



Lenovo Storage DX8200D Software-Defined Storage Product Guide (withdrawn product)

The Lenovo Storage DX8200D powered by DataCore provides an affordable, highly efficient and durable storage platform to meet the massive data growth. It offers flexible virtualization of internal and external storage with automated storage tiering to accelerate transactional databases, analytics, and enterprise applications.

DataCore SANsymphony software is a comprehensive and scalable storage services platform designed to maximize the performance, availability and utilization of your IT assets. It uses DataCore Parallel I/O Technology, in combination with the high-speed RAM caching to service read/write requests quickly, while automatically moving data between spinning disks and flash to optimize performance. Data is mirrored in real-time between separate nodes to maintain continuous availability despite equipment and site outages.

The Lenovo Storage DX8200D models are shown in the following figure.



Figure 1. Lenovo Storage DX8200D models: Storage Virtualization (top) and ServerSAN (bottom)

Did you know?

The Lenovo Storage DX8200D is built on industry-leading Lenovo servers that feature enterprise-class reliability, management, and security.

The Lenovo Storage DX8200D allows scaling from tens to hundreds Terabytes of managed storage.

The Lenovo Storage DX8200D is designed for always-on data storage with multiple levels of protection and availability, including advanced hardware RAID data protection, multipathing, and mirroring.

The Lenovo Storage DX8200D powered by DataCore provides quality, engineering expertise, and Lenovo's worldwide global services. You can quickly and confidently deploy new Software Defined Storage (SDS) technologies using preloaded appliances on proven Lenovo systems and with Lenovo as a single point of contact for assistance.

Key features

The Lenovo Storage DX8200D powered by DataCore provides an affordable, highly efficient and durable storage platform to meet the massive data growth.

The Lenovo Storage DX8200D offers the following features and benefits:

- Unified, scalable storage platform with up to 64 nodes in a managed group for high availability and performance.
- Flexible host connectivity to match diverse client needs for unified file and block storage with support for a mix of 10 GbE interfaces for NFS, CIFS, and SMB NAS or iSCSI SAN storage connectivity, as well as 16 Gb Fibre Channel interfaces for FC SAN storage connectivity.
- Flexibility in managing data on external virtualized storage and local node storage.
- Rich set of standard functions, including internal and external storage virtualization, thin provisioning, tiering, load balancing, compression, deduplication, mirroring, data migration, and multiprotocol support.
- Optional licensed functions, including continuous data protection, asynchronous replication, and Fibre Channel support.
- Storage capacity expansion with the D1212, D1224, or D3284 drive enclosures.
- VMware vSphere Virtual Volumes (VVol) integration brings advanced storage management functions to the virtual machine level for finer VM storage service level control and policy-driven automation.
- Application GUI for easy system set up and management.
- Extensive interoperability with support for most major storage platforms and operating systems.

The following figure shows storage virtualization scenario.

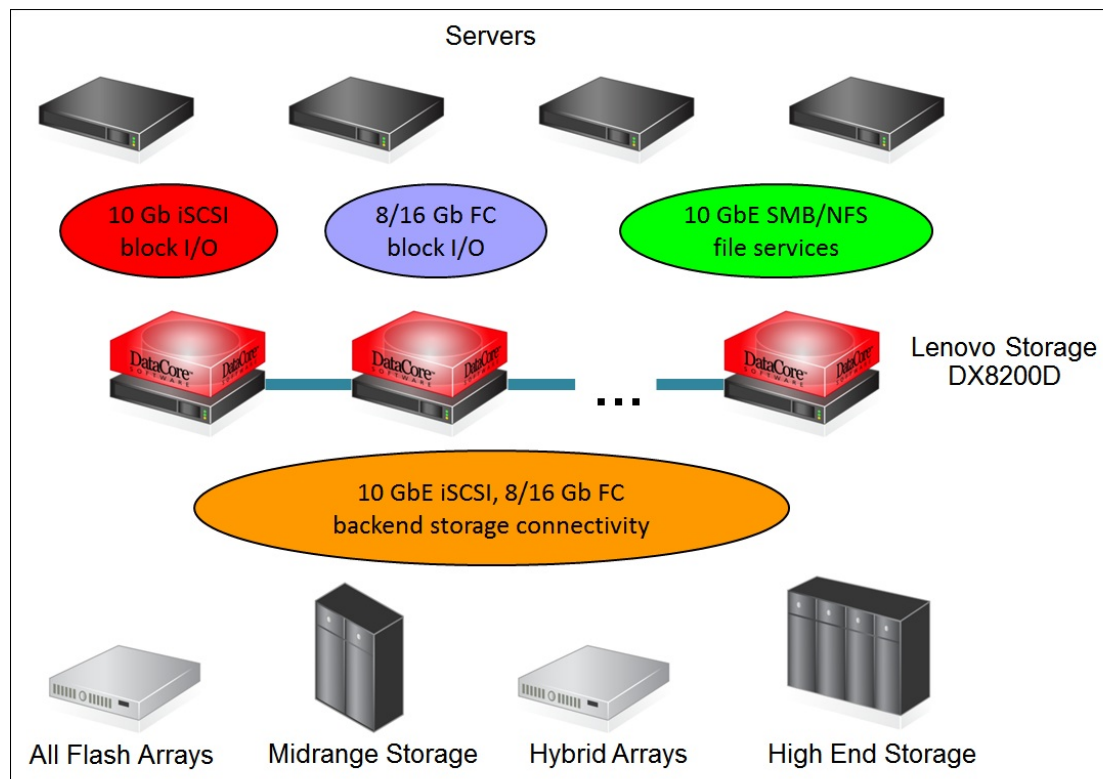


Figure 2. Storage virtualization scenario

The following figure shows server SAN scenario.

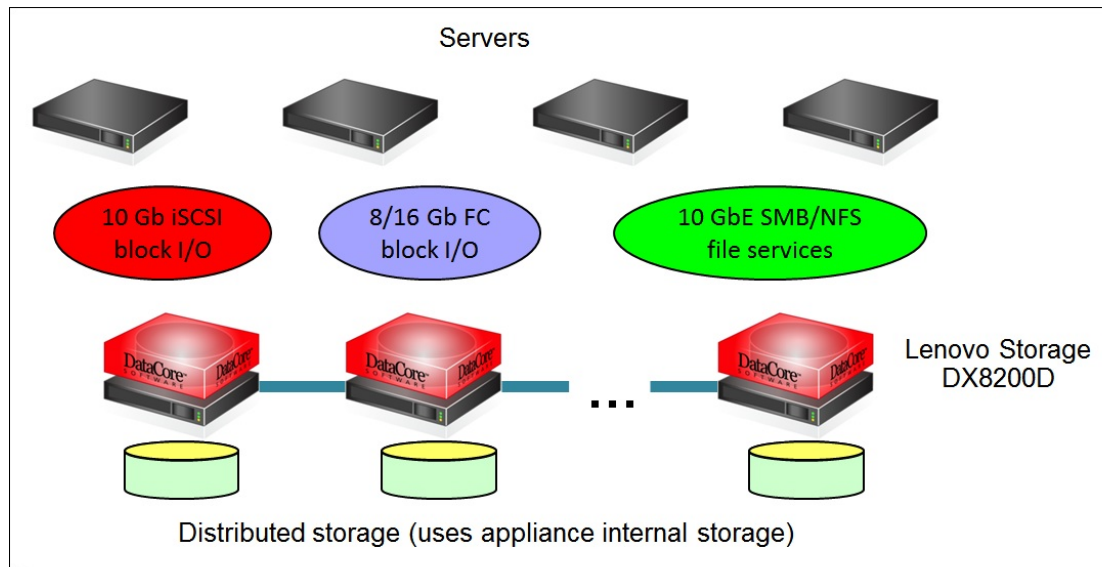


Figure 3. Server SAN scenario

The Lenovo Storage DX8200D is designed to support the complete range of data storage requirements, from highly utilized applications to high-capacity, low usage applications.

The following 2.5-inch 12 Gbps SAS drives are supported for internal storage:

- High performance solid-state drives: 400 GB, 800 GB, and 1.6 TB
- High-capacity, archival-class nearline disk drives: 1 TB and 2 TB 7.2K rpm

The following 3.5-inch SAS drives are supported by the D1212:

- High performance solid-state drives (3 drive writes per day [DWD] and 10 DWD): 400 GB
- Performance-optimized, enterprise class disk drives: 900 GB 10K rpm
- High-capacity, archival-class nearline disk drives: 2 TB, 4 TB, 6 TB, 8 TB, and 10 TB 7.2K rpm
- High-capacity, archival-class nearline self-encrypting disk drives: 4 TB 7.2K rpm

The following 2.5-inch SAS drives are supported by the D1224:

- High performance solid-state drives (3 DWD and 10 DWD): 400 GB, 800 GB, and 1.6 TB
- High performance self-encrypting solid-state drives (10 DWD): 800 GB
- Capacity optimized solid-state drives (3 DWD): 3.84 TB
- Capacity optimized solid-state drives (1 DWD): 3.84 TB and 7.68 TB
- Performance-optimized, enterprise class disk drives
 - 300 GB, 600 GB, and 900 GB 15K rpm
 - 600 GB, 900 GB, 1.2 TB, and 1.8 TB 10K rpm
- Performance-optimized, enterprise class self-encrypting disk drives: 1.2 TB 10K rpm
- High-capacity, archival-class nearline disk drives: 1 TB and 2 TB 7.2K rpm

The following SAS drives are supported by the D3284:

- High-capacity, archival-class nearline disk drives: 4 TB, 6 TB, 8 TB, and 10 TB 7.2K rpm
- High performance solid-state drives: 400 GB

Additional drives and expansion enclosures are designed to be dynamically added with virtually no downtime, helping to quickly and seamlessly respond to growing capacity demands.

The Lenovo Storage DX8200D is designed to offer high levels of system and data availability with the following technologies:

- Two-node mirroring for high availability and failover
- Dual-port drives (both HDDs and SSDs) with automatic drive failure detection and RAID rebuild with global hot spares
- Redundant hardware, including nodes, RAID drive groups, power supplies, and fans
- Hot-swappable and customer replaceable components
- Automated path failover support for the data path between the host and the drives with multipathing

Components and connectors

The following figure shows the front view of the Lenovo Storage DX8200D storage virtualization models.

