

# BROCADE NETWORK ADVISOR

## NETWORK MANAGEMENT

## Simplified Network Management for Today's Increasingly Dynamic Networks

### HIGHLIGHTS

- Reduces Total Cost of Ownership (TCO) by providing proactive performance analysis and troubleshooting capabilities across Storage Area Networks (SANs) and IP networks
- Simplifies operations by enabling standardized network configuration policies
- Accelerates data center automation through enhanced support for Brocade VCS Fabric technology
- Centralizes campus network management of both wired and wireless networks by providing a unified management interface
- Integrates seamlessly with industry-leading hypervisors and management solutions from Microsoft, VMware, EMC, HP, and IBM, maximizing the value of IT investments

Today's IT organizations are under pressure to reduce costs, free up resources, and accelerate the introduction of private, public, and hybrid clouds for service delivery. Many are standardizing their operational processes and policies, and seeking ways to more proactively address availability and performance issues. During this transition, the network is increasingly becoming a focus area for both reducing unexpected downtimes and ongoing operational costs, while enabling greater IT and business agility.

Brocade® Network Advisor greatly simplifies daily operations while improving the performance and reliability of the overall Storage Area Network (SAN) and IP networking environment. This software management tool offers flexible and proactive SAN/IP network performance analysis in addition to IP network configuration change deployment and monitoring for compliance. Brocade Network Advisor supports Fibre Channel SANs, including Brocade Gen 5 Fibre Channel (16 Gbps) platforms, 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.

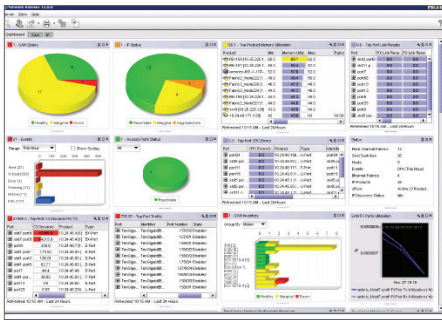
### KEY FEATURES FOR MORE EFFECTIVE NETWORK MANAGEMENT

With Brocade Network Advisor, organizations have a single management framework for their entire network infrastructure, with customizable interfaces supporting proactive monitoring.

Brocade Network Advisor provides several key capabilities, including:

- Presents a customizable at-a-glance summary of all discovered Brocade devices and third-party IP devices, including inventory and event summary information used to proactively identify problem areas and help prevent network downtime (see Figure 1)
- Enables performance management by providing customizable dashboards and historical data visibility
- Supports the needs of different network teams by providing full Role-Based Access Control (RBAC)
- Supports troubleshooting use cases with rapid navigation to identify problem areas
- Provides VMware vCenter and Microsoft SCOM virtual infrastructure administrators with visibility into SAN and IP networks

# BROCADE



**Figure 1.**

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

- Provides network administrators with visibility into VMware Virtual Machines (VMs)
- Provides comprehensive SAN management features across configuration and monitoring, including support for firmware management and technical supportSave via SFTP/SCP, bottleneck detection, SFP historical trending support, FICON® Port Decommissioning, Boot LUN Zoning, bulk port configuration, and reporting for adapters
- Provides comprehensive IP management features, such as VCS fabric management, CLI Manager parameterization, customizable configuration policy management, IP telemetry configuration support for Brocade MLX® Policy-based Routing (PBR), and unified management for campus wired and wireless networks
- Enables management of MPLS services
- Manages Brocade application delivery switches, Virtual IP (VIP), SSL certificates, and Global Server Load Balancing (GSLB)

## 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. 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.

## Data Center IP Networks: Advanced VCS Fabric Management

Brocade provides Ethernet fabric capabilities through Brocade VCS Fabric technology, available with Brocade VDX® switches.

(Learn more about VCS Fabric technology at [www.brocade.com/vcs](http://www.brocade.com/vcs).) Brocade Network Advisor greatly simplifies VCS fabric management by providing a logical chassis view of the VCS fabric—with up to 24 Brocade VDX switches in the VCS fabric domain (see Figure 2).

This enables network administrators to manage at the fabric level, instead of at the individual Brocade VDX switch level, through the entire lifecycle—including configuration, fault isolation, network performance, and diagnostics.

