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Product Brief

Brocade® SANnav™ Management Portal and SANnav Global View

Highlights

- Eliminate tedious and repetitive tasks to manage, monitor, and alert on issues impacting the SAN
- Gain an immediate understanding of the health, performance, and points of interest across the SAN
- Quickly identify anomalies through alarms to facilitate fault isolation and troubleshooting
- Scale your business services without compromising performance through state-of-the-art software infrastructure
- Get to the right information at the right time with near real-time processing, even at scale
- Manage up to 25 different user sessions at the same time with the same performance
- Accelerate the deployment of new switches, hosts, and targets with configuration policy management
- Identify zoning database inconsistencies at any time through zone summary views
- Safeguard the integrity and security of the entire SAN with automatic identification, retrieval, and application of FOS certificates
- Meet the performance demands of the largest enterprises by aggregating up to 20 instances with SANnav Global View

Autonomous SAN

Brocade SANnav Management Portal, with its intuitive one-click drill-down interface, leverages Brocade autonomous SAN technology to deliver a more dynamic, more comprehensive, and faster SAN management experience. The user interface enables administrators to simplify monitoring, troubleshooting, and provisioning across both global and local instances.

Abstract All of the Complexity of Managing a SAN

IT organizations are facing an ever-increasing volume, variety, and velocity of data, yet users still expect data centers to deliver maximum performance, business intelligence, and operational efficiency. As organizations race to modernize the data center to support innovation and digital transformation, these demands are driving the storage network to evolve even faster to accommodate new applications. Therefore, SAN administrators need ways to simplify management, visualization, and analysis of their SAN performance and overall operational health. Many organizations, however, lack these capabilities due to the growing complexity of their IT environments and the lack of easy-to-use SAN management tools.*

Brocade® SANnav™ Management Portal and SANnav Global View empower IT by simplifying processes and delivering the right information at the right time. SANnav Management Portal processes and transforms billions of metrics about SAN behavior and performance into actionable insights, allowing administrators to quickly identify, isolate, and correct problems even before they start impacting the business. In addition, SANnav Management Portal and SANnav Global View eliminate the tedious and repetitive tasks of managing, monitoring, and alerting on issues impacting the SAN. These products accelerate administrative tasks by applying a single action across multiple SAN switches using bulk actions.

Figure 1: Dramatization of Both Brocade SANnav Management Portal and SANnav Global View

*Three-quarters of senior IT decision-makers surveyed by ESG said that their IT environment has become more complex in the last two years. ESG, ESG Master Survey Results, 2021 Technology Spending Intentions Survey, December 2020.

Autonomous SAN (cont.)

An administrator can seamlessly drill down to view historical or real-time I/O traffic on any point of interest by invoking investigation mode on any SAN switch, port, extension tunnel, extension circuit, or flow. This ability to point and click anywhere within the SANnav Management Portal to access investigation mode dramatically reduces troubleshooting time.

The combination of SAN telemetry and automation technologies unlocks the capabilities to deliver a self-learning, self-optimizing, and self-healing autonomous SAN.

Self-Learning:

- Gather and transform millions of data points into network intelligence
- Visualize application-based and device-based performance and health metrics
- Detect abnormal traffic behavior and degraded performance
- Eliminate operational steps by automatically learning application flows

Self-Optimizing:

- Optimize critical application performance by automatically prioritizing traffic
- Guarantee application performance by proactively monitoring and actively shaping traffic
- Eliminate human errors and performance impacts through open DevOps automation technology
- Optimize administrative resources with cloud-like SAN orchestration

Self-Healing:

- Instantly notify end devices of congestion for automatic resolution
- Ensure data delivery with automatic failover from physical or congestion issues
- Detect and automatically reconfigure out-of-compliance fabrics
- Eliminate performance impacts by automatically taking corrective action on misbehaving devices

Scale without Compromising Performance

Most organizations are overwhelmed by the enormous volume of storage data that they must process daily. Even well-managed IT organizations struggle to keep up with the demand for storage. SANnav Management Portal enables linear scale of business services without compromising performance so that organizations can easily scale their management to meet the requirements of new servers and storage being deployed. With the enormous growth, organizations also need to reduce the manual process of correlating millions of data points to extract useful information for the business. To increase efficiency, enterprises need tools that collect, aggregate, distribute, and serve up the right data at the right time. SANnav Management Portal delivers actionable intelligence in a consumable and uniquely optimized manner for up to 25 different users at the same time. This actionable intelligence is collected and processed in near real-time via streaming from FOS switches and state-of-the-art software infrastructure for SANnav Management Portal.

