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Cisco MDS 9132T 32-Gbps 32-Port Fibre Channel Switch

Contents

Product overview

The next-generation Cisco® MDS 9132T 32-Gbps 32-Port Fibre Channel Switch (Figure 1) provides high-speed Fibre Channel connectivity from the server rack to the SAN core. It empowers small, midsize, and large enterprises that are rapidly deploying cloud-scale applications using extremely dense virtualized servers, providing the dual benefits of greater bandwidth and consolidation. Small-scale SAN architectures can be built from the foundation using this low-cost, low-power, non-blocking, line-rate, and low-latency, bi-directional airflow capable, fixed standalone SAN switch connecting both storage and host ports. Medium-size to large-scale SAN architectures built with SAN core directors can expand 32-Gbps connectivity to the server rack using these switches either in switch mode or Network Port Virtualization (NPV) mode. Additionally, investing in this switch for the lower-speed (4- or 8- or 16-Gbps) server rack gives you the option to upgrade to 32-Gbps server connectivity in the future using the 32-Gbps Host Bus Adapter (HBA) that are available today. The Cisco® MDS 9132T 32-Gbps 32-Port Fibre Channel switch also provides unmatched flexibility through a unique port expansion module (Figure 2) that provides a robust cost-effective, field swappable, port upgrade option. This switch also offers state-of-the-art SAN analytics and telemetry capabilities that have been built into this next-generation hardware platform. This new state-of-the-art technology couples the next-generation port ASIC with a fully dedicated Network Processing Unit designed to complete analytics calculations in real time. The telemetry data extracted from the inspection of the frame headers are calculated on board (within the switch) and, using an industry-leading open format, can be streamed to any analytics-visualization platform. This switch also includes a dedicated 10/100/1000BASE-T telemetry port to maximize data delivery to any telemetry receiver including Cisco Data Center Network Manager.

Figure 1.
Cisco MDS 9132T 32-Gbps 32-Port fibre channel switch

Figure 2.
Cisco MDS 9132T 32-Gbps 16-Port fibre channel port expansion module

Main features

The main features of the MDS 9132T 32-Gbps 32-Port Fibre Channel Switch include:

- High performance: MDS 9132T architecture, with chip-integrated nonblocking arbitration, provides consistent 32-Gbps low-latency performance across all traffic conditions for every Fibre Channel port on the switch.

- Capital Expenditure (CapEx) savings: The 32-Gbps ports allow users to deploy them on existing 16- or 8-Gbps transceivers, reducing initial CapEx with an option to upgrade to 32-Gbps transceivers and adapters in the future.

- High availability: MDS 9132T switches is designed to provide 99.999% availability. It provides such outstanding availability and reliability by providing redundancy on all major components, such as the power supply and cooling subsystems. Dual power supplies also facilitate redundant power grids.

- Pay-as-you-grow: The MDS 9132T Fibre Channel switch provides an option to deploy as few as eight 32-Gbps Fibre Channel ports in the entry-level variant, which can grow by 8 ports to 16 ports, and thereafter with a port expansion module with sixteen 32-Gbps ports, to up to 32 ports. This approach results in lower initial investment and power consumption for entry-level configurations of up to 16 ports compared to a fully loaded switch. Upgrading through an expansion module also reduces the overhead of managing multiple instances of port activation licenses on the switch. This unique combination of port upgrade options allow four possible configurations of 8 ports, 16 ports, 24 ports and 32 ports.

- Next-generation Application-Specific Integrated Circuit (ASIC): The MDS 9132T Fibre Channel switch is powered by the same high-performance 32-Gbps Cisco ASIC with an integrated network processor that powers the Cisco MDS 9700 48-Port 32-Gbps Fibre Channel Switching Module. Among all the advanced features that this ASIC enables, one of the most notable is inspection of Fibre Channel and Small Computer System Interface (SCSI) headers at wire speed on every flow in the smallest form-factor Fibre Channel switch without the need for any external taps or appliances. The recorded flows can be analyzed on the switch and also exported using a dedicated 10/100/1000BASE-T port for telemetry and analytics purposes.