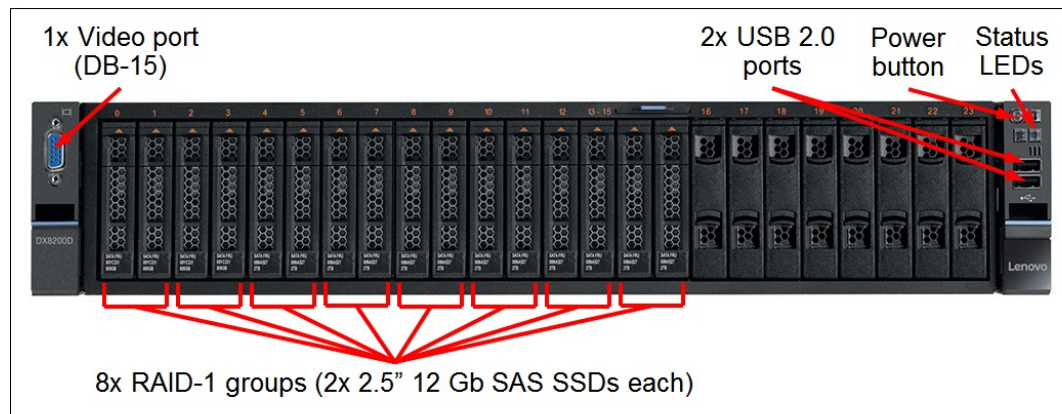


Figure 4. Lenovo Storage DX8200D front view: Storage virtualization models

The following figure shows the front view of the Lenovo Storage DX8200D server SAN models.

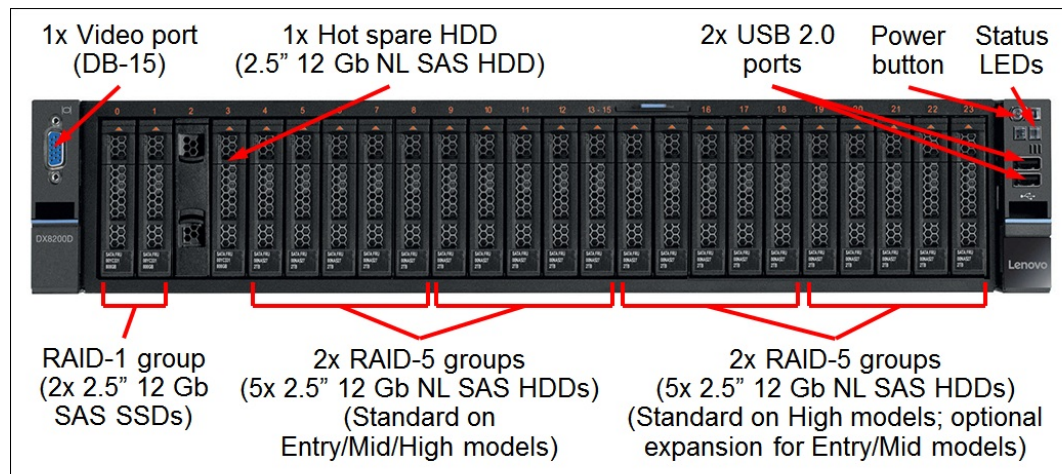


Figure 5. Lenovo Storage DX8200D front view: Server SAN models

The following figure shows the rear view of the Lenovo Storage DX8200D.

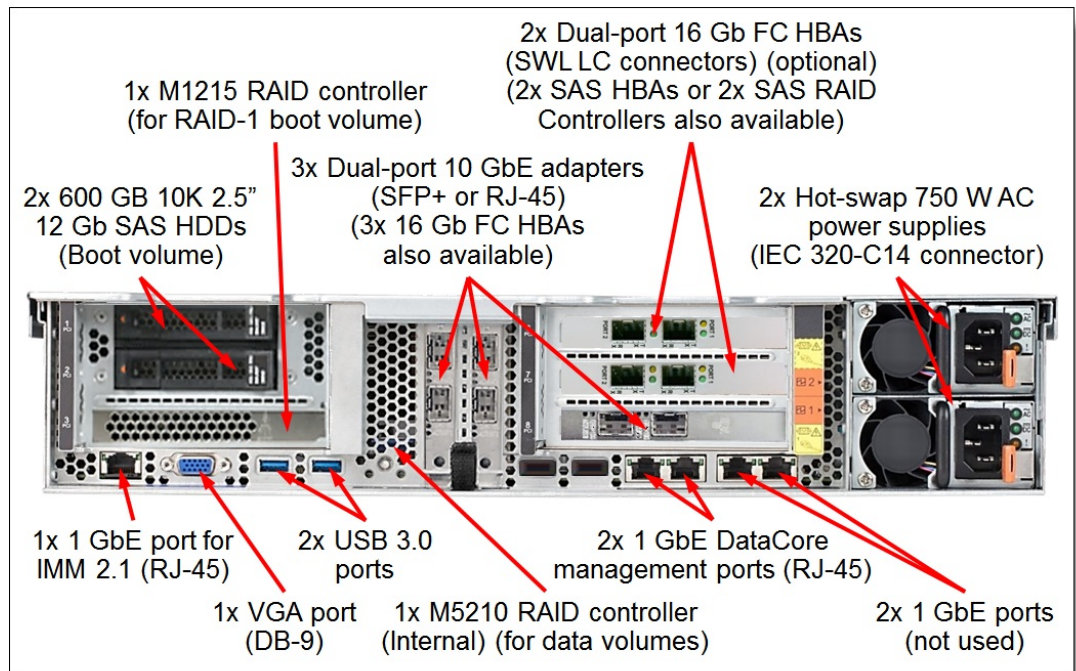


Figure 6. Lenovo Storage DX8200D rear view

System specifications

The following table lists the system specifications of the Lenovo Storage DX8200D appliances.

Table 1. System specifications

Attribute	Specification
Form factor	2U Rack-mount (Machine Type 5135).
Node type	<ul style="list-style-type: none"> Storage virtualization node Server SAN node
Node configuration	From 2 to 64 nodes per managed group for high availability and load balancing.
Processor	Two Intel Xeon processor E5-2620 v4 CPUs, each with: <ul style="list-style-type: none"> 8 cores (2.1 GHz core speeds) Two QPI links up to 8.0 GT/s each 20 MB cache Up to 2133 MHz memory speed
Memory	24 DIMM sockets. Support 32 GB TruDDR4 RDIMMs. Memory speed up to 2133 MHz.
Memory capacity	Up to 768 GB with 24x 32 GB RDIMMs.
Memory protection	ECC and Chipkill.
Boot volume	2x 600 GB 2.5-in. 10K rpm 12 Gbps SAS hot-swap HDDs in a RAID-1 drive group connected to the M1215 RAID controller.
Drive bays	24x 2.5-inch (SFF) hot-swap drive bays.
Drives	<ul style="list-style-type: none"> 400 GB, 800 GB, and 1.6 TB 12 Gbps SAS SSDs 1 TB and 2 TB 7.2K rpm NL SAS HDDs

Attribute	Specification
Internal storage capacity	Up to 32 TB of usable storage (4x RAID-5 drive groups with 5x 1 TB SFF NL SAS HDDs each connected to the M5210 RAID controller)
External storage expansion capacity (Raw)	<ul style="list-style-type: none"> Up to 3.3 PB with 4x D3284 (336x 10 TB LFF NL SAS HDDs) Up to 960 TB with 8x D1212 (96x 10 TB LFF NL SAS HDDs) Up to 384 TB with 8x D1224 (192x 2 TB SFF NL SAS HDDs) Up to 888 TB with 1x D3284 + 2x D1224 (84x 10 TB LLF + 24x 2 TB SFF NL SAS HDDs) Up to 1.9 PB with 2x D3284 + 2x D1212 (192x 10 TB LFF NL SAS HDDs)
I/O expansion slots	<p>Seven slots:</p> <ul style="list-style-type: none"> Slot 3: PCIe 3.0 x8 (for the ServeRAID M1215) Slot 4: PCIe 3.0 x8 (for the network adapter or FC HBA) Slot 5: PCIe 3.0 x8 (for the network adapter or FC HBA) Slot 6: PCIe 3.0 x8 or x16 (for the FC or SAS HBA, or SAS RAID adapter) (x16 slot is double-wide) Slot 7: PCIe 3.0 x8 (for the FC or SAS HBA, or SAS RAID adapter) (not present if the slot 6 is PCIe x16) Slot 8: PCIe 3.0 x8 (for the network adapter or FC HBA) Slot 9: PCIe 3.0 x8 (for the ServeRAID M5210)
Connectivity interfaces	<ul style="list-style-type: none"> 6x 10 GbE RJ-45 (3x Intel X540-T2) or SFP+ (3x Intel X520) ports and up to 4x additional 16 Gb Fibre Channel ports with up to 2x QLogic dual-port FC HBAs (optional); or 6x 16 Gb Fibre Channel ports with 2x QLogic dual-port FC HBAs and up to 4x additional 16 Gb Fibre Channel ports with up to 2x QLogic dual-port FC HBAs (optional) for a total of up to 10x 16 Gb FC ports.
Storage protocols	<ul style="list-style-type: none"> Host connectivity: Network File System (NFS), Server Message Block (SMB), iSCSI, optional Fibre Channel. External storage connectivity: iSCSI, optional Fibre Channel.
Software	<ul style="list-style-type: none"> Microsoft Windows Server 2012 R2 Standard DataCore SANsymphony (node- and capacity-based licensing): Storage pools, automated storage tiering, multipathing, load balancing, high-speed caching, quality of service (QoS) online snapshots, thin provisioning, data compression and deduplication, data migration, and synchronous mirroring. Optional continuous data protection (CDP) and asynchronous replication.
Ports	<ul style="list-style-type: none"> Front: 2x USB 2.0 and 1x DB-15 VGA. Rear: 2x USB 3.0, 1x DB-15 VGA, and 1x 10/100/1000 Mbps Ethernet (RJ-45) systems management.
Cooling	Calibrated Vectored Cooling with four redundant hot-swap fans.
Power supply	Two redundant hot-swap 750 W AC (100 - 240 V) High Efficiency Platinum AC power supplies.
Video	Matrox G200eR2 with 16 MB memory integrated into the IMM2.1. Maximum resolution is 1600x1200 at 75 Hz with 16 M colors.
Hot-swap parts	Drives, power supplies, and fans.
Systems management	UEFI, Integrated Management Module II (IMM2.1) (Renesas SH7758) with Advanced Upgrade, predictive alerts, light path diagnostics, Lenovo XClarity, DataCore Management Console, Windows PowerShell cmdlets.
Security features	Power-on password, administrator's password, Trusted Platform Module (TPM) version 1.2 or 2.0 (selectable UEFI setting), role-based access control, Windows OS authentication integration.
Hardware warranty	Three-year customer-replaceable unit and onsite limited warranty with 9x5 next business day (NBD) parts delivery and remote technical support. Optional service upgrades are available: technician installed parts, 4-hour or 2-hour response time; 6-hour, 8-hour, or 24-hour committed repair; 1-year or 2-year warranty extension.

