Preface

This preface describes the audience, organization, and conventions of the *Cisco DCNM for SAN Database Schema Reference*. It also provides information on how to obtain related documentation.

Audience

This reference is for experienced Java and Java Database Connectivity (JDBC) programmers.

Organization

This reference is organized as follows:

Chapter	Title	Description
Chapter 1	Cisco DCNM for SAN Database Schema	Provides descriptions of the SQL indexes and tables of the Cisco DCNM for SAN database schema.
Appendix A	Sample Java Program	Provides files for a Java sample program that uses the Cisco DCNM for SAN database schema.

Document Conventions

Command descriptions use these conventions:

Convention	Meaning
boldface font	Commands and keywords are in boldface.
italic font	Arguments for which you supply values are in italics.
[ ]	Elements in square brackets are optional.
{x | y | z }	Required alternative keywords are grouped in braces and separated by vertical bars.

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[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen examples use these conventions:

Convention	Meaning
`screen` font	Terminal sessions and information the switch displays are in `screen` font.
`boldface screen` font	Information you must enter is in **`boldface screen`** font.
`italic screen` font	Arguments for which you supply values are in *`italic screen`* font.
< >	Nonprinting characters, such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:

Note Means reader *take note*. Notes contain helpful suggestions or references to material not covered in the manual.

Tip Means *the following information will help you solve a problem*. These tips are suggested as best practices and are based on in-depth knowledge of the Cisco MDS 9000 Family platform and experience implementing SANs.

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Related Documentation

The documentation set for the Cisco MDS 9000 Family includes the following documents. To find a document online, use the Cisco MDS NX-OS Documentation Locator at:

http://www.cisco.com/en/US/docs/storage/san_switches/mds9000/roadmaps/doclocater.htm

Release Notes

- *Cisco MDS 9000 Family Release Notes for Cisco MDS NX-OS Releases*
- *Cisco MDS 9000 Family Release Notes for MDS SAN-OS Releases*
- *Cisco MDS 9000 Family Release Notes for Cisco MDS 9000 EPLD Images*

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- *Cisco DCNM Release Notes*

Regulatory Compliance and Safety Information

- *Regulatory Compliance and Safety Information for the Cisco MDS 9000 Family*

Compatibility Information

- *Cisco Data Center Interoperability Support Matrix*
- *Cisco MDS 9000 NX-OS Hardware and Software Compatibility Information and Feature Lists*
- *Cisco MDS 9000 Family Switch-to-Switch Interoperability Configuration Guide*

Hardware Installation

- *Cisco MDS 9500 Series Hardware Installation Guide*
- *Cisco MDS 9200 Series Hardware Installation Guide*
- *Cisco MDS 9100 Series Hardware Installation Guide*
- *Cisco MDS 9124 and Cisco MDS 9134 Multilayer Fabric Switch Quick Start Guide*

Software Installation and Upgrade

- *Cisco MDS 9000 NX-OS Software Upgrade and Downgrade Guide*

Cisco NX-OS

- *Cisco MDS 9000 Family NX-OS Licensing Guide*
- *Cisco MDS 9000 Family NX-OS Fundamentals Configuration Guide*
- *Cisco MDS 9000 Family NX-OS System Management Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Interfaces Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Fabric Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Quality of Service Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Security Configuration Guide*
- *Cisco MDS 9000 Family NX-OS IP Services Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Intelligent Storage Services Configuration Guide*
- *Cisco MDS 9000 Family NX-OS High Availability and Redundancy Configuration Guide*
- *Cisco MDS 9000 Family NX-OS Inter-VSAN Routing Configuration Guide*
- *Cisco MDS 9000 Family Cookbook for Cisco MDS SAN-OS*

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Cisco DCNM-SAN

- *Cisco DCNM Fundamentals Guide, Release 6.x*
- *System Management Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *Interfaces Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *Fabric Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *Quality of Service Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *Security Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *IP Services Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *Intelligent Storage Services Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *High Availability and Redundancy Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *Inter-VSAN Routing Configuration Guide, Cisco DCNM for SAN, Release 6.x*
- *SMI-S and Web Services Programming Guide, Cisco DCNM for SAN, Release 6.x*

Cisco DCNM

- Cisco DCNM Installation and Licensing Guide, Release 6.x
- Cisco DCNM Fundamentals Guide, Release 6.x

Command-Line Interface

- *Cisco MDS 9000 Family Command Reference*

Intelligent Storage Networking Services Configuration Guides

- *Cisco MDS 9000 Family I/O Acceleration Configuration Guide*
- *Cisco MDS 9000 Family SANTap Deployment Guide*
- *Cisco MDS 9000 Family Data Mobility Manager Configuration Guide*
- *Cisco MDS 9000 Family Storage Media Encryption Configuration Guide*

Troubleshooting and Reference

- *Cisco MDS 9000 Family and Nexus 7000 Series System Messages Reference*
- *Cisco MDS 9000 Family SAN-OS Troubleshooting Guide*
- *Cisco MDS 9000 Family NX-OS MIB Quick Reference*
- *Cisco DCNM for SAN Database Schema Reference*

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Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

- Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

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CHAPTER 1

Cisco DCNM for SAN Database Schema

Overview

The Cisco DCNM for SAN database is a repository for data used by the Cisco MDS 9000 Family applications, which include DCNM-SAN, Performance Manager, and Device Manager. Performance Manager uses the data to generate reports.

The Cisco DCNM for SAN database can also be used by third-party report generation tools to create custom reports. You can use the Structured Query Language (SQL) database schema definitions described in this document to access the database. The SQL schema definition file, dbname.script, can be found in the MDS 9000\bin directory on the computer where Cisco DCNM for SAN was installed.

Caution Once you connect to the Cisco DCNM for SAN database, you will be able to modify values in it. Modifying some of these values may corrupt the database. Therefore, we suggest that you only read values from the database.

The schema tables are described in two sections:

- Related Cisco DCNM for SAN Database Schema Tables
- Individual Cisco DCNM for SAN Database Schema Tables

Related Cisco DCNM for SAN Database Schema Tables

The tables in the Cisco DCNM for SAN schema are grouped by related functions in the following sections:

- Switch Management Tables
- Enclosure Tables
- Fabric Tables
- Network Management Tables
- Performance Manager Tables
- Cisco Traffic Analyzer Tables
- User Access Control Tables
- Configuration Backup Tables
- Storage Media Encryption Tables

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- LAN Tables

Switch Management Tables

The schema tables that relate to switch management are described in Table 1-1.

Table 1-1 Switch Management Tables

Table Name	Description
SWITCH	Provides the sWWN and fabric ID for a switch. Use the FABRIC_ID to associate each switch to a fabric in the FABRIC table.
SWITCH_MGMT_ADDRESS	Provides the switch management port IP address. Use the SWITCH_ID to associate each entry to a switch in the SWITCH table.
SWITCH_PORT	Associates an SNMP ifIndex and pWWN to a port. Use the SWITCH_ID to associate each entry to a switch in the SWITCH table.
LICENSE	Describes licenses configured and in use in a switch. Use the SWITCH_ID to associate each entry to a switch in the SWITCH table.
HW_COMPONENT	Describes the hardware components of a switch, including the model number, the manufacturer, and the revision. Use the SWITCH_ID to associate each hardware component to a switch in the SWITCH table.
HW_CARD	Provides the power and status indications for a hardware component. Use the HW_COMPONENT_ID to associate each row to a hardware component in the HW_COMPONENT table.
HW_POWER_SUPPLY	Provides the status on power supplies in an enclosure. Use the HW_COMPONENT_ID to associate an entry with a hardware component in the HW_COMPONENT table.
FAILED ATTEMPTS	Describes a FICON connection to a switch. Use the PORT_ID to associate this FICON connection to a port in the SWITCH_PORT table.
ISL	Describes an ISL that links two ports. Use the PORT1_ID and the PORT2_ID to associate these ports to a port in the SWITCH_PORT table. If this ISL is a PortChannel member, the CHANNEL_ID refers to the parent channel ID.
SCSI_TARGET	Provides the WWN for a SCSI target. Use the ID to associate this SCSI target to a port in the SWITCH_PORT table.

Enclosure Tables

The schema tables that relate to enclosures are described in Table 1-2.

Table 1-2 Enclosure Tables

Table Name	Description
ENCLOSURE	Describes an enclosure, which can be a physical or virtual entity.
HBA	Associates a WWN to a host bus adapter. Use the ENCLOSURE_ID to associate each HBA to an enclosure in the ENCLOSURE table.

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Table 1-2 Enclosure Tables (continued)

Table Name	Description
END_PORT	Describes an end port within a fabric. Use the FABRIC_ID to associate this end port with a fabric in the FABRIC table. Use the ENCLOSURE_ID to associate this end port with an enclosure in the ENCLOSURE table. Use the HBA_ID to associate this end port with an HBA in the HBA table. Use the PORT_ID to associate this end port with a port in the SWITCH_PORT table.
VHOST	Describes the virtual host (ESX host).
VM	Describes the virtual machine.
DATA_STORE	Describes the data store defined in vCenter.
ENC_DATASTORE_INFO	Provides the relationship table between enclosure and data store.
VM_DATASTORE_INFO	Provides the relationship table between virtual machine and data store.

Fabric Tables

The schema tables that relate to the fabric are described in Table 1-3.

Table 1-3 Fabric Tables

Table Name	Description
FABRIC	Describes a SAN fabric.
VSAN	Describes a VSAN within a fabric. Use the FABRIC_ID to associate this VSAN with a fabric in the FABRIC table.
VSAN_DOMAIN_INFO	Associates a VSAN with a domain on a swtich. Use the SWITCH_ID to associate this VSAN and domain with a switch in the SWITCH table.
VSAN_ENDPORT_INFO	Provides the FCID for an end port in a VSAN. Use the VSAN_ID to associate this end port with a VSAN in the VSAN table.
VSAN_ISL_INFO	Provides the status for an ISL in a VSAN. Use the VSAN_ID to associate this ISL with a VSAN in the VSAN table.
ZONE	Describes a zone. Use the IS_IVR to determine if this zone is an IVR zone. If it is an IVR zone, use the PARENT_ID to associate this zone with a fabric in the FABRIC table. Otherwise, use the PARENT_ID to associate this zone with a VSAN in the VSAN table.
ZONE_MEMBER	Describes a member of a zone. Use the ZONE_ID to associate this member with a zone in the ZONE table.
NPV_LINK	Describes the link for N port virtualization.
VSAN_NPVL_INFO	Provides the NPVL information in a VSAN.
CARD	Describes a card.
DEVICE_ALIAS	Describes the device alias for each logged-in end device.
BASE_SVC_CLUSTER	Describes the SME cluster.
FMSESSION	Describes the active Cisco DCNM for SAN user session.

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Network Management Tables

The schema tables that relate to network management are described in Table 1-4.

Table 1-4 Network Management Tables

Table Name	Description
FMUSER	Describes a Fabric Manager user.
GROUPS	Describes a Fabric Manager group within a fabric. Use the FABRIC_ID to associate this group to a fabric in the FABRIC table.
GROUP_FABRIC_INFO	Describes the mapping between the user-defined logical groups and fabrics.
GROUP_MEMBER_INFO	Describes a member of a group. Use the GROUP_ID to associate this member to a group. Use the MEMBER_ID to reference an ID in a SWITCH or END_PORT table.
SEQUENCE	Describes the current long values for automatically generated IDs.
SNMPUSER	Describes an SNMP user.
SNMP_COMMUNITY	Describes an SNMP community.
SVR_PROP	Describes the user of a fabric.
VCENTER	Describes vcenter access information.

Performance Manager Tables

The schema tables that relate to Performance Manager are described in Table 1-5.

Table 1-5 Performance Manager Tables

Table Name	Description
EVENTS	Describes Performance Manager events. Use the FABRICID to associate this event with a fabric in the FABRIC table. Use the SWITCHID to associate this event with a switch in the SWITCH table.
EVENT_FORWARD	Describes the event-forward configurations.
PMDATAINDEX	Maintains the logical-to-physical mapping of RRD files.
PMEXTRAOID	Defines object IDs and switch IPs for the Performance Manager data collection.
PMINDEXBOOKMARK	Maintains the current bookmark index of the RRD files.
PM_COLLECTION	Describes a Performance Manager collection. Use the FABRIC_ID to associate this collection to a fabric in the FABRIC table.
PM_OPTION	Provides threshold details for a Performance Manager collection. Use the ID to associate these details with a Performance Manager collection in the PM_COLLECTION table.
STATISTICS	Provides statistics gathered for a Performance Manager collection.

Cisco Traffic Analyzer Tables

The schema tables that relate to Cisco Traffic Analyzer are described in Table 1-6.

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Table 1-6 Cisco Traffic Analyzer Tables

Table Name	Description
NTOP	Describes a configured NTOP enity.
NTOP_SPAN_INFO	Associates an NTOP entity with a SPAN port. Use the SPAN_PORT_ID to associate an entry with a SPAN port in the SPAN_PORT table.
SPAN_PORT	Describes a SPAN port on a switch. Use the SWITCH_ID to associate this SPAN port to a switch in the SWITCH table.
SPAN_SESSION	Describes a SPAN session. Use the SPAN_PORT_ID to associate this session to a SPAN port in the SPAN_PORT table.
SPAN_SOURCE_PORT	Describes a SPAN source port. Use the SESSION_ID to associate this source port to a SPAN session in the SPAN_SESSION table.

User Access Control Tables

The schema tables that relate to Cisco User Access are described in Table 1-7.

Table 1-7 Cisco User Access Tables

Table Name	Description
FAILED ATTEMPTS	Describes the number of failed attempts by users.
ROLE	Describes the available role types for each user.
ROLE_FABRIC_INFO	Describes the available role types for each user and fabric.
USERSWITCH_INFO	Describes the available switch user information.
GROUP_USER_INFO	Describes the user group information.
DCNMUSER	Describes DCNM-SAN users.

Configuration Backup Tables

The schema tables that relate to configuration backup are described in Table 1-8.

Table 1-8 Configuration Backup Tables

Table Name	Description
XMLDOCS	Describes the XML files where the configuration information is stored.
CONFIG_FILE	Provides the configuration file where the information is stored.

Storage Media Encryption Tables

The schema tables that relate to storage media encryption are described in Table 1-9.

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Table 1-9 Storage Media Encryption Tables

Table Name	Description
SME_SETTINGS	Describes the SME settings.
SME_CLUSTER	Describes the SME clusters.
SME_CLUSTER_ATTRIBUTES	Describes the attributes for an SME cluster.
SME_CLUSTER_SMARTCARD	Describes the SME cluster smart card.
SME_TAPE_GROUP	Describes the SME tape group.
SME_TAPE_VOLUMEGROUP	Describes the SME tape volume group.
SME_KEY	Describes the SME key.
SME_ACCOUNTING_LOG	Describes the SME accounting log.
SME_REPLICATION_REL	Describes the SME replication release.
SME_REPL_PENDING_KEY	Describes the replication pending key for the SME.
SME_REPL_ERROR_KEY	Describes the replication error key for the SME.

LAN Tables

The schema tables that relate to the LAN are described in Table 1-9.

Table 1-10 LAN Tables

Table Name	Description
ETHSWITCH	Describes the Ethernet switch of the LAN.
ETHSWITCH_PORT	Describes the Ethernet switch port for the LAN.
CDP_SEED	Describes the speed for the CDP.
LAN	Describes the LAN.
ETHSWITCH_PORT_VLAN	Describes the Ethernet switch port VLAN.
ETHISL_VLAN	Describes the Ethernet ISL VLAN.

Individual Cisco DCNM for SAN Database Schema Tables

The individual schema tables contain the column name, the JDBC SQL data type, and a description. Footnoted after each table are the indexes defined against columns in that table. The following tables are described in this section:

- CARD (Deprecated)
- ENCLOSURE
- END_PORT
- EVENTS
- EVENT_FORWARD
- FABRIC

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- FAILED ATTEMPTS
- FMUSER
- GROUPS
- GROUP_FABRIC_INFO
- GROUP_MEMBER_INFO
- HBA
- HW_CARD
- HW_COMPONENT
- HW_POWER_SUPPLY
- ISL
- LICENSE
- NTOP
- NTOP_SPAN_INFO
- PMDATAINDEX
- PMEXTRAOID
- PMINDEXBOOKMARK
- PM_COLLECTION
- PM_OPTION
- SCSI_TARGET
- SEQUENCE
- SNMP_COMMUNITY
- SNMPUSER
- SPAN_PORT
- SPAN_SESSION
- SPAN_SOURCE_PORT
- STATISTICS
- SWITCH
- SWITCH_MGMT_ADDRESS
- SWITCH_PORT
- SVR_PROP
- USERFABRIC
- VSAN
- VSAN_DOMAIN_INFO
- VSAN_ENDPORT_INFO
- VSAN_ISL_INFO
- ZONE
- ZONE_MEMBER

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BASE_SVC_CLUSTER

Table 1-11 describes the cluster configurations in the CLUSTER database schema table.