- Intelligent network services: Slow-drain detection and isolation, VSAN technology, Access Control Lists (ACLs) for hardware-based intelligent frame processing, smartzoning and fabricwide Quality of Service (QoS) enable migration from SAN islands to enterprisewide storage networks. Traffic encryption is optionally available to meet stringent security requirements.

- Sophisticated diagnostics: The MDS 9132T provides intelligent diagnostics tools such as Inter-Switch Link (ISL) diagnostics, read diagnostic parameters, protocol decoding, network analysis tools, and integrated Cisco Call Home capability for greater reliability, faster problem resolution, and reduced service costs.

- Virtual machine awareness: The MDS 9132T provides visibility into all virtual machines logged into the fabric. This feature is available through HBAs capable of priority tagging the Virtual Machine Identifier (VMID) on every FC frame. Virtual machine awareness can be extended to intelligent fabric services such as analytics[1] to visualize performance of every flow originating from each virtual machine in the fabric.

- Programmable fabric: The MDS 9132T provides powerful Representational State Transfer (REST) and Cisco NX-API capabilities to enable flexible and rapid programming of utilities for the SAN as well as polling point-in-time telemetry data from any external tool.

- Single-pane management: The MDS 9132T can be provisioned, managed, monitored, and troubleshot using Cisco Data Center Network Manager (DCNM), which currently manages the entire suite of Cisco data center products.

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[1] For detailed information about all supported transceivers, see the [Cisco MDS 9000 Family pluggable transceivers](#) documentation.

- Self-contained advanced anticounterfeiting technology: The MDS 9132T uses on-board hardware that protects the entire system from malicious attacks by securing access to critical components such as the bootloader, system image loader and Joint Test Action Group (JTAG) interface.

SAN architectural benefits

The new 32-Gbps fabric switches address the requirement for highly scalable, virtualized, intelligent SAN infrastructure in current-generation data center environments. The industry is already poised to transition to 32-Gbps fixed switches with the availability of 32-Gbps HBAs and storage arrays from vendors. Additionally, as low-latency flash arrays and extremely dense virtualization deployments become more pervasive, fixed switches will be expected to provide 32-Gbps connectivity to the SAN core.

This solution offers several important benefits:

- Server port consolidation: The demand for 32-Gbps fabric switches will increase as hyperscale virtualization doubles the virtual machine density per rack, increasing the need for higher-bandwidth HBA ports per rack of blade or standalone servers. Soon 32-Gbps HBA ports will consolidate the current 16-Gbps HBA installed base, with the need to increase the server capacity in the same rack. Hence, the MDS 9132T, with its lower port density, provides an excellent solution, and the flexibility to increase the port density in the future is an added advantage (Figure 3).
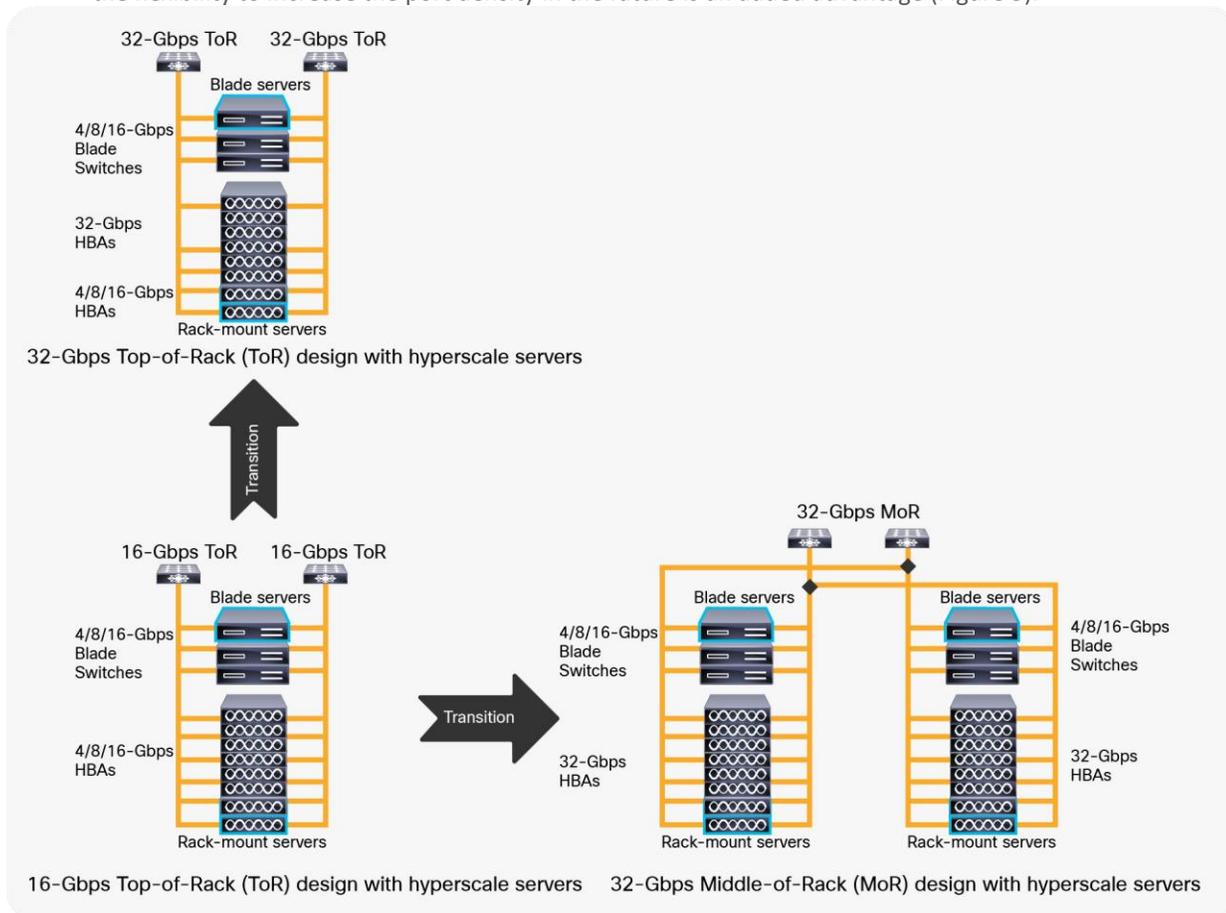

Figure 3.
Cisco MDS 9132T in hyperscale server environments

- Simplification: Through consolidation, the SAN administrator can reduce complexity and simplify management.

- Multiprotocol convergence: 32-Gbps links benefit from lower latency than lower-bandwidth links, bringing better-performing storage workloads to your storage array. Greater bandwidth also helps ensure less ISL congestion for the newer storage protocols that are expected to be available on externally attached storage arrays: for instance, Fibre Channel Non-Volatile Memory Express NVMe can co-exist on the same link as existing SCSI workloads.

- Scale and performance: This Small Form-Factor (SFF) switch supports the performance and scale required to deploy a dedicated and standalone Fibre Channel SAN connecting both initiators and targets without requiring any other switching infrastructure.

Platform compatibility

For detailed information about hardware and software compatibility as well as product interoperability, see [MDS 9000 series switch interoperability matrix](#).

Product specifications

Table 1 lists the specifications for the MDS 9132T 32-Gbps 32-Port Fibre Channel Switch.

