



CHAPTER 1

Intelligent Storage Services Overview

The Cisco MDS 9000 NX-OS software supports intelligent storage services that enable efficient storage area network administration. Intelligent storage services are features that are available on the Storage Services Module (SSM) such as the Small Computer System Interface (SCSI) flow services, SCSI flow statistics, and Fibre Channel Write Acceleration (FC-WA).

These features identify the SCSI I/O flow for a specified initiator-target pair. This information is used by the FC-WA feature to gather advanced I/O statistics for a specified initiator-target pair. The FC-WA feature decreases the latency of an I/O over long distances. The advanced I/O statistics that are collected can be used to evaluate the storage performance for the initiator-target pair.

Intelligent Storage Services are features supported on the Storage Services Module (SSM). Intelligent Storage Services supported in Cisco MDS SAN-OS Release 2.0(2b) and later.

In Cisco MDS SAN-OS Release 2.1(1a) or later, or Cisco NX-OS 5.0 (1), you can provision a subset of the ports for an SSM feature. The port range must be a multiple of four (for example fc4/1 through fc4-12). You can enable SCSI flow services either on the entire SSM or on groups of four interfaces.

This chapter includes the following sections:

- [SCSI, page 1-1](#)
- [Fibre Channel Write Acceleration, page 1-2](#)

SCSI

The Small Computer System Interface (SCSI) feature offers a better utilization of the storage network resources and eliminate the need for separate parallel WAN and MAN infrastructure. Users can connect hosts to storage networks on existing IP networks. Since this feature utilizes the TCP/IP for data transfer, the data is existing IP- based host connections such as Ethernet.

The chapters in this guide describe the following features:

- **SCSI Flow Services**—A SCSI flow service used by a SCSI initiator and a target. The SCSI flow services provide enhanced features for SCSI flows, such as Write Acceleration and flow monitoring for statistics gathering on an SSM.
- **SCSI Flow Statistics**—These are the statistics that can be collected for any combination of a SCSI initiator and a target. Statistics that be collected include SCSI reads, SCSI writes, SCSI commands, and error statistics.

For information on configuring SCSI flow services, see [Chapter 2, “Configuring SCSI Flow Services.”](#)

For information on configuring SCSI flow statistics, see [Chapter 3, “Configuring SCSI Flow Statistics.”](#)

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Fibre Channel Write Acceleration

Fibre Channel Write Acceleration (FC-WA) minimizes application latency or reduces transactions per second over long distances. For synchronous data replication, FC-WA increases the distance of replication or reduces effective latency to improve performance. To take advantage of this feature, both the initiator and target devices must be directly attached to an SSM.

For information on configuring Fibre Channel Write Acceleration, see [Chapter 4, “Configuring Fibre Channel Write Acceleration.”](#)