Table 1-11 BASE_SVC_CLUSTER

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry in the table.
FABRIC_ID[1]	INTEGER	—	Describes the ID of the parent fabric.
CLUSTER_ID	VARCHAR2(255)	—	Describes the ID of the cluster.
NAME	VARCHAR2(255)	—	Describes the name of the cluster.
CLUSTER_TYPE	INTEGER	—	Describes the cluster type.
STATE	INTEGER	—	Describes the cluster state.
IS_MASTER	NUMBER(1)	—	Describes whether this is the master IP.
MASTER_ADDR_TYPE	INTEGER	—	Describes the master switch address type.
MASTER_ADDR	VARCHAR2(255)	—	Describes the master switch address.
MASTER_IP	VARCHAR2(255)	—	Describes the IP address of the master switch.
SWITCH_ID[2]	INTEGER	—	Describes the ID of the switch.
IS_PRESENT	NUMBER(1)	—	Indicates whether the end port exists in any of the VSANs.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. BASE_SVC_CLUSTER_FABRIC_ID is an index based on the column FABRIC_ID.
2. BASE_SVC_CLUSTER_SWITCH_ID is an index based on the column SWITCH_ID.

CARD (Deprecated)

Note The CARD Cisco DCNM for SAN database schema table is no longer in use.

CARD

Table 1-12 describes the card configurations in the CARD database schema table.

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Table 1-12 CARD

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry in the table.
CARD_SLOT[1]	INTEGER	—	Describes the card slot number.
SWITCH_ID[2]	INTEGER	—	Provides the ID of the switch that generated the event.
NAME	VARCHAR2(256)	—	Describes the name of the enclosure.
TYPE	INTEGER	—	Describes the type of the event.
HW_VERSION	VARCHAR2(256)	—	Provides the hardware version
SW_VERSION	VARCHAR2(256)	—	Provides the firmware version.
SERIAL_NUMBER	VARCHAR2(256)	—	Provides the sequence number assigned to the peer node during manufacturing.
ASSET_ID	VARCHAR2(256)	—	Provides the asset ID of the hardware component.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds since 1/1/1970.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
STATUS	INTEGER	—	Describes the status of the card.
MODEL_NAME	VARCHAR2(256)	—	Describes the model name of the hardware component.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. CARD_SWITCH_ID_INDEX is an index based on the column SWITCH_ID.
2. CARD_SLOT_INDEX is an index based on the column CARD_SLOT.

CONFIG_FILE

Table 1-13 describes the configuration file information in the CONFIG_FILE database schema table.

Table 1-13 CONFIG_FILE

Column Name	Data Type	Constraints	Description
DOCUMENT_NAME	VARCHAR2(256)	UNIQUE	Describes the name of the configuration file document.
USER_NAME	VARCHAR2(256)	UNIQUE	Provides the username encrypted for security.

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Table 1-13 CONFIG_FILE (continued)

Column Name	Data Type	Constraints	Description
CONTENT	CLOB	—	Describes the configuration files content.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

DEVICE_ALIAS

Table 1-14 describes the device alias information in the DEVICE_ALIAS database schema table.

Table 1-14 DEVICE_ALIAS

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry in the table.
FABRIC_ID[1]	INTEGER	—	Describes the ID of the parent fabric.
CFS_REGION_ID[2]	INTEGER	—	Describes the ID of the CFS region.
WWN[3]	RAW(8)	—	Describes the WWN of the end port.
ALIAS	VARCHAR2(256)	—	Describes the device alias.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. DEVALIAS_FABRIC_ID is an index based on the column FABRIC_ID.
2. DEVALIAS_CFS_REGION_ID is an index based on the column CFS_REGION_ID.
3. DEVALIAS_WWN_INDEX is an index based on the column WWN.

ENCLOSURE

Table 1-15 describes an enclosure, which can be a physical or virtual entity in the ENCLOSURE database schema table.

Table 1-15 ENCLOSURE

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry.
NAME	VARCHAR2 (256)	—	Describes the name of the enclosure.
IS_VIRTUAL	NUMBER1	—	Describes whether the enclosure is virtual.
ENC_TYPE	INTEGER	—	Describes the type of the enclosure.

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Table 1-15 ENCLOSURE (continued)

Column Name	Data Type	Constraints	Description
OS_INFO	VARCHAR2 (256)	—	Provides the operating system of the enclosure.
IP_ADDRESS	VARCHAR2 (256)	—	Provides the IP address of the enclosure.
DM_PATH	VARCHAR2 (256)	—	Describes the device manager path of the enclosure.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds since 1/1/1970.
SAN_ID	INTEGER	—	Deprecated.
VENDOR	VARCHAR2 (256)	—	Deprecated.
MODEL	VARCHAR2 (256)	—	Deprecated.
VERSION	VARCHAR2 (256)	—	Provides the version of the enclosure.
VHOST_ID	INTEGER	—	Describes the VHost ID for an ESX host enclosure.
IS_VM_HOST	NUMBER(1)	—	Indicates if it is a virtual host through the boolean value.
SERVICE_PROFILE	VARCHAR2 (256)	—	Indicates if it is a UCS server blade enclosure through the Service profile name.
SERVER_BLADE	VARCHAR2 (256)	—	Indicates if this is a UCS server blade enclosure through the Server blade name.
RESERVE_COL1	VARCHAR2 (256)	—	Deprecated.
RESERVE_COL2	VARCHAR2 (256)	—	Deprecated.

END_PORT

This table describes an end port within a fabric. Use the FABRIC_ID to associate this end port with a fabric in the FABRIC table. Use the ENCLOSURE_ID to associate this end port with an enclosure in the ENCLOSURE table. Use the HBA_ID to associate this end port with an HBA in the HBA table. Use the PORT_ID to associate this end port with a port in the SWITCH_PORT table. Table 1-16 describes the END_PORT database schema table.

Table 1-16 END_PORT

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the primary key of the entity.
FABRIC_ID[1]	INTEGER	—	Describes the ID of the parent fabric.

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Table 1-16 END_PORT (continued)

Column Name	Data Type	Constraints	Description
ENCLOSURE_ID[2]	INTEGER	—	Describes the ID of the enclosure to which the end port belongs.
HBA_ID	INTEGER	—	Describes the ID of the HBA to which the end port belongs.
SWITCH_PORT_ID[3]	INTEGER	—	Describes the ID of the switch port that linked to the end port.
WWN[4]	RAW(8)	—	Provides the WWN of the end port.
NODE_WWN[5]	RAW(100)	—	Provides the WWN of the node.
FICON_PORT_ADDRESS	RAW(100)	—	Describes the FICON address of the end port.
FLAGS	INTEGER	—	Deprecated.
SYM_PORT_NAME	VARCHAR2(256)	—	Describes the symbolic name of the end port.
SYM_NODE_NAME	VARCHAR2(256)	—	Describes the symbolic name of the parent node.
PORT_IP_ADDR	VARCHAR2(256)	—	Provides the IP address of the parent node.
ALIAS	VARCHAR2(256)	—	Describes the port alias.
IS_PRESENT	NUMBER(1)	—	Describes whether the end port exists in any of the VSANs.
LAST_UPDATE_TIME	TIMESTAMP	—	Describes the time when the entry was updated.
LAST_SCAN_TIME	INTEGER	—	Describes the time when last seen, in milliseconds, since 1/1/1970.
OPER_STATUS_CAUSE	INTEGER	—	Describes if the link is down, the value represents the status. Refer to values for FcIfOperStatusReason in CISCO-FC-FE-MIB.
IF_NAME	VARCHAR2(256)	—	Describes the interface name of the attached switch port.
IS_LOOP	NUMBER(1)	—	Describes whether the link is an arbitrated loop.
FC4_TYPES	RAW(100)	—	Describes the FC4 types of the end port. Refer to values for fcNameServerFC4Type in CISCO-NS-MIB.
FC4_FEATURES	INTEGER	—	Describes the FC4 features of the end port. Refer to values for fcNameServerFC4Features in CISCO-NS-MIB.
NAME	VARCHAR2(256)	—	Describes the logical name of the end port.
VFC_BINDTO	VARCHAR2(256)	—	Describes the VFC (virtual FC) bind information for end port.
SERVICE_PROFILE	VARCHAR2(256)	—	Indicates if this is a UCS server end point through the Service profile name.

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Table 1-16 END_PORT (continued)

Column Name	Data Type	Constraints	Description
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. END_PORT_FABRIC_ID_INDEX is an index based on the column FABRIC_ID.
2. END_PORT_ENCLOSURE_ID_INDEX is an index based on the column ENCLOSURE_ID.
3. END_PORT_SWITCH_PORT_ID_INDEX is an index based on the column SWITCH_PORT_ID.
4. END_PORT_WWN_INDEX is an index based on the column WWN.
5. END_PORT_NODE_WWN_INDEX is an index based on the column NODE_WWN.

VHOST

This table describes the virtual host. Table 1-17 describes the VHOST database schema table.

Table 1-17 VHOST Enclosure Table

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the host.
VCENTER_ID	INTEGER	—	Provides the ID of vCenter from where the vhost is discovered.
CLUSTER_ID	INTEGER	—	Provides the ID of the cluster.
NAME	VARCHAR2(256)	—	Provides the name of the host.
FULL_NAME	VARCHAR2(256)	—	Provides the full qualified name including the domain name.
MOREF	VARCHAR2(256)	—	Provides the MOF reference.
MAC_ADDRESS	VARCHAR2(256)	—	Provides the MAC address for the vHost (ESX server).
IP_ADDRESS	VARCHAR2(256)	—	Describes the IP address of the host.
OS_INFO	VARCHAR2(256)	—	Provides the operating system of the host.
VENDOR	VARCHAR2(256)	—	Provides the vendor name.
MODEL	VARCHAR2(256)	—	Describes the model of the hardware component.
VERSION	VARCHAR2(256)	—	Provides the version of the switch.
MEMORY_SIZE	NUMBER(20)	—	Provides the memory size.
CPUCOUNT	INTEGER	—	Provides the number of CPUs.
CPU_SPEED_AVG	NUMBER(20)	—	Provides the average CPU speed.
HBAS	VARCHAR2(256)	—	Provides the HBA information.

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Table 1-17 VHOST Enclosure Table (continued)

Column Name	Data Type	Constraints	Description
MULTIPATH	VARCHAR2(256)	—	Provides the multipath information.
ALIASES	VARCHAR2(256)	—	Provides the alias associated with the device.
CONN_STATE	INTEGER	—	Provides the connection state.
POWER_STATE	INTEGER	—	Provides the power state.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
LAST_SCAN-TIME	INTEGER	—	Provides the time when last seen, in milliseconds since 1/1/1970.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

VM

This table describes the virtual machine. Table 1-18 describes the VM database schema table.

Table 1-18 VM Enclosure Tables

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the host.
VCENTER_ID	INTEGER	—	Provides the ID of vCenter from where the VM is discovered.
CLUSTER_ID	INTEGER	—	Provides the ID of the cluster.
NAME	VARCHAR2(256)	—	Provides the virtual machine name.
MOREF	VARCHAR2(256)	—	Provides the MO reference string.
MEMORY_SIZE	NUMBER(20)	—	Provides the memory allocation for the VM.
CPUCOUNT	INTEGER	—	Provides the CPU allocated for the VM.
OS_TYPE	VARCHAR2(256)	—	Provides the type of the operating system of the host.
DNS_NAME	VARCHAR2(256)	—	Provides the VM DNS name.
IP_ADDRESS	RAW(100)	—	Describes the IP address of the host.
POWER_STATE	INTEGER	—	Describes the power state.
DISK_READ_AVG	NUMBER	—	Provides the Average disk read (Bytes per Second).

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Table 1-18 VM Enclosure Tables (continued)

Column Name	Data Type	Constraints	Description
DISK_WRITE_AVG	NUMBER	—	Provides the Average disk read (Bytes per Second).
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
LAST_SCAN-TIME	INTEGER	—	Provides the time when last seen, in milliseconds since 1/1/1970.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

DATA_STORE

This table describes the data store defined in vCenter. Table 1-19 describes the DATA_STORE database schema table.

Table 1-19 DATA STORE Enclosure Table

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the host.
VCENTER_ID	INTEGER	—	Provides the ID of the vCenter from where the data store is discovered.
FABRIC_ID	INTEGER	—	Provides the ID of the fabric.
NODE_WWN	RAW(100)	—	Provides the storage node world wide name.
PORT_WWN	RAW(100)	—	Provides the storage port world wide name.
LUN-UUID	VARCHAR2(256)	—	Provides the LUN UUID for the data store.
LUN	INTEGER	—	Provides the LUN for the data store.
SCSI_LUN	VARCHAR2(256)	—	Provides the SCSI LUN for the data store.
UUID	VARCHAR2(256)	—	Provides the UUID for the data store.
CANONICAL_NAME	VARCHAR2(256)	—	Provides a canonical nam e for the data store.
URL	VARCHAR2(256)	—	Provides the URL.
NAME	VARCHAR2(256)	—	Provides the name.
FREE_SPACE	NUMBER(20)	—	Provides the free storage space.
MAX_FILESIZE	NUMBER(20)	—	Provides the maximum file size.

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Table 1-19 DATA STORE Enclosure Table (continued)

Column Name	Data Type	Constraints	Description
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
LAST_SCAN-TIME	INTEGER	—	Provides the time when last seen, in milliseconds since 1/1/1970.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

ENC_DATASTORE_INFO

This table provides the relationship table between enclosure and data store. Table 1-20 describes the ENC_DATASTORE_INFO database schema table.

Table 1-20 ENC_DATASTORE_INFO Enclosure Table

Column Name	Data Type	Constraints	Description
ENCLOSURE_ID	INTEGER	NOT NULL	Provides the ID of the enclosure containing the target.
DATASTORE_ID	INTEGER	NOT NULL	Provides the ID for the data store.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

VM_DATASTORE_INFO

This table provides the relationship table between the virtual machine and data store. Table 1-21 describes the VM_DATASTORE_INFO database schema table.

Table 1-21 VM_DATASTORE_INFO Enclosure Table

Column Name	Data Type	Constraints	Description
VM_ID	INTEGER	NOT NULL	Provides the ID of the virtual machine.
DATASTORE_ID	INTEGER	NOT NULL	Provides the ID for the data store.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

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EVENTS

This table describes Performance Manager events. Use the FABRICID to associate this event with a fabric in the FABRIC table. Use the SWITCHID to associate this event with a switch in the SWITCH table. Table 1-22 describes the EVENTS database schema table.

Table 1-22 EVENTS

Column Name	Data Type	Constraints	Description
EVENTID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the event.
FIRST_SEEN	TIMESTAMP	—	Describes the host time of the event.
SWITCH_TIME	TIMESTAMP	—	Describes the switch time of the event.
TYPE	INTEGER	—	Type of the event. See Table 1-23.
FACILITY	VARCHAR2(20)	—	Describes the facility for syslog.
SEVERITY[1]	INTEGER	—	Describes the severity of the event: 0 = emergency 1 = alert 2 = critical 3 = error 4 = warning 5 = notice 6 = info 7 = debug
SOURCE	VARCHAR2(256)	DEFAULT	Describes the source fabric that generated the event.
DESCR	VARCHAR2(4000)	DEFAULT	Describes the description of the event.
SYSLOGEVENT	VARCHAR2(80)	—	Describes the system log events.
VSANID	INTEGER	DEFAULT	Describes the ID of the VSAN that generated the event.
DCID	INTEGER	—	Describes the ID of the fabric that generated the event.
SWITCHID	INTEGER	—	Describes the ID of the switch that generated the event.
SRCID	INTEGER	—	Describes the ID of the source port; applies to Performance Manager events only.
DESTID	INTEGER	—	Describes the ID of the destination port; applies to Performance Manager events only.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.
ENCLOSURE_ID	INTEGER	DEFAULT -1	Decribes the ID of the event enclosure.
GROUP_ID	INTEGER	DEFAULT- 1	Describes the ID of the group the generated the event.
ACK	NUMBER(1)	DEFAULT 0	

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Table 1-22 EVENTS (continued) (continued)

Column Name	Data Type	Constraints	Description
DCTYPE	NUMBER(1)	DEFAULT 0	
LAST_SEEN	TIMESTAMP	—	Provides the time when the event was last seen.
COUNT	NUMBER(22)	DEFAULT 0	Provides the number of times the event has occurred.