Attribute	Specification
Software maintenance	Three-, four-, or five-year software license with support and subscription.
Dimensions	Height: 87 mm (3.4 in), width: 446 mm (17.5 in), depth: 800 mm (31.5 in)
Weight	Maximum configuration: 34 kg (75 lb)

Models

The Lenovo Storage DX8200D offers two types of nodes:

- Storage virtualization nodes for virtualizing the existing external storage
- Server SAN nodes for building a scale-out storage solution using local node storage

Within each type, the models are categorized as Entry, Mid, or High, based on the node configuration and software licensing.

The following table lists the relationship models of the Lenovo Storage DX8200D nodes. Factory-built configure-to-order (CTO) models can also be used.

Product availability: The Lenovo Storage DX8200D is withdrawn and no longer available for ordering.

Table 2. Lenovo Storage DX8200D relationship models (F = flash backup)

Model number*	Intel Xeon processor	Memory (std / max)	Storage controllers	Drives	NIC	I/O slots	Power supply	Software license
Storage Virtualization Entry								
5135A3x	2x E5-2620 v4	128GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 400GB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	4TB w/3-Yr S&S
5135J3x	2x E5-2620 v4	128GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 400GB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	4TB w/4-Yr S&S
51351Wx	2x E5-2620 v4	128GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 400GB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	4TB w/5-Yr S&S
Storage Virtualization Mid								
5135B3x	2x E5-2620 v4	256GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 800GB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	16TB w/3-Yr S&S
5135L3x	2x E5-2620 v4	256GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 800GB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	16TB w/4-Yr S&S
51352Wx	2x E5-2620 v4	256GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 800GB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	16TB w/5-Yr S&S
Storage Virtualization High								
5135C3x	2x E5-2620 v4	512GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 1.6TB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	64TB w/3-Yr S&S
5135M3x	2x E5-2620 v4	512GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 1.6TB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	64TB w/4-Yr S&S
51353Wx	2x E5-2620 v4	512GB / 768GB	1x M5210 4GB (F) 1x M1215	16x 1.6TB SSD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	64TB w/5-Yr S&S

Model number*	Intel Xeon processor	Memory (std / max)	Storage controllers	Drives	NIC	I/O slots	Power supply	Software license
Server SAN Entry								
5135D3x	2x E5-2620 v4	128GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 400GB SSD 11x 1TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	8TB w/3-Yr S&S
5135N3x	2x E5-2620 v4	128GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 400GB SSD 11x 1TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	8TB w/4-Yr S&S
51354Wx	2x E5-2620 v4	128GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 400GB SSD 11x 1TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	8TB w/5-Yr S&S
Server SAN Mid								
5135F3x	2x E5-2620 v4	256 GB / 768 GB	1x M5210 4GB (F) 1x M1215	2x 800GB SSD 11x 2TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	16TB w/3-Yr S&S
5135P3x	2x E5-2620 v4	256GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 800GB SSD 11x 2TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	16TB w/4-Yr S&S
51355Wx	2x E5-2620 v4	256GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 800GB SSD 11x 2TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	16TB w/5-Yr S&S
Server SAN High								
5135G3x	2x E5-2620 v4	512GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 1.6TB SSD 21x 2TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	32TB w/3-Yr S&S
5135Q3x	2x E5-2620 v4	512GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 1.6TB SSD 21x 2TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	32TB w/4-Yr S&S
51356Wx	2x E5-2620 v4	512GB / 768GB	1x M5210 4GB (F) 1x M1215	2x 1.6TB SSD 21x 2TB HDD 2x 600GB HDD	6x 10 GbE (RJ-45)	7**	2x 750W HS	32TB w/5-Yr S&S

* x in the Model number represents a region- or geo-specific letter (see the note below the table).

** PCIe slots 6 and 7 on the PCIe x8 riser card are available; PCIe slots 4, 5, and 8 are occupied by the network adapters; PCIe slots 3 and 9 are occupied by the RAID controllers.

Note: The following region- or geo-specific letters are used:

- A = Asia Pacific (US English documentation)
- M = Australia and New Zealand (US English documentation)
- C = China (Simplified Chinese documentation)
- G = Europe, Middle East, Africa (UK English documentation)
- B = Hong Kong (Traditional Chinese documentation)
- J = Japan (Japanese documentation)
- K = Korea (Korean documentation)
- L = Latin America (US English documentation)
- U = North America (US English documentation)
- V = Taiwan (Traditional Chinese documentation)

The Lenovo Storage DX8200D relationship models listed in this section ship with the following items:

- Documentation package
- Enterprise Slides Kit
- Enterprise 2U Cable Management Arm (CMA)
- One 1 m Passive SFP+ DAC Cable
- One 1.5 m UTP Category 5E Ethernet cable
- Two 1.5 m, 10A/100-250V, IEC 320-C13 to C14 rack power cables

The following table lists the base models of the Lenovo Storage DX8200D for CTO configurations.

Table 3. Lenovo Storage DX8200D base models for CTO configurations

Description	Machine Type-Model	Feature code
DX8200D Storage Virtualization Entry	5135-AC1	AUZ6
DX8200D Storage Virtualization Mid	5135-AC2	AUZ7
DX8200D Storage Virtualization High	5135-AC3	AUZ8
DX8200D ServerSAN Entry	5135-AC4	AUZ9
DX8200D ServerSAN Mid	5135-AC5	AUZA
DX8200D ServerSAN High	5135-AC6	AUZB

Processors

The Lenovo Storage DX8200D ships with two Intel Xeon processor E5-2620 v4 CPUs. The processor specifications are listed in the following table.

Table 4. CPU specifications (HT = Hyper-Threading, TB = Turbo Boost, VT = Virtualization Technology)

Processor model	Core frequency (Base / TB Max)	Number of cores / threads	Cache	Max DDR4 frequency	QPI speed	TDP	HT	TB	VT-x	VT-d
E5-2620 v4	2.1 / 3.0 GHz	8 / 16	20 MB	2133 MHz	8.0 GT/s	85 W	Yes	Yes	Yes	Yes

Memory

The Lenovo Storage DX8200D supports Lenovo TruDDR4 memory. TruDDR memory is selected, tested and tuned to maximize performance and reliability, and it enables extended memory performance features to support memory speeds that exceed industry standards.

The appliance supports up to 768 GB of memory with support for up to 24x 32 GB RDIMMs with two processors (up to 12 DIMMs per processor). Each processor has four memory channels, and there are two DIMMs per channel.

The following memory protection technologies are supported:

- ECC
- Chipkill

Lenovo engineering tested and validated system designs that support memory speeds beyond Intel memory specifications, which provides benefits for workloads that require memory speed and density. Lenovo TruDDR4 memory is fully supported up to the rated speeds that are shown in the following table. Table cells highlighted with a gray background indicate when the DIMMs are allowed to operate at a higher speed than Intel specifications define.

Table 5. Maximum memory speeds and capacities

DIMMs per channel	RDIMM	
	Memory bus speed (E5-2620 v4)	Capacity
1 DPC	2133 MHz	256 GB (8x 32 GB)
2 DPC	2133 MHz	512 GB (16x 32 GB)
3 DPC	1866 MHz	768 GB (24x 32 GB)

The following table lists memory selection options available for the Lenovo Storage DX8200D.

Table 6. Memory options

Description	Part number	Feature code	Quantity (min / max)		
			Entry models	Mid models	High models
RDIMMs - 2400 MHz					
32GB TruDDR4 Memory (2Rx4, 1.2V) PC4-19200 CL17 2400MHz LP RDIMM	46W0833	ATCB	4 / 24	8 / 24	16 / 24

Internal storage

For the main storage, the Lenovo Storage DX8200D has 24x 2.5" hot-swap drive bays connected to the ServeRAID M5210 SAS/SATA Controller with 4 GB flash-backed cache installed and the Performance Accelerator (also known as FastPath) feature activated.

For the bootable volume, the Lenovo Storage DX8200D includes the rear HDD kit with 2x 600GB 10K 12Gbps SAS 2.5" G3HS HDDs connected to the ServeRAID M1215 SAS/SATA Controller. The drives are configured in a RAID-1 group that provides highly available bootable volume for the software preload.

The following table lists the internal drive configurations for the main storage.

Table 7. Internal drive configurations: Main storage

Model	2.5-inch hot-swap front drive bays (main storage)		
	Quantity, drive types	Drive layout	Storage controller
Storage Virtualization Entry	16x 400GB 12Gb SAS SSDs	8x RAID 1 drive groups (2x SSDs each)	1x M5210 4GB flash
Storage Virtualization Mid	16x 800GB 12Gb SAS SSDs	8x RAID 1 drive groups (2x SSDs each)	1x M5210 4GB flash
Storage Virtualization High	16x 1.6TB 12Gb SAS SSDs	8x RAID 1 drive groups (2x SSDs each)	1x M5210 4GB flash
ServerSAN Entry	2x 400GB 12Gb SAS SSDs + 11x 1TB 12Gb NL SAS HDDs	1x RAID 1 drive group (2x SSDs) 1x Hot spare HDD 2x RAID 5 drive groups (5x HDDs each)	1x M5210 4GB flash
ServerSAN Mid	2x 800GB 12Gb SAS SSDs + 11x 2TB 12Gb NL SAS HDDs	1x RAID 1 drive group (2x SSDs) 1x Hot spare HDD 2x RAID 5 drive groups (5x HDDs each)	1x M5210 4GB flash
ServerSAN High	2x 1.6TB 12Gb SAS SSDs + 21x 2TB 12Gb NL SAS HDDs	1x RAID 1 drive group (2x SSDs) 1x Hot spare HDD 4x RAID 5 drive groups (5x HDDs each)	1x M5210 4GB flash

Notes:

- Storage Virtualization models can be field upgraded with up to eight additional SSDs configured in the same way as in the base model, that is, up to four additional RAID 1 drive groups with two SSDs in each group.
- ServerSAN Entry and Mid models can be field upgraded with up to ten additional HDDs configured in the same way as in the base model, that is, up to two additional RAID 5 drive groups with five HDDs in each group.

