Lenovo ThinkSystem DB820S FC SAN Switch
Product Guide

The Lenovo ThinkSystem DB820S Gen 8 FC SAN Switch is a high-performance, 1U Fibre Channel switch, purpose-built to meet the demanding needs of modern data centers. With 56 128G SFP+ ports and unmatched low latency, this switch delivers exceptional bandwidth and throughput, making it ideal for fueling enterprise AI and modern workloads. With its compact design, the DB820S Switch enables efficient use of rack space while providing the scalability necessary for future growth.

As workloads become more demanding, cyber threats become more sophisticated, and the spectrum of threats expands, it is essential to fortify the storage network against hidden risks. The network must deliver optimal performance, operate autonomously, streamline management, and protect critical data. Brocade Gen 8 technology delivers the performance, automation, and security necessary to enable these capabilities.

Integrated security with quantum-resistant encryption and embedded SAN AI technology safeguards SAN fabrics against cybersecurity threats in the era of quantum computing and modernizes SAN management to operate autonomously and efficiently. This enables faster decision making, improves operational efficiency, and maintains high levels of resiliency.

The following figure shows the Lenovo ThinkSystem DB820S Gen 8 FC SAN Switch.

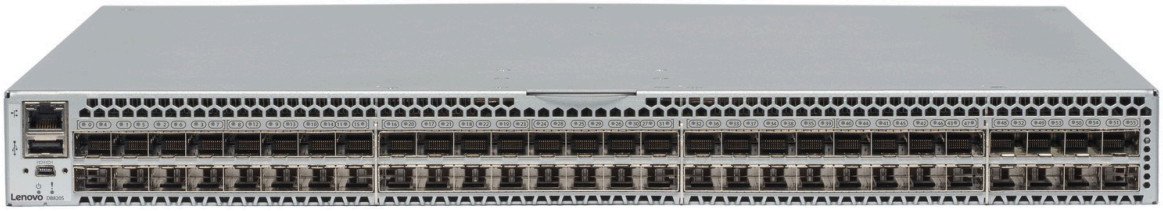

Figure 1. Lenovo ThinkSystem DB820S Gen 8 FC SAN Switch

Did you know?

The DB820S is designed for maximum flexibility and value. This enterprise-class switch offers pay-as-you-grow scalability with Ports on Demand (PoD). Organizations can quickly, easily, and cost-effectively scale from 24 ports to 56 ports in an efficient 1U form factor that delivers industry-leading port density and space utilization. This switch also provides easy integration into existing SAN environments -- from 16Gb to 128Gb speeds -- while introducing the benefits of Gen 8 Fibre Channel connectivity. And the DB820S simplifies deployment, configuration, and management of SAN resources with a collection of easy-to-use tools.

With Lenovo FC SAN switch offerings, Lenovo can be your trusted partner that offers "one stop shop" and single point of contact for delivery of leading-edge technologies and innovations from Lenovo and other leading IT vendors. These offerings can satisfy the wide range of your end-to-end IT infrastructure needs, including end-user devices, servers, storage, networking, services, management software, and financing.

Key features

The DB820S provides exceptional price/performance value by including standard enterprise class software standard like Fabric Vision®, ISL Trunking and Integrated Routing.

The ThinkSystem DB820S FC SAN Switch offers the following features and benefits:

- Build high-performance fabrics with a powerful, 56-port 1U Fibre Channel switch
- Accelerate workloads with 128G bandwidth and unmatched low latency
- Enables pay-as-you-grow scalability from 24 to 56 x 128G ports in 8-port increments on demand
- Protect critical information from quantum computing and cybersecurity threats with advanced cryptographic algorithms and enhanced access controls
- Eliminate time-consuming, manual correlation of all application resources
- Learn and adapt to changing application demands by dynamically load balancing across virtual channels
- Simplify complex telemetry into actionable insights to improve performance, reduce downtime, and simplify operations
- Visualize the data to easily understand the health and performance of the SAN
- Unlock greater value and efficiency with access to all software features

The DB820S Switch delivers six nines (99.9999%) availability for nonstop operations with minimal downtime. In modern IT infrastructure, humans are not fast enough to respond and maintain the uptime the environment requires, and this drives the need for intelligent autonomy. Built-in congestion management ensures traffic flows smoothly and performance remains consistent, while self-healing capabilities maintain uptime even when issues arise. Set-and-forget automation eliminates the need for constant monitoring and manual intervention, reducing troubleshooting time and enabling IT teams to focus on strategic initiatives.

Build High-Performance Fabrics with Powerful Building Blocks

The DB820S Switch is a fixed-port building block, designed to scale-out fabrics and unleash performance. With 56 ports at 128G and unmatched low latency, in a compact switch design, organizations can accelerate workloads and achieve greater workload density in less space. Offering pay-as-you-grow scalability with Ports on Demand (POD) enables organizations to quickly and easily scale from 24 to 56 ports in 8-port increments on demand. The pay-as-you-grow architecture enables flexible, cost-effective scalability by allowing organizations to activate only the ports they need and easily expand as requirements grow, reducing upfront costs, eliminating overprovisioning, and providing seamless, non-disruptive capacity growth. This switch provides convenient access to all software features, unlocking greater value and efficiency. Organizations can immediately utilize essential functionality without having to purchase and manage licenses or install any software.

To simplify SAN operations, the DB820S Switch offers easy-to-use management tools that improve efficiency and provide organizations with greater visibility and control. Brocade Web Tools features a built-in simplified user interface, making it easier to manage everyday tasks. To streamline management workflows, organizations can leverage Brocade SANnav™ Management Portal that features modern dashboards, faster troubleshooting, and accelerated deployment of applications, servers, switches, and storage.

Defend the Data Center with Advanced Security

The DB820S Switch is built on a cyber-resilient, quantum-safe architecture that fortifies the SAN to protect critical data and applications from quantum computing and cybersecurity threats. By securing storage traffic through Fibre Channel isolation and role-based access controls, Brocade based networks protect against unauthorized access. The switch uses hardened Fabric OS® and hardware, eliminating unnecessary access points, while validating hardware and software roots of trust to ensure only authenticated components operate within the system. These capabilities reduce the risk of hijacking and the installation of malicious

software.

The DB820S Switch features Brocade Gen 8 technology, which protects SAN fabrics against cyber threats through quantum-resistant 256-bit encryption and advanced cryptographic algorithms. With post-quantum cryptography algorithms integrated, this switch is resistant to quantum attacks, protecting sensitive data and critical infrastructure from being decrypted by future quantum computers. In addition, the Brocade Gen 8 technology further hardens the SAN to minimize the attack surface with strong access controls and limited privileges using the industry-best practice, principle of least privilege architecture. This architecture grants users, applications, and systems only the minimum level of access or permissions necessary to perform their essential functions. Locking down access strengthens the overall system security and reduces vulnerabilities to security breaches, accidental errors, or intentional misuse of privileges.

Brocade SANnav Management Portal further enhances security by enabling real-time monitoring of the SAN's security configuration, fabric health, and performance. It automates security assessments and helps you maintain best practices, providing alerts for security configuration inconsistencies or issues. Proactive measures can help detect vulnerabilities early and offer guidance on how to address them, ensuring that your enterprise data remains secure against both cyber threats and operational disruptions.

Modernize SAN Management with AI-Powered Autonomy

Brocade Gen 8 technology offers a comprehensive suite of features that maximize network uptime, simplify SAN management, and provide unprecedented visibility and insight across the storage network. The DB820S Switch with Gen 8 technology is equipped with embedded SAN AI technology, which automates application infrastructure management and offers a robust analytics architecture that reduces the need for manual administration, ensuring a resilient network that remains stable and efficient even as workloads and infrastructure complexity continue to grow. Brocade Gen 8 technology modernizes SAN management with AI-powered autonomy that learns, adapts, and responds to potential issues using intelligence and automation technologies developed over three decades in the most demanding IT environments.

