Cisco MDS 9134 Multilayer Fabric Switch

The Cisco® MDS 9134 Multilayer Fabric Switch (Figure 1), designed for midrange to large enterprise customers, provides line-rate 4-Gbps and 10-Gbps ports based on a purpose-built “switch-on-a-chip” application-specific integrated circuit (ASIC) with high performance, high density, and enterprise-class availability. The switch offers outstanding value by providing flexibility, high-availability, security, and ease of use at an affordable price in a compact one-rack-unit (1RU) form factor. With the flexibility to expand from 24 to 32 ports in 8-port increments and optionally activate 2 10-Gbps ports, the Cisco MDS 9134 offers the densities required for top-of-the-rack switch and edge connectivity in enterprise SANs. The Cisco MDS 9134 offers non-blocking architecture, with all 32 4-Gbps ports and the 2 10-Gbps ports operating at line rate concurrently.

The 10-Gbps ports support a range of optics for connection to the Cisco MDS 9000 family core using 10-Gbps Inter-Switch Link (ISL) connectivity. The Cisco MDS 9134 can also be stacked using copper CX4 X2 transceivers to cost effectively offer up to 64-port densities. The Cisco MDS 9134 supports quick configuration and task wizards that allow it to be deployed quickly and easily in networks of any size. Powered by Cisco MDS 9000 NX-OS/SAN-OS Software, it includes advanced storage networking features and functions and is compatible with Cisco MDS 9500 Series Multilayer Directors and Cisco MDS 9200 Series Multilayer Fabric Switches, providing transparent, end-to-end service delivery in core-edge deployments.

Figure 1. Cisco MDS 9134 Multilayer Fabric Switch

Highlights

- **Exceptional flexibility and scalability:** The Cisco MDS 9134 offers up to 32 autosensing Fibre Channel ports capable of speeds of 4, 2, and 1 Gbps and 2 10-Gbps ports in a compact 1RU form-factor chassis with 4 Gbps of dedicated bandwidth for each port and an aggregate platform bandwidth of 352 Gbps. The base configuration has 24 active ports with the flexibility to upgrade onsite to 32 ports in 8-port increments with Cisco MDS 9134 On-Demand Port Activation Licenses.
- **High-performance connectivity:** The 10-Gbps ports can be activated independently in 24- or 32-port configurations. The Cisco MDS 9134 is an ideal platform for a standalone departmental storage area network (SAN) switch, top-of-the-rack switch, and edge switch in enterprise core-edge SANs. Two Cisco MDS 9134 switches can be stacked together using copper CX4 X2 transceivers to form up to a 64-port switch.

- **Intelligent storage networking services at an affordable price:** The Cisco MDS 9134, powered by Cisco MDS 9000 NX-OS/SAN-OS Software, offers intelligent storage networking capabilities such as virtual SANs (VSANs), PortChannels, quality of service (QoS), and security for cost-effective design, deployment, and management of departmental and enterprise SANs.
- **Smart Zoning:** When the Smart Zoning feature is enabled, Cisco MDS 9000 Family fabrics provision the hardware access control entries specified by the zone set more efficiently, avoiding the superfluous entries that would allow servers (initiators) to talk to other servers, or allow storage devices (targets) to talk to other storage devices. This feature makes larger zones with multiple initiators and multiple targets feasible without excessive consumption of hardware resources. Thus, smart zones can correspond to applications, application clusters, hypervisor clusters, or other data center entities, saving the time that administrators previously spent creating many small zones, and enabling the automation of zoning tasks.
- **Highly available platform for mission-critical deployments:** The Cisco MDS 9134 is designed for environments where downtime is unacceptable. It offers nondisruptive software upgrades, dual hot-swappable power supplies (with integrated fans for redundancy), hot-swappable fans, VSANs for fault isolation, and PortChannels for ISL resiliency.
- **Comprehensive security framework:** The Cisco MDS 9134 supports RADIUS and TACACS+, port security, fabric binding, Fibre Channel Security Protocol (FC-SP) host-to-switch and switch-to-switch authentication, Secure FTP (SFTP), Secure Shell Version 2 (SSHv2) and Simple Network Management Protocol Version 3 (SNMPv3) implementing Advanced Encryption Standard (AES), VSANs, hardware-enforced zoning, broadcast zones, and per-VSAN role-based access control (RBAC).
- **Simplified storage management:** The Cisco MDS 9134 includes built-in storage network management, with all features available through a command-line interface (CLI) or the Cisco Fabric Manager, a centralized management tool with task-based wizards that simplify management of a standalone switch or multiple switches and fabrics.
- **IBM Fiber Connection (FICON) protocol integration:** FICON Control Unit Port (CUP) management and switch cascading facilitate mainframe connectivity. VSANs allow hardware-based separation of Fibre Channel and FICON traffic switched on a single physical SAN, decreasing overall total cost of ownership (TCO) without compromising scalability, availability, manageability, or network security.
- **Sophisticated diagnostics:** Industry-leading intelligent diagnostics such as Fibre Channel Ping, Fibre Channel Traceroute, Switched Port Analyzer (SPAN), Cisco Fabric Analyzer, and integrated Call Home capability enhance reliability, facilitate faster problem resolution, and reduce service costs.
- **Reduced TCO:** Common platform architecture and the use of Cisco MDS 9000 NX-OS/SAN-OS Software intelligent storage networking services across all Cisco MDS 9000 family switches reduce ongoing operating expenses by providing a consistent set of provisioning, management, and diagnostic capabilities.