1. EVENTS_SEVERITY_INDEX is an index based on the column SEVERITY.

Table 1-23 TYPE Field Description in EVENTS Table

TYPE	Description
0	other
1	switch discovered
2	switch rebooted
3	switch unreachable
4	switch manageable
5	switch unmanageable
6	switch IP changed
7	VSAN added
8	VSAN unreachable
9	VSAN up
10	VSAN down
11	VSAN merged
12	VSAN segmented
13	zone set changed
14	principal switch changed
15	ISL up
16	ISL unreachable
17	N_Port up
18	N_Port unreachable
19	N_Port moved
20	enclosure added
21	enclosure removed
22	binding denied
23	switch of activity
24	service or process restarted
25	fan tray changed
26	power changed
27	module changed

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Table 1-23 TYPE Field Description in EVENTS Table (continued)

TYPE	Description
28	FRU inserted
29	FRU removed
30	zone merged
31	fabric changed
32	fabric opened
33	fabric closed
34	license manager
35	image upgraded
36	VRRP
37	IVR
38	FICON
39	server down
40	threshold exceeded
41	CFS
42	SAN removed
43	fabrics merged
44	fabric split
45	feature
46	FM license violation
47	fabric purged
48	RMON events
49	sensor events

EVENT_FORWARD

Table 1-24 describes the event-forward configurations in the EVENT_FORWARD database schema table.

Table 1-24 EVENT_FORWARD

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry.
TYPE	INTEGER	—	Describes the type of the event forward entry: trap = 1 email = 2
FID	INTEGER	—	Describes the ID of the fabric; 0 indicates all fabrics.
VSAN_SCOPE	VARCHAR2(256)	—	Describes the VSAN scope; for example, “1, 2, 10-14”, or “ALL”.

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Table 1-24 EVENT_FORWARD (continued)

Column Name	Data Type	Constraints	Description
SEVERITY	INTEGER	—	Describes the severity to trigger the forward action: 0 = emergency 1 = alert 2 = critical 3 = error 4 = warning 5 = notice 6 = info 7 = debug
ADDRESS	VARCHAR2(256)	—	Describes the address of the event forward.
LAST_UPDATE_TIME	TIMESTAMP	—	Describes the time when the entry was updated.

ETHSWITCH

Table 1-25 describes the Ethernet switch configurations in the ETHSWITCH database schema table.

Table 1-25 Ethernet Switch

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry in the table.
LICENSE_ID	INTEGER	—	Describes the ID of the license.
IP_ADDRESS	RAW(100)	—	Describes the IP address of the switch.
TYPE	INTEGER	—	Describes the type of the switch.
MODEL_NAME	VARCHAR2(255)	—	Describes the model name of the hardware component.
IS_MANAGEABLE	NUMBER(1)	—	Describes the manageable switch.
UNMANAGEABLE_CAUSE	VARCHAR2(256)	—	Describes the unmanageable switch and its case.
NUM_PORTS	INTEGER	—	Describes the number port of the switch.
GLOBAL_DEVICE_ID	VARCHAR2(256)	—	Describes the global switch ID.
DEVICE_ID	VARCHAR2(256)	—	Describes the switch ID.
CAPABILITY	RAW(100)	—	Describes the switch capability.
VTP_MGMT_DOMAIN	RAW(1000)	—	Describes the VTV management domain.
VLAN_LIST	VARCHAR2(256)	—	Provides the list of VLANs.
SYS_NAME	VARCHAR2(256)	—	Describes the system name.
SYS_CONTACT	VARCHAR2(256)	—	Describes the system contact.

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Table 1-25 Ethernet Switch (continued)

Column Name	Data Type	Constraints	Description
SYS_LOCATION	VARCHAR2(256)	—	Describes the system location.
SYS_UPTIME	INTEGER,	—	Describes the system uptime.
VERSION	VARCHAR2(256)	—	Provides the version of the switch.
IS_PRESENT	NUMBER(1)	—	Provides an indication of whether the switch exists currently.
SERIAL_NUMBER	VARCHAR2(256)	—	Sequence number assigned to the peer node during manufacturing.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds, since 1/1/1970.
SYS_DESCRIPTION	VARCHAR2(256)	—	Describes the system description.
VENDOR	VARCHAR2(256)	—	Provides the name of the company that manufactured the peer node.
OPER_MODE	INTEGER	—	Operational mode of the link by port type: 1 = auto 2 = F 3 = FL 4 = E 5 = B 6 = FX 7 = SD 8 = TL 9 = N 10 = NL 11 = NX 12 = TE 13 = FV 14 = down 15 = ST
IS_VDC	NUMBER 1	—	.Provides information if this is a VDC
VDC_ID	INTEGER	—	Provides the VDC ID.
VDC_MAC	RAW(6)	—	Provides the MAC address of the VDC.
VDC_NAME	VARCHAR2(256)	—	Provides name of the VDC.
DEFAULT_VDC_MAC	RAW(6)	—	Provides the defualt MAC address of the VDC

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Table 1-25 Ethernet Switch (continued)

Column Name	Data Type	Constraints	Description
VDC_STATE	SMALLINT	—	Provides the current state of the VDC.
FCOE_CAPABLE	SMALLINT	—	Provides if the ethernet switch is capable of FCoE.
FCOE_ENABLED	NUMBER (1)	—	Provides if the ethernet switch is FCoE enabled.
CPU_USAGE	INTEGER	—	Provides information about the CPU usage of the ethernet switch.
MEM_USAGE	INTEGER	—	Provides information about the memory usage of the ethernet switch.
IS_FEX	NUMBER (1)	—	Provides information if the ethernet switch has fabric extender.
FEX_ID	INTEGER	—	Provides the fabric extender ID of the ethernet switch.
FEX_ENABLED	NUMBER (1)	—	Provides information if the fabic extender is enabled.
DISC_STATUS	INTEGER	—	
DISC_DESCR	VARCHAR2(256)	—	
DEEP_DESC	VARCHAR2(256)	—	
LANSWITCH_CLASSID	INTEGER	—	Describeses the LAN switch class ID.

ETHSWITCH_PORT

Table 1-26 describes the Ethernet switch port configurations in the ETHSWITCH_PORT database schema table.

Table 1-26 Ethernet Switch Port

Column Name	Data Type	Constraints	Description
ID	ID	NOT NULL PRIMARY KEY	Provides the ID of the entry in the table.
IF_INDEX	INTEGER	—	Describes the index of the Ethernet switch port.
SWITCH_ID	INTEGER	—	Describes the switch ID for each switch port.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

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Table 1-26 Ethernet Switch Port (continued)

Column Name	Data Type	Constraints	Description
STATUS	SMALLINT	—	Describes the status of the switch.
IF_SPEED	INTEGER	—	Describes the speed.
IF_NAME	VARCHAR2(256)	—	Describes the name.
IF_TYPE	INTEGER	—	Describes the type.
IF_DESCR	VARCHAR2(256)	—	Provides the description
IP_ADDR	VARCHAR2(256)	—	Provides the IP address.
MTU	INTEGER	—	Describes the MTU for the Ethernet switch.
IS_CHANNEL	NUMBER 1	—	
CHANNEL_ID	INTEGER	—	Provides the channel ID.
IS_TRUNK	NUMBER (1)	—	
NATIVE_VLANID	INTEGER	—	Provides the native VLAN ID.
SHARED_MODE	INTEGER	—	Describes if the ethernet switchport is in shared mode.
LAST_SCAN_TIME	INTEGER	—	Provides the last scan time.
IF_ALIAS	VARCHAR2(255)	—	Describes the alias.
IS_PHYSICAL	NUMBER (1)	—	
OPER_STATUS_CAUSE	SMALLINT	—	
IF_ADMINSTATUS	SMALLINT	—	describes the administrator status.

CDP_SEED

Table 1-27 describes the CDP_SEED configurations in the CDP_SEED database schema table.

Table 1-27 CDP SEED

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in the table.
LAN_ID	INTEGER	—	Describes the LAN ID.
SERIAL_NUMBER	VARCHAR2(256)	—	Sequence number assigned to the peer node during manufacturing.
INET_ADDR	RAW(100)	—	Describes the INET address.
IP_RANGE	VARCHAR2(256)	—	Describes the IP range.
SUBNET	VARCHAR2(256)	—	Describes the subnet.

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Table 1-27 CDP SEED (continued)

Column Name	Data Type	Constraints	Description
MASK	VARCHAR2(256)	—	Describes the mask.
CRED_ID	INTEGER	—	Describes the credentation ID.
MAX_HOPS	INTEGER	—	Describes the maximum number of hops.
PLATFORM	VARCHAR2(256)	—	Describes the platform.
LAST_UPDATE_TIME	TIMESTAMP	—	Time when the entry was updated.
SEED_TYPE	INTEGER	—	Describes the seed type.
DISC_STATE	INTEGER	—	
IP_LIST	VARCHAR2(4000)	—	Provides the list of IP addresses.
GROUP_ID	INTEGER	—	Provides the group ID.
CREATE_TIME	INTEGER	—	Provides the creation times.
ENABLE_PWD	VARCHAR2(256)	—	Describes if password protectio n is enabled.
DCNM_USER	VARCHAR2(256)	—	Describes the DCNM user.
DEEP_TASKID	INTEGER	—	
DEEP_DESC	VARCHAR2(256)	—	
DEEP_UPDATETIME	INTEGER	—	
MANAGEABLE	NUMBER (1)	—	
FWSM	NUMBER (1)	—	

LAN

Table 1-28 describes the LAN configurations in the LAN database schema table.

Table 1-28 LAN

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in the table.
LAN_ID	INTEGER	—	Provides the ID of the LAN.
LAN_NAME	VARCHAR2(256)	—	Provides the name of the LAN.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds, since 1/1/1970.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
IS_PERSISTENT	NUMBER(1)	—	Describes whether the LAN is persistent.

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Table 1-28 LAN

Column Name	Data Type	Constraints	Description
IS_MANAGEABLE	NUMBER(1)	—	Describes whether the LAN is manageable.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

ETHSWITCH_PORT_VLAN

Table 1-29 describes the Ethernet switch port VLAN configurations in the ETHSWITCH_PORT_VLAN database schema table.

Table 1-29 ETHSWITCH_PORT_VLAN

Column Name	Data Type	Constraints	Description
PORT_ID	INTEGER	NOT NULL PRIMARY KEY	Identifier of the port in the peer node connected to this port. If the peer node is a control unit, this value will be 0. If the peer node is a channel, this value will be the channel path identifier of the channel path that contains the port in the peer node. If the peer node is a fabric, this value will be the port address of the port in peer node. Refer to CISCO-FC-FE-MIB for more information.
VLAN_ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the VLAN.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

ETHISL_VLAN

Table 1-30 describes the ethernet isl VLAN configurations in the ETHISL_VLAN database schema table.

Table 1-30 ETHISL_VLAN

Column Name	Data Type	Constraints	Description
ISL_ID	INTEGER	NOT NULL PRIMARY KEY	ID of the ISL
VLAN_ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the VLAN.

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Table 1-30 ETHISL_VLAN

Column Name	Data Type	Constraints	Description
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
IS_CHANNEL	NUMBER (1)	—	
CHANNEL_ID	INTEGER	—	Provides the channel ID.
IS_TRUNK	NUMBER (1)	—	
NATIVE_VLANID	INTEGER	—	Prvides the native VLAN ID
ACCESS_VLANID	INTEGER	—	Provides the access VLAN ID
IS_FEXISL	NUMBER (1)	—	Describes if fabric extended ISL is supported.

FABRIC

Table 1-31 describes a SAN fabric in the FABRIC database schema table.

Table 1-31 FABRIC

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the primary key of the database entry.
SEED_SWITCH_ID[1]	INTEGER	—	Provides the ID of the switch where the fabric discovery originated.
IVR_SEED_SWITCH_ID[2]	INTEGER	—	Provides the ID of the switch where the IVR data originated.
ALIAS_SEED_SWITCH_ID	INTEGER	—	Provides the ID of the alias switch.
LICENSE_ID	INTEGER	—	Deprecated.
IVR_ENF_ZONESET_NAME	VARCHAR2(256)	—	Provides the active IVR zone set name.
IVR_ENF_ZONESET_ACTIVATE_TIME	INTEGER	—	Provides the time in milliseconds when the IVR zone set is activated.
IVR_ACTIVE_ZONESET_CHECKSUM	RAW(100)	—	IVR active zone set checksum.
POLLING_ENABLED	NUMBER(1)	—	Describes the indication of whether the fabric is polled regularly.
POLLING_INTERVAL	INTEGER	—	Provides the fabric polling interval, in seconds.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds, since 1/1/1970.
SNMP_RETRIES	INTEGER	—	Provides the number of SNMP retries.
SNMP_TIMEOUT	INTEGER	—	Provides the SNMP timeout in milliseconds.
FMUSER_ID	INTEGER	—	Deprecated.

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Table 1-31 FABRIC (continued)

Column Name	Data Type	Constraints	Description
NAME	VARCHAR2(256)	—	Describes name of the fabric.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
SAN_ID	INTEGER	—	Provides the ID of the parent SAN.
FID	INTEGER	—	Provides the ID of the fabric.
IS_PERSISTENT	NUMBER(1)	—	Indicates whether continuous monitoring is enabled.
ON_DEMAND_POLL_FREQ	INTEGER	—	On-demand polling interval for fabric discovery, in seconds.
IVR_TOPO_CFG_CHECKSUM	RAW(100)	—	Deprecated.
IVR_TOPO_ACT_CHECKSUM	RAW(100)	—	Deprecated.
IVR_TOPO_AFID_CFG_CHECKSUM	RAW(100)	—	Deprecated.
IVR_TOPO_DEF_AFID_CHECKSUM	RAW(100)	—	Deprecated.
IVR_TOPO_VALIDATED	NUMBER(1)	—	Deprecated.
USE_GLOBAL_ALIAS	NUMBER(1)	—	Indicates whether the fabric is set to use the global alias.
IS_MANAGEABLE	NUMBER(1)	—	Describes whether the fabric is manageable.
DEVICE_ALIAS_SEED_ID[3]	INTEGER	—	Describes the ID of the device alias seed.
DEVICE_ALIAS_CHECKSUM	RAW(100)	—	Describes the checksum for device alias database in the fabric.
VSANS_INCLUDED	VARCHAR2(256)	DEFAULT '-1' NULL	Describes the VSANs included from the fabric.
VSANS_EXLUDED	VARCHAR2(256)	DEFAULT '-1' NULL	Describes the VSANs excluded from the fabric.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. FABRIC_SEED_SWITCH_ID is an index based on the column SEED_SWITCH_ID.
2. FABRIC_IVR_SEED_SWITCH_ID is an index based on the column IVR_SEED_SWITCH_ID.
3. FABRIC_DEVICE_ALIAS_SEED_ID is an index based on the column DEVICE_ALIAS_SEED_ID.

FAILED ATTEMPTS

This table describes the number of failed attempts by users. Table 1-32 describes the FAILED_ATTEMPTS database schema table.

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Table 1-32 FAILED ATTEMPTS

Column Name	Data Type	Constraints	Description
USER_NAME[1]	VARCHAR2(256)	PRIMARY KEY	Provides the username encrypted for security.
FAILED_ATTEMPT_TIME	INTEGER	PRIMARY KEY	Describes the failed attempt time of each user.