With SAN Fabric Intelligence (SAN FI), administrators can eliminate time-consuming, manual correlation of all application resources. This advanced feature combines monitoring, troubleshooting, and cross-correlation of servers, storage, virtual machines (VMs), and fabric connections to provide a comprehensive view of the fabric. Utilizing SAN FI provides administrators with complete, end-to-end visibility for all connected devices and components within your SAN fabric and the ability to drill down into points of interest to accelerate troubleshooting and drive smarter management decisions. This automation helps alleviate the chronic understaffing of IT infrastructure teams, providing a significantly faster response time than a human could achieve.

With self-optimizing capabilities, Brocade technology utilizes actionable intelligence to maximize performance. Real-time monitoring of health and performance characteristics enables the network to make smarter decisions on traffic prioritization, congestion management, and notification, ensuring optimal network performance for applications and storage. Brocade Adaptive Traffic Optimizer guarantees critical application performance by automatically prioritizing traffic. When traffic characteristics in the fabric change, the performance groups dynamically adapt to provide the optimal performance group configuration for the individual fabric. This advanced capability classifies and separates traffic with similar characteristics, such as protocol, speed, and latency. Additionally, Adaptive Traffic Optimizer can help avoid application performance impacts by automatically isolating traffic that is adversely impacting other flows.

Brocade Gen 8 leverages extensive data collection capabilities coupled with powerful analytics to quickly understand the health and performance of the environment and identify any potential impacts or trending problems. Built-in intelligence automatically collates millions of data points from across the fabric and simplifies complex telemetry into actionable insights to improve performance, reduce downtime, and simplify operations. In addition, autonomous SAN features monitor fabric behavior, detect anomalies, and self-correct before issues impact performance.

Access Gateway Mode

The DB820S Switch can be deployed in full-fabric switch mode or in Brocade Access Gateway mode, which simplifies connecting the switch to existing storage area networks. By utilizing the Fibre Channel N_Port ID Virtualization (NPIV) standard, Access Gateway mode can connect to the core SAN switches as a transparent

edge switch, simplifying SAN fabric configuration and management while connecting physical and virtual servers directly to larger SAN fabrics. The DB820S Switch in Access Gateway mode connects servers to NPIV-enabled SAN fabrics.

Organizations can enable Access Gateway through Command Line, Web Tools, or Brocade SANnav™ Management Portal. Key benefits of Access Gateway mode include the following:

- Improved scalability for large or rapidly growing server and virtual server environments
- Reduced management of the network edge, since Access Gateway does not have a domain identity and appears transparent to the core fabric
- Support for heterogeneous SAN configurations without reduced functionality for server connectivity

Components and connectors

The following figure shows the port-side view of the DB820S FC SAN Switch.

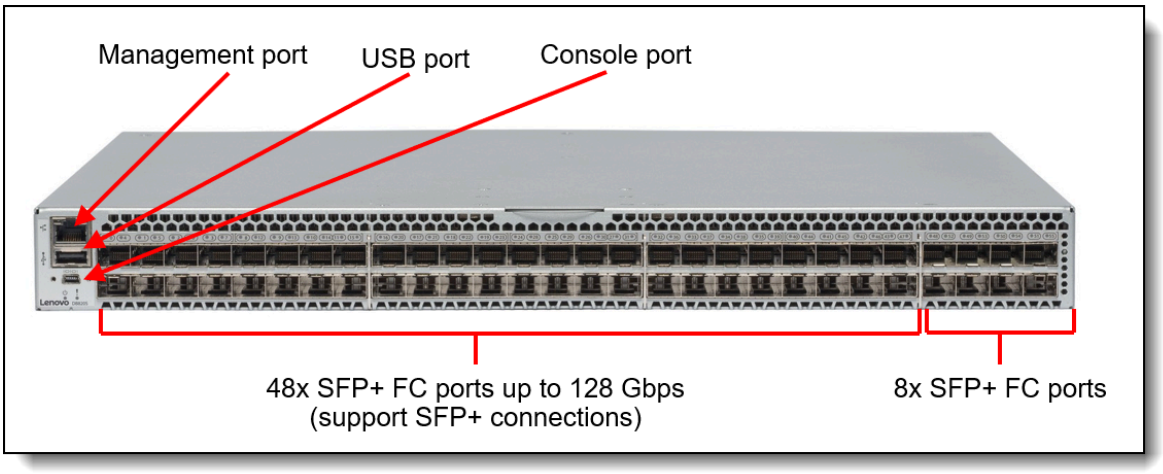

Figure 2. DB820S FC SAN Switch port-side view

The following figure shows the non-port side view of the DB820S FC SAN Switch.

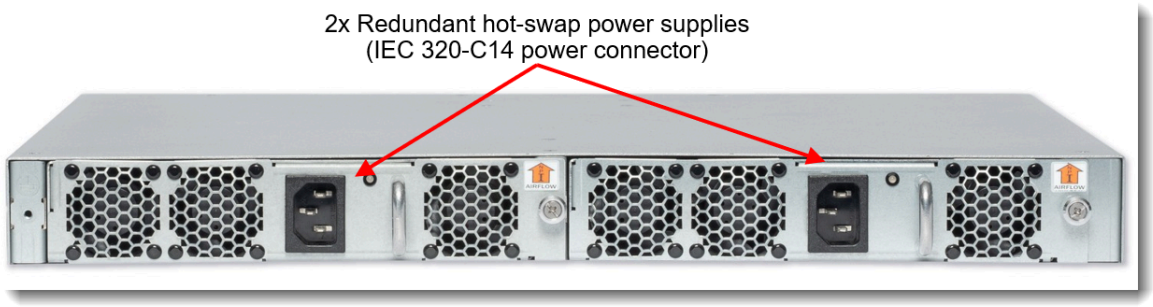

Figure 3. DB820S FC SAN Switch non-port-side view

System specifications

The following table lists the ThinkSystem DB820S system specifications.

Table 1. System specifications

Component	Specification
Machine type	7DMA
Enclosure	Back-to-front airflow; non-port-side intake (NPI); 1U Front-to-back airflow; non-port-side exhaust (NPE); 1U
System Architecture	
Fibre Channel Ports	Switch mode (default): 56 128G SFP+ ports, each supporting E_Ports, F_Ports, N_Ports, M_Ports, D_Ports, and EX_Ports 24-port base configuration; additional ports are enabled with four 8-port SFP+ PODs (Ports on Demand), scaling the switch from 24 ports to 56 ports Brocade Access Gateway default port mapping: 56 F_Ports, 8 N_Ports
Scalability	Full-fabric architecture with a maximum of 239 switches
Certified maximum	4K active nodes; 56 switches, 19 hops in Brocade Fabric OS® fabrics
Performance	Autosensing of 128G, 64G, 32G, and 16G port speeds depending on SFPs used with wire-speed forwarding of traffic: • 16GFC: 14.025 Gb/sec line speed, full duplex • 32GFC: 28.05 Gb/sec line speed, full duplex • 64GFC: 57.8 Gb/sec line speed, full duplex • 126GFC: 112.2 Gb/sec line speed, full duplex
ISL Trunking	• Frame-based trunking with up to eight SFP+ ports per ISL trunk; up to 1,024Gb/s per ISL trunk. • Exchange-based load balancing across ISLs with Dynamic Path Selection (DPS) included in Brocade Fabric OS.
Aggregate bandwidth	7.168 Tb/s
Maximum fabric latency	Latency for locally switched ports is 580 ns at 128G with dual forward error correction (FEC)
Maximum frame size	2112-byte payload
Frame buffers	40K per switching ASIC
Classes of service	Class 2, Class 3, Class F (inter-switch frames)
Port types	• D_Port (ClearLink® Diagnostic Port), E_Port, EX_Port, F_Port or AE-Port M_Port; Optional port-type control • Brocade Access • Gateway mode: F_Port and NPIV-enabled N_Port
Data traffic types	Fabric switches supporting unicast
Media types	All Brocade transceivers are PC/UPC compatible • 128Gb/s: Brocade Secure SFP+, LC connector SWL • 64Gb/s: Brocade Secure SFP+, LC connector SWL, LWL, ELWL