Table 1.   Product specifications

Feature	Description
Protocols	• Fibre Channel standards
	• FC-PH, Revision 4.3 (ANSI INCITS 230-1994)
	• FC-PH, Amendment 1 (ANSI INCITS 230-1994/AM1-1996)
	• FC-PH, Amendment 2 (ANSI INCITS 230-1994/AM2-1999)
	• FC-PH-2, Revision 7.4 (ANSI INCITS 297-1997)
	• FC-PH-3, Revision 9.4 (ANSI INCITS 303-1998)
	• FC-PI, Revision 13 (ANSI INCITS 352-2002)
	• FC-PI-2, Revision 10 (ANSI INCITS 404-2006)
	• FC-PI-3, Revision 4 (ANSI INCITS 460-2011)
	• FC-PI-4, Revision 8 (ANSI INCITS 450-2008)
	• FC-PI-5, Revision 6 (ANSI INCITS 479-2011)
	• FC-PI-6 (ANSI INCITS 512-2015)
	• FC-FS, Revision 1.9 (ANSI INCITS 373-2003)
	• FC-FS-2, Revision 1.01 (ANSI INCITS 424-2007)
	• FC-FS-2, Amendment 1 (ANSI INCITS 424-2007/AM1-2007)
	• FC-FS-3, Revision 1.11 (ANSI INCITS 470-2011)
	• FC-FS-4
	• FC-LS, Revision 1.62 (ANSI INCITS 433-2007)
	• FC-LS-2, Revision 2.21 (ANSI INCITS 477-2011)
	• FC-LS-3, Includes revision 3.53
	• FC-SW-2, Revision 5.3 (ANSI INCITS 355-2001)
	• FC-SW-3, Revision 6.6 (ANSI INCITS 384-2004)
	• FC-SW-4, Revision 7.5 (ANSI INCITS 418-2006)
	• FC-SW-5, Revision 8.5 (ANSI INCITS 461-2010)
	• FC-SW-6
	• FC-GS-3, Revision 7.01 (ANSI INCITS 348-2001)
	• FC-GS-4, Revision 7.91 (ANSI INCITS 387-2004)
	• FC-GS-5, Revision 8.51 (ANSI INCITS 427-2007)
	• FC-GS-6, Revision 9.4 (ANSI INCITS 463-2010)
	• FC-GS-7, Includes revision 10.8
	• FCP, Revision 12 (ANSI INCITS 269-1996)
	• FCP-2, Revision 8 (ANSI INCITS 350-2003)
	• FCP-3, Revision 4 (ANSI INCITS 416-2006)
	• FCP-4, Revision 2b (ANSI INCITS 481-2011)
	• FC-SB-2, Revision 2.1 (ANSI INCITS 349-2001)
	• FC-SB-3, Revision 1.6 (ANSI INCITS 374-2003)

	● FC-SB-3, Amendment 1 (ANSI INCITS 374-2003/AM1-2007)
	● FC-SB-4, Revision 3.0 (ANSI INCITS 466-2011)
	● FC-SB-5, Revision 2.00 (ANSI INCITS 485-2014)
	● FC-BB-6, Revision 2.00 (ANSI INCITS 509-2014)
	● FC-BB-2, Revision 6.0 (ANSI INCITS 372-2003)
	● FC-BB-3, Revision 6.8 (ANSI INCITS 414-2006)
	● FC-BB-4, Revision 2.7 (ANSI INCITS 419-2008)
	● FC-BB-5, Revision 2.0 (ANSI INCITS 462-2010)
	● FC-VI, Revision 1.84 (ANSI INCITS 357-2002)
	● FC-SP, Revision 1.8 (ANSI INCITS 426-2007)
	● FC-SP-2, Revision 2.71 (ANSI INCITS 496-2012)
	● FAIS, Revision 1.03 (ANSI INCITS 432-2007)
	● FAIS-2, Revision 2.23 (ANSI INCITS 449-2008)
	● FC-IFR, Revision 1.06 (ANSI INCITS 475-2011)
	● FC-FLA, Revision 2.7 (INCITS TR-20-1998)
	● FC-PLDA, Revision 2.1 (INCITS TR-19-1998)
	● FC-Tape, Revision 1.17 (INCITS TR-24-1999)
	● FC-MI, Revision 1.92 (INCITS TR-30-2002)
	● FC-MI-2, Revision 2.6 (INCITS TR-39-2005)
	● FC-MI-3, Revision 1.03 (INCITS TR-48-2012)
	● FC-DA, Revision 3.1 (INCITS TR-36-2004)
	● FC-DA-2, Revision 1.06 (INCITS TR-49-2012)
	● FC-MSQS, Revision 3.2 (INCITS TR-46-2011)
	● Fibre Channel classes of service: Class 2, Class 3, and Class F
	● Fibre Channel standard port types: E, F, and B
	● Fibre Channel enhanced port types: SD, ST, and TE
	● NVMe/FC
	● In-band management using IP over Fibre Channel (RFC 2625)
	● IPv6, IPv4, and Address Resolution Protocol (ARP) over Fibre Channel (RFC 4338)
	● Extensive IETF-standards-based TCP/IP, SNMPv3, and Remote Monitoring (RMON) MIBs
Fibre Channel ports	● Fixed switch form factor with 16 SFP+ ports base and one 16 SFP+ port expansion slot
	● Entry-level 8-port preactivated base model with flexibility to turn on any 8 ports
	● Incremental ports
	◦ On the 8-port base model, with the 8-Port On-Demand Activation license to activate up to 16 ports on the base switch
	◦ On the 8-port base model, with the 16-port expansion module to activate up to 24 ports
	◦ On the 16-port configuration, with the 16-port expansion module to activate up to 32 ports
	◦ On the 24-port configuration, with the 8-Port On-Demand Activation license to activate up to 32 ports