Figure 2. Cisco MDS 9134:Two Cisco MDS 9134 Switches Stacked Using 10GBASE Copper CX4

Key Features and Benefits

Exceptional Flexibility and Scalability

The Cisco MDS 9134 offers up to 32 auto-sensing Fibre Channel ports capable of speeds of 4, 2, and 1 Gbps plus 2 10-Gbps ports in a compact 1RU form-factor chassis. With 4 Gbps of dedicated bandwidth for each port, the Cisco MDS 9134 is designed to meet the performance and scalability requirements of the most demanding environments.

The flexibility of the Cisco MDS 9134 is provided by the Cisco MDS 9134 On-Demand Port Activation License, which allows the addition of 4- and 10-Gbps ports. Customers can start with a base configuration of 24 ports and can upgrade onsite to 32 ports and also optionally add the 10-Gbps ports using the appropriate licenses. With advanced storage networking capabilities built into the platform, it is an ideal choice both as a standalone departmental SAN switch and as an edge switch in enterprise core-edge SANs.

The Cisco MDS 9134 includes hot-swappable, Small Form-Factor Pluggable (SFP), LC interfaces. All SFP interfaces are 4, 2, and 1 Gbps, with autosensing capabilities. Individual ports can be configured with either short- or long-wavelength SFP optics for connectivity up to 860 meters (m) and 10 kilometers (km), respectively. The 10-Gbps ports support X2 form-factor optics, copper or optical.

VSANs for Segmentation and Isolation

VSAN, an industry standard for fabric virtualization capabilities, enables more efficient storage network use by creating hardware-based isolated environments within a single physical SAN fabric or switch. Up to 16 VSANs are supported per switch. Each VSAN can be zoned as a typical SAN and maintains its own fabric services and management domains for added scalability and resilience. VSANs allow the cost of SAN infrastructure to be shared among more users, while helping ensure segregation of traffic and retaining independent control of configuration on a VSAN-by-VSAN basis.

FICON Support

The Cisco MDS 9134 supports IBM zSeries FICON and Linux environments. Qualified by IBM for attachment to all FICON-enabled devices in an IBM zSeries operating environment, the switch supports transport of the FICON protocol in cascaded fabrics, as well as intermix of FICON and open systems Fibre Channel Protocol (FCP) on the same switch.

VSANs simplify intermix of SAN resources between z/OS, mainframe Linux, and open systems environments, enabling increased SAN utilization and simplified SAN management. VSAN-based intermix mode eliminates the uncertainty and instability often associated with zoning-based intermix techniques. VSANs also greatly reduce the probability that a misconfiguration or component failure in one VSAN will affect operation in other VSANs.

VSAN-based management access control simplifies partitioning of SAN management responsibilities between mainframe and open systems environments, enhancing security. FICON VSANs can be managed using the integrated Cisco Fabric Manager; the Cisco CLI; or IBM CUP-enabled management tools, including IBM SA/390, Resource Measurement Facility (RMF), and Dynamic Channel Path Management (DCM).

Advanced Traffic Management for High-Performance, Resilient SANs

Advanced traffic management capabilities integrated into the Cisco MDS 9134 simplify deployment and optimization of core-edge fabrics.

