

## Cisco MDS 9000—Q&A

- Q.** Does IBM support Fibre Connection (FICON) on the Cisco® MDS 9700 Series (9710 and 9706 in particular)?
- A.** Yes. The MDS 9710 chassis was first IBM-qualified with Cisco NX-OS Software Release 6.2(5a). The MDS 9706 chassis was IBM-qualified in Release 6.2(11c). In both releases, all previously supported hardware platforms were also “renewed” in their qualification, including the MDS 9513, MDS 9509, MDS 9506, and MDS 9222i. You can find all IBM qualification letters on the Interoperability tab.
- Q.** Do the Cisco MDS 9700 FICON Multilayer Directors support IBM’s Forward Error Correction (FEC) as seen on the FICON Express 16S feature on the IBM System z13?
- A.** Yes. FEC is supported today on the MDS 9710 and MDS 9706 with NX-OS Release 6.2(11c). FEC is also supported for 16-GB Inter-Switch Links (ISLs) between MDS 9700 Series systems.
- Q.** Do the MDS 9700 FICON Multilayer Directors support the new System z13 FICON Dynamic Routing feature?
- A.** Yes. All MDS systems that support FICON on the NX-OS Release 6.2(5a) have FICON Dynamic Routing. In fact, this feature is nothing new; for Cisco this feature is called Originator Exchange ID (OXID)-based routing, and it has been present in the MDS for more than 10 years. Before implementing FICON Dynamic Routing between the System z13 and the MDS FICON Multilayer Directors, it is important to verify that all of the peripherals (disk, tape, etc.) in the FICON virtual storage area network (VSAN) also support this feature.
- Q.** Does FICON on the MDS support control unit port (CUP)?
- A.** Yes. CUP is the inline management interface between the System z and the FICON VSAN. You can use it for both configuration and control of the director if desired. The System z also can use this interface to gather performance statistics from the director. The CUP feature is included as part of the Mainframe license.
- Q.** Does the MDS support FICON Intermix with open systems?
- A.** Yes. Intermix is fully supported and qualified with IBM. The best-practice recommendation is to use VSANs to separate FICON workloads from open systems workloads. Please remember that not all Cisco NX-OS releases are IBM FICON-qualified (because of the high cost).
- Q.** Does the MDS 9250i support FICON?
- A.** Yes. FICON is supported on the MDS 9250i starting with NX-OS Software Release 6.2(11c) and later.
- Q.** Does Cisco support customers running non-IBM FICON-qualified releases?
- A.** Yes. Cisco supports FICON on all subsequent releases of microcode after the initial release for a given platform. For instance, MDS 9710 will be supported on all NX-OS releases after 6.2(5a). We do recommend that you use the IBM FICON release if at all possible because IBM does significant additional testing as part of the IBM FICON qualification.
- Q.** Does Cisco support Fibre Channel over IP (FCIP) links for FICON, and does IBM support FCIP links?
- A.** Absolutely. Cisco has supported FCIP on the MDS since our first release in 2004, and it has been IBM-qualified from the start.

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- Q.** Does the topology of FICON fabrics have any restrictions?
- A.** Yes. In general, FICON fabrics are deployed in simple topologies. The rationale for this policy is that mainframe environments are usually most concerned with stability. For instance, complex fabrics can make it more complicated to debug performance problems.

When FCIP is not being used, only one hop (ISL) is allowed between the director with the host and the director with the control unit. Several topologies are supported for FCIP environments, allowing for separation of the FCIP node from the host-device connection directors (these topologies are documented in the IBM qualification letters). Contact Cisco for additional questions.

- Q.** Does the Cisco MDS support Inter-Chassis Links for FICON?
- A.** No and Yes. Cisco does not have a special card just for interconnecting chassis. Cisco uses Port Channels of ISLs to accomplish the same effect. When using the MDS 9710, a Port Channel of sixteen 16-Gigabit ISLs has 256 GB of bandwidth, the same as provided by the competing inter-chassis link (ICL) card, without the need of an extra expensive license, and there are still 32 more 16-GB ports that you can use for other connectivity. You also can spread Port Channels across all of the line cards in the chassis, thereby removing the single point of failure with the ICL card.
- Q.** Does Cisco have a hop-of-no-concern solution for FICON?
- A.** Yes. New for Cisco NX-OS Release 6.2(11c), Cisco and IBM released a new supported configuration for the MDS 9710 and MDS 9706 chassis.



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