The following table lists the internal drive configurations for the boot volume.

Table 8. Internal drive configurations: Boot volume

Model	2.5-inch hot-swap rear drive bays (boot volume)		
	Quantity, drive types	Drive layout	Storage controller
All models	2x 600GB 12Gb SAS HDDs	1x RAID 1 drive group (2x HDDs)	1x M1215

The following table summarizes features of the storage controllers used in the Lenovo Storage DX8200D.

Table 9. Storage controller features and specifications summary

Feature	M5210	M1215
Form factor	PCIe low profile	PCIe low profile
Controller chip	LSI SAS3108	LSI SAS3008
Host interface	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	12 Gbps SAS	12 Gbps SAS
Number of ports	8	8
Port connectors	2x Mini-SAS HD x4 (SFF-8643)	2x Mini-SAS HD x4 (SFF-8643)
Drive interface	SAS, NL SAS	SAS
Drive type	HDD, SSD	HDD
Drive form factor	SFF	SFF
Number of drives	Up to 23	2
RAID levels	0, 1, 5, 50, 6, 50	1 (2 drives)
Cache	4 GB	None
Cache protection	Flash backup	Not applicable
FastPath	Included	Not applicable

The following table lists the HDD and SSD drive options that are available for selection.

Table 10.HDD and SSD drives

Description	Part number	Feature code	Quantity
2.5-inch hot-swap HDDs - 12 Gbps NL SAS			
1TB 7.2K 12Gbps NL SAS 2.5" G3HS HDD	00NA491	AT7Z	11
2TB 7.2K 12Gbps NL SAS 2.5" G3HS HDD	00NA496	AT80	21
2.5-inch hot-swap SSDs - 12 Gbps SAS			
PM1635a 400GB Enterprise Mainstream 12Gb SAS G3HS 2.5" SSD	01GV761	AWEY	16
PM1635a 800GB Enterprise Mainstream 12Gb SAS G3HS 2.5" SSD	01GV766	AWEZ	16
PM1635a 1.6TB Enterprise Mainstream 12Gb SAS G3HS 2.5" SSD	01GV771	AWF0	16

External storage expansion

For storage capacity expansion, the Lenovo Storage DX8200D nodes support attachments of the Lenovo Storage D1212, D1224, and D3284 Drive Enclosures by using the N2225 SAS HBAs or ServeRAID M5225-2GB SAS RAID Controllers. The following expansion connectivity topologies are supported:

- Up to eight daisy-chained D1212 or D1224 drive enclosures or a combination of the D1212 and D1224 drive enclosures
- Up to four daisy-chained D3284 drive enclosures (N2225 only; M5225 supports up to two daisy-chained D3284 drive enclosures)
- Up to two daisy-chained D3284 drive enclosures and up to two D1212 drive enclosures
- Up to two daisy-chained D3284 drive enclosures and up to one D1224 drive enclosure

Lenovo Storage D1212, D1224, or D3284 drive enclosures can be ordered for the Lenovo Storage DX8200D, if needed. For drive enclosure models, additional options for them, and daisy-chaining connectivity details, refer to the following Lenovo Press product guides:

- Lenovo Storage D1212 and D1224 Drive Enclosures
<http://lenovopress.com/lp0512>
- Lenovo Storage D3284 External High Density Drive Expansion Enclosure
<http://lenovopress.com/lp0513>

The following table lists SAS RAID controllers and HBAs for external storage expansion attachments.

Table 11. SAS RAID adapters and HBAs for external storage expansion

Description	Part number	Feature code	Quantity (min / max)
12 Gbps SAS RAID adapters			
ServeRAID M5225-2GB SAS/SATA Controller	00AE938	A5ND	0 / 2
Feature on Demand (FoD) upgrades for the M5225*			
ServeRAID M5200 Series Performance Accelerator	47C8710	A3Z7	0 / 1*
12 Gbps SAS HBAs			
N2225 SAS/SATA HBA	00AE912	A5M0	0 / 2

* One FoD upgrade for the M5225 activates the feature on all M5225 adapters installed in the server.

Configuration note: Up to two N2225 or M5225 adapters are supported in the system, and they occupy PCIe slots 6 and 7.

The following table summarizes features of supported RAID controllers and HBAs.

Table 12. SAS RAID controller and HBA features and specifications summary (PN = Part number)

Feature	M5225-2GB	N2225
Part number	00AE938	00AE912
Form factor	Low profile	Low profile
Controller chip	LSI SAS3108	LSI SAS3008
Host interface	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	12 Gbps SAS	12 Gbps SAS
Number of external ports	8	8
External port connectors	2x Mini-SAS HD (SFF-8644)	2x Mini-SAS HD (SFF-8644)
Drive interface	SAS, SATA	SAS, SATA
Drive type	HDD, SED, SSD	HDD, SSD
Maximum number of devices	240	1024
RAID levels	0/1/10/5/50	None*
JBOD mode	No	Yes
Cache	2 GB (included)	None
Cache protection	Flash (included)	None
Performance Accelerator (FastPath)	Optional (PN 47C8710)	None

* RAID protection, if needed, is provided by the DataCore software (RAID 0, 1, and 10).

For more information about the supported RAID controllers and HBAs, see the following Lenovo Press Product Guides:

- ServeRAID M5225-2GB SAS/SATA Controller
<http://lenovopress.com/tips1258>
- N2225 and N2226 12 Gb SAS HBAs
<http://lenovopress.com/tips1175>

I/O expansion

The Lenovo Storage DX8200D supports 10 Gb Ethernet and 16 Gb Fibre Channel connectivity interfaces that are provided by the network adapters and FC HBAs installed in the I/O expansion slots.

The Lenovo Storage DX8200D supports up to seven I/O slots: one PCIe slot 9 on the system planar that is dedicated to the internal storage controller, two regular PCIe slots 4 and 5 on the system planar, one PCIe slot 3 for the ServeRAID M1215 on the rear HDD kit, and up to three PCIe slots 6, 7 (if present), and 8 with two types of riser cards installed into a riser socket on the system planar.

The slots are as follows (depending on the riser cards installed):

- Slot 3: PCIe 3.0 x8 (for the ServeRAID M1215)
- Slot 4: PCIe 3.0 x8 (for the network adapter or FC HBA)
- Slot 5: PCIe 3.0 x8 (for the network adapter or FC HBA)
- Slot 6: PCIe 3.0 x8 or x16 (for the FC or SAS HBA, or SAS RAID adapter) (x16 slot is double-wide)
- Slot 7: PCIe 3.0 x8 (for the FC or SAS HBA, or SAS RAID adapter) (not present if the slot 6 is x16)
- Slot 8: PCIe 3.0 x8 (for the network adapter or HBA)
- Slot 9: PCIe 3.0 x8 (for the ServeRAID M5210)

The locations of the PCIe slots are shown in the following figure.

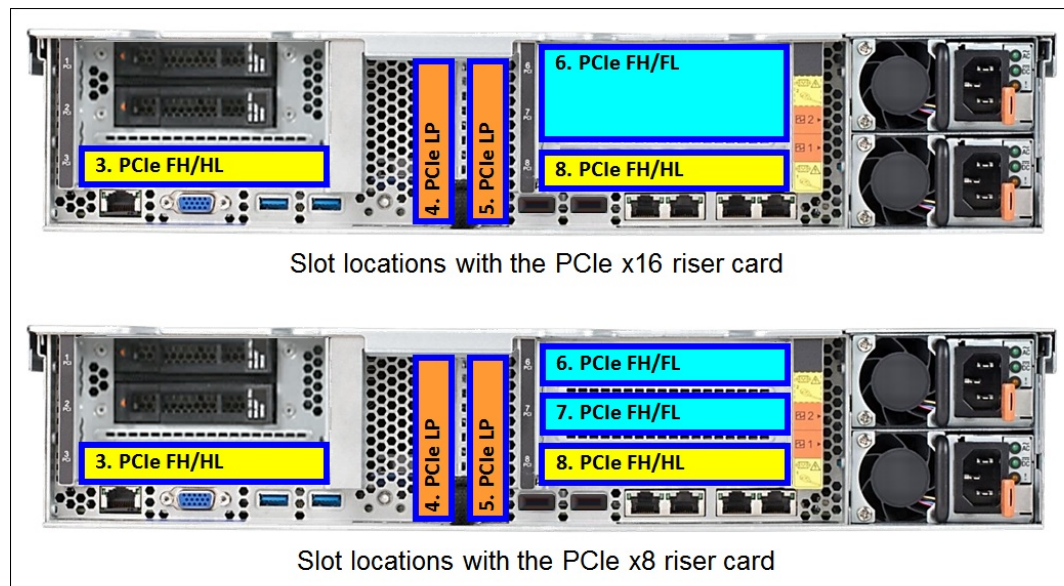


Figure 7. Slot locations

The models of the Lenovo Storage DX8200D listed in the [Models](#) section ship with the PCIe x8 Riser (2 x8 FH/FL + 1 x8 FH/HL Slots) (part number 00KA498).

The following table lists available PCIe riser card selection options for the CTO models.

Table 13. PCIe riser cards (PCIe x8 riser supplies slots 6, 7 and 8; PCIe x16 riser supplies slots 6 and 8)

Description	Part number	Feature code	Maximum supported
Riser options (PCIe x8 riser supplies slots 6, 7 and 8; PCIe x16 riser supplies slots 6 and 8)			
System x3650 M5 PCIe Riser (1 x16 FH/FL + 1 x8 FH/HL Slots)	00KA489	A5R5	1
System x3650 M5 PCIe Riser (2 x8 FH/FL + 1 x8 FH/HL Slots)	00KA498	A5R6	1

Ethernet connectivity

The Lenovo Storage DX8200D supports 10 GbE interfaces for iSCSI SAN and NAS (NFS, CIFS, SMB) connectivity.

The models of the Lenovo Storage DX8200D listed in the [Models](#) section include three Intel X540-T2 Dual Port 10GBase-T Adapters. Configure-to-Order (CTO) models of the Lenovo Storage DX8200D can be configured with SFP+ or RJ-45 10 GbE ports by selecting the network adapter options listed in the following table.