- Virtual output queuing helps ensure line-rate performance on each port, independent of traffic pattern, by eliminating head-of-line blocking.
- For 4-Gbps ports, each port group consisting of 4 ports has a pool of 64 buffer credits, with a default of 16 buffer credits per port. When extended distances are required, up to 64 buffer credits can be allocated to a single port within the port group. This extensibility is available without additional licensing. Each of the 10-Gbps ports has 64 buffer credits.
- PortChannels allow users to aggregate up to 16 physical ISLs into a single logical bundle, providing optimized bandwidth use across all links. The bundle can consist of any port from the switch, helping ensure that the bundle remains active even in the event of a port failure.
- Fabric Shortest Path First (FSPF)-based multipathing provides the intelligence to load balance across up to 16 equal-cost paths and, in the event of a switch failure, dynamically reroute traffic.
- QoS can be used to manage bandwidth and control latency, to prioritize critical traffic.
- Comprehensive port and flow statistics facilitate sophisticated performance analysis and service-level agreement (SLA) accounting.

Advanced Diagnostics and Troubleshooting Tools

Management of storage networks requires proactive diagnostics, tools to verify connectivity and route latency, and mechanisms for capturing and analyzing traffic. The Cisco MDS 9134 integrates the industry's most advanced analysis and debugging tools. Power-on self-test (POST) and online diagnostics provide proactive health monitoring. The Cisco MDS 9134 provides the integrated hardware functions required to implement diagnostic capabilities such as Fibre Channel Traceroute to detail the exact path and timing of flows, and SPAN to intelligently capture network traffic. After traffic has been captured, it can be analyzed with the Cisco Fabric Analyzer, an embedded Fibre Channel analyzer. With the Cisco MDS 9134, Cisco delivers a comprehensive toolset for troubleshooting and analysis of an organization's storage network.

Comprehensive Security

In recognition of the need for unassailable security in storage networks, the Cisco MDS 9134 offers an extensive security framework to protect highly sensitive data crossing today's enterprise networks.

- VSANs are used to achieve higher security and greater stability by providing complete isolation among devices that are connected to the same physical SAN.
- Intelligent packet inspection at the port level, including the use of access control lists (ACLs) for hardware enforcement of zones, VSANs, and advanced port security features are provided.
- Extended zoning capabilities help ensure that broadcasts are restricted to the selected zones (the broadcast zones).
- FC-SP provides switch-to-switch and host-to-switch Diffie-Hellman Challenge Handshake Authentication Protocol (DH-CHAP) authentication supporting RADIUS or TACACS+, to help ensure that only authorized devices access protected storage networks.
- These features, in conjunction with management access and control plane security, makes the Cisco MDS 9000 family among the most secure platforms in its class.

High-Availability Platform for Mission-Critical Environments

The Cisco MDS 9134 is designed for mission-critical availability. Nondisruptive software upgrades; hot-swappable, redundant fans and power supplies; and the unique capability to automatically restart failed processes combine to define a new standard for fabric switch availability.

High availability is implemented at the fabric level through the industry's most robust and highest-performance ISLs. PortChannel capability allows users to aggregate up to 16 physical ports into one logical bundle. The bundle can sustain the failure of any physical link without causing a reset. Additionally, FSPF multipathing provides the intelligence to load balance across up to 16 equal-cost paths and, if a switch fails, to dynamically reroute traffic. The Cisco MDS 9134 offers outstanding fabric switch availability, minimizing TCO.

Simplified Management

The Cisco MDS 9134 provides four principal modes of management: the Cisco MDS 9000 family CLI, the Quick Configuration Wizard, the Cisco Fabric Manager, and integration with third-party storage management tools.

- Consistent, logical CLI: Adhering to the syntax of the widely known Cisco IOS® Software CLI, the Cisco MDS 9000 family CLI is easy to learn and delivers broad management capabilities. The Cisco MDS 9000 family CLI is an extremely efficient and direct interface designed to provide optimal capabilities to administrators in enterprise environments.
- Quick Configuration Wizard: The Quick Configuration Wizard helps eliminate management complexity and creates a readily available SAN environment for small- and midsized-business applications. The wizard allows server access to storage to be set up quickly and easily in a single step, using an intuitive GUI.
- Cisco Fabric Manager: Cisco Fabric Manager is included with the Cisco MDS 9134 for integrated, comprehensive management of larger SAN environments. Cisco Fabric Manager is a responsive, easy-to-use Java application that allows administrators to perform vital tasks such as topology discovery, fabric configuration and verification, provisioning, monitoring, and fault resolution.
- The Cisco MDS 9134 provides an extensive API for integration with third-party and user-developed management tools. The APIs are based on industry-standard protocols, including SNMP and the Storage Networking Industry Association (SNIA) Storage Management Initiative Specification (SMI-S).