Security	• VSAN fabric isolation • Intelligent packet inspection @ port level • Hardware zoning by Access Control Lists (ACLs) • FC-SP switch-to-switch authentication • FC-SP host-to-switch authentication • RBAC using RADIUS, TACACS+ or LDAP Authentication, Authorization, and Accounting (AAA) functions • Secure FTP (SFTP) • Secure Shell Version 2 (SSHv2) • Simple Network Management Protocol Version 3 (SNMPv3) implementing Advanced Encryption Standard (AES) • Control-plane security • Cisco TrustSec payload encryption • Secure Boot and Anti-counterfeit technology
Performance	• Port speed: 4/8/16/32-Gbps autosensing with 32 Gbps of dedicated bandwidth per port • Aggregate bandwidth of 1024 Gbps end-to-end full duplex • Buffer credits: Up to 8300 for a group of 16 ports, with a default of 500 buffer credits per port and a maximum of 8270 buffer credits for a single port in the group • Port channel: Up to 16 load-balanced physical links grouped in one port channel
Diagnostics	• Power-on-Self-Test (POST) diagnostics • Online Health Management System (OHMS) diagnostics • Internal loopbacks • SPAN • Fibre Channel traceroute • Fibre Channel ping • Fibre Channel debug • Cisco Fabric Analyzer • Syslog • Port-level statistics • Link Diagnostics (ISL Diagnostics and HBA Diagnostics) • Read Diagnostic Parameter
Serviceability	• Configuration file management • Call Home • Port beaconing • Link Cable Beacon • System LEDs • SNMP traps for alerts

Reliability and availability	• Cisco In-Service Software Upgrade (ISSU) • Hot-swappable, dual redundant power supplies • Hot-swappable fan module with switch integrated temperature and power management • Hot-swappable SFP+ optics • Stateful process restart • Any port configuration for port channels • Fabric-based multi pathing • Per-VSAN fabric services • Port tracking • VRRP for management IP interface

Network management	• Management access through 2 out-of-band 10/100/1000 Mbps Ethernet ports
	  ◦ mgmt0: 10/100/1000BASE-T port
	  ◦ mgmt1: 10/100/1000BASE-T port
	• RS-232 serial console port
	• USB power-on auto-provision port
	• Access protocols
	• Command-Line Interface (CLI) using the console and Ethernet port
	• SNMPv3 using the Ethernet port and in-band IP over Fibre Channel access
	• Storage Networking Industry Association (SNIA) Storage Management Initiative Specification (SMI-S)
	• NX-API for restful access via HTTPS
	• Distributed device alias service
	• Network security
	• Per-VSAN Role-Based Access Control (RBAC) using LDAP, RADIUS and TACACS+-based Authentication, Authorization, and Accounting (AAA) functions
	• SFTP
	• SSHv2 implementing AES
	• SNMPv3 implementing AES
	• Cisco Data Center Network Manager