1. FAILED_ATTEMPTS_INDEX is an index based on the column USER_NAME.

FICON_INFO

This table describes a FICON connection to a switch. Use the PORT_ID to associate this FICON connection to a port in the SWITCH_PORT table. Table 1-33 describes the FICON_INFO database schema table.

Table 1-33 FICON_INFO

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the interface ID.
VENDOR	VARCHAR2(256)	—	Provides the name of the company that manufactured the peer node.
TYPE_NUM	VARCHAR2(256)	—	Provides the type number of the peer node.
MODEL_NUM	VARCHAR2(256)	—	Provides the model number of the peer node.
SERIAL_NUM	VARCHAR2(256)	—	Provides the sequence number assigned to the peer node during manufacturing.
PORT_ID[1]	VARCHAR2(256)	—	Provides the identifier of the port in the peer node connected to this port. If the peer node is a control unit, this value will be 0. If the peer node is a channel, this value will be the channel path identifier of the channel path that contains the port in the peer node. If the peer node is a fabric, this value will be the port address of the port in peer node. Refer to CISCO-FC-FE-MIB for more information.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
RESERVE_COL1	VARCHAR	—	Deprecated.
RESERVE_COL2	VARCHAR	—	Deprecated.

1. FICON_PORT_ID_INDEX is an index based on the column PORT_ID.

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FMUSER

This table describes a Fabric Manager user. Table 1-34 describes the FMUSER database schema table.

Table 1-34 FMUSER

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the Cisco DCNM for SAN user.
USER_NAME[1]	VARCHAR2(256)	—	Provides the username encrypted for security.
AUTH_PASSWORD	VARCHAR2(256)	—	Provides the authentication password encrypted for security.
ROLE_NAME	VARCHAR2(256)	—	Describes the user role name; can be either network administrator or operator.
IS_LOGGING_IN	NUMBER(1)	—	Provides the login status of the user.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. FMUSER_USERNAME_INDEX is an index based on the column USER_NAME.

FMSESSION

This table describes the Cisco DCNM for SAN user session. Table 1-35 describes the FMSESSION database schema table.

Table 1-35 FMSESSION

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Specifies the ID of the entry in the table.
SERVER_ID	INTEGER	NOT NULL PRIMARY KEY	Describes the server ID of the Cisco DCNM for SAN session.
CLIENT	VARCHAR2(80)	NOT NULL	Describes the client in the Cisco DCNM for SAN session.
IS_LOCAL	NUMBER(1)	NOT NULL	Describes whether the Cisco DCNM for SAN session is local.
USER_NAME	VARCHAR2(80)	NOT NULL	Describes the username.
AUTH_PASSWORD	VARCHAR2(80)	NOT NULL	Specifies the password of the Cisco DCNM for SAN session user.
ROLE_NAME	VARCHAR2(80)	NOT NULL	Specifies the user role name; can be either network administrator or operator.

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Table 1-35 FMSESSION

Column Name	Data Type	Constraints	Description
LOGIN_TIME	TIMESTAMP	NOT NULL	Describes the last login by a user.
LAST_ACCESS_TIME	TIMESTAMP	NOT NULL	Describes the last access time of the user.

GROUPS

This table describes a Fabric Manager group within a fabric. Use the FABRIC_ID to associate this group to a fabric in the FABRIC table. Table 1-36 describes the GROUPS database schema table.

Table 1-36 GROUPS

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the group.
FABRIC_ID[1]	INTEGER	—	Provides the ID of the fabric to which the group belongs.
NAME[1]	VARCHAR2(256)	—	Describes the name of the group.
TYPE	INTEGER	—	Type of the group: 1 = switch 2 = end port
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. GROUP_FABRICID_NAME_INDEX is an index based on the columns FABRIC_ID and NAME.

GROUP_FABRIC_INFO

This table describes the mapping between the user-defined logical groups and fabrics. Table 1-37 describes the GROUP_FABRIC_INFO database schema table.

Table 1-37 GROUP_FABRIC_INFO

Column Name	Data Type	Constraints	Description
GROUP_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the group.
FABRIC_ID[2]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the fabric to which the group belongs.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. GROUP_FABRIC_GROUP_ID is an index based on the column GROUP_ID.
2. GROUP_FABRIC_FABRIC_ID is an index based on the column FABRIC_ID.

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GROUP_MEMBER_INFO

This table describes a member of a group. Use the GROUP_ID to associate this member to a group. Use the MEMBER_ID to reference an ID in a SWITCH or END_PORT table. Table 1-38 describes the GROUP_MEMBER_INFO database schema table.

Table 1-38 GROUP_MEMBER_INFO

Column Name	Data Type	Constraints	Description
GROUP_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the group.
MEMBER_ID[2]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the group member, which is a switch or an end port ID.
TYPE	INTEGER	—	Describes the type of the group member: 1 = switch 2 = end port
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. GROUP_MEMBER_GROUP_ID is an index based on the column GROUP_ID.
2. GROUP_MEMBER_MEMBER_ID is an index based on the column MEMBER_ID.

GROUP_USER_INFO

This table describes a user of a group. Table 1-39 describes the GROUP_MEMBER_INFO database schema table.

Table 1-39 GROUP_USER_INFO

Column Name	Data Type	Constraints	Description
GROUP_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the group.
FMUSER_ID[2]	INTEGER	NOT NULL PRIMARY KEY	Describes the Cisco DCNM for SAN user ID for each user.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. GROUP_USER_GROUP_ID is an index based on the column GROUP_ID.
2. GROUP_USER_FMSUER_ID is an index based on the column FMUSER_ID.

DCNMUSER

This table describes the DCNM users. Table 1-40 describes the DCNMUSER database schema table.

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Table 1-40 DCNMUSER User Access Control Table

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the user.
VERSION	INTEGER	—	Provides the DCNM version.
USERID	VARCHAR2(256)	NOT NULL	Provides the unique user ID of the DCNM user.
PASSWORD	VARCHAR2(256)	—	Provides the password encrypted for security.
ROLE	VARCHAR2(256)	—	Describes the DCNM user role.

HBA

This table associates a WWN to a host bus adapter. Use the ENCLOSURE_ID to associate each HBA to an enclosure in the ENCLOSURE table. Table 1-41 describes the HBA database schema table.

Table 1-41 HBA

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the HBA.
ENCLOSURE_ID[1]	INTEGER	—	Provides the ID of the parent enclosure.
HWWN[2]	RAW(8)	—	Describes the HBA WWN, one of its port WWNs.
NWWN[3]	RAW(8)	—	Describes the node WWN.
TYPE	SMALLINT	—	Deprecated.
MANUFACTURER	VARCHAR2(256)	—	Provides the manufacturer name.
SERIAL_NUMBER	VARCHAR2(256)	—	Provides the serial number of the HBA.
MODEL	VARCHAR2(256)	—	Provides the model of the HBA.
MODEL_DESCRIPTION	VARCHAR2(256)	—	Provides the model description of the HBA.
HW_VERSION	VARCHAR2(256)	—	Provides the hardware version.
SW_VERSION	VARCHAR2(256)	—	Provides the firmware version.
DRIVER_VERSION	VARCHAR2(256)	—	Provides the driver version.
OPT_ROM_VERSION	VARCHAR2(256)	—	Optional ROM version.

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Table 1-41 HBA (continued)

Column Name	Data Type	Constraints	Description
OS	VARCHAR2(256)	—	Deprecated.
IP_ADDRESS	VARCHAR2(256)	—	Provides the IP address of the HBA.
IS_PRESENT	NUMBER(1)	—	Indicates whether the HBA exists.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
STATUS	INTEGER	—	Deprecated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. HBA_ENCLOSURE_ID_INDEX is an index based on the column ENCLOSURE_ID.
2. HBA_HWWN_INDEX is an index based on the column HWWN.
3. HBA_NWWN_INDEX is an index based on the column NWWN.

HW_CARD

This table provides the power and status indications for a hardware component. Use the HW_COMPONENT_ID to associate each row to a hardware component in the HW_COMPONENT table. Table 1-42 describes the HW_CARD database schema table.

Table 1-42 HW_CARD

Column Name	Data Type	Constraints	Description
HW_COMPONENT_ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in HW_COMPONENT table.
MODEL_TYPE	INTEGER	—	Provides the model type of the card. See Table 1-43.
ADMIN_STATUS	INTEGER	—	Describes the administrative status of the card: 1 = enabled 2 = disabled 3 = reset 4 = out of service
OPER_STATUS	INTEGER	—	Provides the operational status of the card. See Table 1-44.
RESET_REASON	VARCHAR2(256)	—	Provides the reset reason for the card.
STATUS_LAST_CHANGE_TIME	INTEGERs	—	Provides the last status change time in hundredths of seconds.

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Table 1-42 HW_CARD (continued)

Column Name	Data Type	Constraints	Description
POWER_ADMIN_STATUS	INTEGER	—	Describes the administrative status of the power for the card: 1 = on 2 = off 3 = inline automatic 4 = inline on
POWER_OPER_STATUS	INTEGER	—	Describes the operational status of the power for the card: 1 = off for environment or other reason 2 = on 3 = off for administration 4 = off denied 5 = off for environmental power 6 = off for environmental temperature 7 = off for environmental fan 8 = failed 9 = on but fan failed
POWER_CURRENT	INTEGER	—	Describes the current measurement on the system power supply primary output. The range is from -1.0×10^6 A to 1.0×10^6 A. A negative value expresses the current used by the FRU. A positive value expresses the current supplied by the FRU.
DMM_STATE	INTEGER	—	Describes whether the module is capable on DMM (data migration).
IOA_STATE	INTEGER	—	Describes the IOA state.
SE_STATE	INTEGER	—	Describes the SE state.
SANTAP_STATE	INTEGER	—	Decsribes the SANTAP state.

Table 1-43 MODEL_TYPE Field Description in HW_CARD Table

Value of MODEL_TYPE	Description
1	9500 supervisor
2	9500 redundant supervisor
3	9500 16x 2-Gbps FC Module
4	9500 32x 2-Gbps FC Module
5	9500 32x 2-Gbps FC Services (ILC)
6	9500 8x 1GE IP Storage Services (IPS)
7	Caching Services Module (CSM)
13	9216 16x 2-Gbps FC Module plus supervisor
18	9140 40x 2-Gbps FC Module
19	9120 20x 2-Gbps FC Module
20	Advanced Services Module (ASM)

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Table 1-43 MODEL_TYPE Field Description in HW_CARD Table (continued)

Value of MODEL_TYPE	Description
21	MDS 9216 SAM Module
22	14 FC + 2 GE Multiprotocol Services Module
23	2x10-Gbps FC 10-Gbps FC Module
24	4x GE iSCSI/FCIP Services Module
27	9216i 14 FC + 2 IPS, plus supervisor
28	Supervisor-2, supervisor or fabric module
29	12-port FC switching module
30	24-port FC switching module
31	48-port FC switching module
32	4-port 10G FC module
33	Crossbar module on the back of 13-slot chassis
35	9124 24x 4-Gbps FC Module plus supervisor
36	20-port FC switching module for IBM BladeCenter
37	24-port FC switching module for HP c-Class BladeSystem
39	18x 1/2/4G FC + 4x GE module
40	32x 1/2/4G FC + 2x 10 G FC + supervisor module
41	18x 1/2/4G FC + 4x 10 GE + supervisor module
42	48-port 1/2/4/8G 48-Gbps FC module
43	48-port 1/2/4/8G 96-Gbps FC module
44	16 GE port Storage Service Module
45	Cisco MDS 9513 Fabric Module 2
46	24-port 1/2/4/8G 48-Gbps FC module
49	8-Gb Fabric Switch for HP BladeSystem c-Class
51	48-port 1/2/4/8 Gbps FC/Supervisor-2 9148 module
56	Supervisor-2A, Supervisor/fabric module with 2 GB RAM
254	9020 20-port 4-Gbps FC

Table 1-44 OPER_STATUS Field Description in HW_CARD Table

Value of OPER_STATUS	Description
1	unknown
2	OK
3	disabled
4	OK but diagnostic failed
5	boot
6	self-test

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Table 1-44 OPER_STATUS Field Description in HW_CARD Table (continued)

Value of OPER_STATUS	Description
7	failed
8	missing
9	mismatched parenthesis
10	mismatched configuration
11	diagnostic failed
12	dormant
13	out of service administration
14	out of service environmental temperature
15	powered down
16	powered up
17	power denied
18	power cycled
19	OK but power over warning
20	OK but power over critical
21	sync in progress

HW_COMPONENT

This table describes the hardware components of a switch, including the model number, the manufacturer, and the revision. Use the SWITCH_ID to associate each hardware component to a switch in the SWITCH table. Table 1-45 describes the HW_COMPONENT database schema table.

Table 1-45 HW_COMPONENT

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the hardware component.
SWITCH_ID[1]	INTEGER	—	Provides the ID of the parent switch.
NAME	VARCHAR2(256)	—	Describes the name of the hardware component.
PHYSICAL_INDEX	INTEGER	—	Describes the value that when combined with the switch card offset yields the relative slot number.
RELATIVE_POSITION	INTEGER	—	Describes the relative position of the hardware component; for a card, it is the slot number.

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Table 1-45 HW_COMPONENT (continued)

Column Name	Data Type	Constraints	Description
HW_TYPE	INTEGER	—	Describes the type of the hardware component: 1 = other 2 = unknown 3 = chassis 4 = backplane 5 = container 6 = power supply 7 = fan 8 = sensor 9 = module 10 = port 11 = stack
VENDOR_TYPE	RAW(200)	—	Provides the vendor type of the hardware component.
HW_REVISION	VARCHAR2(256)	—	Provides the hardware revision of the hardware component.
FW_REVISION	VARCHAR2(256)	—	Provides the firmware revision of the hardware component.
SW_REVISION	VARCHAR2(256)	—	Provides the software revision of the hardware component.
SERIAL_NUMBER	VARCHAR2(256)	—	Provides the serial number of the hardware component.
MANUFACTURER	VARCHAR2(256)	—	Provides the manufacturer of the hardware component.
MODEL_NAME	VARCHAR2(256)	—	Provides the model name of the hardware component.
ASSET_ID	VARCHAR2(256)	—	Provides the asset ID of the hardware component.
STATUS_DESCRIPTION	VARCHAR2(256)	—	Provides the status description of the hardware component.
SEC_SERIAL_NUMBER	VARCHAR2(256)		Provides the secondary serial number of the hardware component.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds, since 1/1/1970.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. HW_COMPONENT_SWITCH_ID is an index based on the column SWITCH_ID.

HW_POWER_SUPPLY

This table provides the status on power supplies in an enclosure. Use the HW_COMPONENT_ID to associate an entry with a hardware component in the HW_COMPONENT table. Table 1-46 describes the HW_POWER_SUPPLY database schema table.

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Table 1-46 HW_POWER_SUPPLY

Column Name	Data Type	Constraints	Description
HW_COMPONENT_ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in the HW_COMPONENT table.
REDUNDANCY_MODE	INTEGER	—	Describes the redundancy mode: 1 = not supported 2 = redundant 3 = combined Refer to CISCO-ENTITY-FRU-CONTROL-MIB for more information.
TOTAL_DRAWN_CURRENT	INTEGER	—	Provides the total current drawn by the power supply.
TOTAL_AVAILABLE_CURRENT	INTEGER	—	Provides the total current available for the power supply.
POWER_UNITS	VARCHAR2(256)	—	Provides the units of the power supply.

ISL

This table describes an ISL that links two ports. Use the PORT1_ID and the PORT2_ID to associate these ports to a port in the SWITCH_PORT table. If this ISL is a PortChannel member, the CHANNEL_ID refers to the parent channel ID. Table 1-47 describes the ISL database schema table.

Table 1-47 ISL Cisco DCNM for SAN Database Schema Table

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the ISL entry in the table.
PORT1_ID[1]	INTEGER	—	Provides the ID of port1 (the port with smaller WWN).
PORT2_ID[2]	INTEGER	—	Provides the ID of port2.