Specifications

Minimum Software Requirements

- Cisco MDS 9000 SAN-OS Software Release 3.2(1)

Performance and Port Configurations

- Port speed: 4-, 2-, and 1-Gbps autosensing with 4 Gbps of dedicated bandwidth per port and 10 Gbps of dedicated bandwidth for 10-Gbps ports
- Buffer credits: Up to 64 for a group of 4 ports, with a default of 16 buffer credits per port for the 4-Gbps ports and 64 buffer credits per 10-Gbps port
- Ports per chassis: Up to 32 4-Gbps ports and 2 10-Gbps ports
  - Base configuration with 24 ports
  - Additional ports in 8-port increment with the port activation license for 4-Gbps ports
  - Two 10-Gbps ports with the 10-Gbps port license
- PortChannel: Up to 16 ports in a PortChannel

Security

- VSANs
- Zoning
  - Hardware-enforced zoning
  - Logical-unit-number (LUN) zoning and read-only zones
- FC-SP for host-to-switch and switch-to-switch authentication
- Port security
- Management access
  - SSHv2
  - SNMPv3
  - IP ACLs

Compatibility

- Fibre Channel protocols
  - 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-FS, Revision 1.9 (ANSI/INCITS 373-2003)
  - FC-FS-2, Revision 0.91
  - FC-LS, Revision 1.2
  - FC-AL, Revision 4.5 (ANSI/INCITS 272-1996)
  - FC-AL-2, Revision 7.0 (ANSI/INCITS 332-1999)
  - FC-AL-2, Amendment 1 (ANSI/INCITS 332-1999/AM1-2003)
  - FC-AL-2, Amendment 2 (ANSI/INCITS 332-1999/AM2-2006)
  - 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-GS-3, Revision 7.01 (ANSI/INCITS 348-2001)
  - FC-GS-4, Revision 7.91 (ANSI/INCITS 387-2004)
  - FC-GS-5, Revision 8.2
  - FC-BB, Revision 4.7 (ANSI/INCITS 342-2001)
  - FC-BB-2, Revision 6.0 (ANSI/INCITS 372-2003)
  - FC-BB-3, Revision 6.8 (ANSI/INCITS 414-2006)
  - FCP, Revision 12 (ANSI/INCITS 269-1996)

    - FCP-2, Revision 8 (ANSI/INCITS 350-2003)
    - FCP-3, Revision 4 (ANSI/INCITS 416-2006)
    - FC-SB-2, Revision 2.1 (ANSI/INCITS 349-2001)
    - FC-SB-3, Revision 1.6 (ANSI/INCITS 374-2003)
    - FC-VI, Revision 1.84 (ANSI/INCITS 357-2002)
    - 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-SP, Revision 1.6
    - FC-DA, Revision 3.1 (INCITS TR-36-2004)
    - FAIS Revision 0.7
- Extensive IETF-standards-based TCP/IP, SNMPv3, and Remote Monitoring (RMON) MIBs
- Class of service: Classes 2, 3, and F
- Fibre Channel standard port types: E, F, and FL
- Fibre Channel enhanced port types: SD, and TE

Fabric Services

- Name server
- Registered state change notification (RSCN)
- Login services
- Broadcast
- In-order delivery
- Name-server zoning

Advanced Services

- N-port ID virtualization
- VSANs
- PortChannels
- FICON protocol integration

Diagnostics and Troubleshooting Tools

- POST diagnostics
- Online diagnostics
- Internal loopbacks
- SPAN
- Fibre Channel Traceroute
- Fibre Channel Ping
- Fibre Channel Debug

- Cisco Fabric Analyzer
- Syslog
- Port-level statistics

Management

- Access methods
  - Out-of-band 10/100 Ethernet port
  - EIA/TIA-232 serial console port
  - In-band Fibre Channel over IP (FCIP)
- Access protocols
  - CLI
  - SNMP
  - SMI-S
- Security
  - RBAC using RADIUS or TACACS+ authentication, authorization, and accounting (AAA) functions
  - VSAN-based roles
  - SSHv2
  - SNMPv3
- Management applications
  - Cisco MDS 9000 family CLI
  - Quick Configuration Wizard
  - Cisco Fabric Manager and Device Manager
  - Cisco Fabric Manager Server (optional; requires Cisco Fabric Manager Server license)