Programming interfaces	• Scriptable CLI • Cisco DCNM web services API • NX-API restful interfaces • On-board Python interpreter • Cisco Embedded Event Manager • Cisco NX-OS Software scheduler
Physical dimensions (HxWxD) and weight	• 1RU (1.72 inches x 17.3 inches x 20.11 inches) excluding Power Supply Unit (PSU) and fan module handles • 9.1 kg with 16 activated ports • 9.82 kg with all 32 activated ports

Power	• 80 Plus Platinum certified power supplies
	• Power supply options
	◦ 650W AC in base model, port-side exhaust variant (up to 2 per switch)
	◦ 650W AC in base model, port-side intake variant (up to 2 per switch)
	• Power cord
	◦ IEC60320 C14 plug on 650W power supply connecting to a notched C15 socket connector (check Table 6 for power cords specific to regions)
	• AC input: 100 to 240V AC (10% range)
	• Frequency: 50 to 60 Hz (nominal)
	• Typical power consumption
	◦ 72W for idle base switch with 16 ports activated without SFPs
	◦ 43W for idle expansion module with 16 ports activated without SFPs
	◦ 80W for 8 ports activated with 32G SFPs with traffic at 25°C
	• Airflow
	◦ Back to front (toward ports) using port-side exhaust fans
	◦ Front to back (inward from ports) using port-side intake fans
	◦ 50 Cubic Feet per Minute (CFM) through system fan assembly at 25°C
	◦ 100 CFM maximum
Temperature range	• Temperature, ambient operating:
	◦ 32 to 104°F (0 to 45°C) with port-side exhaust and Intake airflow variants
	• Temperature, ambient nonoperating and storage: -40 to 158°F (-40 to 70°C)
	• Relative humidity, ambient (noncondensing) operating: 10 to 90%
	• Relative humidity, ambient (noncondensing) nonoperating and storage: 10 to 95%
	• Altitude, operating: -197 to 6500 ft (-60 to 2000m)
Approvals and compliance	• Safety compliance
	• CE Marking
	• UL 60950
	• CAN/CSA-C22.2 No. 60950
	• EN 60950
	• IEC 60950
	• TS 001
	• AS/NZS 3260
	• IEC60825
	• EN60825
	• 21 CFR 1040
	• EMC compliance
	• FCC Part 15 (CFR 47) Class A
	• ICES-003 Class A
	• EN 55022 Class A
	• CISPR 22 Class A
	• AS/NZS 3548 Class A
	• VCCI Class A
	• EN 55024
	• EN 50082-1
	• EN 61000-6-1
	• EN 61000-3-2
	• EN 61000-3-3

Fabric services	• Name server
	• Registered State Change Notification (RSCN)
	• Login services
	• Fabric Configuration Server (FCS)
	• Broadcast
	• In-order delivery
Advanced functions	• VSAN
	• NPV
	• IVR
	• Port channel with multipath load balancing
	• Flow-based and zone-based QoS
Supported Cisco optics, media, and transmission distances	• For detailed information about all supported transceivers, see Cisco MDS 9000 Family pluggable transceivers documentation

Ordering information

- Table 2 describes optional licenses that can be purchased to enable additional features and capabilities on the Cisco MDS 9132T.

- Table 3 provides ordering information for the MDS 9132T 32-Gbps 32-Port switch base modules.

- Table 4 provides ordering information for the MDS 9132T switch spares orderable separately.

- Table 5 provides ordering information for the MDS 9132T switch bundles.

- Table 6 provides ordering information for the supported power cords.

- Table 7 provides ordering information for the supported transceivers.

- Table 8 provides ordering information for the minimum required software versions.

- Table 9 provides ordering information for the accessory kits.