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Table 1-47 ISL Cisco DCNM for SAN Database Schema Table (continued)

Column Name	Data Type	Constraints	Description
OPER_MODE	SMALLINT	—	Describes the operational mode of the link by port type: 1 = auto 2 = F 3 = FL 4 = E 5 = B 6 = FX 7 = SD 8 = TL 9 = N 10 = NL 11 = NX 12 = TE 13 = FV 14 = down 15 = ST
IS_PRESENT	NUMBER(1)	—	Indicates whether the ISL is present in the current fabric.
STATUS	SMALLINT	—	Deprecated.
OPER_STATUS_CAUSE	INTEGER	—	Describes if OPER_MODE is MODE_DOWN, the value is the down status.
OPER_STATUS_DESCRIPTION	VARCHAR2(256)	—	Describes if OPER_MODE is MODE_DOWN, the value is the down status description.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds since 1/1/1970.
CHANNEL_CONFIG_CHILD_COUNT	INTEGER	—	Provides the configured PortChannel member count.
CHANNEL_CURRENT_CHILD_COUNT	INTEGER	—	Provides the PortChannel member count.
AUTO_CREATED	NUMBER(1)	—	Indicates whether the entry was automatically created.
IS_CHANNELMEMBER[3]	NUMBER(1)	—	Indicates whether the ISL is a PortChannel member.
CHANNEL_ID	INTEGER	—	Describes when the ISL is a PortChannel member, the parent channel ID.
IF_INDEX_1	INTEGER	—	IF index of the switch port at one end.
IF_INDEX_2	INTEGER	—	IF index of the switch port at the other end.
FICON_ADDRESS_1	INTEGER	—	Provides the FICON address of the switch port at one end.

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Table 1-47 ISL Cisco DCNM for SAN Database Schema Table (continued)

Column Name	Data Type	Constraints	Description
FICON_ADDRESS_2	INTEGER	—	Provides the FICON address of the switch port at the other end.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.
FCSP_AUTHNTICATED	NUMBER(1)	—	Describes if the FCSP is autheticated.
ESP_SECURED	NUMBER(1)	—	Describes if the ESP is secured.
ESP_READY	NUMBER(1)	—	Describes if the ESP is ready.

1. ISL_P1_INDEX is an index based on the column PORT1_ID.
2. ISL_P2_INDEX is an index based on the column PORT2_ID.
3. ISL_CHANNELMEMBER is an index based on the column IS_CHANNELMEMBER.

LICENSE

This table describes licenses configured and in use in a switch. Use the SWITCH_ID to associate each entry to a switch in the SWITCH table. Table 1-48 describes the LICENSE database schema table.

Table 1-48 LICENSE

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the license.
SWITCH_ID[1]	INTEGER	—	Provides the ID of the switch where the license was installed.
FEATURE_NAME	VARCHAR2(256)	—	Provides the name of the license.
TYPE	INTEGER	—	Deprecated.
LICENSE_FLAG	RAW(100)	—	Provides the license flag that indicates the type of the license: 0 = demo 1 = permanent 2 = counted 3 = unlicensed 4 = in grace period
MAX_LICENSE	INTEGER	—	Describes the maximum number of licenses.
MISSING_LICENSE	INTEGER	—	Describes the number of missing licenses.
CURRENT_LICENSE	INTEGER	—	Describes the number of current licenses.
EXPIRE	INTEGER	DEFAULT -1	Describes the expiration time of the license, in milliseconds.
GRACE_PERIOD	INTEGER	—	Describes the grace period of the license, in seconds.
LAST_UPDATE_TIME	TIMESTAMP	—	Time when the entry was updated.

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Table 1-48 LICENSE (continued)

Column Name	Data Type	Constraints	Description
RESERVE_COL1	VARCHAR29 256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. LICENSE_SWITCH_ID_INDEX is an index based on the column SWITCH_ID.

NTOP

This table describes a configured NTOP enity. Table 1-49 describes the NTOP database schema table.

Table 1-49 NTOP

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry.
IP_ADDR[1]	VARCHAR2(256)	—	Describes the switch IP address.
PORT_NUMBER[2]	INTEGER	—	Describes the switch port number.
LAST_SCAN_TIME	INTEGER	—	Describes the time when last seen, in milliseconds, since 1/1/1970.
LAST_UPDATE_TIME	TIMESTAMP	—	Describes the time when the entry was updated.

1. NTOP_IP_INDEX is an index based on the column IP_ADDR.
2. NTOP_PORT_INDEX is an index based on the column PORT_NUMBER.

NTOP_SPAN_INFO

This table associates an NTOP entity with a SPAN port. Use the SPAN_PORT_ID to associate an entry with a SPAN port in the SPAN_PORT table. Table 1-50 describes the NTOP_SPAN_INFO database schema table.

Table 1-50 NTOP_SPAN_INFO

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry.
NTOP_ID[1]	INTEGER	—	Describes the foreign key to the NTOP table.
SPAN_PORT_ID[2]	INTEGER	—	Describes the foreign key to the SPAN_PORT table.
ETH_NAME	VARCHAR29 256)	—	Describes the Ethernet port name.
LAST_UPDATE_TIME	TIMESTAMP	—	Describes the time when the entry was updated.

1. NTOP_SPAN_NTOPID_INDEX is an index based on the column NTOP_ID.
2. NTOP_SPAN_SPANID_INDEX is an index based on the column SPAN_PORT_ID.

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NPV_LINK

This table describes the N port virtualization link information. Table 1-51 describes the NPV_LINK database schema table.

Table 1-51 NPV_LINK

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in the table.
CORE_SWITCH_ID	INTEGER	—	Provides the ID of the core switch.
NP_SWITCH_ID	INTEGER	—	Provides the ID of the NP switch.
F_PORT_INDEX[1]	INTEGER	—	Provides the index of the F port.
NP_PORT_INDEX[2]	INTEGER	—	Provides the index of the NP port.
F_WWN	RAW(8)	—	Provides the world wide name for log in device F port.
NP_WWN	RAW(8)	—	Provides the world wide name for log in device NP port.
OPER_STATUS_CAUSE	INTEGER	—	Describes the operation status cause.
SPEED	INTEGER	—	Describes the speed.
IS_PRESENT	NUMBER(1)	—	Describes whether the link is present.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds, since 1/1/1970.
CHANNEL_CONFIG_CHILD_COUNT	INTEGER	—	Describes the number of child counts.
CHANNEL_CURRENT_CHILD_COUNT	INTEGER	—	Describes the number of current child counts of the channel.
AUTO_CREATED	NUMBER(1)	—	Describes whether the NPV link is autocreated.
IS_CHANNELMEMBER	NUMBER(1)	—	Describes whether the link is channel member.
CHANNEL_ID	INTEGER	—	Provides the ID of the channel.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. NPV_LINK_FP_INDEX is an index based on the column F_PORT_INDEX.
2. NPV_LINK_NPP_INDEX is an index based on the column NP_PORT_INDEX.

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PMDATAINDEX

This table maintains the logical-to-physical mapping of RRD files. Table 1-52 describes the PMDATAINDEX database schema table.

Table 1-52 PMDATAINDEX

Column Name	Data Type	Constraints	Description
ID	INTEGER	—	Provides the ID of the entry.
LOGICALFILENAME[1]	VARCHAR2(256)	—	Provides the logical RRD filename.
FILETYPE	INTEGER	—	File type has one of the following values: 0 = unknown 1 = ISL 2 = flow 3 = initiator 4 = target 5 = other 6 = gigabit Ethernet
DATAINDEX	INTEGER	—	Provides the RRD data source index.
PHYSICLFILEINDEX	INTEGER	—	Provides the physical file index.

1. PMDATAINDEX_LOGICALFILE_INDEX is an index based on the column LOGICALFILENAME.

PMEXTRAOID

This table defines object IDs and switch IPs for the Performance Manager data collection. Table 1-53 describes the PMEXTRAOID database schema table.

Table 1-53 PMEXTRAOID

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the record ID.
FID[1]	INTEGER	—	Provides the fabric ID.
NAME	VARCHAR2(256)	—	Provides the Performance Manager object ID.
DISPLAYNAME	VARCHAR2(256)	—	Displays the name used in Web Client.
SWITCHIP	VARCHAR2(256)	—	Provides the IP address of the switch.

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Table 1-53 PMEXTRAOID (continued)

Column Name	Data Type	Constraints	Description
TYPE	VARCHAR2(256)	—	RRD data source type has one of the following character values: COUNT ABSOLUTE GAUGE
SWITCHNAME	VARCHAR2(256)	—	Describes the switch name.

1. PMEXTRAOID_FABRIC_ID_INDEX is an index based on the column FID.

PMINDEXBOOKMARK

This table maintains the current bookmark index of the RRD files. Table 1-54 describes the PMINDEXBOOKMARK database schema table.

Table 1-54 PMINDEXBOOKMARK

Column Name	Data Type	Constraints	Description
TYPE	INTEGER	NOT NULL PRIMARY KEY	File type has one of the following values: 0 = unknown 1 = ISL 2 = flow 3 = initiator 4 = target 5 = other 6 = gigabit Ethernet
BOOKMARKINDEX	INTEGER	—	Provides the current RRD file bookmark index.
BOOKMARKCOUNT	INTEGER	—	Provides the number of bookmarks.
SERVERID	INTEGER	PRIMARY KEY	Provides the ID of the server.

PM_COLLECTION

This table describes a Performance Manager collection. Use the FABRIC_ID to associate this collection to a fabric in the FABRIC table. Table 1-55 describes the PM_COLLECTION database schema table.

Table 1-55 PM_COLLECTION

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry.
FABRIC_ID[1]	INTEGER	—	Provides the fabric ID; foreign key to a fabric table.
VSAN_LIST	VARCHAR2(256)	—	Provides the list of VSANs; for example, “1,5,6,4001.”
MONITOR_ISL	NUMBER(1)	—	Describes whether to collect ISL PM for the fabric.

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Table 1-55 PM_COLLECTION (continued)

Column Name	Data Type	Constraints	Description
MONITOR_HOST	NUMBER(1)	—	Describes whether to collect host PM for the fabric.
MONITOR_STORAGE	NUMBER(1)	—	Describes whether to collect storage PM for the fabric.
MONITOR_FLOW	NUMBER(1)	—	Describes whether to collect flow PM for the fabric.
MONITOR_GIGE	NUMBER(1)	—	Describes whether to collect gigabit Ethernet port PM for the fabric.
MONITOR_OTHER	NUMBER(1)	—	Describes whether to collect other customized PM for the fabric.
TRAFFIC_THRESHOLD_ENABLE	NUMBER(1)	—	Describes whether threshold checking on traffic is enabled.
EVENT_THRESHOLD	NUMBER(1)	—	Describes whether threshold checking on event is enabled.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. PM_POLICY_FABRIC_ID_INDEX is an index based on the column FABRIC_ID.

PM_OPTION

This table provides threshold details for a Performance Manager collection. Use the ID to associate these details with a Performance Manager collection in the PM_COLLECTION table. Table 1-56 describes the PM_OPTION database schema table.

Table 1-56 PM_OPTION

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of entry.
AUTO_COLLECT_NEW_DEVICE	NUMBER(1)	—	Describes whether to automatically collect new device PM.
INTERPOLATION	NUMBER(1)	—	When TRUE, interpolate missing gap in data collection.
THRESHOLD_TYPE	INTEGER	—	Threshold type: 0 = no threshold checking 1 = static threshold checking Any other value will cause threshold checking using a baseline from historic data.

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Table 1-56 PM_OPTION

Column Name	Data Type	Constraints	Description
CRITICAL_WATERMARK	INTEGER	—	Critical watermark. If traffic exceeds this percentage of the capacity or average traffic, a critical event is triggered. If the BASELINE_PERIOD is 0, the percentage value relates to the capacity. If the BASELINE_PERIOD is nonzero, the percentage value relates to the average for the baseline period. For example, if the BASELINE_PERIOD is 0, 80 indicates that if traffic exceeds 80% of the capacity, then a critical event is triggered.
WARNING_WATERMARK	INTEGER	—	Warning watermark. If traffic exceeds this percentage of the capacity or average traffic, a warning event is triggered. If the BASELINE_PERIOD is 0, the percentage value relates to the capacity. If the BASELINE_PERIOD is nonzero, the percentage value relates to the average for the baseline period. For example, if the BASELINE_PERIOD is 3, 150 indicates that if traffic exceeds 150% of the average for 3 days, a warning event is triggered.
BASELINE_PERIOD	INTEGER	—	Baseline period used in threshold checking. If the BASELINE_PERIOD is 0, use static threshold checking that is based on the capacity of the link. Otherwise, use the history specified in days. For example, 7 uses the last 7 days of data history.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
FIVE_MIN_SAMPLE_DAYS	INTEGER	DEFAULT 600	Provides the number of days to collect samples at 5-minute intervals.
THIRTY_MIN_SAMPLE_DAYS	INTEGER	DEFAULT 700	Provides the number of days to collect samples at 30-minute intervals.
TWO_HOUR_SAMPLE_DAYS	INTEGER	DEFAULT 775	Provides the number of days to collect samples at 2-hour intervals.
DAILY_SAMPLE_DAYS	INTEGER	DEFAULT 300	Provides the number of days to collect samples at daily intervals.
ISL_INTERVAL	INTEGER	DEFAULT 300	Collection interval in seconds for ISL objects: 30, 60, 90, up to 300.

ROLE

This table describes the available role types for each user. Table 1-57 describes the ROLE database schema table.

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Table 1-57 ROLE

Column Name	Data Type	Constraints	Description
ROLE_NAME	VARCHAR2(256)	NOT NULL PRIMARY KEY	Describes the role name of the user.
DESCRIPTION	VARCHAR2(256)		Describes each users role.

ROLE_FABRIC_INFO

This table describes the role types associated with each fabric and also describes the time when it was last updated. Table 1-58 describes the ROLE_FABRIC_INFO database schema table.

Table 1-58 ROLE_FABRIC_INFO

Column Name	Data Type	Constraints	Description
ROLE_NAME	VARCHAR2(256)	NOT NULL PRIMARY KEY	Describes the role name of the user.
FABRIC_ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the fabric.
LAST_UPDATE_TIME	TIMESTAMP		Provides the time when the entry was updated.

SCSI_TARGET

This table provides the WWN for a SCSI target. Use the ID to associate this SCSI target to a port in the SWITCH_PORT table. Table 1-59 describes the SCSI_TARGET database schema table.

Table 1-59 SCSI_TARGET

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the SCSI target.
WWN	RAW(8)	—	Provides the WWN of the SCSI target.
ENCLOSURE_ID	INTEGER	—	Provides the ID of the enclosure containing the target.

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Table 1-59 SCSI_TARGET (continued)

Column Name	Data Type	Constraints	Description
DEV_TYPE	INTEGER	—	Device type of the SCSI target: 0 = disk 1 = sequential 2 = printer 3 = processor 4 = WORM 5 = CDROM 6 = scanner 7 = optical 8 = changer 9 = SCSI network 10 = SCSI ASCIT8 11 = SCSI ASCIT8 12 = SCSI array 13 = SCSI enclosure 14 = SCSI RBC
VENDOR_ID	VARCHAR2(256)	—	Provides the vendor ID of the SCSI target.
PRODUCT_ID	VARCHAR2(256)	—	Provides the product ID of the SCSI target.
REV_LEVEL	VARCHAR2(256)	—	Provides the product revision level of the SCSI target.
OTHER_INFO	RAW(100)	—	Bytes from 0 to 7 in the INQUIRY command response data.
IS_PRESENT	NUMBER(1)	—	Describes whether the SCSI target exists.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
STATUS	INTEGER	—	Deprecated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

SEQUENCE

This table describes the current long values for automatically generated IDs. Table 1-60 describes the SEQUENCE database schema table.

Table 1-60 SEQUENCE

Column Name	Data Type	Constraints	Description
ID	SMALLINT	NOT NULL PRIMARY KEY	Provides the catalog of IDs.
VALUE	INTEGER	—	Describes the starting value of database IDs.

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SME_SETTINGS

This table describes the SME settings information.Table 1-61 describes the SME_SETTINGS database schema table.

Table 1-61 SME_SETTINGS

Column Name	Data Type	Constraints	Description
NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Provides the name of the SME.
VALUE	VARCHAR2(64)	—	Describes the SME settings value.

SME_CLUSTER

This table describes the SME cluster information. Table 1-62 describes the SME_CLUSTER database schema table.

