IBM System Storage SAN42B-R extension switch

Extension solution designed to maximize performance and scalability for large, complex environments

IT organizations continually face two key issues: the unrelenting growth of data being transferred between data centers and the changes driven by virtualized application workloads within Fibre Channel and FICON storage environments. Also faced with rising service level agreement (SLA) requirements and recovery expectations, enterprise data centers need their disaster-recovery infrastructure to help ensure fast, continuous and simple access to mission-critical data from anywhere in the world.

The IBM System Storage® SAN42B-R extension switch is a purpose-built extension solution that securely moves more data over distance, faster, while minimizing the impact of disruptions. With enhanced extension capability and Fabric Vision technology,[1] SAN42B-R delivers outstanding performance, strong security, continuous availability and simplified management to handle the unrelenting growth of data traffic between data centers in Gen 5 and Gen 6 Fibre Channel and FICON storage environments. In addition, SAN42B-R is designed to help storage administrators replicate and back up large amounts of data over wide area network (WAN) quickly, securely, reliably and simply while minimizing operational and capital expenses.

A purpose-built extension platform for disaster recovery

The SAN42B-R switch provides an ideal platform for building a high-performance data center extension infrastructure for replication and backup solutions. It leverages any type of inter-data center WAN

transport to extend open-systems and mainframe storage applications over distances that would otherwise be impossible, impractical or too expensive with standard Fibre Channel connections.

Figure 1. IBM System Storage SAN42B-R provides scalable deployment options to extend disaster recovery and data protection storage solutions across any distance.

SAN42B-R addresses the most demanding disaster-recovery requirements. Twenty-four 16 Gbps Fibre Channel/FICON ports, sixteen 1/10 Gigabit Ethernet (GbE) ports and two 40 GbE ports provide the bandwidth, port density and throughput required to help maximize application performance over WAN connections.

Designed for maximum flexibility, this enterprise-class extension switch offers "pay-as-you-grow" scalability with capacity-on-demand upgrades. To meet current and future requirements, organizations can quickly and cost-effectively scale WAN rate from 5 Gbps to 40 Gbps per platform via software licenses to add bandwidth on demand. With compression enabled, organizations can scale up to 80 Gbps application throughput, depending on the type of data and the characteristics of the WAN connection.

The SAN42B-R base configuration offers a comprehensive set of advanced services, including: Fibre Channel over IP (FCIP), IP Extension, Fabric Vision, Extension Trunking, Adaptive Rate Limiting, IPSec, compression and Extended Fabric. Optional value-add licenses for Integrated Routing (FCR), FICON Control Unit Port (CUP) and Advanced FICON Accelerator are also available to help address a variety of storage networking challenges.[2]

Built for large-scale, multi-site data center environments, SAN42B-R is ideal for data protection for open systems and mainframes and for multi-site synchronous and asynchronous storage replication.

Industry-leading performance and scalability for data migration

The advanced performance and network optimization features of SAN42B-R enable replication and backup applications to send more data over metro and WAN links in less time. In addition, these features help optimize WAN bandwidth.

SAN42B-R is designed to meet the evolving requirements of highly virtualized data centers, enabling cost-effective extension solutions over distances up to 37,500 kilometers (23,400 miles).

This IBM extension solution offers additional benefits—SAN42B-R can help maximize replication and backup throughput over long distances using data compression, disk protocol acceleration, WAN-optimized TCP, and additional advanced features, as well as other extension networking technologies.[2]

Continuous availability between data centers

Today's organizations depend on fast, reliable access to data wherever and whenever needed, regardless of location. The ramifications and potential business impact of an unreliable disaster-recovery and data protection infrastructure are greater than ever.

SAN42B-R provides a suite of features to help ensure continuous availability of storage extension infrastructure—from pre-deployment validation tools to advanced network failure recovery technologies. For example, it has built-in tools to help validate the setup of WAN links, network paths and proper setup of configurations before deployment.

SAN42B-R combines enterprise-class availability with innovative features and nondisruptive firmware updates to support always-on business operations and maximize application uptime for Gen 5 and Gen 6 Fibre Channel and FICON platforms. These capabilities enable a high-performance and highly reliable network infrastructure for disaster-recovery and data protection.

Simplified management and robust network analytics

SAN42B-R includes Fabric Vision technology to help simplify monitoring, maximize network availability and dramatically reduce costs. Featuring innovative monitoring, management and diagnostic capabilities, Fabric Vision technology helps administrators avoid problems before they impact operations— and their SLAs. Some of the Fabric Vision technology[1] features supported by SAN42B-R are: Monitoring and Alerting Policy Suite (MAPS), Fabric Performance Impact (FPI) Monitoring,

dashboards, Configuration and Operational Monitoring Policy Automation Services Suite (COMPASS), ClearLink Diagnostics, Flow Vision, Forward Error Correction (FEC) and Credit Loss Recovery.[2]

Using IBM Network Advisor[3] software with SAN42B-R can also simplify storage networking management, helping administrators proactively diagnose and resolve issues to maximize uptime, increase operational efficiency and reduce costs.

Integrated architecture and management

SAN42B-R utilizes the same Fabric Operating System (FOS) that supports the entire IBM System Storage b-type Fibre Channel family. This helps ensure continuous interoperability with advanced features supported through FOS version releases such as Integrated Routing, FICON Management Service (FMS), Extension Trunking, Fabric Vision technology and Extended Fabrics.

In addition, organizations can perform management and administrative tasks through familiar management tools, including IBM Network Advisor, Web Tools, SAN Health Utility tool and the command-line interface (CLI). Moreover, optional FICON CUP capabilities enable legacy management applications to support FICON environments.

IBM System Storage SAN42B-R at a glance*

Product number	2498-R42
Hot-swappable components	Small form-factor pluggable (SFP) transceivers, power supply/dual-fan modules
Warranty	One-year; customer-replaceable unit and onsite; next-business-day response, warranty service upgrades are available
Optional features	Please refer to the SAN42B-R Redbooks Product Guide to review the most current optional features
Dimensions	Width: 44.00 cm (17.32 in.); Height: 8.64 cm (3.4 in.); Depth: 60.90 cm (24.01 in.)
Weight	20 kg (44.20 lb) with two power supplies, without SFP/SFP+

Why IBM?

Innovative technology, open standards, excellent performance, and a broad portfolio of proven storage software, hardware and solutions offerings—all backed by IBM with its recognized industry leadership—are just a few of the reasons to consider storage networking solutions from IBM. In addition, IBM delivers some of the best storage products, technologies, services and solutions in the industry without the complexity of dealing with different hardware and software vendors.

For more information

To learn more about IBM System Storage SAN42B-R, please contact your IBM representative or IBM Business Partner, or visit: **ibm.com**/storage/switches/san/b-type/san42b-r/

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