Table 14. Network adapters

Description	Part number	Feature code	Quantity (min / max)
Intel X520 Dual Port 10GbE SFP+ Adapter (SFP+ ports)	49Y7960	A2EC	0 / 3
Intel X540-T2 Dual Port 10GBase-T Adapter (RJ-45 ports)	49Y7970	A2ED	0 / 3

Configuration note: When network adapters are used, three 10 GbE adapters (either X520 SFP+ or X540-T2, but not both types) are required; these adapters occupy PCIe slots 4, 5, and 8.

The 10 GbE SFP+ ports require SFP+ transceivers or direct-attach copper (DAC) cables that should be ordered together with the appliance (up to two SFP+ transceivers or DAC cables per dual-port SFP+ adapter). The following table lists supported SFP+ transceiver and cable options.

Note: The models of the Lenovo Storage DX8200D listed in the [Models](#) section include one 1 m SFP+ Passive DAC Cable (00MN502).

Table 15. SFP+ transceivers and cable options

Description	Part number	Feature code
SFP+ transceivers - 10 GbE		
Lenovo 10GBASE-SR SFP+ Transceiver	46C3447	5053
QLogic 10Gb SFP+ SR Optical Transceiver	49Y4218	0064
Optical cables for 10 GbE SFP+ SR transceivers		
Lenovo 0.5m LC-LC OM3 MMF Cable	00MN499	ASR5
Lenovo 1m LC-LC OM3 MMF Cable	00MN502	ASR6
Lenovo 3m LC-LC OM3 MMF Cable	00MN505	ASR7
Lenovo 5m LC-LC OM3 MMF Cable	00MN508	ASR8
Lenovo 10m LC-LC OM3 MMF Cable	00MN511	ASR9
Lenovo 15m LC-LC OM3 MMF Cable	00MN514	ASRA
Lenovo 25m LC-LC OM3 MMF Cable	00MN517	ASRB
Lenovo 30m LC-LC OM3 MMF Cable	00MN520	ASRC
SFP+ passive direct-attach cables - 10 GbE		
Lenovo 0.5m Passive SFP+ DAC Cable	00D6288	A3RG
Lenovo 1m Passive SFP+ DAC Cable	90Y9427	A1PH
Lenovo 1.5m Passive SFP+ DAC Cable	00AY764	A51N
Lenovo 2m Passive SFP+ DAC Cable	00AY765	A51P
Lenovo 3m Passive SFP+ DAC Cable	90Y9430	A1PJ

Description	Part number	Feature code
Lenovo 5m Passive SFP+ DAC Cable	90Y9433	A1PK
Lenovo 7m Passive SFP+ DAC Cable	00D6151	A3RH

Fibre Channel connectivity

With an optional software license, the Lenovo Storage DX8200D supports auto-sensing 4/8/16 Gb Fibre Channel connectivity for attaching hosts and external virtualized storage systems. FC interfaces can be configured by selecting the 16 Gb FC HBAs options listed in the following table.

Table 16. Fibre Channel HBAs

Description	Part number	Feature code	Quantity (min / max)
QLogic 16Gb FC Dual-port HBA	00Y3341	A3KX	0 / 5
QLogic 16Gb Enhanced Gen5 FC Dual-port HBA	01CV760	ATZC	0 / 5

Configuration notes:

- When FC adapters are used and no network adapters are selected, a minimum of three 16 Gb FC HBAs is required, and they occupy slots 4, 5, and 8. Up to two additional FC HBAs that occupy PCIe slots 6 and 7 are supported for a total of five FC HBAs in the system.
- When FC adapters and network adapters are used, up to two FC HBAs that occupy PCIe slots 6 and 7 are supported in the system.
- All FC HBAs in the system must be of the same type (either 16 Gb FC or 16 Gb Enhanced Gen5 FC but not both types).

Power supplies and cables

The Lenovo Storage DX8200D ships with two redundant hot-swap 750 W AC (100 - 240 V) High Efficiency Platinum power supplies, and is capable of N+N redundancy.

The models of the Lenovo Storage DX8200D listed in the [Models](#) section ship with two 1.5m, 10A/100-250V, IEC 320-C13 to C14 rack power cables (part number 39Y7937). Other line cords or rack power cables can be ordered with the DX8200D, if needed (see the following table).

Table 17. Power cables

Description	Part number	Feature code
Rack power cables		
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7937	6201
2.0m, 125-250V, C13 to IEC 320-C14 Rack Power Cable (WW)	None*	6316
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	None*	6311
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	39Y7938	6204
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7932	6263
Line cords		
Argentina 10A/250V C13 to IRAM 2073 2.8m line cord	39Y7930	6222
Australia/NZ 10A/250V C13 to AS/NZ 3112 2.8m line cord	39Y7924	6211

Description	Part number	Feature code
Brazil 10A/125V C13 to 2P+Gnd 1.8m line cord	None*	6599
Brazil 10A/250V C13 to 2P+Gnd 1.8m line cord	None*	6364
Brazil 10A/125V C13 to NBR 6147 2.8m line cord	39Y7929	6223
Brazil 10A/250V C13 to NBR 14136 2.8m line cord	69Y1988	6532
China 10A/250V C13 to GB 2099.1 2.8m line cord	39Y7928	6210
Denmark 10A/250V C13 to DK2-5a 2.8m line cord	39Y7918	6213
Europe 10A/230V C13 to CEE7-VII 2.8m line cord	39Y7917	6212
Europe 10A/250V, C13 to IEC 309 2P+Gnd 2.8m line cord	None*	6377
Europe 10A/250V C13 to 2P+Gnd 4.3m line cord	None*	6374
India 10A/250V C13 to IS 6538 2.8m line cord	39Y7927	6269
Israel 10A/250V C13 to SI 32 2.8m line cord	39Y7920	6218
Italy 10A/250V C13 to CEI 23-16 2.8m line cord	39Y7921	6217
Japan 12A/125V C13 to JIS C-8303 2.8m line cord	46M2593	A1RE
Korea 12A/250V C13 to KETI 2.8m line cord	39Y7925	6219
South Africa 10A/250V C13 to SABS 164 2.8m line cord	39Y7922	6214
Switzerland 10A/250V C13 to SEV 1011-S24507 2.8m line cord	39Y7919	6216
Taiwan 10A/125V C13 to CNS 10917-3 1.8m line cord	None*	6526
Taiwan 10A/250V C13 to CNS 10917-3 2.8m line cord	00CG265	6317
Taiwan 15A/125V C13 to CNS 10917-3 2.8m line cord	00CG267	6386
United Kingdom 10A/250V C13 to BS 1363/A 2.8m line cord	39Y7923	6215
United States 10A/125V C13 to NEMA 5-15P 1.8m line cord	None*	6369
United States 10A/120V C13 to NEMA 5-15P 2.8m line cord	90Y3016	6313
United States 10A/125V C13 to NEMA 5-15P 4.3m line cord	39Y7931	6207
United States 10A/250V C13 to NEMA 6-15P 1.8m line cord	None*	6351
United States 10A/250V C13 to NEMA 6-15P 2.8m line cord	46M2592	A1RF

* Available via Configure to Order (CTO).

Software

The Lenovo Storage DX8200D preload includes the following software components:

- Microsoft Windows Server 2012 R2 Standard
- DataCore SANsymphony

The DataCore SANsymphony software that runs on the Lenovo Storage DX8200D offers the following features:

- Storage protocols
 - NFS, CIFS, SMB over 10 GbE
 - 10 Gb iSCSI
 - 16 Gb Fibre Channel (requires an optional software license)
- Data availability and integrity
 - Software disk striping for RAID 0, 1, 10
 - Advanced hardware RAID data protection
 - Multipathing support
 - Synchronous mirroring

- Asynchronous replication (requires an optional software license)
 - Continuous data protection (requires an optional software license)
- Data services and optimization
 - High-speed caching
 - Automated storage tiering
 - Random write accelerator
 - Quality of service
 - Data migration
 - Online snapshots
 - Thin provisioning
 - Data compression and deduplication
- Management
 - DataCore Management Console application GUI
 - Windows PowerShell cmdlets CLI

The following optional software feature licenses are available (each participating node requires a separate license):

- Asynchronous Replication license enables bi-directional asynchronous data transfers between the nodes (1-to-1, 1-to-many, many-to-1, and many-to-many) over conventional LANs and WANs using standard TCP/IP protocols. The replicated data is compressed to reduce bandwidth requirements.
Note: An individual virtual disk may not be replicated to more than one remote node.
- Continuous Data Protection allows to restore the state of the virtual disks before an undesirable change (such as user errors, viruses, database corruption, and others). The software will log and timestamp every update to the virtual disks in a rolling buffer covering up to the last 14 days (depending on configuration parameters and available disk space). The state of the virtual disks may later be recovered to a desired point in time within the 14 day period.
- Fibre Channel license enables Fibre Channel host and back-end storage connections to the Lenovo Storage DX8200D.

Configuration note: Asynchronous Replication, Continuous Data Protection, and Fibre Channel licenses are included in the LV3 software license level.

The software feature license options are listed in the following table.

Table 18. DataCore optional software features

Description	Part number
Asynchronous replication licenses	
Asynchronous Replication w/Advanced Site Recovery w/3Yr S&S	01GU772
Asynchronous Replication w/Advanced Site Recovery w/4Yr S&S	01GU777
Asynchronous Replication w/Advanced Site Recovery w/5Yr S&S	01GU782
Continuous data protection licenses	
Continuous Data Protection - Extended, (14 Days) w/3Yr S&S	01GU773
Continuous Data Protection - Extended, (14 Days) w/4Yr S&S	01GU778
Continuous Data Protection - Extended, (14 Days) w/5Yr S&S	01GU783
Fibre Channel licenses	
Fibre Channel Option, Per Node w/3Yr S&S	01GU774
Fibre Channel Option, Per Node w/4Yr S&S	01GU779
Fibre Channel Option, Per Node w/5Yr S&S	01GU784

The DataCore software is licensed based on the total managed capacity, and the licenses have several levels depending on the total managed capacity limit, as shown in the following table.