Component	Specification
USB port	One standard USB port for firmware download, SupportSave, and configuration upload or download.
Fabric services	BB Credit Recovery; Brocade Advanced Zoning (Default Zoning, Port/WWN Zoning, Peer Zoning); Congestion Signaling; Dynamic Path Selection (DPS); Extended Fabrics; Fabric Performance Impact Notification (FPIN); Fabric Vision; FDMI; FICON CUP; Flow Vision; F_Port Trunking; FSPF; Integrated Routing; ISL Trunking; Management Server; NPIV; NTP v3; Port Decommission/Fencing; QoS; Registered State Change Notification (RSCN); Name Server; SAN Fabric Intelligence (SAN FI); Slow Drain Device Quarantine (SDDQ); Target-Driven Zoning; Adaptive Traffic Optimizer; Virtual Fabrics (Logical Switch, Logical Fabric); VMID+ and AppServer. **Access Gateway mode**: Some fabric services do not apply or are unavailable in Access Gateway mode
Long Distance	Fibre Channel, in-flight compression (Brocade LZO) and encryption (AES-GCM-256 encryption on FC ISLs [E_Port]); support for DWDM MAN connectivity
Power supplies	Dual, hot-swappable, redundant power supplies with integrated system cooling fans (80 Plus Platinum)
Management	
Management	Brocade Advanced Web Tools; Brocade SANnav Management Portal and SANnav Global View; Command Line Interface (CLI); HTTP/HTTPS; RESTful API; SNMP v1/v3 (FE MIB, FC Management MIB); SSH
Security	AES-GCM-256 encryption on FC ISLs (E_Port); Device Connection Control (DCC); DH-CHAP (between switches and end devices); Federated Authentication; FCAP switch authentication; HTTPS; IP filtering; OpenLDAP; Port Binding; Principle of Least Privilege Architecture; user-defined Role-Based Access Control (RBAC); Secure Boot; Secure Copy (SCP); Secure Syslog; SFTP; SSH v2; SSL; Switch Binding; TLS1.3; PQC Algorithms; Trusted FOS Certificates (TruFOS); USGv6 compliant
Management access	1000Mb/s Ethernet (RJ-45) port and serial console port (mini-USB with thumb screws, plus a mini-USB to RJ-45 adapter for regular RJ-45 console port access)
Diagnostics	Active Support Connectivity (ASC) and Brocade Support Link (BSL); built-in flow generator; ClearLink optics and cable diagnostics, including link traffic/latency/distance; Fabric Performance Impact Monitoring (FPI); flow mirroring; Dual Forward Error Correction (FEC); frame viewer; IO Insight for SCSI and NVMe monitoring; Monitoring and Alerting Policy Suite (MAPS); nondisruptive daemon restart; optics health monitoring; POST and embedded online/offline diagnostics, including environmental monitoring, FCping and Pathinfo (FC traceroute); power monitoring; RAStrace logging; Rolling Reboot Detection (RRD); SAN Fabric Intelligence (SAN FI); Syslog/Audit Log; VM Insight
Support	
Warranty	Three-year customer-replaceable unit limited warranty with 9x5 next business day parts delivered. Three-year software/firmware entitlement.
Service and support	Optional service upgrades are available through Lenovo Services: 9x5 next business day onsite response, 24x7 2-hour or 4-hour onsite response, 24x7 6-hour or 24-hour committed service repair, up to 5 years of warranty coverage, 1-year or 2-year post-warranty extensions, and Basic Hardware Installation Services.

Models

The following table lists the ThinkSystem DB820S FC SAN Switch models.

Table 2. Lenovo ThinkSystem DB820S FC SAN Switch models

Part number	Machine Type-Model	Feature code	Description
Non-Port-Side (NPI) Intake Airflow			
7DMACTO3WW	7DMAA002WW	CB92	Lenovo ThinkSystem DB820S, 24 ports active with 64Gb SWL SFPs, 2PS (Non-Port side intake), rail kit, 3Yr FW
7DMACTO4WW	7DMAA003WW	CB94	Lenovo ThinkSystem DB820S, 24 ports active with 128Gb SWL SFPs, 2PS (Non-Port side intake), rail kit, 3 Yr FW
Port side intake airflow (for Telco)			
7DMACTO1WW	7DMAA000WW	CB93	Lenovo ThinkSystem DB820S, 24 ports active with 64Gb SWL SFPs, 2PS (Non-Port side Exhaust like Telco), rail kit, 3Yr FW
7DMACTO2WW	7DMAA001WW	CB95	Lenovo ThinkSystem DB820S, 24 ports active with 128Gb SWL SFPs, 2PS (Non-Port side Exhaust like Telco), rail kit, 3Yr FW

The DB820S FC SAN Switch part numbers include the following items:

- One FC SAN Switch includes 24 ports activated and 24 transceivers
  - Model CTO1WW/CTO3WW: 64 Gb FC SWL SFP+ transceivers included
  - Model CTO2WW/CTO4WW: 128 Gb FC SWL SFP+ transceivers included
- Rubber feet for setting up the switch as a standalone unit
- Universal rack mount kit, 4-post & installation guide
- A new Mini-USB to RJ-45 console adapter that now has thumb screws
- A USB-C to RJ-45 console cable (similar to the DB710S switch)
- Web pointer document (Downloading FOS, SANnav and Docs)
- Firmware Download Instructions Flyer (Instructions for downloading publicly-available Brocade docs + docs behind CSP + access to open source code.)

Note: The switch comes standard without power cords; two power cables must be purchased together with the switch (see Power supplies and cables for details).

Port activation licenses

The DB820S FC SAN Switch Model includes 24 licensed ports and 24 x 64/128 GB FC SWL SFP+ Transceivers depending on the model. The remaining 32 unlicensed ports can be activated by purchasing and installing the Ports on Demand (POD) licenses that are available with transceivers in 8-port increments.

The following table lists additional POD options for the DB820S FC SAN Switch.

Table 3. POD options*

Part number	Feature code	Description	Maximum quantity
4XF7B07567	CBUH	DB820S 8-Port SW License with 8x 64 Gbps SWL SFP+ Transceivers	4
4XF7B07568	CBUT	DB820S 8-Port SW License with 8x 128 Gbps SWL SFP+ transceivers	4

* Mixing is allowed.

Transceivers and cables

With the flexibility of the DB820S FC SAN Switch, customers can choose the following connectivity technologies:

- SFP+ ports
    - For 128 Gb FC links, customers can use 128 Gb FC SFP+ SWL optical transceivers for distances up to 100 meters on OM4/OM5 or up to 70 meters on OM3 50 µ multimode fiber (MMF) optic cables. These transceivers can operate at 128Gbps, 64Gbps or 32 Gbps speeds.
    - For 64 Gbps FC links, customers can use 64 Gb FC SFP+ SWL optical transceivers for distances up to 100 meters on OM4/OM5 or up to 70 meters on OM3 50 µ MMF cables. For longer distances, the 64 Gb FC LWL SFP+ optical transceivers can support up to 10 km on SMF cables. For extended distances, the 64 Gb FC ELWL SFP+ optical transceivers can support up to 25 kilometers on SMF cables. These transceivers can operate at 64 Gbps, 32 Gbps, or 16 Gbps speeds.
- 1 GbE RJ-45 management port: Customers can use UTP cables for distances up to 100 meters.