Reduce Administrative Tasks by Automating Processes

Even the most experienced storage administrator can get overwhelmed by the operational steps required to deploy and manage new resources, fabric zoning, inventory, reports, and security settings and extract intelligence from it all. SANnav Management Portal focuses on automating as many processes as possible to free up operational cycles so administrators can focus on tasks. With configuration policy management, it accelerates the commissioning or replacing of switches, hosts, and storage arrays. It also has features that automatically identify inconsistencies with zoning databases in multiple SAN fabrics, security-related features, and many other features.

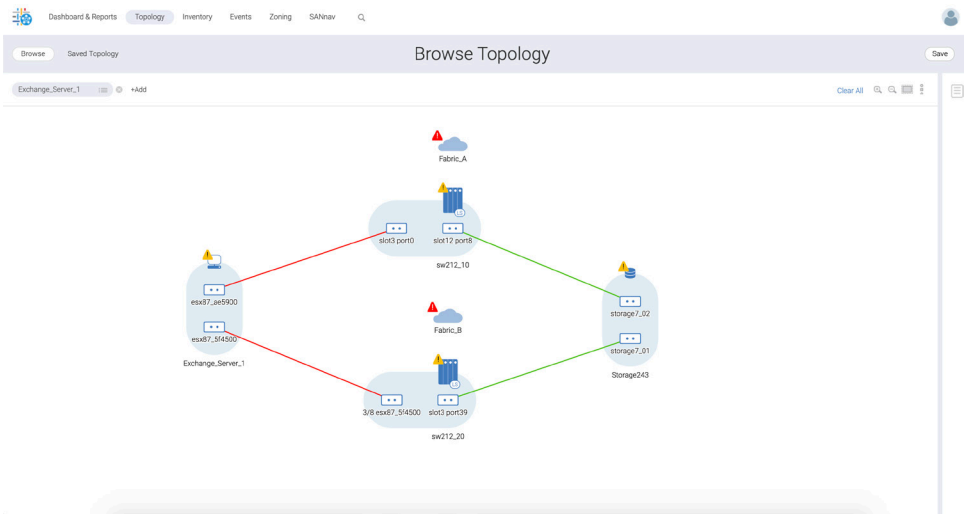
SANnav Management Portal

SANnav Management Portal is a next-generation SAN management application, architected from the ground up with a simple browser-based graphical user interface (GUI) and a focus on streamlining common workflows, such as configuration, zoning, deployment, troubleshooting, and reporting. With SANnav Management Portal, the administrator's frequent tasks of configuring SAN switches or provisioning new devices to fabrics are no longer a matter of sending hundreds of individual CLI commands to multiple switches. Instead, configuration policy management and zoning management allow SAN administrators to quickly and consistently configure hundreds of switches and devices in matters of seconds and, very importantly, in a non-error-prone fashion. SANnav Management Portal also increases operational efficiencies by enabling enhanced monitoring capabilities, providing faster troubleshooting, and greatly simplifying frequent and common configuration use cases.

Key features and capabilities of Brocade SANnav products include the following:

- **Configuration management** – Applies consistent switch and monitoring configurations across environments with the policy-based configuration management feature. It allows users to view switches that have experienced configuration drifts and examine what exactly has changed in the environment. When such drifts occur, SANnav Management Portal allows the administrator to rectify the problems by enforcing the configuration policy on the switches associated with the policy. This ensures operational stability and maximum uptime.
- **Zoning** – Removes the complexity of managing large zone databases for multiple fabrics. SANnav Management Portal dramatically simplifies zoning configuration by providing highly simplified and intuitive workflows. With zone summary views, you can quickly identify all of the zone database inconsistencies, such as orphan zones or orphan zone members, and take action to repair them with simplified workflows. SANnav Management Portal helps tremendously with policy-based zoning, which allows users to quickly and accurately provision and zone servers and storage arrays across multiple fabrics.
- **Health Summary dashboard** – Provides at-a-glance views and summary health scores for fabrics, switches, hosts, and targets that may be contributing to performance issues within the network. The summary health score represents the overall health of the network from various perspectives, providing an overall score from 1 to 100. A score above 90 is healthy, 71 to 90 is degraded, and 70 or below is poor.
- **Network Port Traffic Congestion dashboard** – Allows the SAN administrator to quickly (up to the minute) and accurately identify congested or oversubscribed fabric ports (E_Ports or F_Ports). It identifies the topmost congested or oversubscribed ports over a period of time, up to the last 2 hours, for further investigation. Administrators can instantly drill down into any hot spots for investigation and take corrective action. Using this dashboard eliminates the guesswork by quickly and accurately identifying the ports that are either culprits or victims of SAN congestion or oversubscription.
- **Contextual-based topology views** – Allows users to quickly locate an object of interest without having to sift through irrelevant information. Visualizing relevant contextual information about a specific device, such as a particular switch, enables users to see all directly connected entities in the data path for that switch, as well as all end-point physical devices connected to that switch (see Figure 2). The topology view also enables users to search and graphically view various contexts, such as switches, switch ports, hosts, host ports, storage, and storage ports. While doing a context-based search, users can type any word to search within that context. A drop-down display under the search box then shows the search results.
- **Filters** – Provides users with the ability to sort through large amounts of data by selecting only attributes of relevant entities with a powerful and graphical SQL-like query mechanism. For example, users can search for all fabric 32G ports that are online and that are connected to a specific host. This filter reduces the displayed content to only the points of interest, allowing faster identification and troubleshooting. Filters are used and can be defined in almost every Brocade SANnav feature.
- **Investigation** – Collects and stores SAN performance statistics and telemetry data, which is then used to provide clear and intuitive time series graphs that plot key traffic metrics. It includes MAPS violations details for ports, links and trunks, extension tunnels and circuits, as well as flows, in order to help users understand and *investigate* complex traffic pattern behaviors. In addition, for selected ports, it can collect metrics more frequently and in near real time (at 10-second intervals).
- **Reporting** – Generates customized reports that provide summaries of inventory, performance, and health information, including all data captured using Brocade Fabric Vision® technology. Reports can be configured and scheduled directly from Brocade SANnav products to show only the most relevant data, enabling administrators to prioritize their actions and optimize network performance efficiently.
- **Alarms** – Aggregates group-related events through an intelligent data model that reduces millions of events and violations into hundreds of alarms. SAN switches generate many events and MAPS violations over the course of their lifetime: SNMP traps, RASlog or syslog events sent from FOS switches to SANnav Management Portal. Many of the raw events or MAPS violations are often closely related or even repeated. SANnav Management Portal alarm features reduce and summarize those related or repeated events and violations into a manageable number of alarms.