Table 19. Capacity license levels

License level	Managed capacity included	Managed capacity limit
Level 1 (LV1)	4 TB	16 TB
Level 2 (LV2)	16 TB	100 TB
Level 3 (LV3)	64 TB	1024+ TB

The Lenovo Storage DX8200D models include software licenses for managed storage capacity depending on the type of the node, as shown in the following table.

Table 20. Managed capacity licenses

Node type	Managed capacity included	License level
Storage Virtualization Entry	4 TB	Level 1 (LV1)
Storage Virtualization Mid	16 TB	Level 2 (LV2)
Storage Virtualization High	64 TB	Level 3 (LV3)
Server SAN Entry	8 TB	Level 1 (LV1)
Server SAN Mid	16 TB	Level 2 (LV2)
Server SAN High	32 TB	Level 2 (LV2)

Additional software upgrade and capacity expansion licenses may be ordered, if required, based on the total managed storage capacity needed. The software upgrade licenses add more managed capacity that is licensed and expand the managed capacity limit for the nodes. The capacity expansion licenses are acquired for the managed capacity in storage pools that needs to be managed but is not covered by the existing software upgrade and capacity expansion licenses.

Note: When nodes are configured in a managed group, the existing capacity licenses span across the node group and apply to the entire storage pool. For example, if two nodes with 4 TB licensed capacity each are configured in a managed group, the total managed capacity for the storage pool controlled by this group is 8 TB.

The following table lists software upgrade licenses.

Table 21. Software upgrade licenses

Description	Part number
Level 1 to Level 2 upgrades	
DataCore SANsymphony SW Upgrade - LV1 (4TB) to LV2 (16TB) w/3Yr S&S	01GU776
DataCore SANsymphony SW Upgrade - LV1 (4TB) to LV2 (16TB) w/4Yr S&S	01GU781
DataCore SANsymphony SW Upgrade - LV1 (4TB) to LV2 (16TB) w/5Yr S&S	01GU786
Level 2 to Level 3 upgrades	
DataCore SANsymphony SW Upgrade - LV2 (16TB) to LV3 (64TB) w/3Yr S&S	01GU775
DataCore SANsymphony SW Upgrade - LV2 (16TB) to LV3 (64TB) w/4Yr S&S	01GU780
DataCore SANsymphony SW Upgrade - LV2 (16TB) to LV3 (64TB) w/5Yr S&S	01GU785

The following table lists capacity expansion licenses.

Table 22. Capacity expansion licenses

Description	Part number
DataCore SANsymphony Capacity Expansion License, Per TB (1-9 TB)	01GU787
DataCore SANsymphony Capacity Expansion License, Per TB (10-99 TB)	01GU788
DataCore SANsymphony Capacity Expansion License, Per TB (100-249 TB)	01GU789
DataCore SANsymphony Capacity Expansion License, Per TB (250+ TB)	01GU790

Systems management

The Lenovo Storage DX8200D supports the following systems management tools:

- Integrated Management Module 2.1
- Light path diagnostics
- Lenovo XClarity
- DataCore Management Console
- Lenovo XClarity Energy Manager

Integrated Management Module 2.1

The Lenovo Storage DX8200D contains Integrated Management Module II (IMM2.1), which provides advanced service-processor control, monitoring, and alerting functions.

The Integrated Management Module Advanced Upgrade comes standard with the appliances, and it provides a virtual presence for remote management capabilities of the appliances.

The IMM provides remote appliance management through industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) Version 2.0
- Simple Network Management Protocol (SNMP) Version 3
- Common Information Model (CIM)
- Web browser

The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1600x1200 at 75 Hz with up to 23 bits per pixel colors, regardless of the system state
- Remotely accessing the appliance using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the appliance
- Uploading a diskette image to the IMM memory and mapping it to the appliance as a virtual drive

Light path diagnostics

The Lenovo Storage DX8200D includes basic light path diagnostics, which includes system LEDs on the front of the appliance and LEDs near the monitored components (for example, the DIMM error LED on the system board).

Lenovo XClarity

Lenovo XClarity is a centralized systems management solution that helps administrators deliver infrastructure faster. This solution integrates easily with Lenovo System x M5 and X6 rack servers, Lenovo Storage DX Series, Converged HX Series appliances, and Flex System, providing automated agent-less discovery, monitoring, firmware updates, configuration management, and bare metal deployment of operating systems and hypervisors across multiple systems.

Lenovo XClarity Administrator is an optional software component for the Lenovo Storage DX8200D which can be downloaded and used at no charge to discover and monitor Lenovo Storage DX Series and manage firmware upgrades for them.

If software support and subscription is required for Lenovo XClarity Administrator, Lenovo XClarity Pro software subscription must be ordered. Lenovo XClarity Pro is licensed on a per managed system basis, that is, each managed Lenovo Storage DX8200D node requires a license.

The following table lists the geo-specific Lenovo XClarity Pro software license options.

Table 23. Lenovo XClarity Pro software options

Description	Part number (NA, AP, Japan)*	Part number (EMEA, LA)**
Lenovo XClarity Pro, per Mngd Server w/1 Yr SW S&S	00MT201	00MT207
Lenovo XClarity Pro, per Mngd Server w/3 Yr SW S&S	00MT202	00MT208
Lenovo XClarity Pro, per Mngd Server w/5 Yr SW S&S	00MT203	00MT209

* NA = North America; AP = Asia Pacific

** EMEA = Europe, Middle East, Africa; LA = Latin America

Lenovo XClarity Administrator offers the following features:

- Auto-discovery and monitoring of Lenovo Storage DX Series
- Firmware updates and compliance enforcement
- External alerts and notifications via SNMP traps, syslog remote logging, and e-mail
- Secure connections to managed endpoints
- NIST 800-131A or FIPS 140-2 compliant cryptographic standards between the management solution and managed endpoints
- Integration into existing higher level management systems such as cloud automation and orchestration tools through REST APIs, providing extensive external visibility and control over hardware resources
- An intuitive, easy-to-use GUI
- Scripting support with Windows PowerShell, providing command-line visibility and control over hardware resources

DataCore Management Console

The DataCore Management Console is a software component that provides graphical user interface for simplifying and centralizing configuration, storage allocation, and monitoring of Lenovo Storage D8200D resources to create, deliver and manage virtual disks and hosts.

Using the DataCore Management Console, administrators can perform the following tasks:

- Manage physical and virtual disks
- Manage volumes and pools
- Manage server groups
- Manage users
- Manage hosts and host connections
- Manage snapshots
- Manage replication
- Monitor performance
- Configure networking parameters
- Perform diagnostics and troubleshooting

Lenovo XClarity Energy Manager

Lenovo XClarity Energy Manager offers the following capabilities:

- Reports vital server information, such as power, temperature and resource utilization
- Monitors inlet temperature to locate hot spots, reducing the risk of data or device damage
- Provides finely-grained controls to limit platform power in compliance with IT policy
- Generates alerts when a user-defined threshold is reached

Lenovo XClarity Energy Manager is an optional, separately orderable software component for the Lenovo Storage DX8200D that is licensed on a per managed node basis; that is, each managed Lenovo Storage DX8200D appliance requires a license.

The following table lists the geo-specific Lenovo XClarity Energy Manager software license options.

Table 24. Lenovo XClarity Energy Manager software options

Description	Part number (NA, AP, Japan)*	Part number (EMEA, LA)**
Lenovo XClarity Energy Manager, 1 Node w/ 1 Yr S&S	01DA225	01DA228
Lenovo XClarity Energy Manager, 5 Nodes w/ 1 Yr S&S	01DA226	01DA229
Lenovo XClarity Energy Manager, 50 Nodes w/ 1 Yr S&S	01DA227	01DA230

* NA = North America; AP = Asia Pacific

** EMEA = Europe, Middle East, Africa; LA = Latin America

Physical specifications

The Lenovo Storage DX8200D has the following dimensions and weight (approximate):

- Height: 87 mm (3.4 in.)
- Width: 446 mm (17.5 in.)
- Depth: 800 mm (31.5 in.)
- Weight (maximum): 34 kg (75 lb)

Operating environment

The Lenovo Storage DX8200D is supported in the following environment:

- Air temperature:
 - System on: 5 °C to 40 °C (41 °F to 104 °F); altitude: 0 to 950 m (3,117 ft); decrease the maximum system temperature by 1 °C for every 175-m increase in altitude above 950 m.
 - System off: 5 °C to 45 °C (41 °F to 113 °F)
 - Shipment: -40 °C to +60 °C (-40 °F to 140 °F) at up to 10,700 m (35,105 ft)
- Maximum altitude: 3,050 m (10,000 ft) at 5 °C to 28 °C (41 °F to 82 °F)
- Humidity:
 - System on: 8% to 85%, maximum dew point 24 °C, maximum rate of change 5 °C/hr
 - System off: 8% to 85%, maximum dew point 27 °C
- Design to ASHRAE Class A3, ambient of 36 °C to 40 °C (96.8 °F to 104 °F), with relaxed support:
 - Supports cloud-like workload with no performance degradation acceptable (Turbo-Off).
 - Under no circumstance can any combination of worst-case workload and configuration result in system shutdown or design exposure at 40 °C.
 - The worst-case workload (like Linpack, Turbo-On) might have performance degradation.
- Electrical:
 - 100 to 127 (nominal) V AC; 50 Hz or 60 Hz; 8.6 A
 - 200 to 240 (nominal) V AC; 50 Hz or 60 Hz; 4.2 A
 - Input kilovolt-amperes (kVA) (approximately): 1.047 kVA
- BTU output (maximum): 3572 Btu/hr (1047 watts)
- Noise level:
 - 6.6 bels (operating)
 - 6.4 bels (idle)

Regulatory compliance

The Lenovo Storage DX8200D conforms to the following regulations:

- AS/NZS CISPR 22, Class A (Australia/New Zealand)
- BSMI CNS 13438, Class A; CNS 14336 (Taiwan)
- CCC GB 4943.1, GB 17625.1, GB 9254 Class A (China)
- CE Mark (European Union)
- CISPR 22, Class A
- EAC (Russia)
- EN 55022, Class A
- EN 55024
- EN/IEC 61000-3-2
- EN/IEC 61000-3-3
- EN/IEC/CSA/UL 60950-1
- Energy Star 2.0
- FCC Part 15, Class A (United States)
- GS/TUV (Germany)
- ICES-003/NMB-03, Class A (Canada)
- MSIP (Korea)
- NOM-019 (Mexico)
- Reduction of Hazardous Substances (ROHS)
- TUV S (Argentina)
- VCCI, Class A (Japan)

Warranty services and upgrades

The Lenovo Storage DX8200D has a three-year customer-replaceable unit (CRU) and onsite (for field-replaceable units [FRUs] only) limited warranty with standard call center support during normal business hours, 9x5 Next Business Day Parts Delivered, and Remote Technical Support (RTS) services. Also available are Lenovo Services warranty maintenance upgrades and post-warranty maintenance agreements, with a well-defined scope of services, including service hours, response time, term of service, and service agreement terms and conditions.