The DB820S FC SAN Switch comes with 24x 64 Gb or 128 Gb FC SWL SFP+ transceivers. Additional SWL, LWL, and ELWL SFP+ transceivers can be ordered for the switch, if needed.

The following table lists the supported transceiver and cable options. POD kits and switches come with SWL optics included.

Table 4. Transceivers and cables

Part number	Feature code	Description	Maximum quantity
128 Gb FC SFP+ transceivers			
4TC7B07569	CBUS	Brocade Secure 64-Gb SWL SFP+ Transceiver	56
4TC7B07570	CBUR	Brocade Secure 64-Gb SWL SFP+ Transceiver 8-pack	7
64 Gb FC SFP+ transceivers			
4M27A65425	BF6J	Brocade Secure 64-Gb SWL SFP+ Transceiver	56
4M27A65426	BF6K	Brocade Secure 64-Gb SWL SFP+ Transceiver 8-pack	7
4M27A65433	BQQG	Brocade Secure 64Gb LWL SFP+ Transceiver (10 km)	56
4M27A65434	BQQH	Brocade Secure 64Gb LWL SFP+ Transceiver (10 km) 8-pack	7
4M27A65432	BQQF	Brocade Secure 64Gb ELWL SFP+ Transceiver (25 km)*	56
OM3 optical cables for 64 Gb and 128 Gb FC SW SFP+ transceivers			
00MN499	ASR5	Lenovo 0.5m LC-LC OM3 MMF Cable	56
00MN502	ASR6	Lenovo 1m LC-LC OM3 MMF Cable	56
00MN505	ASR7	Lenovo 3m LC-LC OM3 MMF Cable	56
00MN508	ASR8	Lenovo 5m LC-LC OM3 MMF Cable	56
00MN511	ASR9	Lenovo 10m LC-LC OM3 MMF Cable	56
00MN514	ASRA	Lenovo 15m LC-LC OM3 MMF Cable	56
00MN517	ASRB	Lenovo 25m LC-LC OM3 MMF Cable	56
00MN520	ASRC	Lenovo 30m LC-LC OM3 MMF Cable	56
OM4 optical cables for 32 Gb and 64 Gb FC SW SFP+ transceivers			
4Z57A10845	B2P9	Lenovo 0.5m LC-LC OM4 MMF Cable	56
4Z57A10846	B2PA	Lenovo 1m LC-LC OM4 MMF Cable	56
4Z57A10847	B2PB	Lenovo 3m LC-LC OM4 MMF Cable	56
4Z57A10848	B2PC	Lenovo 5m LC-LC OM4 MMF Cable	56

Part number	Feature code	Description	Maximum quantity
4Z57A10849	B2PD	Lenovo 10m LC-LC OM4 MMF Cable	56
4Z57A10850	B2PE	Lenovo 15m LC-LC OM4 MMF Cable	56
4Z57A10851	B2PF	Lenovo 25m LC-LC OM4 MMF Cable	56
4Z57A10852	B2PG	Lenovo 30m LC-LC OM4 MMF Cable	56
OM4 optical cables for 64 Gb and 128 Gb FC SW SFP+ transceivers			
4Z57A10845	B2P9	Lenovo 0.5m LC-LC OM4 MMF Cable	56
4Z57A10846	B2PA	Lenovo 1m LC-LC OM4 MMF Cable	56
4Z57A10847	B2PB	Lenovo 3m LC-LC OM4 MMF Cable	56
4Z57A10848	B2PC	Lenovo 5m LC-LC OM4 MMF Cable	56
4Z57A10849	B2PD	Lenovo 10m LC-LC OM4 MMF Cable	56
4Z57A10850	B2PE	Lenovo 15m LC-LC OM4 MMF Cable	56
4Z57A10851	B2PF	Lenovo 25m LC-LC OM4 MMF Cable	56
4Z57A10852	B2PG	Lenovo 30m LC-LC OM4 MMF Cable	56
UTP Category 6 cables (Green) for the 1 GbE RJ-45 management port			
00WE123	AVFW	0.75m CAT6 Green Cable	1
00WE127	AVFX	1.0m CAT6 Green Cable	1
00WE131	AVFY	1.25m CAT6 Green Cable	1
00WE135	AVFZ	1.5m CAT6 Green Cable	1
00WE139	AVG0	3m CAT6 Green Cable	1
90Y3718	A1MT	10m CAT6 Green Cable	1
90Y3727	A1MW	25m CAT6 Green Cable	1
UTP Category 5e cables (Blue) for the 1 GbE RJ-45 management port			
40K5679	3801	0.6m Blue Cat5e Cable	1
40K8785	3802	1.5m Blue Cat5e Cable	1
40K5581	3803	3m Blue Cat5e Cable	1
40K8927	3804	10m Blue Cat5e Cable	1
40K8930	3805	25m Blue Cat5e Cable	1

* ELWL Requires same optic type/part number on both ends (no-mixing) to assure interoperability.

The following table lists the cabling requirements for the switch.

Table 5. DB820S FC SAN Switch cabling requirements

Transceiver	Standard	Cable	Connector
128 Gb Fibre Channel			
128 Gb FC SWL SFP+ (4TC7B07569, 4TC7B07570)	FC-PI-6	Up to 30 m with LC-LC MMF cables supplied by Lenovo (see Table 4) or the following 850 nm 50 µ MMF cables: • 128GFC: Up to 100 m (OM4/OM5) or up to 70 m (OM3) • 64GFC: Up to 100 m (OM4) or up to 70 m (OM3) • 32GFC: Up to 100 m (OM4) or up to 70 m (OM3) • 16GFC: No support	LC
64 Gb Fibre Channel			

Transceiver	Standard	Cable	Connector
64 Gb FC SWL SFP+ (4M27A65425, 4M27A65426)	FC-PI-6	Up to 30 m with LC-LC MMF cables supplied by Lenovo (see Table 4), or the following 850 nm 50 µ MMF cables: • 64GFC: Up to 100 m (OM4/OM5) or up to 70 m (OM3). • 32GFC: Up to 100 m (OM4) or up to 70 m (OM3). • 16GFC: Up to 125 m (OM4) or up to 100 m (OM3). • 8GFC: No support	LC
64 Gb FC LWL SFP+ (4M27A65433, 4M27A65434)	FC-PI-6	1310 nm 9 µ SMF cable: • 64GFC, 32GFC, 16GFC: Up to 10 km	LC
64 Gb FC ELWL SFP+ (4M27A65432)	FC-PI-5	1310 nm 9 µ SMF cable: • 64GFC, 32GFC, 16GFC: Up to 25 km	LC
Management ports			
Serial console port (mini-USB).	RS-232	Mini-USB console cable to DB-9/RJ-45 (included with the switch).	RJ45
10/100/1000 Mb Ethernet port	1000BASE-T	Up to 25 m with UTP cables supplied by Lenovo (see previous Table) or other UTP Category 5, 5E, and 6 up to 100 meters.	RJ45

Firmware

For details on features supported with the DB820S FC SAN Switch look for the latest Administration Guide for the latest available Fabric OS version:
https://www.broadcom.com/products/fibre-channel-networking/software/fabric-operating-system

The following features comes standard with the DB820S FC SAN Switch:

- Enterprise Bundle
  - ISL Trunking (TRK): Allows frame-based consolidation of up to 8 inter-switch links (ISLs) into fault-tolerant and load-balanced trunks with bandwidth of up to 256 Gbps.
  - Fabric Vision (FV)
    - Monitoring and Alerting Policy Suite (MAPS): Provides a policy-based, fabric-wide threshold monitoring and alerting tool.
    - Flow Vision: Identifies, monitors, and analyzes specific application flows.
    - VM Insight: Seamlessly monitors health and performance of individual Virtual Machines (VMs) to quickly identify abnormal VM behavior and enable administrators to proactively facilitate troubleshooting and fault isolation, helping to ensure performance and operational stability.
    - IO Insight: Proactively monitors I/O performance and behavior to gain deep insight into issues and ensure service levels by non-disruptively and non-intrusively gathering I/O statistics for storage traffic and applying this information within a policy-based monitoring and alerting suite to configure thresholds and alarms.
    - Fabric Performance Impact (FPI) Monitoring: Leverages predefined MAPS policies to automatically identify and isolate devices that cause network performance issues by detecting different latency severity levels, and to alert administrators.
  - Extended Fabric (EF): Extends Fibre Channel SANs beyond 10 km distance limitations for replication and backup at full bandwidth.
  - FICON / Control Unit Port (CUP). The Control Unit Port provides an in-band management interface that the FICON host (Mainframe) can use for managing and monitoring the FC SAN switch.
- Integrated Routing: The FC-FC routing service provides Fibre Channel routing between two or more fabrics without merging those fabrics.

Management software

Lenovo offers optional Brocade SANnav™ Management Portal and SANnav Global View software license subscriptions that provide comprehensive visibility into the SAN environment, allow administrators to quickly identify, isolate, and correct problems, and accelerate administrative tasks by simplifying and automating workflows.

SANnav Management Portal is a next-generation SAN management application with a simple browser-based user interface (UI) and with a focus on streamlining common workflows, such as configuration, zoning, deployment, monitoring, troubleshooting, reporting, and analytics.

Lenovo offers the following SANnav Management Portal subscriptions:

- SANnav Management Portal Base: Designed for mid-sized SANs to manage up to 600 SAN switch ports only (SAN director ports can only be managed with the Enterprise edition).
- SANnav Management Portal Enterprise: Designed for enterprise-class SANs to manage up to 15,000 SAN switch and director ports.

SANnav Management Portal supports all Brocade SAN switches and platforms that run the Fabric OS® version 7.4 or above, including Lenovo DB610S, DB620S, DB630S, DB400D, DB710S, DB720S, DB730S, DB820S, DB800D, Brocade Directors X7 and X8. SANNav Version 3.X to manage Gen 8 switches.

With SANnav Global View, administrators can quickly visualize the health, performance, and inventory of multiple SANnav Management Portal instances using a simple, intelligent dashboard and can easily navigate from a global view down to local environments to investigate points of interest. SANnav Global View is designed to manage up to 20 SANnav Management Portal instances.

For more information, refer to the SANnav Management Portal documentation: http://www.broadcom.com/products/fibre-channel-networking/software/sannav-management-portal#documentation

The following table lists ordering information for the optional SANnav Management Portal and SANnav Global View management tools. After a client has an active SANnav license, Lenovo offers a "license extension/renewal". This offering provides our clients the flexible to extend their subscription down to a specific end date. This allows clients the ability to align to your company's budget or align with warranty of your FC SAN switches/directors. Please engage directly with your Lenovo sales representative for more details.

Table 6. SANnav Management Portal and SANnav Global View subscription licenses

Part number	Feature code	Description
SANnav Management Portal electronic authorization licenses		
7S0C0010WW	S1K6	Brocade SANnav Mgmt Portal Base Edition - 1YR License 600 ports
7S0C0013WW	S1K8	Brocade SANnav Mgmt Portal Base Edition - 3YR License 600 ports
7S0C001KWW	S4MB	Brocade SANnav Mgmt Portal Base Edition - 5YR License 600 ports
7S0C0011WW	S1K7	Brocade SANnav Mgmt Portal Enterprise Edition - 1YR License 15K ports
7S0C0014WW	S1K9	Brocade SANnav Mgmt Portal Enterprise Edition - 3YR License 15K ports
7S0C001LWW	S4MC	Brocade SANnav Mgmt Portal Enterprise Edition - 5YR License 15K ports
SANnav Global View electronic authorization licenses		
7S0C0012WW	S1D8	Brocade SANnav Global View - 1YR License
7S0C0015WW	S1D9	Brocade SANnav Global View - 3YR License
7S0C001JWW	S4MA	Brocade SANnav Global View - 5YR License

The SANnav licenses are subscription-based with 1-year, 3-year, or 5-year software entitlement and support.

Fibre Channel standards

The DB820S FC SAN Switch supports the standards listed at the following web page:

https://www.broadcom.com/support/fibre-channel-networking/san-standards/standards-compliance

Power supplies and cables

The DB820S FC SAN Switch ships with two redundant hot-swap 650W AC power supplies (100-240V). Each power supply has an IEC 309-C14 connector and an 80 Plus Platinum efficiency rating, plus integrated fans with additional airflow for cooling.

The switch comes standard without a power cord; two rack power cables or line cords must be ordered together with the switch (see the following table).

Table 7. Power cord options

Part number	Feature code	Description
Rack power cables		
39Y7937	6201	1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable
None*	6568	1.8m, 10A/100-250V, 2xC13PM to IEC 320-C14 Rack Power Cable
4L67A08366	6311	2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable
39Y7938	6204	2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable
39Y7932	6263	4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable
Line cords		
39Y7931	6207	10A/125V C13 to NEMA 5-15P 4.3m line cord
46M2592	A1RF	10A/250V C13 to NEMA 6-15P 2.8m line cord
39Y7930	6222	Argentina 10A/250V C13 to IRAM 2073 2.8m line cord
39Y7924	6211	Australia/NZ 10A/250V C13 to AS/NZ 3112 2.8m line cord
39Y7929	6223	Brazil 10A/125V C13 to NBR 6147 2.8m line cord
39Y7928	6210	China 10A/250V C13 to GB 2099.1 2.8m line cord
39Y7918	6213	Denmark 10A/250V C13 to DK2-5a 2.8m line cord
39Y7917	6212	European 10A/230V C13 to CEE7-VII 2.8m line cord
39Y7927	6269	India 10A/250V C13 to IS 6538 2.8m line cord
39Y7920	6218	Israel 10A/250V C13 to SI 32 2.8m line cord
39Y7921	6217	Italy 10A/250V C13 to CEI 23-16 2.8m line cord
46M2593	A1RE	Japan 12A/125V C13 to JIS C-8303 2.8m line cord
39Y7925	6219	Korea 12A/250V C13 to KETI 2.8m line cord
39Y7922	6214	South Africa 10A/250V C13 to SABS 164 2.8m line cord
39Y7919	6216	Switzerland 10A/250V C13 to SEV 1011-S24507 2.8m line cord
00CG265	A53E	Taiwan 10A/250V C13 to CNS 10917-3 2.8m line cord
00CG267	A53F	Taiwan 15A/125V C13 to CNS 10917-3 2.8m line cord
39Y7923	6215	United Kingdom 10A/250V C13 to BS 1363/A 2.8m line cord

* Available for factory-built custom configurations and solutions only.

Rack installation

The DB820S FC SAN Switch comes standard with the fixed rack mount kit that can be used for 4-post rack installations. If needed, the DB820S FC SAN Switch can be mounted in a 2-post rack cabinet by using the optional mid-mount rack kit that is listed in the following table.

