Label Switched Path (LSP), Local VPLS, Virtual Leased Line (VLL), and Local VLL services with an intuitive interface. Brocade Network Advisor also provides full support for the IEEE 802.1ag Connectivity Fault Management (CFM) set of standards for end-to-end detection, isolation, and reporting of Ethernet faults across service provider networks.

## NON-STOP NETWORKING

Brocade Network Advisor helps organizations reduce network downtime through capabilities such as real-time and historical performance monitoring, traffic analysis, change management, and policy-driven remedial actions. Proactive alerts with real-time logging, diagnostic, and fault isolation capabilities help resolve issues before they impact SLAs.

Brocade Network Advisor offers key capabilities for:

- **Flexible reporting:** Brocade Network Advisor features a powerful and flexible reporting framework, along with predefined asset reports.
- **Event management with automated Call Home:** The Call Home feature automatically collects diagnostic information in response to predefined and user-defined events, and sends notifications to technical support organizations for faster fault diagnosis, isolation, and remote support operations.
- **Traffic analysis with sFlow:** Brocade Network Advisor leverages the hardware-based sFlow technology available on all

Brocade IP switches and routers to provide real-time network monitoring and accounting capabilities without impacting network performance. The Traffic Analyzer feature provides trend analysis, management, and monitoring tools for sFlow reporting, accounting, and presentation for all IP devices (see Figure 2).

**• Configuration management:**

The integrated Change Manager allows organizations to track device configuration changes, enabling viewing, retrieval, and restoration of configuration files, and monitoring of configuration drift for troubleshooting purposes.

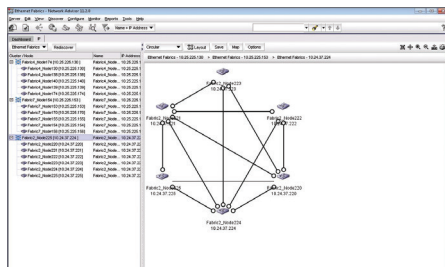


**Figure 2.**

The Brocade Network Advisor Traffic Analyzer feature provides an efficient way to view, retrieve, and report sFlow monitoring data.

**ADVANCED VCS FABRIC MANAGEMENT**

Brocade provides Ethernet fabric capabilities through Brocade VCS Fabric technology, available in the Brocade VDX switch family. (Learn more about VCS Fabric technology at [www.brocade.com/vcs](http://www.brocade.com/vcs).) Brocade Network Advisor greatly simplifies VCS management by providing a logical chassis view of the VCS fabric—with up to 24 Brocade VDX switches in the VCS domain. This enables network administrators to manage at a fabric level, instead of at the individual Brocade VDX switch level, through the entire lifecycle—including configuration, fault isolation, network performance, and diagnostics. Brocade Network Advisor is a simple yet powerful tool for defining and implementing network policies and services within VCS fabric domains. It also manages the Automatic Migration of Port Profiles (AMPP) technology and other Ethernet fabric features inherent in Brocade VCS Fabric technology.



**Figure 3.**

Brocade Network Advisor provides deep visibility with Ethernet fabric topology.

Brocade Network Advisor allows organizations to maximize their VCS Fabric technology investments by:

- Managing a Brocade VCS fabric as a single virtual switch while allowing drill-down into the fabric for monitoring and troubleshooting.
- Providing extensive visibility at both the VCS fabric and individual node levels.
- Simplifying port profile management by enabling network administrators to create, read, inventory, delete, associate, and disassociate profiles to Virtual Machines (VMs).
- Allowing rapid association between port profiles—including all attributes—and VMware port groups through tight integration with single or multiple VMware vCenters. This automation is particularly beneficial when thousands of VMs are involved. Moreover, Brocade Network Advisor can perform integrity checks of the port profiles across Brocade VDX configurations, either in the same fabric or across different VCS fabrics.
- Enabling VM-level monitoring to help identify top-talker applications leveraging sFlow across the VCS fabric. Brocade Network Advisor also correlates sFlow data to the destination VM for application performance insights.
- Providing VCS fabric diagnostics to visualize Ethernet fabric traffic paths, measure network latency, and perform fault isolation via hop-by-hop inspection.
- Managing large infrastructures with multi-fabric environments.

Learn more about Ethernet fabrics at [www.brocade.com/ethernet-fabric](http://www.brocade.com/ethernet-fabric).