Availability

- Nondisruptive software upgrades
- Stateful process restart
- Per-VSAN fabric services
- Redundant, hot-swappable power supply and redundant, hot-swappable power supply and fan trays
- Hot-swappable SFP optics
- PortChannels aggregating up to 16 ports
- Online diagnostics

Serviceability

- Configuration file management
- Call Home
- Port beaconing
- System LEDs
- SNMP traps for alerts

Environmental

- Ambient operating temperature is 32 to 104°F (0 to 40°C)
- Ambient nonoperating temperature is -40 to 158°F (-40 to 70°C)
- Physical dimensions (H x W x D) of 1RU: 1.76 x 17.16 x 18.89 in. (4.47 x 43.59 x 47.98 cm)
- Weight of switch with dual power supplies: 20 lb (44 kg)

Power and Cooling

- Power supplies (300W AC) (maximum of two per switch)
  - AC Input: 100 to 240 VAC nominal (+/-10% for full range)
  - Frequency: 50 to 60 Hz nominal (+/-3 Hz for full range)
  - Power consumption: 99 W maximum with 0.99A at 100 VAC and 0.45A at 220 VAC
- Airflow: Front to rear

Safety

- UL 60950-1
- CAN/CSA-C22.2 No. 60950-1
- EN 60950-1
- IEC 60950
- AS/NZS 60950
- IEC 60825
- EN 60825
- 21 CFR 1040

EMC

- FCC Part 15 (CFR 47) Class A
- ICES-003 Class A
- EN55022 Class A
- CISPR22 Class A
- AS/NZS CISPR22 Class A
- VCCI Class A
- EN55024
- ETS300 386
- EN50082-1
- EN61000-3-2
- EN61000-3-3
- EN61000-6-1
- CISPR24

- NEBS
  - GR-63-Core NEBS Level 3
  - GR-1089-Core NEBS Level 3
- ETSI
  - ETS 300 019 Storage Class 1.1
  - ETS 300 019 Transportation Class 2.3
  - ETSI 300 019 Stationary Use Class 3.1

Ordering Information

Table 1 provides ordering information for the Cisco MDS 9134.

Table 1. Ordering Information

Product Name	Part Number
Cisco MDS 9134 32-Port Multilayer Fabric Switch with 24 4-Gbps active ports, VSANs, PortChannels, Cisco Fabric Manager and dual AC power supplies and 24 4/2/1-Gbps Fibre Channel-SW SFP transceivers	DS-C9134AP-K9
Cisco MDS 9134 32-Port Multilayer Fabric Switch with 24 4-Gbps active ports, VSANs, PortChannels, and Cisco Fabric Manager	DS-C9134-K9
Cisco MDS 9134 32-Port Multilayer Fabric Switch with 32 4-Gbps active ports, VSANs, PortChannels, and Cisco Fabric Manager	DS-C9134-1K9
Cisco MDS 9134 24-Port Multilayer Fabric Switch with VSANs, PortChannels, Cisco Fabric Manager, 2x10G License pre-installed, 2 copper X2 CX4 transceivers, and 1 copper cable. Must be ordered as a pair of units to enable 48-ports	DS-9134G-K9
Cisco MDS 9134 32-Port Multilayer Fabric Switch with VSANs, PortChannels, Cisco Fabric Manager, 2x10G License pre-installed, 2 copper X2 CX4 transceivers, and 1 copper cable. Must be ordered as a pair of units to enable 64-ports	DS-9134G-1K9
Small Form-Factor Pluggable (SFP) Optics Options	
Cisco MDS 9000 Family 4/2/1-Gbps Fibre Channel-SW, SFP, LC	DS-SFP-FC4G-SW
Cisco MDS 9000 Family 4/2/1-Gbps Fibre Channel-LW (4 km), SFP, LC	DS-SFP-FC4G-MR
Cisco MDS 9000 Family 4/2/1-Gbps Fibre Channel-LW (10 km), SFP, LC	DS-SFP-FC4G-LW
Cisco XXXX NM CWDM Gigabit Ethernet and 1/2-Gbps Fibre Channel SFP, spare (where XXXX=1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610)	DS-CWDM-XXXX=
Cisco MDS 9000 Family 10-Gbps Fibre Channel-Shortwave, X2, SC	DS-X2-FC10G-SR
Cisco MDS 9000 Family 10-Gbps Fibre Channel-Longwave, X2, SC	DS-X2-FC10G-LR
Small Form-Factor Pluggable (SFP) Copper Options	
Cisco MDS 9000 Family 10-Gbps Fibre Channel-Copper CX4 X2 transceiver	DS-X2-FC10G-CX4
Spare Components	
Cisco MDS 9000 Family 4/2/1-Gbps Fibre Channel-SW, SFP, LC, Spare	DS-SFP-FC4G-SW=
Cisco MDS 9000 Family 4/2/1-Gbps Fibre Channel-SW, SFP, LC, 4-Pack, Spare	DS-SFP-4G-SW-4=
Cisco MDS 9000 Family 4/2/1-Gbps Fibre Channel-LW (4 km), SFP, LC, Spare	DS-SFP-FC4G-MR=
Cisco MDS 9000 Family 4/2/1-Gbps Fibre Channel-LW, SFP, LC, Spare	DS-SFP-FC4G-LW=
Cisco MDS 9000 Family 10-Gbps Fibre Channel-Shortwave, X2, SC, spare	DS-X2-FC10G-SR=
Cisco MDS 9000 Family 10-Gbps Fibre Channel-Longwave, X2, SC, spare	DS-X2-FC10G-LR=
Cisco MDS 9000 Family 10-Gbps Fibre Channel - Copper CX4 X2 transceiver, spare	DS-X2-FC10G-CX4=
15m cable for 10G copper transceiver, spare	DS-CAB-15M=
1m cable for 10G copper transceiver, spare	DS-CAB-1M=
Cisco MDS 91x4 300W AC power supply, spare	DS-C24-300AC=
Cisco MDS 9134 fan tray, spare	DS-C34-FAN=