Table 8. Rack-mount options

Part number	Feature code	Description
01KN770	AVG7	Lenovo Mid-mount Rack Kit

The optional mid-mount rack kit for the DB820S FC SAN Switch is shown in the following figure.

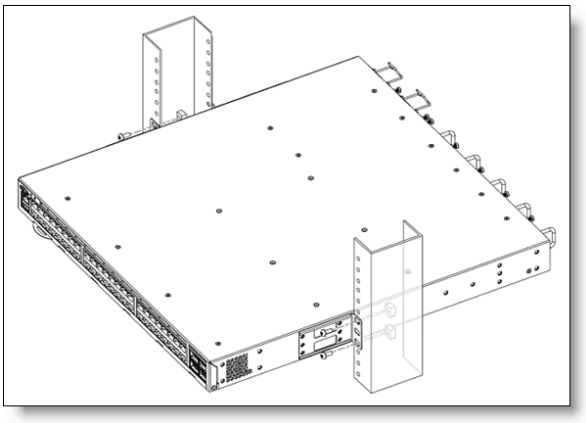

Figure 4. Lenovo Mid-mount Rack Kit

Physical specifications

The DB820S FC SAN Switch has the following dimensions and weight (approximate):

- Height: 4.37 cm (1.72 in.)
- Width: 44 cm (17.32 in.)
- Depth: 39.68 cm (15.62 in.)
- Weight: 8.39 kg (18.5 lb) with two power supplies, fans, without transceivers. 9.48 kg (20.9 lb) with two power supplies, fans, fully populated with transceivers

Operating environment

The DB820S FC SAN Switch is supported in the following environment:

- Air temperature:
  - Operating: 0°C to 40°C (32°F to 104°F)
  - Non-operating: -25°C to +70°C (-13°F to 158°F)
- Maximum altitude:
  - Operating: 3,000 m (9,842 ft)
  - Non-operating: 12,000 m (39,370 ft)
- Humidity:
  - Operating: 10% to 85% non-condensing
  - Non-operating: 10% to 90% non-condensing
- Electrical power:
  - AC Voltage range: 90V to 264V, maximum input current 9.7A
  - AC Frequency: 50 Hz to 60 Hz nominal, 47 Hz to 63 Hz range
  - Power consumption measured based on 240V input and 128G SWL SFP+ optics (differs based on VAC input @100 or @200):
    - Idle power draw: 146W for an empty chassis with no transceivers
    - Typical power draw:
      - 262W with 28 128G SWL optics modules under 50% traffic rate, low fan speed, ambient temperature 25°C
      - 336W with 56 128G SWL optics modules under 50% traffic rate, low fan speed, ambient temperature 25°C
    - Maximum power draw: 478W with 56 128G SWL optics modules under 100% traffic rate, max. fan speed, ambient temperature 40°C.
- Heat dissipation (differs based on VAC input):
  - Typical: 56 ports at 1146.79 BTU per hour
  - Maximum: 56 ports at 1638.28 BTU per hour

Warranty upgrades and post-warranty support

The DB820S FC SAN Switch, machine type 7DMA, has a three-year warranty.

Our global network of regional support centers offers consistent, local-language support enabling you to vary response times and level of service to match the criticality of your support needs:

- **Standard Next Business Day** – Best choice for non-essential systems requiring simple maintenance.
- **Premier Next Business Day** – Best choice for essential systems requiring technical expertise from senior-level Lenovo engineers.
- **Premier 24x7 4-Hour Response** – Best choice for systems where maximum uptime is critical.
- **Premier Enhanced Storage Support 24x7 4-Hour Response** – Best choice for storage systems where maximum uptime is critical.

For more information, consult the brochure Lenovo Operational Support Services for Data Centers Services.

Services

Lenovo Data Center Services empower you at every stage of your IT lifecycle. From expert advisory and strategic planning to seamless deployment and ongoing support, we ensure your infrastructure is built for success. Our comprehensive services accelerate time to value, minimize downtime, and free your IT staff to focus on driving innovation and business growth.

Note: Some service options may not be available in all markets or regions. For more information, go to https://lenovolocator.com/. For information about Lenovo service upgrade offerings that are available in your region, contact your local Lenovo sales representative or business partner.

In this section:

Lenovo Advisory Services

Lenovo Advisory Services simplify the planning process, enabling customers to build future-proofed strategies in as little as six weeks. Consultants provide guidance on projects including VM migration, storage, backup and recovery, and cost management to accelerate time to value, improve cost efficiency, and build a flexibly scalable foundation.

- **Assessment Services**

  An Assessment helps solve your IT challenges through an onsite, multi-day session with a Lenovo technology expert. We perform a tools-based assessment which provides a comprehensive and thorough review of a company's environment and technology systems. In addition to the technology based functional requirements, the consultant also discusses and records the non-functional business requirements, challenges, and constraints. Assessments help organizations like yours, no matter how large or small, get a better return on your IT investment and overcome challenges in the ever-changing technology landscape.

- **Design Services**

  Professional Services consultants perform infrastructure design and implementation planning to support your strategy. The high-level architectures provided by the assessment service are turned into low level designs and wiring diagrams, which are reviewed and approved prior to implementation. The implementation plan will demonstrate an outcome-based proposal to provide business capabilities through infrastructure with a risk-mitigated project plan.

Lenovo Plan & Design Services

Unlock faster time to market with our tailored, strategic design workshops to align solution approaches with your business goals and technical requirements. Leverage our deep solution expertise and end-to-end delivery partnership to meet your goals efficiently and effectively.

Lenovo Deployment, Migration, and Configuration Services

Optimize your IT operations by shifting labor-intensive functions to Lenovo's skilled technicians for seamless on-site or remote deployment, configuration, and migration. Enjoy peace of mind, faster time to value, and

comprehensive knowledge sharing with your IT staff, backed by our best-practice methodology.

- **Deployment Services for Storage and ThinkAgile**

  A comprehensive range of remote and onsite options tailored specifically for your business needs to ensure your storage and ThinkAgile hardware are fully operational from the start.

- **Hardware Installation Services**

  A full-range, comprehensive setup for your hardware, including unpacking, inspecting, and positioning components to ensure your equipment is operational and error-free for the most seamless and efficient installation experience, so you can quickly benefit from your investments.

- **DM/DG File Migration Services**

  Take the burden of file migration from your IT's shoulders. Our experts will align your requirements and business objectives to the migration plans while coordinating with your team to plan and safely execute the data migration to your storage platforms.

- **DM/DG/DE Health Check Services**

  Our experts perform proactive checks of your Firmware and system health to ensure your machines are operating at peak and optimal efficiency to maximize up-time, avoid system failures, ensure the security of IT solutions and simplify maintenance.

- **Factory Integrated Services**

  A suite of value-added offerings provided during the manufacturing phase of a server or storage system that reduces time to value. These services aim at improving your hardware deployment experience and enhance the quality of a standard configuration before it arrives at your facility.

Lenovo Support Services

In addition to response time options for hardware parts, repairs, and labor, Lenovo offers a wide array of additional support services to ensure your business is positioned for success and longevity. Our goal is to reduce your capital outlays, mitigate your IT risks, and accelerate your time to productivity.

- **Premier Support for Data Centers**

  Your direct line to the solution that promises the best, most comprehensive level of support to help you fully unlock the potential of your data center.

- **Premier Enhanced Storage Support (PESS)**

  Gain all the benefits of Premier Support for Data Centers, adding dedicated storage specialists and resources to elevate your storage support experience to the next level.