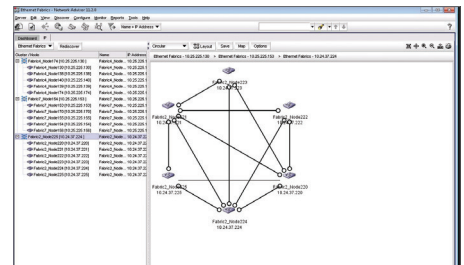
Brocade Network Advisor is a simple yet powerful tool for defining and implementing network policies and services within VCS fabric domains. It also manages the Automatic Migration of Port Profiles (AMPP) technology and other Ethernet fabric features inherent in Brocade VCS Fabric technology.

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 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 switch configurations, either in the same fabric or across different VCS fabrics.
- Enabling VM-level monitoring to help identify top-talker applications by 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).



**Figure 2.**

Brocade Network Advisor provides deep visibility with Ethernet fabric topology.

## Data Center SAN Networks

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

Brocade Network Advisor provides:

- Comprehensive management for Fibre Channel SANs (including Brocade Gen 5 Fibre Channel [16 Gbps] platforms), including zoning and end-to-end visualization spanning across HBAs and CNAs, 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 capabilities

## 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. Brocade Network Advisor centralizes management of the entire family of Brocade wired and wireless products by providing a unified management interface, including support of Access Points (APs) and wireless controllers. Organizations can use the CLI Manager and policy monitoring features across wired and wireless networks to check end-to-end VLAN consistency and to gain other insights. Additional drill-down capability is provided via the wireless Device Configuration Manager tool.

## 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.

## EFFECTIVE OPERATIONS FOR NETWORKING RESOURCES

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. In addition, proactive alerts with real-time logging, diagnostic, and fault isolation capabilities enable organizations to resolve issues before they impact Service Level Agreements (SLAs).

Brocade Network Advisor offers key capabilities for:

- **Performance and historical data reporting:** Brocade Network Advisor enables proactive monitoring and advanced troubleshooting by providing both customizable performance dashboards and historical data visibility (see Figure 3).

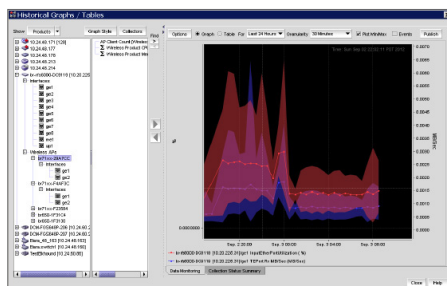


Figure 3.

Brocade Network Advisor enables historical data visibility.

- **Flexible reporting:** Brocade Network Advisor features a powerful and flexible reporting framework, along with predefined asset reports.
- **Event management:** 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:** 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 4).
- **Configuration management:** The CLI Manager and Configuration Change Manager allow organizations to track device configuration changes, enabling viewing, retrieval, and restoration of configuration files, and monitoring of configuration drift for troubleshooting purposes.

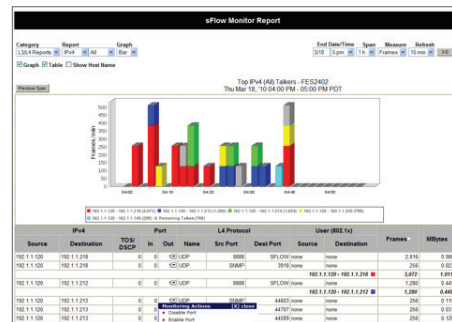


Figure 4.

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

## 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.

Brocade Network Advisor 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 SAN and VCS 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.

### 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 (Architecture)/Installer	Supported Package
<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>Red Hat Enterprise Linux 6.1 Adv (x86 32-bit)</li> <li>Oracle Enterprise Linux 6.1 (x86 32-bit)</li> <li>SUSE Linux Enterprise Server 11 (x86 32-bit)</li> <li>VMware ESXi 5.0, KVM, and Microsoft Hyper-V (Hyper-V Server 2008 R2 SP1) with Guest VMs of: All above</li> </ul>	SAN-only, IP-only, SMIA-only for small and medium configurations
<ul style="list-style-type: none"> <li>Windows Server 2008 R2 (x86 64-bit) Standard, Data Center, and Enterprise Editions</li> <li>Windows 7 Professional (x86 64-bit)</li> <li>Red Hat Enterprise Linux 6.1 Adv (x86 64-bit)</li> <li>VMware ESXi 5.0, KVM, and Microsoft Hyper-V (Hyper-V Server 2008 R2 SP1) with Guest VMs of: All above</li> </ul>	SAN+IP, SAN-only, IP-only, SMIA-only

## 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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