Product Name	Part Number
Optional redundant DC power supply	PWR-C49-300DC=
Optional Licenses	
Cisco MDS 9134 8 port upgrade Kit; On-Demand Port Activation license to activate increment of 8 ports and 8 4/2/1-Gbps Fibre Channel-SW SFP transceivers	M9134PL8-4G-AP=
Cisco MDS 9134 On-Demand Port Activation License; activates increment of 8 ports	M9134PL8-4G=
Cisco MDS 9134 On-Demand Port Activation License; activates 2 10Gbps ports	M9134PL2-10G=
Cisco MDS 9000 Family Enterprise Package	M9100ENT1K9=
Cisco MDS 9000 Family Fabric Manager Server Package	M9100FMS1K9=
Cisco MDS 9000 FICON License	M9100FIC1K9=
Power Cords	
Power Cord, 250VAC 10A IRAM 2073 Plug, Argentina	CAB-9K10A-AR
Power Cord, 250VAC 10A 3112 Plug, Australia, Spare	CAB-9K10A-AU
Power Cord, 250VAC 10A GB1002 Plug, China, Spare	CAB-9K10A-CH
Power Cord, 250VAC 10A CEE 7/7 Plug, EU, Spare	CAB-9K10A-EU
Power Cord, 250VAC 10A SI16S3 Plug, Israel	CAB-9K10A-ISR
Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy, Spare	CAB-9K10A-IT
Power Cord, 125VAC 13A KSC8305 Plug, Korea, Spare	CAB-9K10A-KOR
Power Cord, 250VAC 10A SABS 164/1 Plug, South Africa, Spare	CAB-9K10A-SA
Power Cord, 250VAC 10A, Straight C15, MP232 Plug, SWITZ, Spare	CAB-9K10A-SW
Power Cord, 125VAC 15A CNS10917-2, Taiwan, Spare	CAB-9K10A-TWN
Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK, Spare	CAB-9K10A-UK
Power Cord, 125VAC 13A NEMA 5-15 Plug, North America, Spare	CAB-9K12A-NA
Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors, Spare	CAB-C15-CBN

For detailed information on supported transceivers, see Cisco MDS 9000 Family Pluggable Transceivers.

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, see Cisco Technical Support Services or Cisco Advanced Services.

For More Information

For more information about the Cisco MDS 9134 32-Port Multilayer Fabric Switch, visit http://www.cisco.com/en/US/prod/collateral/ps4159/ps6409/ps5987/ps8414/prod_bulletin0900aecd8068eb9c_ps5987_Products_Bulletin.html or contact your local account representative.

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