Cisco MDS 9000 Mainframe Package

Product Overview

The Cisco® MDS 9000 Mainframe Package is a comprehensive collection of features required for using the Cisco MDS 9000 Family directors and switches as IBM System z I/O infrastructure.

With the Cisco MDS 9000 Mainframe Package, the Cisco MDS 9000 Family can simultaneously support IBM Fiber Connection (FICON), Fibre Channel and Fibre Channel over IP (FCIP), Fibre Channel Protocol (FCP), and Small Computer System Interface over IP (iSCSI). Providing support for all these protocols within a single, high-availability platform simplifies purchasing and deployment, reduces management costs, and leads to optimal utilization of storage resources across open systems and mainframes.

Features

The Cisco MDS 9000 Mainframe Package provides the following features:

- **Virtual SANs (VSANs):** Like Logical Partitions (LPARs) on IBM System z, VSANs provide hardware-based partitioning of a single physical SAN into multiple VSANs. VSANs provide isolation of traffic, management, and fault conditions. VSANs can be used to separate production and test and development environments as well as to provide true hardware-based separation of FICON and FCP traffic. They can be used to enable consolidation of prior-generation FICON directors into a more modern, scalable infrastructure. All this can be done without compromising scalability, availability, manageability, and network security.
- **Persistent FICON Fibre Channel ID (FCID) assignment:** In conjunction with VSANs, persistent FICON FCID assignment enables consolidation and migration of multiple legacy directors into a Cisco MDS 9500 Series Multilayer Director, such as a Cisco MDS 9513 Multilayer Director, without requiring changes to the IBM System z I/O configuration (IOCDS).
- **FICON Control Unit Port (CUP):** Implementation of a special FICON control device, known as CUP, in the Cisco MDS 9000 Family allows in-band management of the switch from FICON hosts.
- **Fabric binding:** Fabric binding helps ensure that Inter-Switch Links (ISLs) are enabled between only switches that have been authorized in the fabric binding configuration. This feature helps prevent unauthorized switches from joining the fabric or disrupting current fabric operations.
- **Switch cascading:** Switch cascading supports a topology for FICON devices wherein ISLs can be used between a host and an I/O device. Thus, switch cascading facilitates creation of mainframe storage networks consisting of multiple switches.
- **Physical and virtual tape:** The Cisco MDS 9000 Family is fully qualified for a variety of physical and virtual tape products from IBM and Oracle (formerly marketed by Sun / StorageTek (STK)). These FICON capabilities enhance data backup and recovery and data availability. Deploying tape or virtual tape on VSAN-enabled networks protects the local mainframe environment from instability or excessive control traffic introduced by the metropolitan-area network (MAN), WAN, and remote network.
- **Additional features:** Additional FICON-related features included in the Cisco MDS 9000 Mainframe Package are:
  - FICON native mode and native mode channel-to-channel operation
  - Port swapping for host-channel cable connections

Integrated Channel Extension Features

The MDS 9000 SAN Extension capabilities, when deployed in conjunction with the Mainframe Package, can provide a full-featured, Integrated Channel Extension solution that can replace older, dedicated channel extenders.

- **IBM TotalStorage z/OS Global Mirror:** The Cisco MDS 9000 Family is fully qualified with the IBM TotalStorage z/OS Global Mirror application, formerly known as Extended Remote Copy (XRC). XRC simplifies business-continuance implementation strategies by allowing asynchronous replication of data over extended distances. Deploying XRC on VSAN-enabled networks protects the local mainframe environment from instability and excessive control traffic introduced by the MAN, WAN, and remote network. XRC dynamic update performance over Wide Area Network connections can be enhanced by the addition of the license for the Cisco MDS 9000 XRC Acceleration Package.
- **FICON Tape Acceleration (Channel Extension):** This feature is used to extend distance and reduce application latency for tape operations over an FCIP WAN. It accomplishes this by providing local acknowledgment (device emulation) for tape write operations and read-ahead (pipelining) for tape read operations. Virtual and real tape devices can be located farther away from each other and from the System z while maintaining near-local performance.

Software Release

This package was first supported in Cisco MDS 9000 SAN-OS Software Release 1.3(4a). For current compatibility information, please consult the interoperability matrix at http://www.cisco.com/en/US/docs/switches/datacenter/mds9000/interoperability/matrix/intmatrx.html.

License Information

This package is licensed per switch for all the ports in the switch. Some features can be used only if the package is licensed for all the switches in the fabric.

Ordering Information

The ordering numbers associated with this package are:

- M9500FIC1K9= Cisco MDS 9000 Family Mainframe Package for one Cisco MDS 9500 Series Multilayer Director
  - M9500FIC1K9= Spare
- M9200FIC1K9= Cisco MDS 9000 Family Mainframe Package for one Cisco MDS 9200 Series Multilayer Switch
  - M9200FIC1K9= Spare
- M9100FIC1K9= Cisco MDS 9000 Family Mainframe Package for one Cisco MDS 9100 Series Multilayer Fabric Switch
  - M9100FIC1K9= Spare

For More Information

- For more information, see the Cisco MDS 9000 NX-OS Software data sheet at http://www.cisco.com/en/US/prod/collateral/ps4159/ps6409/ps5989/ps6217/product_data_sheet09186a00801bcfd8.html.
- Interoperability information for specific FICON-capable devices is available in the Cisco Data Center interoperability support matrix at http://www.cisco.com/en/US/docs/switches/datacenter/mds9000/interoperability/matrix/intmatrx.html.

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