Table 2.   Optional licenses

License type	Description	Part number
Cisco MDS 9100 SAN Insights Package	Three-year switch-based license for on-board Analytics, Streaming Telemetry and SAN Insights on Data center network manager and other telemetry receivers.	L-D-M91S-AXK9=
Cisco MDS 9000 Family Enterprise Package	Includes advanced traffic-engineering and network security features such as IVR, QoS and zone-based QoS, Fibre Channel Security Protocol (FC-SP), port security, traffic encryption, VSAN-based access control, and fabric binding for open systems. Licensed per switch for all the ports on the switch.	M9100-ENT1K9=, L-M9100ENT1K9=
Cisco DCNM for SAN Advanced Edition for Cisco MDS 9100 Series	Includes advanced management capabilities such as VMware vCenter integration, performance trending, advanced provisioning, backup, reports and dashboards. Licensed per switch for all the ports on the switch. Host the licenses on either switch or server. The switch-based licenses are denoted with an 'X' in the SKU.	DCNM-SAN-M91-K9=, L-DCNM-S-M91-K9=, DCNM-S-M91XK9=, L-DCNM-S-M91XK9=

License type	Description	Part number
Cisco MDS 9132T 8-Port On-Demand Activation	Enables 8 additional Fibre Channel ports up to 16 total ports on the base switch (and up to 32 total ports on the base switch with 16-port Fibre Channel port expansion module).	M9132T-PL8, M9132T-PL8=

Table 3.   Base modules

Description	Part number
MDS 9132 32G 1 RU FC switch, w/ 8 active FC ports, 2 Fans, 1 PSU, Port Side Exhaust	DS-C9132T-MEK9
MDS 9132 32G 1 RU FC switch, w/ 8 active FC ports, 2 Fans, 1 PSU, Port Side Intake	DS-C9132T-MIK9
MDS 9132T 32G FC switch 8 Port Activation License for Base	M9132T-PL8
MDS 32G FC Port Expansion module, w/ 16 active ports for Base	M9XT-FC1632

Table 4.   Spare modules

Description	Part number
MDS 9132 32G 1 RU FC switch, w/ 8 active FC ports, 2 Fans, 1 PSU, Port Side Exhaust, spare	DS-C9132T-MEK9=
MDS 9132 32G 1 RU FC switch, w/ 8 active FC ports, 2 Fans, 1 PSU, Port Side Intake, spare	DS-C9132T-MIK9=
MDS 32G FC 16-Port expansion module, w/ 16 active ports, spare	M9XT-FC1632=
MDS 9132T 32G FC switch 8 Port Activation License, spare	M9132T-PL8=
AC PSU Port side Exhaust, spare	DS-CAC-650W-E=
AC PSU Port side Intake, spare	DS-CAC-650W-I=
MDS 9132T FAN module, port side Exhaust, spare	DS-C32S-FAN-E=
MDS 9132T FAN module, port side Intake, spare	DS-C32S-FAN-I=

Table 5.   Bundled configurations

Description	Part number
MDS 9132T 32G FC switch, w/ 8 active ports + 8x16G SW Optics, 2 Fans, 1 PSUs, Port Side Exhaust	DS-C9132T-8PMESK9
MDS 9132T 32G FC switch, w/ 8 active ports + 8x16G SW Optics, 2 Fans, 1 PSUs, Port Side Intake	DS-C9132T-8PMISK9
MDS 9132T 32G FC Enterprise switch, w/ 24 active ports + 24x16G SW Optics, 4 Fans, 2 PSUs, Enterprise license, Port Side Exhaust	DS-C9132T-24PESK9