Table 1-62 SME_CLUSTER

Column Name	Data Type	Constraints	Description
CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Provides the name of the cluster.
CLUSTER_ID	VARCHAR2(64)	—	Provides the ID of the cluster.
STATUS	INTEGER	—	Provides the status of the SME cluster.
CKMC_STATE	INTEGER	—	Provides the state of the KMC server.
MASTER_IP_ADDR	VARCHAR2(32)	—	Describes the IP address of the master switch.
KMC_ID	VARCHAR2(32)	—	Provides the ID of the KMC.

SME_CLUSTER_ATTRIBUTES

This table describes the SME cluster attributes information. Table 1-63 describes the SME_CLUSTER_ATTRIBUTES database schema table.

Table 1-63 SME_CLUSTER_ATTRIBUTES

Column Name	Data Type	Constraints	Description
CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Provides the name of the cluster.
SECURITY_MODE	INTEGER	—	Describes the security mode for the cluster.

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Table 1-63 SME_CLUSTER_ATTRIBUTES (continued)

Column Name	Data Type	Constraints	Description
RECOVERY_THRESHOLD	INTEGER	—	Describes the recovery threshold of the cluster.
RECOVERY_TOTAL	INTEGER	—	Describes the recovery total of the cluster.

SME_CLUSTER_SMARTCARD

This table describes the SME cluster SmartCard information.Table 1-64 describes the SME_CLUSTER_SMARTCARD database schema table.

Table 1-64 SME_CLUSTER_SMARTCARD

Column Name	Data Type	Constraints	Description
CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Provides the name of the cluster.
MASTER_KEY_GUID	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the master key for the GUID.
MASTER_KEY_VERSION	VARCHAR2(8)	NOT NULL PRIMARY KEY	Describes the master key version.
RECOVERY_SHARE_VERSION	VARCHAR2(8)	NOT NULL PRIMARY KEY	Describes the recovery share version.
SHARE_INDEX	INTEGER	—	Describes the share index.
SMARTCARD_LABEL	VARCHAR2(32)	—	Describes the SmartCard label.
SMARTCARD_SERIAL_NUMBER	VARCHAR2(32)	—	Describes the SmartCard serial number.
RO_USERNAME	VARCHAR2(32)	—	Describes the role username.

SME_TAPE_GROUP

This table describes the SME tape group information.Table 1-65 describes the SME_TAPE_GROUP database schema table.

Table 1-65 SME_TAPE_GROUP

Column Name	Data Type	Constraints	Description
CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the name of the cluster.
TAPEGROUP_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the tape group name.

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Table 1-65 SME_TAPE_GROUP (continued)

Column Name	Data Type	Constraints	Description
VOLUME_GROUP _NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the volume group name.
STATUS	INTEGER	—	Describes the status of the tape.

SME_TAPE_VOLUMEGROUP

This table describes the SME tape volume group information.Table 1-66 describes the SME_TAPE_VOLUMEGROUP database schema table.

Table 1-66 SME_TAPE_VOLUMEGROUP

Column Name	Data Type	Constraints	Description
CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the name of the cluster.
TAPEGROUP_NA ME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the tape group name.
VOLUME_GROUP _NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the volume group name.
STATUS	INTEGER	—	Describes the status of the tape.

SME_KEY

This table describes the SME key information.Table 1-67 describes the SME_KEY database schema table.

Table 1-67 SME_KEY

Column Name	Data Type	Constraints	Description
GUID	VARCHAR2(64)	NOT NULL PRIMARY KEY	Provides the global unique ID for the key.
CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Provides the name of the cluster.
CLONED_FROM_ GUID[1]	VARCHAR2(64)	—	Describes whether this is a clone.
CLUSTER_ID	VARCHAR2(64)	—	ID of the cluster.
STATUS	INTEGER	—	Describes the status of the key.
KEY_TYPE	INTEGER	—	Describes the key type of the SME.
ENTITY_INDEX[2]	VARCHAR2(256)	—	Describes the entity index.
VERSION	INTEGER	—	Provides the version of the SME.
WRAP_BY_GUID	VARCHAR2(64)	—	Describes the value wrapped by GUID.

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Table 1-67 SME_KEY (continued)

Column Name	Data Type	Constraints	Description
KEY_DAT	VARCHAR2(2048)	—	Describes the key data.
MASTER_KEY_GUID	VARCHAR2(64)	—	Describes the master key GUID.
CREATION_TIME	TIMESTAMP	—	Provides the SME creation time.
ARCHIVAL_TIME	TIMESTAMP	—	Provides the SME archival time.

1. SME_KEY_CLONED_FROM_GUID_INDEX is an index based on the column CLONED_FROM_GUID.
2. SME_KEY_ENTITY_INDEX is an index based on the column ENTITY_INDEX.

SME_ACCOUNTING_LOG

This table describes the SME accounting log information. Table 1-68 describes the SME_ACCOUNTING_LOG database schema table.

Table 1-68 SME_ACCOUNTING_LOG

Column Name	Data Type	Constraints	Description
LOG_ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the SME log.
FIRST_SEEN			Describes when the log was first seen.
TIME_STAMP	TIMESTAMP	NOT NULL	Describes the timestamp.
HOST_NAME	VARCHAR2(64)	NOT NULL	Describes the name of the host.
USER_NAME	VARCHAR2(256)	—	Username encrypted for security.
CLUSTER_NAME	VARCHAR2(64)	—	Describes the name of the cluster.
CLUSTER_ID	VARCHAR2(64)	—	ID of the cluster.
OPERATION	VARCHAR2(64)	—	Describes the operation performed.
STATUS	VARCHAR2(64)	—	Describes the status.
DETAILS	VARCHAR2(1024)	—	Provides the details.
LAST_SEEN	TIMESTAMP	—	Describes when the log was last seen.
COUNT	BIGINT	DEFAULT 0	Provides the log count.
GROUP_ID	INTEGER	DEFAULT -1	Provides the group ID.
ACK	SMALLINT	DEFAULT 0	
DCTYPE	SMALLINT	DEFAULT 0	Provides the DCTYPE of the log.
DCID			Provides te DCID of the log.

SME_REPLICATION_REL

This table describes the SME replication release.Table 1-69 describes the SME_REPLICATION_REL database schema table.

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Table 1-69 SME_REPLICATION_REL

Column Name	Data Type	Constraints	Description
SRC_CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the SME cluster name.
SRC_TAPE_GROUP_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the SME tape group name.
SRC_VOLUME_GROUP_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the SME volume group name.
REPLICATION_ID	INTEGER	NOT NULL PRIMARY KEY	Describes the replication ID.
STATUS	INTEGER	—	Describes the status of the SME.
CREATION_TIME	TIMESTAMP,	—	Describes the creation time.
DEST_CLUSTER_NAME	VARCHAR2(64)	—	Provides the destination cluster name.
DEST_TAPE_GROUP_NAME	VARCHAR2(64)	—	Provides the destination group name.
DEST_VOLUME_GROUP_NAME	VARCHAR2(64)	—	Provides the destination volume group name.
STATUS_DESC	VARCHAR2(255)	—	Provides the status description.
LAST_UPDATE_TIME	TIMESTAMP,	—	Time when the entry was updated.

SME_REPL_PENDING_KEY

This table describes the SME replication key information.Table 1-70 describes the SME_REPL_PENDING_KEY database schema table.

Table 1-70 SME_REPL_PENDING_KEY

Column Name	Data Type	Constraints	Description
GUID	VARCHAR2(64)	NOT NULL PRIMARY KEY	Global unique ID.
SRC_CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the SRC cluster name.
DEST_CLUSTER_NAME	VARCHAR2(64)	PRIMARY KEY	Describes the destination cluster name.
DEST_TAPE_GROUP_NAME	VARCHAR2(64)	PRIMARY KEY	Describes the destination tape group name.
DEST_TAPE_VOLUME_GROUP_NAME	VARCHAR2(64)	PRIMARY KEY	Describes the destination tape volume group name.
SRC_TAPE_GROUP_NAME	VARCHAR2(64)	—	Describes the tape group name.

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Table 1-70 SME_REPL_PENDING_KEY (continued)

Column Name	Data Type	Constraints	Description
SRC_TAPE_VOLUME_GROUP_NAME	VARCHAR2(64)	—	Describes the SRC destination tape volume group name.
SCHEDULED_REPLICATION_TIME	TIMESTAMP	—	Describes the scheduled replication time.

SME_REPL_ERROR_KEY

This table describes the SME replication information. Table 1-71 describes the SME_REPL_ERROR_KEY database schema table.

Table 1-71 SME_REPL_ERROR_KEY

Column Name	Data Type	Constraints	Description
GUID	VARCHAR2(64)	NOT NULL PRIMARY KEY	Global unique ID.
SRC_CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the destination cluster name.
DEST_CLUSTER_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the destination cluster name.
DEST_TAPE_GROUP_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the destination tape group name.
DEST_VOLUME_GROUP_NAME	VARCHAR2(64)	NOT NULL PRIMARY KEY	Describes the destination tape volume group name.
SRC_TAPE_GROUP_NAME	VARCHAR2(64)	—	Describes the tape group name.
SRC_TAPE_VOLUME_GROUP_NAME	VARCHAR2(64)	—	Describes the SRC destination tape volume group name.
STATUS	INTEGER	—	Describes the status.
REPLICATION_TIME	INTEGER	—	Provides the replication time.
STATUS_DESC	VARCHAR2(255)	—	Provides the status description.

SNMP_COMMUNITY

This table describes an SNMP community. Table 1-72 describes the SNMP_COMMUNITY database schema table.

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Table 1-72 SNMP_COMMUNITY

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the SNMP community.
IP_ADDRESS	VARCHAR2(256)	NOT NULL	Provides the IP address of the community string.
READ	VARCHAR2(256)	—	Describes the read community string.
WRITE	VARCHAR2(256)	—	Describes the write community string.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

SNMPUSER

This table describes an SNMP user. Table 1-73 describes the SNMPUSER database schema table.

Table 1-73 SNMPUSER

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the SNMP user.
VERSION	INTEGER	—	Version of the SNMP user: 1 = SNMPv1 2 = SNMPv2 3 = SNMPv3
USER_NAME[1]	VARCHAR2(256)	—	For SNMPv3, the name of the SNMP user. For SNMPv1 or SNMPv2, the community string.
AUTH_PASSWORD	VARCHAR2(256)	—	Password of the SNMP user; applies to SNMPv3 only.
PRIV_PASSWORD	VARCHAR2(256)	—	Deprecated.
AUTH_PROTOCOL	INTEGER	—	Deprecated.
PRIV_PROTOCOL	INTEGER	—	Deprecated.
SECURITY_NAME	VARCHAR2(256)	—	Security name of the SNMP user.
ROLE_NAME	VARCHAR2(256)	—	Describes the role of the SNMP user.
IS_LOGGING_IN	NUMBER(1)	—	Deprecated.
LAST_UPDATE_TIME	TIMESTAMP	—	Time when the entry was updated.

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Table 1-73 SNMPUSER (continued)

Column Name	Data Type	Constraints	Description
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. SNMPUSER_USERNAME_INDEX is an index based on the column USER_NAME.

SPAN_PORT

This table describes a SPAN port on a switch. Use the SWITCH_ID to associate this SPAN port to a switch in the SWITCH table. Table 1-74 describes the SPAN_PORT database schema table.

Table 1-74 SPAN_PORT

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry.
IF_INDEX[1]	INTEGER	—	Describes the IF index value of the port.
SWITCH_ID[2]	INTEGER	—	Describes the ID of the parent switch.
LAST_SCAN_TIME	INTEGER	—	Deprecated.
LAST_UPDATE_TIME	TIMESTAMP	—	Describes the time when the entry was updated.

1. SPANPORT_IFINDEX_INDEX is an index based on the column IF_INDEX.
2. SPANPORT_SWITCH_ID_INDEX is an index based on the column SWITCH_ID.

SPAN_SESSION

This table describes a SPAN session. Use the SPAN_PORT_ID to associate this session to a SPAN port in the SPAN_PORT table. Table 1-75 describes the SPAN_SESSION database schema table.

Table 1-75 SPAN_SESSION

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry.
SESSION_ID[1]	INTEGER	—	Describes the ID of session.
SPAN_PORT_ID[2]	INTEGER	—	Describes the foreign key to the SPAN_PORT.
OPER_STATUS	INTEGER	—	Operation status: 1 = active 2 = inactive
VSAN_FILTER	VARCHAR2(256)	—	List of VSAN filters, for example, “1,3,5.”
VSAN_SOURCE	VARCHAR2(256)	—	List of VSAN sources, for example, “1,3,5.”

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Table 1-75 SPAN_SESSION (continued)

Column Name	Data Type	Constraints	Description
LAST_SCAN_TIME	INTEGER	—	Deprecated.
LAST_UPDATE_TIME	TIMESTAMP	—	Describes the time when the entry was updated.

1. SPANSESSION_SESSION_ID_INDEX is an index based on the column SESSION_ID.
2. SPANSESSION_SPANPORT_ID_INDEX is an index based on the column SPAN_PORT_ID.

SPAN_SOURCE_PORT

This table describes a SPAN source port. Use the SESSION_ID to associate this source port to a SPAN session in the SPAN_SESSION table. Table 1-76 describes the SPAN_SOURCE_PORT database schema table.

Table 1-76 SPAN_SOURCE_PORT

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the entry.
IF_INDEX[1]	INTEGER	—	Describes the interface index of the port.
DIRECTION	INTEGER	—	Direction: receive = 1 transmit = 2
SESSION_ID[2]	INTEGER	—	Session ID; foreign key to the SPAN_SESSION.
LAST_SCAN_TIME	INTEGER	—	Describes the time when last seen, in milliseconds, since 1/1/1970.
LAST_UPDATE_TIME	TIMESTAMP	—	Describes the time when the entry was updated.

1. SPANSOURCEPORT_IFINDEX_INDEX is an index based on the column IF_INDEX.
2. SPANSOURCEPORT_SESSION_ID_INDEX is an index based on the column SESSION_ID.

STATISTICS

This table provides statistics gathered for a Performance Manager collection. Table 1-77 describes the STATISTICS database schema table.

Table 1-77 STATISTICS

Column Name	Data Type	Constraints	Description
SRC_ID	INTEGER	PRIMARY KEY	Describes the ID of the source port entry in the SWITCH_PORT table or the END_PORT table.
DEST_ID[1]	INTEGER	PRIMARY KEY	Describes the ID of the destination port entry in SWITCH_PORT or END_PORT table.

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Table 1-77 STATISTICS (continued)

Column Name	Data Type	Constraints	Description
TYPE	SMALLINT	—	Type of the statistic: 0 = unknown 1 = ISL 2 = flow 3 = initiator 4 = target 5 = other 6 = gigabit Ethernet
RRD_FILE	VARCHAR2(256)	—	Describes the RRD filename for the entity.
XML_FILE	VARCHAR2(256)	—	Describes the XML filename for the entity.
CAPACITY	INTEGER	—	Interface speed of the entity in bytes per second.
AVG_RX	BINARY_DOUBLE	—	Describes the average number of bytes received per second for the last day.
AVG_TX	BINARY_DOUBLE	—	Describes the average number of bytes transmitted per second for the last day.
TOTAL_RXTX	BINARY_DOUBLE	—	Describes the total number of bytes received and transmitted for the last day.
MAX_RX	BINARY_DOUBLE	—	Describes the peak number of bytes received for the last day.
MAX_TX	BINARY_DOUBLE	—	Peak number of bytes transmitted for the last day.
TOTAL_ERR	BINARY_DOUBLE	—	Describes the total number of errors for the last day.
TOTAL_DISCARD	BINARY_DOUBLE	—	Describes the total number of discards for the last day.
LAST_WEEK_AVG_RX	BINARY_DOUBLE	—	Average number of bytes received per second for the last week.
LAST_WEEK_AVG_TX	BINARY_DOUBLE	—	Average number of bytes transmitted per second for the last week.
LAST_WEEK_TOTAL_RXTX	BINARY_DOUBLE	—	Describes the total number of bytes received and transmitted for the last week.
LAST_WEEK_MAX_RX	BINARY_DOUBLE	—	Peak number of bytes received for the last week.
LAST_WEEK_MAX_TX	BINARY_DOUBLE	—	Peak number of bytes transmitted for the last week.
LAST_WEEK_TOTAL_ERR	BINARY_DOUBLE	—	Describes the total number of errors for the last week.
LAST_WEEK_TOTAL_DISCARD	BINARY_DOUBLE	—	Describes the total number of discards for the last week.
LAST_MONTH_AVG_RX	BINARY_DOUBLE	—	Average number of bytes received per second for the last month.

