

BROCADE FABRIC WATCH

STORAGE AREA NETWORK

HIGHLIGHTS

- Increases availability and avoids costly failures by proactively monitoring numerous fabric and switch elements
- Optimizes fabric-wide performance and resource utilization through threshold-based monitoring and alerting
- Minimizes application impact through early detection of SFP degradation
- Provides automatic event notifications when switch and fabric elements exceed user-defined thresholds
- Quickly identifies and automatically fences unstable ports to enhance fabric stability
- Detects and provides notification of security violations
- Is integrated with Brocade Network Advisor and easily integrates with enterprise systems management solutions

The Brocade One™ strategy helps simplify networking infrastructures through innovative technologies and solutions. Brocade Fabric Watch supports this strategy by improving SAN availability and performance without installing new software, hardware, or system administration tools.

The Intelligent Monitor for Optimized Data Center SANs

IT organizations are deploying unprecedented virtualization and new cloud-based Storage Area Network (SAN) architectures to increase flexibility and efficiency, and reduce capital and operational costs. To achieve these objectives, IT administrators need new tools that can help them ensure non-stop operations, maximize application performance, and optimize IT resources—while simplifying administration.

Brocade® Fabric Watch is a comprehensive and proactive health monitoring and threshold-based alerting tool for Brocade SAN switches and fabrics. Licensed separately, Fabric Watch enables each switch to constantly watch its SAN fabric for potential issues and faults—and automatically alert network managers to problems before they become costly failures.

Fabric Watch tracks a variety of SAN fabric elements, events, and counters. Continuous monitoring of the end-to-end fabric, switches, ports, Inter-Switch Links (ISLs)/ Inter-Chassis Links (ICLs), transceivers, system resources, security enforcement, and performance permits early problem detection and isolation, improving fabric and application availability. Automated alerts via e-mail, SNMP, or RASlogs streamline administration and accelerate problem resolution.

Unlike many systems monitors, Fabric Watch is easy to configure. Network administrators can select custom fabric elements and alert thresholds—or they can choose from a selection of preconfigured settings. In addition, it is easy to integrate Fabric Watch with enterprise systems management solutions.

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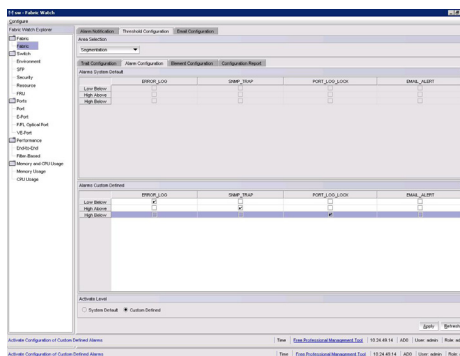
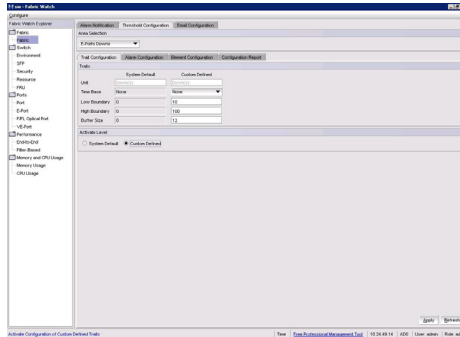
By implementing Fabric Watch, storage and network managers can rapidly improve SAN availability and performance without installing new software, hardware, or system administration tools.

CONTINUOUS MONITORING FOR LARGE, COMPLEX SAN FABRICS

For many organizations, SAN fabrics are a mission-critical part of their systems architecture. These fabrics can include hundreds of elements, such as physical and virtual hosts, storage devices, switches, and ISLs. A flexible solution like Fabric Watch can optimize SAN value by tracking a wide spectrum of potential fabric issues and events, such as:

- **Fabric resources:** Fabric reconfigurations, ISL segmentations and failures, zoning changes, and new logins
- **Switch environmental functions:** Temperature, power supply, fans, CPU and memory usage, and CompactFlash usage
- **Port state:** Changes, errors, and traffic information for multiple port classes, with automatic port fencing if specified error conditions exist
- **Frame monitoring:** To detect certain types of frames, such as excessive SCSI reservations in Virtual Machine (VM) environments

- **Small Form-Factor Pluggable (SFP) state:** Changes, temperature, voltage, Tx power, Rx power, and “power-on hours” for Brocade 16 Gbps SFP+ optical transceivers to determine aging
- **Security violations:** Attempted user logins, device logins, and other breaches in security policy
- **Performance information via Brocade Advanced Performance Monitoring:** End-to-end transmit and receive performance, ISL performance, and top bandwidth-consuming data flows



Figures 1. and 2.
Brocade Fabric Watch enables configuration of default or custom-defined traits and alert thresholds.

AUTOMATIC EVENT NOTIFICATION

Fabric Watch lets administrators define how often to monitor each switch and fabric element, and specify notification thresholds. Whenever fabric elements exceed these thresholds, Fabric Watch automatically provides an event notification.

Fabric Watch provides automatic notifications using a triggered alarm. A triggered alarm generates one warning when a threshold condition is reached, and a second alarm when the threshold is cleared. Triggered alarms are frequently used for performance and frame monitor thresholds.

FLEXIBLE EVENT DATA

Fabric Watch provides event notifications in several different formats to help ensure that event details are accessible from all platforms and operating systems. In response to an event, Fabric Watch can record the following event data:

- **E-mail alert:** Following an event, Fabric Watch can send an e-mail alert to up to five (5) e-mail addresses.
- **Simple Network Management Protocol (SNMP) trap:** Following an event, Fabric Watch can transmit critical event data as an SNMP trap. Support for SNMP makes Fabric Watch readily compatible with both network and enterprise systems management solutions.
- **Event log entry:** Following an event, Fabric Watch can add an entry to an individual switch’s internal event log.

SEAMLESS INTEGRATION WITH EXISTING MANAGEMENT TOOLS

Fabric Watch is integrated into Brocade Network Advisor, providing support for port fencing, frame monitoring, and performance thresholds. Brocade Network Advisor also provides a launch point to Brocade Web Tools for Fabric Watch configuration.

In addition, network administrators can easily integrate Fabric Watch with existing enterprise systems management tools, including:

- **SNMP-based enterprise managers:** The Fabric Watch Management Information Base (MIB) lets administrators configure fabric elements, receive SNMP traps generated by fabric events, and obtain the status of fabric elements through SNMP-based enterprise managers.
- **Brocade Web Tools:** By running Fabric Watch with Web Tools (a Web-enabled SAN management solution), network administrators can configure Fabric Watch and query fabric events from the Web Tools interface.
- **UNIX system log daemon:** Through its integration with syslogd, the UNIX operating system's standard interface for system logging and events, Fabric Watch can bring SAN events into the log.

RAPID DEPLOYMENT AND CONFIGURATION

Fabric Watch is designed for rapid deployment, custom configuration, and immediate fabric monitoring. To accelerate deployment, Fabric Watch comes with preconfigured profiles for rapid, "out-of-the-box" implementations. If customization is desired, network administrators can easily create and modify default settings to meet their specific requirements.

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, network monitoring services, and education, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

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.

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