Figure 2: Topology View from SANnav Management Portal

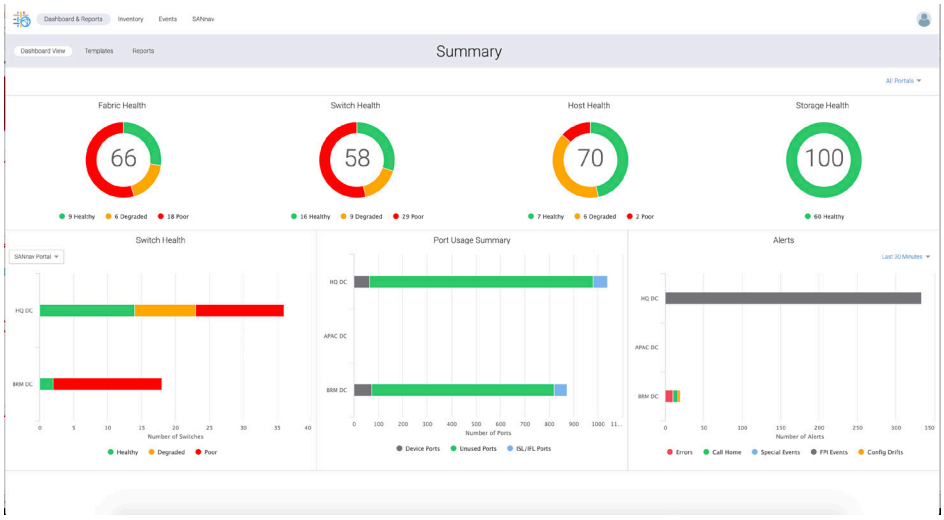


SANnav Global View

Whether an organization has data center locations across the globe or a single multitenant data center, it is important for administrators to be able to understand the health of the entire SAN. With SANnav Global View, administrators can quickly visualize the health, performance, and inventory of multiple SANnav Management Portal instances using a simple, intelligent dashboard.

In addition, administrators can easily navigate from SANnav Global View down to the local environment managed by SANnav Management Portal to investigate points of interest. Important events across all local environments are propagated at a global level for instant visibility in the alerts box. Using powerful search capabilities within SANnav Global View, administrators can then seamlessly navigate across instances and drill down into any individual SANnav Management Portal instance for additional details (see Figure 3).

Figure 3: Dashboard Display of SANnav Global View



SANnav Global View aggregates the configuration policy drifts detected by each SANnav Management Portal instance in a dashboard summary widget. With a few clicks, SANnav Global View provides the ability to enforce a customer's "golden" configuration policy across all instances of SANnav Management Portal that it manages. Subsequently, when drifts are detected by each SANnav Management Portal instance, they are aggregated into the main SANnav Global View Summary dashboard, thereby eliminating the need for the SAN administrator to monitor each local instance.

Brocade Fibre Channel hardware includes integrated network sensors that gather millions of real-time metrics that SANnav Management Portal uses to identify, monitor, and analyze the overall health and performance of the SAN. This data is then contextualized into dashboards that can be used to quickly detect and isolate problems. At a glance, administrators have actionable intelligence on the overall health of their fabric, switches, servers, and storage, which they can view in the form of summary health score circles (see Figure 3). The summary health score circles help administrators quickly identify areas that require further investigation. Administrators can drill down from each dashboard into investigation mode to further examine any relevant data for performance optimization or troubleshooting.

Realize the Autonomous SAN

Today's IT organizations are evolving, gradually shifting their focus away from infrastructure management and toward delivering value-added applications and services. An autonomous SAN self-discovers, self-heals, and simplifies operational processes and management tasks. It leverages machine learning and advanced analytics with automation to predict behavioral changes with historical trends and real-time monitoring. In the future, administrators will be able to leverage machine learning to create application profiles based on application behavior. They will then be able to apply automation software to run varying responses to a given situation, allowing them to see the potential impact before committing to an application or infrastructure change.

Administrators can use SANnav Management Portal and SANnav Global View to build the foundation for an autonomous SAN. These innovative products streamline workflows to accelerate the deployment of new applications, switches, hosts, and targets. They also automate key processes, such as deploying new resources, allowing administrators to reduce repetitive tasks and focus on strategic and frequent use cases. Brocade SANnav products further simplify operations through self-discovery and self-healing capabilities, which are used to identify and reconfigure out-of-compliance fabrics and switches, keeping the infrastructure up and running. For ongoing management processes, such as reporting, Brocade SANnav products automate the collection of data and generate customizable reports for different stakeholders.

Brocade Global Support

Brocade Global Support has the expertise to help organizations build resilient, efficient SAN infrastructures. Leveraging 25+ years of expertise in storage networking, Global Support delivers world-class technical support, implementation, and migration services to enable organizations to maximize their hardware and software investments, accelerate new technology deployments, and optimize the overall performance of their network.

Training and Education

Brocade Education provides free web-based training on Brocade SAN products and technologies. These self-paced training modules help customers and partners build the critical skills needed to install, configure, manage, and maintain SAN environments utilizing Brocade products. Visit www.broadcom.com/education.

Maximizing Investments

To help optimize technology investments, Brocade, a Broadcom company, 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.broadcom.com/brocade.

System Requirements

SANnav Management Portal and SANnav Global View software and documentation are available to download. For details on the recommended system specifications, refer to www.broadcom.com. Both the SANnav Management Portal Base Edition and the SANnav Management Portal Enterprise Edition fully support managing FICON environments.