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Table 1-77 STATISTICS (continued)

Column Name	Data Type	Constraints	Description
LAST_MONTH_AVG_TX	BINARY_DOUBLE	—	Average number of bytes transmitted per second for the last month.
LAST_MONTH_TOTAL_RXTX	BINARY_DOUBLE	—	Total number of bytes received and transmitted for the last month.
LAST_MONTH_MAX_RX	BINARY_DOUBLE	—	Peak number of bytes received for the last month.
LAST_MONTH_MAX_TX	BINARY_DOUBLE	—	Peak number of bytes transmitted for the last month.
LAST_MONTH_TOTAL_ERR	BINARY_DOUBLE	—	Total number of errors for the last month.
LAST_MONTH_TOTAL_DISCARD	BINARY_DOUBLE	—	Total number of discards for the last month.
LAST_YEAR_AVG_RX	BINARY_DOUBLE	—	Average number of bytes received per second for the last year.
LAST_YEAR_AVG_TX	BINARY_DOUBLE	—	Average number of bytes transmitted per second for the last year.
LAST_YEAR_TOTAL_RXTX	BINARY_DOUBLE	—	Total number of bytes received and transmitted for the last year.
LAST_YEAR_MAX_RX	BINARY_DOUBLE	—	Peak number of bytes received for the last year.
LAST_YEAR_MAX_TX	BINARY_DOUBLE	—	Peak number of bytes transmitted for the last year.
LAST_YEAR_TOTAL_ERR	BINARY_DOUBLE	—	Total number of errors for the last year.
LAST_YEAR_TOTAL_DISCARD	BINARY_DOUBLE	—	Total number of discards for the last year.
LAST_UPDATE_TIME	TIMESTAMP	—	Time when the entry was updated.
LAST_THRESHOLD_EVENT_TIME	TIMESTAMP	—	Last threshold event receive time.
THRESHOLD_EVENT_COUNT	SMALLINT	—	Threshold event count.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. STATISTICS_DEST_ID is an index based on the column DEST_ID.

SWITCH

This table provides the sWWN and fabric ID for a switch. Use the FABRIC_ID to associate each switch to a fabric in the FABRIC table. Table 1-78 describes the SWITCH database schema table.

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Table 1-78 SWITCH

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the switch entry in the switch table.
FABRIC_ID[1]	INTEGER	—	Provides the ID of the parent fabric entry in fabric table.
LICENSE_ID	INTEGER	—	Deprecated.
WWN[2]	RAW(8)	—	Provides the WWN of the switch.
IP_ADDRESS[3]	RAW(100)	—	Provides the IP address of the switch.
IS_MDS	NUMBER(1)	—	Indicates whether the switch is an MDS switch.
TYPE	INTEGER	—	Model type of the switch; applies to MDS switches only. See Table 1-79.
IS_MANAGABLE	NUMBER(1)	—	Indicates whether the switch is manageable.
UNMANAGABLE_CAUSE	VARCHAR2(256)	—	Describes the reason why the switch is unmanageable.
NON_MDS_MODEL	VARCHAR2(256)	—	Model name for a non-MDS switch.
SYS_NAME	VARCHAR2(256)	—	Provides the system name.
SYS_CONTACT	VARCHAR2(256)	—	Provides the system contact information.
SYS_LOCATION	VARCHAR2(256)	—	Provides the system location information.
SYS_UPTIME	INTEGER	—	Provides the system uptime in hundredths of seconds. 0 indicates system down.
ACTIVE_SUP_SLOT	INTEGER	—	Provides the active supervisor slot number.
STANDBY_SUP_STATE	INTEGER	—	Status of the standby supervisor: 1 = unknown 2 = disabled 3 = initialization 4 = negotiation 5 = standby cold 6 = standby cold configuration 7 = standby cold file system 8 = standby cold bulk 9 = standby hot 10 = active fast 11 = active drain 12 = active pre-configuration 13 = active post-configuration 14 = active 15 = active extra load 16 = active handback

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Table 1-78 SWITCH (continued)

Column Name	Data Type	Constraints	Description
CONN_UNIT_STATUS	INTEGER	—	Connection unit status: 0 = unknown 1 = unused 2 = OK 3 = warning: needs attention 4 = failed
FEATURE_FLAG	INTEGER	—	Licensed features. Refer to CISCO-FEATURE-CONTROL-MIB for details.
FEATURES_STRING	VARCHAR2(256)	—	Describes the feature flag value in string format.
IS_LICENSE_VIOLATION	NUMBER(1)	—	Indicates whether the switch has a license violation.
VERSION	VARCHAR2(256)	—	Version of the switch.
IS_PRESENT	NUMBER(1)	—	Indicates whether the switch is present.
SERIAL_NUMBER	VARCHAR2(256)	—	Serial number of the switch.
NUM_PORTS	INTEGER	—	Number of Fibre Channel ports in the switch.
LAST_UPDATE_TIME	TIMESTAMP	—	Time when the entry was updated.
LAST_SCAN_TIME	INTEGER	—	Time when last seen, in milliseconds, since 1/1/1970.
IS_TRAP_REGISTERED	NUMBER(1)	—	Indication of whether the trap receiver is registered in the switch.
IS_SYSLOG_REGISTERED	NUMBER(1)	—	Indicate whether the syslog receiver is registered in the switch.
SYS_DESCRIPTION	VARCHAR2(256)	—	Deprecated.
VENDOR	VARCHAR2(256)	—	Deprecated.
FCFE_MODULE_ID	INTEGER	—	Deprecated.
STANDBY_SUP_SLOT	INTEGER	—	Slot number of the standby supervisor card.
MODULE_INDEX_OFFSET	INTEGER	—	Module index offset.
OPER_MODE	INTEGER	—	Describes the operation mode.
CPU_USAGE	INTEGER	—	Provides the switch supervisor CPU usage.
MEM_USAGE	INTEGER	—	Provides the switch supervisor memory usage.
IS_VDC	NUMBER(1)	—	Provides information if this is a VDC.
VDC_ID	INTEGER	—	Provides the VDC ID.
VDC_MAC	RAW(6)	—	Provides the MAC address of the VDC.
VDC_NAME	VARCHAR2(255)	—	Provides the name of the VDC.
FCOE_CAPABLE	NUMBER(1)	—	Describes if the switch is capable for FCoE.

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Table 1-78 SWITCH (continued)

Column Name	Data Type	Constraints	Description
RESERVE_COL1	VARCHAR	—	Deprecated.
RESERVE_COL2	VARCHAR	—	Deprecated.

1. SWITCH_FABRIC_ID is an index based on the column FABRIC_ID.
2. SWITCH_WWN_INDEX is an index based on the column WWN.
3. SWITCH_IP_INDEX is an index based on the column IP_ADDRESS.

Table 1-79 TYPE Field Description in SWITCH Table

TYPE Field Value	Description
375	Cisco MDS 9506 chassis
376	Cisco MDS 9509 chassis
377	Cisco MDS 9513 chassis
380	Cisco MDS 9216 chassis
411	Cisco MDS 9140, 40-port fixed configuration fabric switch chassis
414	Cisco MDS 9120, 20-port fixed configuration fabric switch chassis
442	Cisco MDS 9216A chassis
472	Cisco 2-Slot MDS fabric switch chassis
475	Cisco SN 5428
514	Cisco MDS 9020-20K9, 20-port 4 Gbps FC fabric switch
529	Cisco SN 5428-2
587	Cisco MDS 9124
601	Cisco IBM_BLADE_SERVER
606	Cisco HP_BLADE_SERVER
612	Nexus 7010 switch, 10 slots
616	Cisco MDS 9134 Multilayer Fabric Switch
651	MDS 9222i Multiservice Modular Switch
719	Nexux 5000 series (Eugene) chassis
773	NEC_BLADE_SERVER
777	Nexus 7018 switch, 18 slots
798	Nexus 5000 series (Bend) chassis
841	MDS HUASHAN 9148 FC (1 Slot) Chassis 1/2/4/8 Gbps FC/Supervisor-2
843	HP Blade System Cassino
847	UCS Springfield chassis 20-port
899	UCS Springfield chassis 40-port
934	Nexux 5000 series (Bend) chassis Dual Core
935	Nexux 5000 series (Eugene) chassis Dual Core

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Table 1-79 TYPE Field Description in SWITCH Table (continued)

TYPE Field Value	Description
936	Nexux 5000 series (Eugene) 10G Base-T (Sherwood)
1008	Nexux 5000 series (Oxygen)

SWITCH_MGMT_ADDRESS

This table provides the switch management port IP address. Use the SWITCH_ID to associate each entry to a switch in the SWITCH table. Table 1-80 describes the SWITCH_MGMT_ADDRESS database schema table.

Table 1-80 SWITCH_MGMT_ADDRESS

Column Name	Data Type	Constraints	Description
SWITCH_ID[1]	INTEGER	NOT NULL	Provides the ID of the switch.
MGMT_ADDRESS	RAW(100)	—	Provides the management IP address.
MGMT_TYPE	NUMBER(4)	—	Deprecated.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.

1. SWITCH_MGMT_ADDRESS_ID_INDEX is an index based on the column SWITCH_ID.

SWITCH_PORT

This table ssociates an SNMP ifIndex and pWWN to a port. Use the SWITCH_ID to associate each entry to a switch in the SWITCH table. Table 1-81 describes the SWITCH_PORT database schema table.

Table 1-81 SWITCH_PORT

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the primary key of the database entry.
IF_INDEX	INTEGER	—	Interface index of the port.
SWITCH_ID[1]	INTEGER	—	Provides the ID of the parent switch.
WWN	RAW(8)	—	WWN of the port.
FICON_PORT_ADDRESS	RAW(100)	—	FICON address.
IS_HUB	NUMBER(1)	—	Indication of whether the port is a hub.
IS_CHANNEL	NUMBER(1)	—	Indication of whether the port belongs to a PortChannel.
CHANNEL_ID[2]	INTEGER	—	PortChannel ID.
LAST_UPDATE_TIME	TIMESTAMP	—	Time when the entry was updated.
STATUS	SMALLINT	—	Status of the port. Refer to CISCO-FC-FE-MIB for details.
IS_SPAN	NUMBER(1)	—	Deprecated.

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Table 1-81 SWITCH_PORT (continued)

Column Name	Data Type	Constraints	Description
PORT_GROUP	INTEGER	—	Port group calculated from the port index; applies only to a 32-port card.
SLOT	SMALLINT	—	Describes the slot number.
IF_SPEED	INTEGER	—	Port speed in bits per second.
IF_NAME	VARCHAR2(256)	—	Port interface name.
IF_TYPE	INTEGER	—	Port interface type. Refer to values for IANAifType in IANAifType-MIB.
PARENT	INTEGER	—	Parent.
CLUSTER_ID	VARCHAR2(256)	—	Describes the cluster ID.
SME_STATE	INTEGER	—	Describes the SME state.
IOA_STATE	INTEGER	—	Describes the IOA state.
IF_CONNTYPE	INTEGER	—	Describes the interface connection type.
IF_DESCR	VARCHAR2(256)	—	Describes the interface description.
SLOT	SMALLINT	NULL	Provides the slot on which the port belongs.
IS_VFC	NUMBER(1)	—	Describes if this is an vFC.
VFC_BIND_TYPE	INTEGER	—	Describes the vFC bind type.
VFC_BIND_IFINDEX	INTEGER	—	Describes the interface index that vFC binds.
VFC_BIND_MAC	RAW(6)	—	Provides the MAC address that vFC binds.
DISPLAY_NAME	VARCHAR2(256)	NULL	Provides the display name for this object.
IS_PHYSICAL	NUMBER(1)	—	Describes if this is a physical interface.
IF_OPERSTATUS	INTEGER	—	Describes the interface operational status.
RESERVE_COL1	VARCHAR	—	Deprecated.
RESERVE_COL2	VARCHAR	—	Deprecated.
IF_DESCR	VARCHAR2 (256)	NULL	
IOA_STATE	INTEGER	—	
IS_VFC	NUMBER(1)	—	
VFC_BIND_TYPE	SMALLINT	—	Provides the VFC bind type.
VFC_BIND_IFINDEX	INTEGER	—	Provides the VFC bind index.
VFC_BIND_MAC	RAW(6)	—	Provides the VFC bind MAC address.
DISPLAY_NAME	VARCHAR2 (256)	NULL	Provides the display name.
IS_PHYSICAL	NUMBER(1)	—	
IF_OPERSTATUS	INTEGER	—	Describes the operations status.

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Table 1-81 SWITCH_PORT (continued)

Column Name	Data Type	Constraints	Description
FICON_ADDRESS	INTEGER	—	Provides the FICON address.
IF_ADMINSTATUS	SMALLINT	—	Describes the administrator status.

1. SWITCH_PORT_SWITCH_ID_INDEX is an index based on the column SWITCH_ID.
2. SWITCH_PORT_CHANNEL_ID_INDEX is an index based on the column CHANNEL_ID.

SVR_PROP

This table describes the server properties. Table 1-82 describes the SVR_PROP database schema table.

Table 1-82 SVR_PROP

Column Name	Data Type	Constraints	Description
KEY	VARCHAR2(256)	PRIMARY KEY	Describes the server property.
VALUE	VARCHAR2(256)	—	Describes the server property value.

VCENTER

This table describes the virtual center. Table 1-83 describes the VCENTER database schema table.

Table 1-83 VCENTER Network Management Table

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the virtual host.
IP_ADDRESS	RAW(100)	—	Provides the IP address of the virtual host.
USER_NAME	VARCHAR2(256)	—	Provides the username encrypted for security.
PASSWORD	VARCHAR2(256)	—	Provides the password encrypted for security.
DISCOVERY	NUMBER(1)	—	Describes if discovery is a ongoing procedure.
STATE	NUMBER(1)	—	Describes the discovery status.
STATUS_DESCRIPTION	VARCHAR2(256)	—	Provides the status description of the hardware component.
LAST_SCAN_TIME	INTEGER	—	Provides the time when last seen, in milliseconds, since 1/1/1970.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

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USERFABRIC

This table describes the user of a fabric. Table 1-84 describes the USERFABRIC_INFO database schema table.

Table 1-84 USERFABRIC Cisco DCNM for SAN Database Schema Table

Column Name	Data Type	Constraints	Description
FMUSER_NAME	VARCHAR2(256)	NOT NULL PRIMARY KEY	Provides the name of the Cisco DCNM for SAN user.
FABRIC_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the fabric.
SNMPUSER_ID	INTEGER	—	Provides the ID of the SNMP user.
LAST_UPDATE_TIME	TIMESTAMP	—	Time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)		Deprecated.
RESERVE_COL2	VARCHAR2(256)		Deprecated.

USERSWITCH_INFO

This table describes the user switch information.Table 1-85 describes the USERSWITCH_INFO database schema table.

Table 1-85 USERSWITCH_INFO

Column Name	Data Type	Constraints	Description
FMUSER_ID	INTEGER	NOT NULL PRIMARY KEY	Describes the ID of the Cisco DCNM for SAN user.
IP_ADDRESS	RAW(100)	NOT NULL PRIMARY KEY	Describes the IP address of the switch.
SNMPUSER_ID	INTEGER		Describes the ID of the SNMP user.
LAST_UPDATE_TIME	TIMESTAMP		Time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)		Deprecated.
RESERVE_COL2	VARCHAR2(256)		Deprecated.

VSAN

This table describes a VSAN within a fabric. Use the FABRIC_ID to associate this VSAN with a fabric in the FABRIC table. Table 1-86 describes the VSAN database schema table.