- **Committed Service Repair (CSR)**

  Our commitment to ensuring the fastest, most seamless resolution times for mission-critical systems that require immediate attention to ensure minimal downtime and risk for your business. This service is only available for machines under the Premier 4-Hour Response SLA.

- **Multivendor Support Services (MVS)**

  Your single point of accountability for resolution support across vast range of leading Server, Storage, and Networking OEMs, allowing you to manage all your supported infrastructure devices seamlessly from a single source.

- **Keep Your Drive (KYD)**

  Protect sensitive data and maintain compliance with corporate retention and disposal policies to ensure your data is always under your control, regardless of the number of drives that are installed in your Lenovo server.

- **Technical Account Manager (TAM)**

  Your single point of contact to expedite service requests, provide status updates, and furnish reports to track incidents over time, ensuring smooth operations and optimized performance as your business grows.

- **Enterprise Software Support (ESS)**

  Gain comprehensive, single-source, and global support for a wide range of server operating systems and Microsoft server applications.

For more information, consult the brochure Lenovo Operational Support Services for Data Centers.

Lenovo Managed Services

Achieve peak efficiency, high security, and minimal disruption with Lenovo's always-on Managed Services. Our real-time monitoring, 24x7 incident response, and problem resolution ensure your infrastructure operates seamlessly. With quarterly health checks for ongoing optimization and innovation, Lenovo's remote active monitoring boosts end-user experience and productivity by keeping your data center's hardware performing at its best.

Lenovo Managed Services provides continuous 24x7 remote monitoring (plus 24x7 call center availability) and proactive management of your data center using state-of-the-art tools, systems, and practices by a team of highly skilled and experienced Lenovo services professionals.

Quarterly reviews check error logs, verify firmware & OS device driver levels, and software as needed. We'll also maintain records of latest patches, critical updates, and firmware levels, to ensure you systems are providing business value through optimized performance.

Lenovo Sustainability Services

- **Asset Recovery Services**

  Lenovo Asset Recovery Services (ARS) provides a secure, seamless solution for managing end-of-life IT assets, ensuring data is safely sanitized while contributing to a more circular IT lifecycle. By maximizing the reuse or responsible recycling of devices, ARS helps businesses meet sustainability goals while recovering potential value from their retired equipment. For more information, see the Asset Recovery Services offering page.

- **CO2 Offset Services**

  Lenovo's CO2 Offset Services offer a simple and transparent way for businesses to take tangible action on their IT footprint. By integrating CO2 offsets directly into device purchases, customers can easily support verified climate projects and track their contributions, making meaningful progress toward their sustainability goals without added complexity.

- **Lenovo Certified Refurbished**

  Lenovo Certified Refurbished offers a cost-effective way to support IT circularity without compromising on quality and performance. Each device undergoes rigorous testing and certification, ensuring reliable performance and extending its lifecycle. With Lenovo's trusted certification, you gain peace of mind while making a more sustainable IT choice.

Lenovo TruScale

Lenovo TruScale XaaS is your set of flexible IT services that makes everything easier. Streamline IT procurement, simplify infrastructure and device management, and pay only for what you use – so your business is free to grow and go anywhere.

Lenovo TruScale is the unified solution that gives you simplified access to:

- The industry's broadest portfolio – from pocket to cloud – all delivered as a service
- A single-contract framework for full visibility and accountability
- The global scale to rapidly and securely build teams from anywhere
- Flexible fixed and metered pay-as-you-go models with minimal upfront cost
- The growth-driving combination of hardware, software, infrastructure, and solutions – all from one single provider with one point of accountability.

For information about Lenovo TruScale offerings that are available in your region, contact your local Lenovo sales representative or business partner.

Regulatory compliance

The DB820S FC SAN Switch conforms to the following regulations which can be found in the Hardware Installation Guide, available from the following web page:

https://www.broadcom.com/products/fibre-channel-networking/switches/g820-switch

Interoperability

For end-to-end storage configuration support, refer to the Lenovo Storage Interoperation Center (LSIC): https://datacentersupport.lenovo.com/us/en/lsic

Use the LSIC to select the known components of your configuration and then get a list all other supported combinations, with details about supported hardware, firmware, operating systems, and drivers, plus any additional configuration notes. View results on screen or export them to Excel.

External storage systems

Lenovo offers the ThinkSystem DE Series, ThinkSystem DG Series, ThinkSystem DM Series and ThinkSystem DS Series external storage systems for high-performance storage. See the DE Series, DG Series and DM Series product guides for specific controller models, expansion enclosures and configuration options:

- ThinkSystem DE Series Storage
  https://lenovopress.com/storage/thinksystem/de-series#rt=product-guide
- ThinkSystem DS Series Storage
  https://lenovopress.lenovo.com/storage/thinksystem/ds-series
- ThinkSystem DM Series Storage
  https://lenovopress.com/storage/thinksystem/dm-series#rt=product-guide
- ThinkSystem DG Series Storage
  https://lenovopress.com/storage/thinksystem/dg-series#rt=product-guide

External backup units

The following table lists the external backup options that are offered by Lenovo that can be used in Lenovo FC SAN solutions.

Note: Information provided in this section is for ordering reference purposes only. End-to-end LTO Ultrium configuration support for a particular tape backup unit *must* be verified through the System Storage Interoperation Center (SSIC):
http://www.ibm.com/systems/support/storage/ssic

Table 9. External Fibre Channel backup options

Part number	Description
External tape backup libraries	
6741B1F	IBM TS4300 3U Tape Library Base Unit - Max 48U
6741B3F	IBM TS4300 3U Tape Library Expansion Unit - Max 48U
Full High 8 Gb Fibre Channel for TS4300	
01KP938	LTO 7 FH Fibre Channel Drive
01KP954	LTO 8 FH Fibre Channel Drive
02JH837	LTO 9 FH Fibre Channel Drive
Half High 8 Gb Fibre Channel for TS4300	
01KP936	LTO 7 HH Fibre Channel Drive
01KP952	LTO 8 HH Fibre Channel Drive
02JH835	LTO 9 HH Fibre Channel Drive

For more information, see the list of Product Guides in the Tape Autoloaders and Libraries category:
https://lenovopress.com/storage/tape/library

Rack cabinets

The following table lists the supported rack cabinets.

Table 10. Rack cabinets (D)

Model	Description
7D6DA007WW	ThinkSystem 42U Onyx Primary Heavy Duty Rack Cabinet (1200mm)
7D6DA008WW	ThinkSystem 42U Pearl Primary Heavy Duty Rack Cabinet (1200mm)
7D6EA009WW	ThinkSystem 48U Onyx Primary Heavy Duty Rack Cabinet (1200mm)
7D6EA00AWW	ThinkSystem 48U Pearl Primary Heavy Duty Rack Cabinet (1200mm)
93074RX	42U Standard Rack (1000mm)
93604PX	42U 1200mm Deep Dynamic Rack
93614PX	42U 1200mm Deep Static Rack
93634PX	42U 1100mm Dynamic Rack
93634EX	42U 1100mm Dynamic Expansion Rack

For specifications about these racks, see the Lenovo Rack Cabinet Reference, available from:
https://lenovopress.com/lp1287-lenovo-rack-cabinet-reference

For more information, see the list of Product Guides in the Rack cabinets category:
https://lenovopress.com/servers/options/racks

Power distribution units

The following table lists the power distribution units (PDUs) that are offered by Lenovo.

