Cisco MDS Data Mobility Manager

Product Overview

With storage requirements more than doubling every year, storage administrators are challenged to streamline their operations. This might mean adopting a new array of technologies. Or it might mean moving data to different storage tiers to optimize storage resources. So much data must be moved that many storage administrators rank data mobility as among their top five concerns.

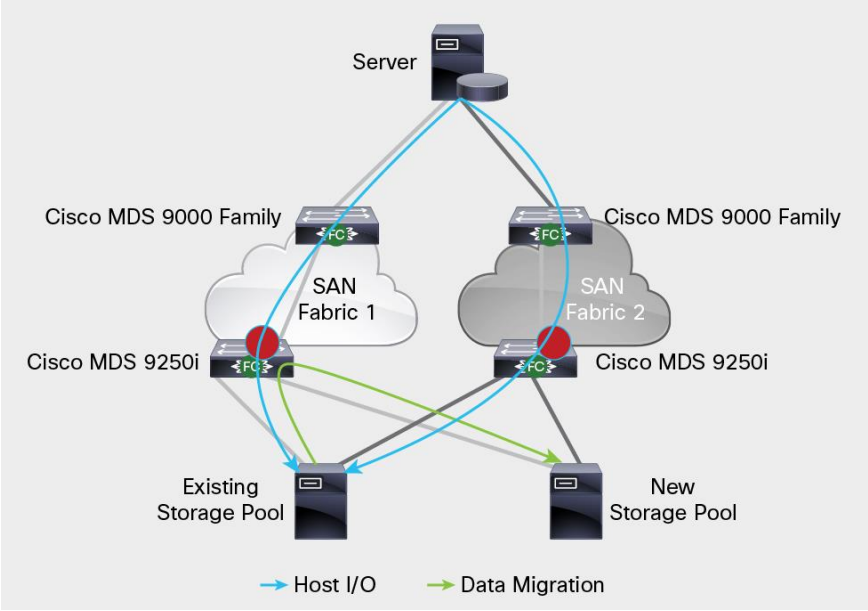
Several solutions are available today to help you address data migration. Solutions can be characterized as host, storage, or appliance based. Each has benefits and drawbacks.

Your specific needs will dictate your choice. However, when the disadvantages of each outweigh the advantages, Cisco® MDS Data Mobility Manager (DMM) provides a solution.

Cisco MDS DMM is excellent for environments in which the IT department is organized into systems administrators, database administrators, and storage administrators, and the storage administrators want complete control over data migration. Commonly available information indicates that storage administrators who depend on systems or database administrators, or on storage vendor support engineers, take four times longer than necessary to complete a migration task. Cisco MDS DMM allows a storage administrator or migration service provider to complete the migration with little need for coordination across multiple data center teams.

Figure 1 shows a typical deployment of Cisco MDS DMM in the SAN fabric.

Figure 1. Fabric-Based Cisco MDS Data Mobility Manager



Main Features

Cisco MDS DMM offers these main features:

- **Data migration from existing storage to new storage without reconfiguration:** Cisco MDS DMM eliminates the need to reconfigure the server, target device, or SAN. Neither target servers nor existing storage devices see the insertion of the Cisco DMM service. This transparency enables faster data migration with little need for coordination among multiple team functions.
- **Migrating multiple logical unit numbers (LUNs) simultaneously:** Theoretically several thousand LUNs can be migrated at the same time. In practice, migration is typically limited to several hundred concurrent LUNs because of the impact on existing storage and the SAN.
- **Migrating to larger LUNs:** Migration is triggered by capacity planning and the need to move to new arrays with higher-capacity LUNs. The capability to move to larger LUNs is designed into the Cisco MDS DMM solution.
- **Verifying migrated data:** The Cisco MDS DMM verification function can provide a block-by-block comparison of data in the existing storage array and the new storage array.
- **Server- and storage-level migration:** Cisco MDS DMM offers two types of migration control: server level and storage level. In a server-level migration, you specify all initiators on a server and the respective target ports on the storage array - administrators must provide the initiator and target in pairs. You can then schedule the migration for all LUNs visible to the server in the array. You can configure and complete data movement without any additional server, array, or SAN configuration. A storage-level migration is performed using the identity of an initiator specific to Cisco - so the server initiators do not play a role in the migration. Storage-level migration requires that an initiator specific to Cisco be given access to all LUNs that need to be migrated. The benefit of this approach is that fewer configuration tasks are needed.
- **Rate control:** Administrative traffic from a migration can affect the existing target device and the SAN, so administrators want to control migration rate. Cisco MDS DMM lets you assign a slow, medium, or fast setting to the migration task.
- **Asynchronous migration:** Typical migrations use a synchronous approach. When a server sends an I/O operation to a region that was previously migrated, new write I/O operations are synchronously written to the existing and new storage arrays. When data is migrated to accommodate data center consolidation, the existing and new storage arrays may be located thousands of miles apart. Cisco MDS DMM addresses limitations in existing migration solutions by offering an asynchronous capability.
- **Configuration wizard:** An easy-to-use configuration wizard built into the Cisco Data Center Network Manager (DCNM) guides you through the migration process. The wizard also reports migration status, allowing you to monitor progress. Additionally, a command-line interface (CLI) allows advanced users to create scripts for managing migration tasks.
- **Support for heterogeneous environments:** Cisco MDS DMM is a network service - it is not specific to any particular vendor's storage arrays. It can easily migrate Fibre Channel block data between vendor arrays.

Cisco MDS 9000 NX-OS Software Release 6.2(5) or higher is required to run Cisco DMM on a Cisco MDS 9250i Multilayer Fabric Switch. A typical hardware configuration deploys two Cisco MDS 9250i switches: one per network in the typical redundant SAN configuration. A Cisco DMM license is needed for each card. The only other requirement is that the existing and new storage arrays connect directly to Cisco MDS 9000 Family switches. The Cisco MDS DMM Interoperability Matrix documents the supported host operating system, multipath software, host bus adapter (HBA), and arrays for a given release.

Ordering Information

Table 1 presents ordering information for 6-month Cisco DMM licenses.

Table 1. Ordering Information

Platform	Configurable Part Number	Spare Part Number	E-Delivery Part Number
Cisco MDS 9250i	M9250IDMMT6M	M9250IDMMT6M=	L-M9250IDMMT6M=

For More Information

To learn more about Cisco storage solutions for the data center, visit http://www.cisco.com/go/datacenter.

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