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Table 1-86 VSAN

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in the table.
NAME	VARCHAR2(256)	—	Provides the name of the VSAN.
IS_UP	NUMBER(1)	—	Indicates whether the VSAN is up.
IS_DISJOINT	NUMBER(1)	—	Indicates whether the VSAN is segmented.
SEED_SWITCH_ID	INTEGER	—	Provides the ID of the seed switch.
ENF_ZONESET_NAME	VARCHAR2(256)	—	Active zone set name.
ENF_ZONESET_ACTIVATE_TIME	INTEGER	—	Provides the time in milliseconds when the zone set is activated.
FABRIC_ID[1]	INTEGER	—	Provides the parent fabric ID.
VSAN_ID[1, 2]	INTEGER	—	Provides the VSAN ID.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
PRINCIPAL_SWWN	RAW(100)	—	WWN of the principal switch.
FICON_STATE	INTEGER	—	FICON state: 0 = non-FICON 1 = offline 2 = online
INTER_OPER_MODE	INTEGER	—	Interoperation mode of the VSAN: 0 = disabled 1 to 4 = enabled
PRINCIPAL_SW_ID	INTEGER	—	Provides the ID of the principal switch.
ADMIN_STATE	NUMBER(4)	—	Administrative state of the VSAN: 1 = active 2 = suspended
MTU	INTEGER	—	Provides the MTU of the VSAN.
LOAD_BALANCING_TYPE	NUMBER(4)	—	Type of load balancing used by the VSAN: 1 = source and destination IDs only 2 = source, destination, and originator exchange IDs
INORDER_DELIVERY	NUMBER(1)	—	Indicates whether in-order delivery is guaranteed.
NETWORK_DROP_LATENCY	INTEGER	—	Provides the network drop latency in milliseconds.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. VSAN_FABRIC_VSAN_ID_INDEX is an index based on the columns FABRIC_ID and VSAN_ID.
2. VSAN_VSAN_ID_INDEX is an index based on the column VSAN_ID.

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VSAN_DOMAIN_INFO

This table associates a VSAN with a domain on a swtich. Use the SWITCH_ID to associate this VSAN and domain with a switch in the SWITCH table. Table 1-87 describes the VSAN_DOMAIN_INFO database schema table.

Table 1-87 VSAN_DOMAIN_INFO

Column Name	Data Type	Constraints	Description
VSAN_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the VSAN.
SWITCH_ID[2]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the switch.
DOMAIN_ID	SMALLINT	—	Provides the domain of the switch in the VSAN.
WWN	RAW(100)	—	Provides the WWN of the switch in the VSAN.
LAST_UPDATE_TIME	TIMESTAMP	—	Indicates the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. VSAN_DOMAIN_VSAN_ID is an index based on the column VSAN_ID.
2. VSAN_DOMAIN_SWITCH_ID is an index based on the column SWITCH_ID.

VSAN_ENDPORT_INFO

This table provides the FCID for an end port in a VSAN. Use the VSAN_ID to associate this end port with a VSAN in the VSAN table. Table 1-88 describes the VSAN_ENDPORT_INFO database schema table.

Table 1-88 VSAN_ENDPORT_INFO

Column Name	Data Type	Constraints	Description
VSAN_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the VSAN.
ENDPORT_ID[2]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the end port.
FCID	INTEGER	—	Provides the FC ID of the end port in the VSAN.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. VSAN_ENDPORT_VSAN_ID is an index based on the column VSAN_ID.
2. VSAN_ENDPORT_ENDPORT_ID is an index based on the column ENDPORT_ID.

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VSAN_ISL_INFO

This table provides the status for an ISL in a VSAN. Use the VSAN_ID to associate this ISL with a VSAN in the VSAN table. Table 1-89 describes the VSAN_ISL_INFO database schema table.

Table 1-89 VSAN_ISL_INFO

Column Name	Data Type	Constraints	Description
VSAN_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the VSAN.
ISL_ID[2]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the ISL.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. VSAN_ISL_VSAN_ID is an index based on the column VSAN_ID.
2. VSAN_ISL_ISL_ID is an index based on the column ISL_ID.

XMLDOCS

This table describes the XML documents information.Table 1-90 describes the XMLDOCS database schema table.

Table 1-90 XMLDOCS

Column Name	Data Type	Constraints	Description
DOCUMENT_TABLE	VARCHAR2(256)	UNIQUE	Describes the document type.
USER_NAME	VARCHAR2(256)	UNIQUE	Describes the name of the user.
CONTENT	CLOB	—	Describes the content of each XML document.
LAST_UPDATE_TIME	TIMESTAMP	—	Indicates the time when the entry was updated.

VSAN_NPVL_INFO

This table describes the VSAN NPVL information.Table 1-91 describes the VSAN_NPVL_INFO database schema table.

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Table 1-91 VSAN_NPVL_INFO

Column Name	Data Type	Constraints	Description
VSAN_ID[1]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the VSAN.
NPVL_ID[2]	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of NPVL.
LAST_UPDATE_TIME	TIMESTAMP	—	Indicates the time when the entry was updated.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.

1. VSAN_NPVL_VSAN_ID is an index based on the column VSAN_ID.
2. VSAN_NPVL_NPVL_ID is an index based on the column NPVL_ID.

ZONE

This table describes a zone. Use the IS_IVR to determine if this zone is an IVR zone. If it is an IVR zone, use the PARENT_ID to associate this zone with a fabric in the FABRIC table. Otherwise, use the PARENT_ID to associate this zone with a VSAN in the VSAN table. Table 1-92 describes the ZONE database schema table.

Table 1-92 ZONE

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in the table.
PARENT_ID[1]	INTEGER	—	Provides the ID of the parent. Parent could be either a fabric (IVR zone) or VSAN.
IS_IVR[2]	NUMBER(1)	—	Indicates whether the zone is an IVR zone.
ZONE_INDEX	INTEGER	—	Describes the index of the zone.
NAME	VARCHAR2(256)	—	Describes the name of the zone.
LAST_UPDATE_TIME	TIMESTAMP	—	Indicates the time when the entry was updated.
READ_ONLY	NUMBER(1)	—	Indicates whether the zone can be modified.
QOS	NUMBER(1)	—	Indicates whether QoS is supported by the zone.
QOS_PRIORITY	INTEGER	—	Priority of the LUN: 1 = none 2 = low 3 = medium 4 = high
BROADCAST	NUMBER(1)	—	Indicates whether the zone supports broadcast.
CFS_REGION_ID[3]	INTEGER	—	Provides the region ID of the CFS.
RESERVE_COL1	VARCHAR2(256)	—	Deprecated.

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Table 1-92 ZONE (continued)

Column Name	Data Type	Constraints	Description
RESERVE_COL2	VARCHAR2(256)	—	Deprecated.
CFS_REGION_ID	INTEGER	—	

1. ZONE_VSAN_INDEX is an index based on the column PARENT_ID.
2. ZONE_ISIVR_INDEX is an index based on the column IS_IVR.
3. ZONE_CFS_INDEX is an index based on the column CFS_REGION_ID.

ZONE_MEMBER

This table describes a member of a zone. Use the ZONE_ID to associate this member with a zone in the ZONE table. Table 1-93 describes the ZONE_MEMBER database schema table.

Table 1-93 ZONE_MEMBER

Column Name	Data Type	Constraints	Description
ID	INTEGER	NOT NULL PRIMARY KEY	Provides the ID of the entry in the table.
ZONE_ID[1]	INTEGER	—	Provides the ID of the parent zone.
TYPE	INTEGER	—	Type of the member: 1 = zone 2 = alias
MEMBER_ID[2]	RAW(100)	—	Provides the ID of the zone member.
LUN_ID[3]	RAW(1000)	—	Provides the ID of LUNs.
LAST_UPDATE_TIME	TIMESTAMP	—	Provides the time when the entry was updated.
IVR_VSAN_ID	INTEGER	—	Provides the VSAN ID for the IVR zone member.
PORT_STATUS	RAW(100)	—	Deprecated.
AFID	INTEGER	—	Provides the AFID of the IVR zone member.
CFS_REGION_ID[4]	INTEGER	—	Provides the region ID of the CFS.
RESERVE_COL1	VARCHAR	—	Deprecated.
RESERVE_COL2	VARCHAR	—	Deprecated.
ENDPORT_ID	INTEGER	—	Provides the endport ID.
SWITCHPORT_ID	INTEGER	—	provides the switchport ID
NAME	VARCHAR(256)	NULL	Provides the name of the zone member.
SWITCH_INT	VARCHAR(256)	NULL	

1. ZONE_MEMBER_ZONEID_INDEX is an index based on the column ZONE_ID.
2. ZONE_MEMBER_MEMBERID_INDEX is an index based on the column MEMBER_ID.
3. ZONE_MEMBER_LUN_ID_INDEX is an index based on the column LUN_ID.
4. ZONE_MEMBER_CFS_REGID_INDEX is an index based on the column CFS_REGION_ID.

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APPENDIX A

Sample Java Program

Overview

This appendix contains the files that you will need to create a Java program that uses Java Database Connectivity (JDBC) to connect to an SQL database, creates and executes an SQL statement, and then retrieves the results. The sample files are described in Table A-1.

Table A-1 Files in Sample Java Program

File	Description
Example A-1 JTest.java	Main program that allows you to connect to a database, create and execute a statement, and then retrieve the results.
Example A-2 ConnectionPoolManager.java	Definition of class ConnectionPoolManager that allows you to connect to the database.
Example A-3 Switch.java	Definition of a class switch that allows you to create a statement.
Example A-4 db.properties	Database-specific definitions. You must set these values to reflect the JDBC driver used, and the URL, user, and password of the database accessed.

For an introduction to JDBC in Wikipedia and the JDBC API Guide follow these links:

- http://en.wikipedia.org/wiki/JDBC
- http://download.oracle.com/javase/1.5.0/docs/guide/jdbc/

After you install the JDBC API, you can find the data types for use in statements in the install directory file constant-values.html.

Example A-1 JTest.java

```
import java.sql.*;
import java.io.*;
import java.util.*;

public class JTest {

    public static void main(String args[]) {

        Connection con;
        Statement stmt;
        SQLWarning warning = null;
```

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```
boolean ret = false;
ResultSet results = null;
int updateCount = 0;
Properties prop = new Properties();    // contains contents of propertyFileName
String    drivername = null;
String    drivername2 = null;
String    name;
String    URL;
String    user;
String    password;

System.out.println("Java Test");

try {
    // Get the Connection Props.
    InputStream is = new BufferedInputStream(new FileInputStream(new File("db.properties")));
     prop.load(is);
     is.close();

     name = prop.getProperty("DS.name");
     URL =  prop.getProperty("DS.url");
     user = prop.getProperty("DS.user");
     password = prop.getProperty("DS.password");
     drivername = prop.getProperty("DS.driver");
     drivername2 = prop.getProperty("DS.driver2");

     System.out.println(name);
     System.out.println(URL);
     System.out.println(drivername);

    // REGISTER DRIVER
    Driver d = (Driver)Class.forName(drivername).newInstance();

    if ( drivername2 != null) {
        Driver d2 = (Driver)Class.forName(drivername2).newInstance();
        System.out.println(drivername2);
    }

    // GET CONNECTION
    con = DriverManager.getConnection(URL,user,password);

    // GET CONNECTION WARNINGS
    try {
        warning = con.getWarnings();

        if (warning == null){
        System.out.println("No Warnings");
        //return;
        }

        while (warning != null) {
        System.out.println("Warning: "+warning);
        warning = warning.getNextWarning();
        }

    } catch (Exception e){
        System.out.println(e);
    }

    // CREATE STATEMENT
    stmt = con.createStatement();

    // EXECUTE SQL
    ret = stmt.execute("select * from EMP");
```

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```
            if (ret == true){
                results = stmt.getResultSet();
            }
            else{
                updateCount = stmt.getUpdateCount();
            }

            // GET ALL RESULTS
            StringBuffer buf = new StringBuffer();
            try {
                ResultSetMetaData rsmd = results.getMetaData();
                int numCols = rsmd.getColumnCount();
                int i, rowcount = 0;

               // get column header info
                for (i=1; i <= numCols; i++){
                    if (i > 1) buf.append(",");
                    buf.append(rsmd.getColumnLabel(i));
                }
                buf.append("\n");

                // break it off at 100 rows max
                while (results.next() && rowcount < 100){
                    // Loop through each column, getting the column
                    // data and displaying

                    for (i=1; i <= numCols; i++) {
                        if (i > 1) buf.append(",");
                        buf.append(results.getString(i));
                    }
                    buf.append("\n");
                    rowcount++;
                }
                results.close();
                System.out.println(buf);
            } catch (Exception e) {
                System.out.println(e);
                return;
            }


        } catch (Exception e) {
            System.out.println(e);
        }


    }

}

/*
DISCLAIMER: The sample code is not supported under any DataDirect Technologies support program or service.
The sample code is provided on an "AS IS" basis.  DataDirect Technologies makes no warranties, express or
implied, and disclaims all implied warranties including, without limitation, the implied warranties of
merchantability or of fitness for a particular purpose. The entire risk arising out of the use or performance
of the sample code is borne by the user. In no event shall DataDirect Technologies, its employees, or anyone
else involved in the creation, production, or delivery of the code be liable for any damages whatsoever
(including, without limitation, damages for loss of business profits, business interruption, loss of business
information, or other pecuniary loss) arising out of the use of or inability to use the sample code, even if
DataDirect Technologies has been advised of the possibility of such damages.
*/
```

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Example A-2 ConnectionPoolManager.java

```
public class ConnectionPoolManager {
    //specify which database schema will be used
    private final static String Alias = "dbname";
    //specify the database vendor libary that implements JDBC api
    private final static String DbDriver = "org.hsqldb.jdbcDriver";
    //other attributes for connecting database
    private static String DbUrl = "jdbc:hsqldb:hsql://localhost";
    private static String DbUser = "db_username";
    private static String DbPass = "_db_password";
    private final static String[] DbFiles = {
        "dbname.data",
        "dbname.script",
        "dbname.backup",
        "dbname.properties",
        "dbname.log"
    };

   public static ConnectionPoolManager Instance;

   public static ConnectionPoolManager getInstance(){
 if(Instance == null){
            Class.forName(_DbDriver).newInstance();
            Instance= new ConnectionPoolManager(300);
                Instance.addAlias(Alias, DbDriver, DbUrl, DbUser, DbPass, 6,  300, 10, 10);
           }
     return Instance;
  }

   public Connection getConnection() throws SQLException {
        return DriverManager.getConnection("jdbc:bitmechanic:pool:"+ Alias, null, null);
    }

    public static void returnConnection(Connection conn) throws SQLException {
        conn.close();
    }
}
```

Example A-3 Switch.java

```
public final class Switch  {
  final static String QuerySQLByFabricID =
        "select id, wwn, ip_address, is_mds, type, is_managable, non_mds_model, sys_name, sys_contact,
sys_location, sys_uptime, active_sup_slot, conn_unit_status, standby_sup_state, feature_flag,
is_license_violation, version, is_present, serial_number, unmanagable_cause, last_scan_time, num_ports,
is_trap_registered, is_syslog_registered, standby_sup_slot, module_index_offset from switch where
fabric_id=?";

public static ArrayList loadFromDB(long fabricId)
        throws SQLException {
        Connection con = ConnectionPoolManager.getInstance().getConnection();
        PreparedStatement stat = con.prepareStatement(QuerySQLByFabricID);
        ResultSet rs = null;

        try {
            stat.setLong(1, fabricId);
            rs = stat.executeQuery();
            ArrayList al = new ArrayList();
            //parsing result set and put items to the list
            //....
            //....
```

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```
            rs.close();
            return al;
        } catch (SQLException ex) {
            return null;
        }
        finally {
            if (rs != null) {
                rs.close();
            }
            ConnectionManager.getInstance().returnConnection(con);
        }
    }
  }
```

Example A-4 db.properties

```
DS.driver=com.ddtek.jdbc.oracle.OracleDriver
DS.name=ddtek
DS.url=jdbc:datadirect:oracle://servername:1521;SID=ORASID
DS.user=uid
DS.password=pwd

//DS.driver=com.ddtek.jdbc.sequelink.SequeLinkDriver
//DS.name=ddtek
//DS.url=jdbc:sequelink://servername:19996
//DS.user=uid
//DS.password=pwd

//DS.driver=com.ddtek.jdbcspy.SpyDriver
//DS.driver2=com.ddtek.jdbc.oracle.OracleDriver
//DS.name=ddtek
//DS.url=jdbc:spy:{jdbc:datadirect:oracle://servername:1521;SID=ORASID;user=uid;password=pwd};log=(file)C:\\t
emp\\spy.log
//DS.user=scott
//DS.password=tiger
```

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