Lenovo warranty service upgrade offerings are country-specific. Not all warranty service upgrades are available in every country. For more information about Lenovo warranty service upgrade offerings that are available in your country, refer to the Lenovo Enterprise Solutions Configurator (LESC):

<http://lesc.lenovo.com>

The following table explains warranty service definitions in more detail.

Table 25. Warranty service definitions

Term	Description
On-site service	A service technician will arrive at the customer's location for equipment service.
Parts delivered	A CRU will be delivered at the customer's location for replacement by the customer, or a service technician will arrive at the customer's location to replace a FRU.
Technician installed parts	A service technician will arrive at the customer's location to replace a CRU or FRU.
24x7x2 hour	A replacement part is scheduled for delivery or a service technician is scheduled to arrive at the customer's location within two hours after remote problem determination is completed. Lenovo provides service around the clock, every day, including Lenovo holidays.
24x7x4 hour	A replacement part is scheduled for delivery or a service technician is scheduled to arrive at the customer's location within four hours after remote problem determination is completed. Lenovo provides service around the clock, every day, including Lenovo holidays.
9x5 next business day	A replacement part is scheduled for delivery or a service technician is scheduled to arrive at the customer's location on the business day after remote problem determination is completed. Lenovo provides service 8:00 am - 5:00 pm in the client's local time zone, Monday - Friday, excluding Lenovo holidays. Calls received after 4:00 pm local time require an extra business day for service dispatch. Next business day service is not guaranteed.
Committed Repair	Problems receive priority handling so that repairs are completed within the committed time of 6, 8, or 24 hours. Lenovo provides service 24 hours/day, every day, including Lenovo holidays.

The following Lenovo warranty service upgrades are available:

- Warranty and maintenance service upgrades:
 - Three, four, or five years of 9x5 or 24x7 service coverage
 - Parts delivered or technician installed parts from next business day to 4 or 2 hours
 - Committed repair service from 24 to 8 or 6 hours
 - Warranty extension of up to 5 years
 - 1-year or 2-year post warranty extensions
- Committed Service Repair
Committed Service Repair (CSR) enhances the level of Warranty Service Upgrade or Post Warranty/Maintenance Service offering associated with the selected systems. Offerings vary and are available in select countries.
 - Priority handling to meet defined time frames to restore the failing machine to good working condition
 - Service performed 24 hours per day, 7 days per week, and within 6 hours, 8 hours, or 24 hours
- YourDrive YourData
Lenovo's YourDrive YourData service is a multi-drive retention offering that ensures your data is always under your control, regardless of the number of drives that are installed in your Lenovo system. In the unlikely event of a drive failure, you retain possession of your drive while Lenovo replaces the failed drive part. Your data stays safely on your premises, in your hands. The YourDrive YourData service can be purchased in convenient bundles with Lenovo warranty upgrades and extensions.

Software maintenance

The Lenovo Storage DX8200D includes three-year, four-year, or five-year software support and subscription that matches the selected hardware warranty service coverage (9x5xNBD, 24x7x4, 24x7x2) and software license that entitles you to submit service requests to troubleshoot DataCore software issues and receive code updates, including fixes, patches, and new software releases.

All service requests must be submitted to Lenovo, and the Lenovo local support centers perform problem determination and resolution for hardware-related issues and escalate to DataCore, on behalf of the customer, for software-related problem determination. DataCore will contact the customer and will own the software-related problem resolution until closure.

Software support that is provided by DataCore for Lenovo Storage DX8200D appliances includes 24x7 phone and web coverage with the following initial target response times (severity levels are determined by DataCore based on the impact on productivity):

- Severity 1 (Production Data not available): 1 hours
- Severity 2 (Production Data available but affected): 4 hours
- Severity 3 (Other Production and Non-Production questions): 24 hours

Lenovo Deployment Services

Lenovo Deployment Services for SDS enables you to get your Lenovo storage appliance up and running quickly with minimal disruption. Lenovo deployment experts use tested, best-practices methodologies to seamlessly manage the planning, site preparation, and physical installation of your Lenovo storage appliance. They help make your deployment process fast, efficient, and worry-free.

Lenovo Deployment Services encompasses a concise best-practices deployment methodology to deliver the following services:

- Perform remote preparation and planning
- Review site readiness and project timeline
- Install all required equipment and cabling
- Run the appliance pre-installation validation script
- Set up the storage solution software
- Validate the network setup
- Configure administrative and user features
- Complete acceptance testing
- Conduct the knowledge transfer session
- Develop post-install configuration documentation

Lenovo Deployment Services can deliver customized services for any implementation, including customer requests such as the following:

- Third-party application configurations
- Additional acceptance testing
- A different scope than the base deployment scope

For more information about Lenovo Deployment Services offerings for the Lenovo Storage DX8200D that are available in your country, refer to the Lenovo Enterprise Solutions Configurator (LESC): <http://lesc.lenovo.com>

Ethernet LAN switches

The following table lists the Ethernet LAN switches that are offered by Lenovo that can be used in Lenovo Storage DX8200D solutions.

Table 26. Top-of-rack Ethernet switches

Description	Part number
10 Gb Ethernet switches	
Lenovo ThinkSystem NE1032 RackSwitch (Rear to Front)	7159A1X
Lenovo ThinkSystem NE1032T RackSwitch (Rear to Front)	7159B1X
Lenovo ThinkSystem NE1072T RackSwitch (Rear to Front)	7159C1X
Lenovo RackSwitch G8124E (Rear to Front)	7159BR6
Lenovo RackSwitch G8264 (Rear to Front)	7159G64
Lenovo RackSwitch G8264CS (Rear to Front)	7159DRX
Lenovo RackSwitch G8272 (Rear to Front)	7159CRW
Lenovo RackSwitch G8296 (Rear to Front)	7159GR6
25 Gb Ethernet switches	
Lenovo ThinkSystem NE2572 RackSwitch (Rear to Front)	7159E1X
40 Gb Ethernet switches	
Lenovo RackSwitch G8332 (Rear to Front)	7159BRX
100 Gb Ethernet switches	
Lenovo ThinkSystem NE10032 RackSwitch (Rear to Front)	7159D1X

For more information, see the list of Product Guides in the Top-of-rack Switches category:
<http://lenovopress.com/servers/options/switches>

Fibre Channel SAN switches

The following table lists the Fibre Channel SAN switches that are offered by Lenovo that can be used with the Lenovo Storage DX8200D in FC SAN storage connectivity solutions.

Table 27. Fibre Channel SAN switches

Description	Part number
8 Gb Fibre Channel	
Lenovo B300, 8 ports activated w/ 8Gb SWL SFPs, 1 PS, Rail Kit	3873AR3
Lenovo B6505, 12 ports activated w/ 8Gb SWL SFPs, 1 PS, Rail Kit	3873AR4
Lenovo B6510, 24 ports activated w/ 8Gb SWL SFPs, 2 PS, Rail Kit	3873BR2
16 Gb Fibre Channel	
Lenovo B6505, 12 ports activated w/ 16Gb SWL SFPs, 1 PS, Rail Kit	3873AR5
Lenovo B6510, 24 ports activated w/ 16Gb SWL SFPs, 2 PS, Rail Kit	3873BR3
Lenovo ThinkSystem DB610S, 8 ports activated, 8x 16Gb SWL SFPs, 1 PS, Rail Kit	6559D2Y
Lenovo ThinkSystem DB610S, 24 ports activated, 24x 16Gb SWL SFP, Enterprise SW, 1 PS, Rail Kit	6559D1Y
32 Gb Fibre Channel	
Lenovo ThinkSystem DB610S, 8 ports activated, 1 PS, Rail Kit	6559D3Y
Lenovo ThinkSystem DB620S, 24 Ports Activated, 24x 32Gb SWL SFPs, 2 PS, Rail Kit	6415G11
Lenovo ThinkSystem DB620S, 48 Ports Activated, 48x 32Gb SWL SFPs, 2 PS, Rail Kit	6415G2A
Lenovo ThinkSystem DB400D 32Gb FC Director, up to 192 ports, 8U, Enterprise SW	6684B2A
Lenovo ThinkSystem DB800D 32Gb FC Director, up to 384 ports, 14U, Enterprise SW	6682B1A

For more information, see the list of Product Guides in the Rack SAN Switches category:
<http://lenovopress.com/storage/switches/rack>

External storage systems

The following table lists the external storage systems that are currently offered by Lenovo that can be virtualized by the Lenovo Storage DX8200D.

Table 28. External storage systems

Description	Part number
Lenovo ThinkSystem DS Series Storage (iSCSI or FC host connectivity)	
Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (US English documentation)	4599A31*
Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4599A3C^
Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4599A3J**
Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (US English documentation)	4599A11*
Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4599A1C^
Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4599A1J**
Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (US English documentation)	4617A31*
Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4617A3C^
Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4617A3J**

Description	Part number
Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (US English documentation)	4617A11*
Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4617A1C^
Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4617A1J**
Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit (US English documentation)	4619A11*
Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4619A1C^
Lenovo Storage V Series (iSCSI or FC host connectivity)	
Lenovo Storage V3700 V2 LFF Control Enclosure	6535C1D
Lenovo Storage V3700 V2 LFF Control Enclosure (TopSeller)	6535EC1
Lenovo Storage V3700 V2 SFF Control Enclosure	6535C2D
Lenovo Storage V3700 V2 SFF Control Enclosure (TopSeller)	6535EC2
Lenovo Storage V3700 V2 XP LFF Control Enclosure	6535C3D
Lenovo Storage V3700 V2 XP LFF Control Enclosure (TopSeller)	6535EC3
Lenovo Storage V3700 V2 XP SFF Control Enclosure	6535C4D
Lenovo Storage V3700 V2 XP SFF Control Enclosure (TopSeller)	6535EC4
Lenovo Storage V5030 LFF Control Enclosure 3Yr S&S	6536C12
Lenovo Storage V5030 LFF Control Enclosure 5Yr S&S	6536C32
Lenovo Storage V5030 SFF Control Enclosure 3Yr S&S	6536C22
Lenovo Storage V5030 SFF Control Enclosure 5Yr S&S	6536C42
Lenovo Storage V5030F SFF Control Enclosure 3Yr S&S	6536B1F
Lenovo Storage V5030F SFF Control Enclosure 5Yr S&S	6536B2F
IBM Storwize for Lenovo (iSCSI or FC host connectivity)	
IBM Storwize V3500 3.5-inch Dual Control Storage Controller Unit	6096CU2^
IBM Storwize V3500 2.5-inch Dual Control Storage Controller Unit	6096CU3^
IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA	6195C32†
IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA, LA	6195C3L‡
IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA	6195C52†
IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA, LA	6195C5L‡

* Available worldwide (except China and Japan).