**INVESTMENT PROTECTION THROUGH PARTNER INTEGRATION**

Brocade Network Advisor offers open, standards-based interfaces and provides deep integration with a wide range of third-party network monitoring, virtualization, wireless, and security solutions.

It integrates with leading server and storage automation solutions to bridge operational gaps across server, network, and storage administrators—providing end-to-end network visibility through frameworks such as the Storage Management Initiative-Specification (SMI-S) or through Brocade Partner solutions. These integrated solutions help:

- Obtain VM information from VMware ESX servers and correlate it with fabric device information to simplify the management of virtualized environments
- Provide end-to-end network visibility from VMs to storage ports through integration with VMware vCenter
- Offer seamless integration with Microsoft System Center Operations Manager (SCOM) to provide end-to-end network visibility to server administrators
- Provide out-of-the-box support for leading data center orchestration frameworks, including IBM TotalStorage Productivity Center and Systems Director, HP VirtualConnect Enterprise Manager and Storage Provisioning Manager, and EMC Next-Generation Resource Management Suite

**UNIQUE OFFERINGS FOR BROCADE NETWORK ADVISOR**

Brocade provides a variety of offerings and services for Brocade Network Advisor.

**Software Options**

Brocade Network Advisor is available with flexible package and licensing options for a wide range of network deployments and for future network expansion.

**Ease of Upgrade**

Brocade Network Advisor provides a non-disruptive path and functional continuity for organizations that are upgrading from Brocade IronView® Network Manager (INM) or Brocade Data Center Fabric Manager (DCFM®).

## 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.

## BROCADE GLOBAL SERVICES

Brocade Global Services has the expertise to help organizations build scalable, efficient cloud infrastructures. Leveraging 15 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.

## CLOUD-OPTIMIZED NETWORK ACQUISITION

Brocade helps organizations easily address their information technology requirements by offering flexible network acquisition and support alternatives to meet their financial needs. Organizations can select from purchase, lease, and Brocade Network Subscription options to align network acquisition with their unique capital requirements and risk profiles.

To learn more, visit [www.Brocade.com/CapitalSolutions](http://www.Brocade.com/CapitalSolutions).

## 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).

## SYSTEM REQUIREMENTS

Brocade Network Advisor software and documentation are shipped on a DVD or available via download. The following table includes the supported operating systems. For details on the recommended system specifications, refer to the *Brocade Network Advisor Installation Guide*.

## SUPPORTED OPERATING SYSTEMS FOR BROCADE NETWORK ADVISOR PACKAGE OPTIONS

Operating System	Package Options
<ul style="list-style-type: none"> <li>Windows Server 2003 Standard SP2 (x86 32-bit)</li> <li>Windows Server 2008 Standard (x86 32-bit)</li> <li>Windows XP Professional SP3 (x86 32-bit)</li> <li>Windows 7 Professional (x86 32-bit)</li> <li>VMware ESX and ESXi 5.0 with Guest VMs of: All of the above</li> </ul>	<ul style="list-style-type: none"> <li>SAN+IP (small), SAN-only, or IP-only (small, medium)</li> </ul>
<ul style="list-style-type: none"> <li>Windows Server 2008 R2 (x86 64-bit) Standard, Data Center, and Enterprise Editions</li> <li>Red Hat Enterprise Linux 5.6 and 6.1 Adv (x86 32-bit)</li> <li>Red Hat Enterprise Linux 5.6 Adv (64-bit)</li> <li>SUSE Linux Enterprise Server 11 (x86 32-bit)</li> <li>Oracle Enterprise Linux 5.6 and 6.1 (x86 32-bit)</li> <li>VMware ESX and ESXi 5.0 with Guest VMs of: All of the above</li> </ul>	<ul style="list-style-type: none"> <li>SAN+IP, SAN-only, and IP-only</li> </ul>

## BROCADE NETWORK ADVISOR SERVER REQUIREMENTS FOR 32-/64-BIT WINDOWS AND LINUX SYSTEMS

### Small Network

Intel Core 2 Duo, 2 GHz or equivalent, 4 GB RAM, 20 GB disk

### Medium Network

Intel Core 2 Duo Dual-CPU, 2.4 GHz or equivalent, 4 to 6\* GB RAM, 60 GB disk

### Large Network

Intel Core 2 Duo Dual-CPU, 2.4 GHz or equivalent, 4 to 6\* GB RAM, 80 GB disk

\* 64-bit Windows systems require 6 GB RAM.

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