Description	Part number
MDS 9132T 32G FC Enterprise switch, w/ 24 active ports + 24x16G SW Optics, 4 Fans, 2 PSUs, Enterprise license, Port Side Intake	DS-C9132T-24PISK9
MDS 9132T 32G FC switch, w/ 8 active ports + 8x32G SW Optics, 2 Fans, 1 PSUs, Port Side Exhaust	DS-C9132T-8PMETK9
MDS 9132T 32G FC switch, w/ 8 active ports + 8x32G SW Optics, 2 Fans, 1 PSUs, Port Side Intake	DS-C9132T-8PMITK9
MDS 9132T 32G FC switch, w/ 24 active ports + 24x32G SW Optics, 4 Fans, 2 PSUs, Port Side Exhaust (Enterprise license not included)	DS-C9132T-24PETK9
MDS 9132T 32G FC switch, w/ 24 active ports + 24x32G SW Optics, 4 Fans, 2 PSUs, Port Side Intake (Enterprise license not included)	DS-C9132T-24PITK9
MDS 9132T 32G FC switch, w/ 8 active ports + 4x32G + 4x 16G SW Optics, 2 Fans, 1 PSUs, Port Side Exhaust. DCNM and SAN Insight 1-year Term.	DS-C9132T-8MESTK9

Table 6.　　Power cords

Description	Part number
Power Cord, 250VAC 10A IRAM 2073 Plug, Argentina	CAB-9K10A-AR
Power Cord, 250VAC 10A 3112 Plug, Australia	CAB-9K10A-AU
Power Cord, 250VAC 10A GB1002 Plug, China	CAB-9K10A-CH
Power Cord, 250VAC 10A CEE 7/7 Plug, EU	CAB-9K10A-EU
Power Cord, 250VAC 10A SI16S3 Plug, Israel	CAB-9K10A-ISR
Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy	CAB-9K10A-IT
Power Cord, 125VAC 13A KSC8305 Plug, Korea	CAB-9K10A-KOR
Power Cord, 250VAC 10A SABS 164/1 Plug, South Africa	CAB-9K10A-SA
Power Cord, 250VAC 10A, Straight C15, MP232 Plug, SWITZ	CAB-9K10A-SW
Power Cord, 125VAC 15A CNS10917-2, Taiwan	CAB-9K10A-TWN
Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK	CAB-9K10A-UK
Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	CAB-9K12A-NA
Power Cord, 250VAC 10A, Brazil	CAB-250V-10A-BR
Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors	CAB-C15-CBN
Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors, China, Republic of Korea	CAB-C15-CBN-CK
Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors, EU, Russian Federation, Belarus, Kazakhstan and Australia	CAB-C15-CBN-EURA

Description	Part number
AC Power Cord - 250V, 10A , India	CAB-250V-10A-ID

Table 7.   Transceivers

Description	Part number
32G FC Shortwave Optics	DS-SFP-FC32G-SW[1]
32G FC Longwave Optics	DS-SFP-FC32G-LW=[1]
16G FC Shortwave Optics	DS-SFP-FC16G-SW[1]
16G FC Longwave Optics	DS-SFP-FC16G-LW=[1]
8G FC Shortwave Optics	DS-SFP-FC8G-SW=[1]
8G FC Longwave Optics	DS-SFP-FC8G-LW=[1]

Table 8.   System requirements

Item	Requirement
Cisco NX-OS Software for switch	Cisco MDS NX-OS 8.2(1) or later
Cisco Data Center Network Manager	Cisco DCNM 10.4(1) or later

Table 9.   Accessories

Description	Part number
MDS 9132T Accessory Kit for Cisco	DS-9132T-KIT-CSCO
MDS 9132T Accessory Kit for Cisco, spare	DS-9132T-KIT-CSCO=
MDS 9132T Accessory Kit for Dell/EMC	DS-9132T-KIT-EM
MDS 9132T Accessory Kit for HDS	DS-9132T-KIT-HDS
MDS 9132T Accessory Kit for IBM	DS-9132T-KIT-IBM
MDS 9132T Accessory Kit for HPE	DS-9132T-KIT-HP

Service and support

Cisco does not recommend the removal of its products batteries due to safety reasons. Please utilize the Cisco Takeback and Recycle Program.

Using the Cisco Lifecycle Services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and ROI. This approach defines the minimum set of activities needed, by technology and by network complexity, to help you successfully deploy and operate Cisco technologies and optimize their performance throughout the lifecycle of your network.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

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For more information

For more information about the Cisco MDS 9132T Fibre Channel switch, visit https://www.cisco.com/go/storage or contact your local account representative.

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