^ Available only in China.

** Available only in Japan.

† Available worldwide except Latin America.

‡ Available only in Latin America.

For more information, see the list of Product Guides in the following categories:

- Lenovo DS Series, S Series, and V Series storage:
<http://lenovopress.com/storage/san/lenovo?rt=product-guide>
- IBM Storwize for Lenovo storage:
<http://lenovopress.com/storage/san/ibm?rt=product-guide>

Rack cabinets

The following table lists the rack cabinets that are offered by Lenovo that can be used in Lenovo Storage DX8200D solutions.

Table 29. Rack cabinets

Description	Part number
25U S2 Standard Rack (1000 mm deep; 2 sidewall compartments)	93072RX
25U Static S2 Standard Rack (1000 mm deep; 2 sidewall compartments)	93072PX
42U S2 Standard Rack (1000 mm deep; 6 sidewall compartments)	93074RX
42U 1100mm Enterprise V2 Dynamic Rack (6 sidewall compartments)	93634PX
42U 1100mm Enterprise V2 Dynamic Expansion Rack (6 sidewall compartments)	93634EX
42U 1200mm Deep Dynamic Rack (6 sidewall compartments)	93604PX
42U 1200mm Deep Static Rack (6 sidewall compartments)	93614PX
42U Enterprise Rack (1105 mm deep; 4 sidewall compartments)	93084PX
42U Enterprise Expansion Rack (1105 mm deep; 4 sidewall compartments)	93084EX

For more information, see the list of Product Guides in the Rack Cabinets category:
<http://lenovopress.com/servers/options/racks>

Power distribution units

The following table lists the power distribution units (PDUs) that are offered by Lenovo that can be used in Lenovo Storage DX8200D solutions.

Table 30. Power distribution units

Description	Part number
0U Basic PDUs	
0U 36 C13/6 C19 24A/200-240V 1 Phase PDU with NEMA L6-30P line cord	00YJ776
0U 36 C13/6 C19 32A/200-240V 1 Phase PDU with IEC60309 332P6 line cord	00YJ777
0U 21 C13/12 C19 32A/200-240V/346-415V 3 Phase PDU with IEC60309 532P6 line cord	00YJ778
0U 21 C13/12 C19 48A/200-240V 3 Phase PDU with IEC60309 460P9 line cord	00YJ779
Switched and Monitored PDUs	
0U 20 C13/4 C19 Switched and Monitored 24A/200-240V/1Ph PDU w/ NEMA L6-30P line cord	00YJ781
0U 20 C13/4 C19 Switched and Monitored 32A/200-240V/1Ph PDU w/ IEC60309 332P6 line cord	00YJ780
0U 18 C13/6 C19 Switched / Monitored 32A/200-240V/346-415V/3Ph PDU w/ IEC60309 532P6 cord	00YJ782
0U 12 C13/12 C19 Switched and Monitored 48A/200-240V/3Ph PDU w/ IEC60309 460P9 line cord	00YJ783
1U 9 C19/3 C13 Switched and Monitored DPI PDU (without line cord)	46M4002
1U 9 C19/3 C13 Switched and Monitored 60A 3Ph PDU with IEC 309 3P+Gnd cord	46M4003
1U 12 C13 Switched and Monitored DPI PDU (without line cord)	46M4004
1U 12 C13 Switched and Monitored 60A 3 Phase PDU with IEC 309 3P+Gnd line cord	46M4005
Ultra Density Enterprise PDUs (9x IEC 320 C13 + 3x IEC 320 C19 outlets)	
Ultra Density Enterprise C19/C13 PDU Module (without line cord)	71762NX
Ultra Density Enterprise C19/C13 PDU 60A/208V/3ph with IEC 309 3P+Gnd line cord	71763NU

Description	Part number
C13 Enterprise PDUs (12x IEC 320 C13 outlets)	
DPI C13 Enterprise PDU+ (without line cord)	39M2816
DPI Single Phase C13 Enterprise PDU (without line cord)	39Y8941
C19 Enterprise PDUs (6x IEC 320 C19 outlets)	
DPI Single Phase C19 Enterprise PDU (without line cord)	39Y8948
DPI 60A 3 Phase C19 Enterprise PDU with IEC 309 3P+G (208 V) fixed line cord	39Y8923
Front-end PDUs (3x IEC 320 C19 outlets)	
DPI 30amp/125V Front-end PDU with NEMA L5-30P line cord	39Y8938
DPI 30amp/250V Front-end PDU with NEMA L6-30P line cord	39Y8939
DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8934
DPI 60amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8940
DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8935
Universal PDUs (7x IEC 320 C13 outlets)	
DPI Universal 7 C13 PDU (with 2 m IEC 320-C19 to C20 rack power cord)	00YE443
NEMA PDUs (6x NEMA 5-15R outlets)	
DPI 100-127V PDU with fixed NEMA L5-15P line cord	39Y8905
Line cords for PDUs that ship without a line cord	
DPI 30a Line Cord (NEMA L6-30P)	40K9614
DPI 32a Line Cord (IEC 309 P+N+G)	40K9612
DPI 32a Line Cord (IEC 309 3P+N+G)	40K9611
DPI 60a Cord (IEC 309 2P+G)	40K9615
DPI 63a Cord (IEC 309 P+N+G)	40K9613
DPI Australian/NZ 3112 Line Cord (32A)	40K9617
DPI Korean 8305 Line Cord (30A)	40K9618

For more information, see the list of Product Guides in the PDU category:
<http://lenovopress.com/servers/options/pdu#rt=product-guide>

Uninterruptible power supply units

The following table lists the uninterruptible power supply (UPS) units that are offered by Lenovo that can be used in Lenovo Storage DX8200D solutions.

Table 31. Uninterruptible power supply units

Description	Part number
RT1.5kVA 2U Rack or Tower UPS (100-125VAC) (8x NEMA 5-15R 12A outlets)	55941AX
RT1.5kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A outlets)	55941KX
RT2.2kVA 2U Rack or Tower UPS (100-125VAC) (8x NEMA 5-20R 16A outlets)	55942AX
RT2.2kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 1x IEC 320 C19 16A outlets)	55942KX
RT3kVA 2U Rack or Tower UPS (100-125VAC) (6x NEMA 5-20R 16A, 1x NEMA L5-30R 24A outlets)	55943AX
RT3kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 1x IEC 320 C19 16A outlets)	55943KX
RT5kVA 3U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 2x IEC 320 C19 16A outlets)	55945KX
RT6kVA 3U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 2x IEC 320 C19 16A outlets)	55946KX
RT8kVA 6U Rack or Tower UPS (200-240VAC) (4x IEC 320-C19 16A outlets)	55948KX
RT11kVA 6U Rack or Tower UPS (200-240VAC) (4x IEC 320-C19 16A outlets)	55949KX
RT8kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC) (4x IEC 320-C19 16A outlets)	55948PX
RT11kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC) (4x IEC 320-C19 16A outlets)	55949PX

For more information, see the list of Product Guides in the Uninterruptible Power Supply Units category: <http://lenovopress.com/servers/options/ups#rt=product-guide>

Lenovo Financial Services

Lenovo Financial Services reinforces Lenovo's commitment to deliver pioneering products and services that are recognized for their quality, excellence, and trustworthiness. Lenovo Financial Services offers financing solutions and services that complement your technology solution anywhere in the world.

We are dedicated to delivering a positive finance experience for customers like you who want to maximize your purchase power by obtaining the technology you need today, protect against technology obsolescence, and preserve your capital for other uses.

We work with businesses, non-profit organizations, governments and educational institutions to finance their entire technology solution. We focus on making it easy to do business with us. Our highly experienced team of finance professionals operates in a work culture that emphasizes the importance of providing outstanding customer service. Our systems, processes and flexible policies support our goal of providing customers with a positive experience.

We finance your entire solution. Unlike others, we allow you to bundle everything you need from hardware and software to service contracts, installation costs, training fees, and sales tax. If you decide weeks or months later to add to your solution, we can consolidate everything into a single invoice.

Our Premier Client services provide large accounts with special handling services to ensure these complex transactions are serviced properly. As a premier client, you have a dedicated finance specialist who manages your account through its life, from first invoice through asset return or purchase. This specialist develops an in-depth understanding of your invoice and payment requirements. For you, this dedication provides a high-quality, easy, and positive financing experience.

For your region specific offers please ask your Lenovo sales representative or your technology provider about the use of Lenovo Financial Services. For more information, see the following Lenovo website: <http://www.lenovofs.com>

Related publications and links

For more information, see these resources:

- Lenovo Storage DX8200D product page
<https://www3.lenovo.com/us/en/p/77X2SHESH08>
- Lenovo Enterprise Solutions Configurator (LESC)
<http://lesc.lenovo.com>
- Standalone Solution Configuration Tool:
<http://lesc.lenovo.com/ssct>
- System x and Cluster Solutions Configurator (x-config)
<http://lesc.lenovo.com/products/hardware/configurator/worldwide/bhui/asit/>
- Support Portal - Lenovo Storage DX8200D
<https://datacentersupport.lenovo.com/us/en/products/storage/storselect/dx8200d/5135>
- Online documentation - DataCore software
<http://www.datacore.com/SSV-Webhelp/>
- DataCore software interoperability information
<https://www.datacore.com/products/technical-information/compatibility>

Related product families

Product families related to this document are the following:

- [Lenovo SAN Storage](#)
- [Software-Defined Storage](#)

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This document, LP0591, was created or updated on July 16, 2018.

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