Table 11. Power distribution units

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
0U Basic PDUs															
4PU7A93176	C0QH	0U 36 C13 and 6 C19 Basic 32A 1 Phase PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93177	C0QJ	0U 24 C13/C15 and 24 C13/C15/C19 Basic 32A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
0U Switched and Monitored PDUs															
4PU7A93181	C0QN	0U 21 C13/C15 and 21 C13/C15/C19 Switched and Monitored 48A 3 Phase Delta PDU v2 (60A derated)	N	Y	N	N	N	N	N	Y	N	Y	N	Y	N
4PU7A93178	C0QK	0U 20 C13 and 4 C19 Switched and Monitored 32A 1 Phase PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93171	C0D8	0U 20 C13 and 4 C19 Switched and Monitored 32A 1 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93182	C0QP	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 63A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93175	C0CS	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 63A 3 Phase WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93180	C0QM	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 32A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93179	C0QL	0U 16 C13/C15 and 16 C13/C15/C19 Switched and Monitored 24A 1 Phase PDU v2 (30A derated)	N	Y	N	N	N	N	N	Y	N	Y	N	Y	N
1U Switched and Monitored PDUs															
4PU7A90808	C0D4	1U 18 C19/C13 Switched and monitored 48A 3P WYE PDU V2 ETL	N	N	N	N	N	N	N	Y	N	Y	Y	Y	N
4PU7A81117	BNDV	1U 18 C19/C13 switched and monitored 48A 3P WYE PDU - ETL	N	N	N	N	N	N	N	N	N	N	N	Y	N
4PU7A90809	C0DE	1U 18 C19/C13 Switched and monitored 48A 3P WYE PDU V2 CE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
4PU7A90810	C0DD	1U 18 C19/C13 Switched and monitored 80A 3P Delta PDU V2	N	N	N	N	N	N	N	Y	N	Y	Y	Y	N
4PU7A90811	C0DC	1U 12 C19/C13 Switched and monitored 32A 3P WYE PDU V2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A90812	C0DB	1U 12 C19/C13 Switched and monitored 60A 3P Delta PDU V2	N	N	N	N	N	N	N	Y	N	Y	Y	Y	N
Line cords for 1U PDUs that ship without a line cord															
40K9611	6504	4.3m, 32A/380-415V, EPDU/IEC 309 3P+N+G 3ph wye (non-US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9612	6502	4.3m, 32A/230V, EPDU to IEC 309 P+N+G (non-US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9613	6503	4.3m, 63A/230V, EPDU to IEC 309 P+N+G (non-US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
40K9614	6500	4.3m, 30A/208V, EPDU to NEMA L6-30P (US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9615	6501	4.3m, 60A/208V, EPDU to IEC 309 2P+G (US) Line Cord	N	N	Y	N	N	N	Y	N	N	Y	Y	Y	N

For more information, see the Lenovo Press documents in the PDU category:
https://lenovopress.com/servers/options/pdu

Uninterruptible power supply units

The following table lists the uninterruptible power supply (UPS) units that are offered by Lenovo.

Table 12. Uninterruptible power supply units

Part number	Description
Rack-mounted or tower UPS units - 100-125VAC	
7DD5A001WW	RT1.5kVA 2U Rack or Tower UPS-G2 (100-125VAC)
7DD5A003WW	RT3kVA 2U Rack or Tower UPS-G2 (100-125VAC)
Rack-mounted or tower UPS units - 200-240VAC	
7DD5A002WW	RT1.5kVA 2U Rack or Tower UPS-G2 (200-240VAC)
7DD5A005WW	RT3kVA 2U Rack or Tower UPS-G2 (200-240VAC)

For more information, see the list of Product Guides in the UPS category:
https://lenovopress.com/servers/options/ups

Seller training courses

The following sales training courses are offered for employees and partners (login required). Courses are listed in date order.

1. **Partner Technical Webinar - New Fibre Channel Switches and Directors**
   2025-11-24 | 60 minutes | Employees and Partners

   In this 60-minute replay, Mike Easterly, Broadcom Technical Development, shared the details on the newest Brocade Fibre Channel switches and directors: Gen 8. He described how the new switches have increased performance, improved manageability and are Quantum-safe.

   Tags: Storage

   Published: 2025-11-24
   Length: 60 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: NOV2125

2. **Lenovo Data Center Product Portfolio**
   2025-06-11 | 20 minutes | Employees and Partners

   This course introduces the Lenovo data center portfolio, and covers servers, storage, storage networking, and software-defined infrastructure products. After completing this course about Lenovo data center products, you will be able to identify product types within each data center family, describe Lenovo innovations that this product family or category uses, and recognize when a specific product should be selected.

   Course objectives:
   1.Identify product types within each data center family
   2.Describe the features of the product family or category
   3.Recognize when a specific product should be selected

   Tags: Advanced DataCenter, DataCenter Products, Server, ThinkAgile, ThinkEdge, ThinkSystem

   Published: 2025-06-11
   Length: 20 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: SXXW1110r8

3. **Family Portfolio: Storage Networking**
   2024-10-14 | 15 minutes | Employees and Partners

   This course will provide you an overview of the Storage Networking family. After completing this course, you should be able to identify the products in the Storage Networking portfolio and their features, describe product family benefits, and recognize when a specific product should be used.

   Tags: DataCenter Products, Storage

   Published: 2024-10-14
   Length: 15 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: SXXW1113r8

4. **Simplify Selling Fibre Channel Storage Solutions**
   2024-04-23 | 45 minutes | Employees and Partners

   In this session we look at the benefits of Fibre Channel and the benefits to you and your customers of bundling FC networking with your storage arrays.
   Plus, we will take a closer look at some of the changes Lenovo has made to the Data Center Solutions Configurator to help you and the clients build bundled FC solutions.

   Course Objectives:
   1.Learn the benefits of Fibre Channel
   2.Understand the benefits of bundling FC networking with your storage arrays
   3.Discover the latest updates in DCSC (Data Center Solutions Configurator)

   Tags: DataCenter Products, Sales, Storage

   Published: 2024-04-23
   Length: 45 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: DNFP101

5. **VTT Data Management How to sell storage - April 2024**
   2024-04-10 | 60 minutes | Employees and Partners

   In this course, you will know:

   - Why do we sell storage?
   - What are the basics you need to get an opportunity rolling?
   - Why Lenovo for Storage?
   - What is happening in the market today?
   - How to determine traction?

   Tags: Data Management, Storage

   Published: 2024-04-10
   Length: 60 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: DVDAT209

Related publications and links

For more information, see the following resources:

- Datasheet of the DB820S:
  https://lenovopress.lenovo.com/datasheet/ds0199-lenovo-db820s-fc-san-switch
- Lenovo ThinkSystem DB820S FC SAN Switch product publications - see the Brocade documentation:
  https://www.broadcom.com/products/fibre-channel-networking/switches/g820-switch

  Tip: Some of the Fabric OS documents can be accessed via the support portal by validating your serial number for software entitlement

  - *Hardware Installation Guide*
  - *Fabric OS Access Gateway Administration Guide*
  - *Fabric OS Administration Guide*
  - *Fabric OS Extension Configuration Guide*
  - *Fabric OS Troubleshooting and Diagnostics Guide*
  - *Fabric OS Command Reference*
  - *Fabric OS Message Reference*
  - *Fabric OS MIB Reference*
  - *Web Tools Administration Guide*
  - *Flow Vision Configuration Guide*
  - *Monitoring and Alerting Policy Suite Configuration Guide*
- Brocade Software Release Support and Posting Matrices (Brocade Fabric OS and SANnav):
  https://docs.broadcom.com/doc/Brocade-SW-Support-RM
- Lenovo Data Center Support for the ThinkSystem DB820S FC SAN Switch:
  https://datacentersupport.lenovo.com/us/en/products/storage/fibre-channel-switches/DB820S-fc-switch/7d5j

Related product families

Product families related to this document are the following:

- DB Series SAN Switches
- Rack SAN Switches

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