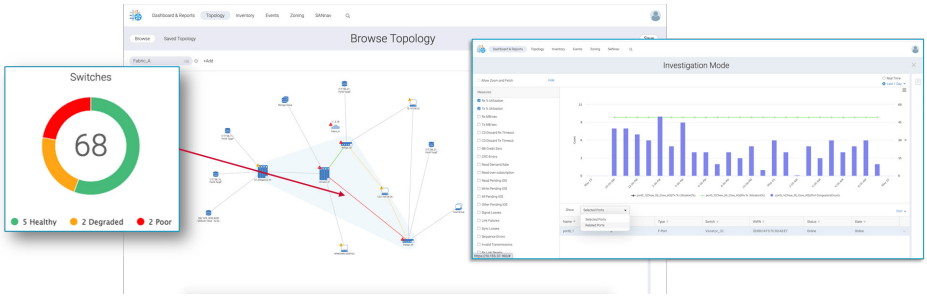
Browser Support

Chrome, Firefox, and Edge are supported.

Software Evaluation

30-day, full-featured evaluation versions of SANnav Management Portal and SANnav Global View are available for download. Please refer to the Brocade SANnav FAQ for more information. Install the software in only minutes, and start experiencing more effective SAN management.

Figure 4: Dramatization: Intuitive One-Click, Drill-Down Interface for Increased Workflow Efficiencies



Server Requirements						
Product/Edition	Max. Switch Ports/Instances under Management	Operating System	Host Type	vCPU	Memory	Hard Disk
SANnav Management Portal Base Edition (Manages switches only, no directors)	600 ports	RHEL 7.9, 8.4, 8.5, & 8.6 CentOS 7.9 only	Bare Metal/ESXi ESXi/HyperV VM OVA (CentOS 7.9)	16 cores	48 GB	600 GB
SANnav Management Portal Enterprise Edition (Required to manage directors)	Up to 3000 ports	RHEL 7.9, 8.4, 8.5, & 8.6 CentOS 7.9 only	Bare Metal/ESXi ESXi/HyperV VM OVA (CentOS 7.9)	16 cores	48 GB	600 GB
	Between 3000 and up to 15,000 ports	RHEL 7.9, 8.4, 8.5, & 8.6 CentOS 7.9 only	Bare Metal/ESXi ESXi/HyperV VM OVA (CentOS 7.9)	24 cores	96 GB	1.2 TB
SANnav Global View	Up to 20 SANnav Management Portal instances	RHEL 7.9, 8.4, 8.5, & 8.6 CentOS 7.9 only	Bare Metal/ESXi ESXi/HyperV VM	16 cores	32 GB	450 GB

Note: The *only* supported release of CentOS is CentOS 7.9. SANnav Management Portal and SANnav Global View *cannot* be installed and are *not* supported on any other release of CentOS including 8.x.

Note: SANnav Management Portal is not supported on Security Enhanced Linux (SE Linux) in Enforcing or Permissive mode on CentOS or RHEL (any version).

Ordering Information

All Brocade SANnav products are offered via subscription-based licensing. For additional details, refer to the Brocade SANnav FAQ on broadcom.com.

SANnav Management Portal		
License	Supported Ports	Duration
Trial (Enterprise Edition with no license)	15,000	30-day trial period.
Base Edition (Manages switches only, no directors)	600	BR SKUs are offered for 1-year to 7-year durations in increments of 1 year. All OEM SKU durations continue to be 1, 3, or 5 years.
Enterprise Edition (Required to manage directors)	15,000	BR SKUs are offered for 1-year to 7-year durations in increments of 1 year. All OEM SKU durations continue to be 1, 3, or 5 years.
SANnav Global View		
License	Supported Instances	Duration
Trial (No license)	20 SANnav Management Portal instances	30-day trial period.
SANnav Global View license	20 SANnav Management Portal instances	BR SKUs are offered for 1-year to 7-year durations in increments of 1 year. All OEM SKU durations continue to be 1, 3, or 5 years.

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For product information and a complete list of distributors, visit our website at: broadcom.com

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