Managing Advanced Features

Cisco MDS 9000 Family switches support advanced features, such as world wide names, domains, and name server. The Fabric Manager allows you to configure these features on multiple Cisco MDS 9000 switches. The Device Manager allows you to configure these features on a single Cisco MDS 9000 switch.

> **Note** For information about configuring these advanced features using the command-line interface (CLI), refer to the *Cisco 9000 Family Configuration Guide*.

Procedures for managing advanced features include:

- Managing World Wide Names, page 14-1
- Managing Domain Parameters, page 14-2
- Configuring the Name Server, page 14-5
- Viewing RSCN Information, page 14-8
- Configuring Timers, page 14-8
- Configuring Virtual Routing Redundancy Protocol (VRRP), page 14-9

Managing World Wide Names

Each port on a Cisco MDS 9000 Family switch is uniquely identified by its world wide names (WWNs), which include the switch MAC address and an identifier for each port. The principal switch selection and the allocation of domain IDs use the WWN to identify a specific port.

To add WWNs, perform the following steps.

Step 1 From the Fabric Manager, choose **FC > WWN Manager** on the menu tree, OR
From the Device Manager, choose **WWN Manager** from the FC menu.

The information pane of the Fabric Manager displays WWN information for multiple switches. The dialog box from the Device Manager displays WWN information for a single switch.

Step 2 Configure the BaseMacAddress and MacAddressRange attributes for the WWN(s).

Step 3 In the Fabric Manager information pane, the information is updated. In the Device Manager dialog, click Apply to accept the changes; click Close to close the WWWN Manager dialog without saving changes.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Managing Domain Parameters

Procedures for managing domain parameters include:

Managing Running Attributes for Domains

To view running domain attributes from the Fabric Manager, choose **FC > Domain Manager** on the menu tree and click the **Running** tab. The Information pane from the Fabric Manager displays domain attributes for multiple switches.

To view running domain attributes from the Device Manager, choose **Domain Manager** from the FC menu and click the **Running** tab. The Domain Manager dialog box, with the Running tab selected, displays domain attributes for a single switch.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Configuring Domain Attributes

From this dialog box you can specify a fabric name for fabric logins on the VSAN and set the priority for the switch used in the principal switch selection process.

Configure the principal attributes for the domain.

To manage domain attributes from the Fabric Manager, choose **FC > Domain Manager** on the menu tree and click the **Configuration** tab. The Information pane from the Fabric Manager lets you manage domain attributes for multiple switches.

To manage domain attributes from the Device Manager, choose **Domain Manager** from the FC menu and click the **Configuration** tab. The Device Manager dialog box displays domain attributes for a single switch.

Configure the attributes for the domain.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing Domain Information

To view domain information from the Device Manager, choose **Domain Manager** from the FC menu and click the **Domains** tab. The dialog box displays domain information for a single switch

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing Domain Manager Statistics

To monitor domain manager statistics from the Fabric Manager, choose **FC > Domain Manager** on the menu tree and click the **Statistics** tab. The Information pane from the Fabric Manager displays domain statistics for multiple switches.

To monitor domain manager statistics from the Device Manager, choose **Domain Manager** from the FC menu and click the **Statistics** tab. The Domain Manager dialog box, with the **Statistics** tab selected, displays domain statistics for a single switch.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Configuring Domain Interfaces

To configure domain interfaces from the Fabric Manager, choose **FC > Domain Manager** on the menu tree and click the **Interfaces** tab. The Information pane from the Fabric Manager displays domain interfaces for multiple switches.

To configure domain interfaces from the Device Manager, choose **Domain Manager** from the FC menu and click the **Interfaces** tab. The Domain Manager dialog box, with the Interfaces tab selected, displays domain interfaces for a single switch.

Configure the attributes for domain interfaces.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing Domain Areas

To monitor domain areas from the Device Manager, choose **Domain Manager** from the FC menu and click the **Areas** tab. The Domain Manager dialog box, with the Areas tab selected, displays domain areas for a single switch.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Configuring Persistent FCIDs

To configure persistent FCIDs from the Fabric Manager, choose **FC > Domain Manager** on the menu tree and click the **Persistent FCIDs** tab. The Information pane from the Fabric Manager displays persistent FCIDs for multiple switches.

To configure persistent FCIDs from the Device Manager, choose **Domain Manager** from the FC menu and click the **Persistent FCIDs** tab. The Domain Manager dialog box, with the Persistent FCIDs tab selected, displays persistent FCIDs for a single switch.

Configure the attributes for persistent FCIDs.

Before you can create persistent FCIDs, you must:

- Configure a static domain ID in that VSAN
- Ascertain that the static configured domain and the runtime domain are the same. You can verify this using the show fcdomain command. For information about using the command line interface (CLI), refer to the *Cisco 9000 Family Configuration Guide*.

> **Note** If you connect to the switch from an AIX or HP-UX host, be sure to create the persistent FC ID in the VSAN that connects these hosts.

> **Note** Persistent FC IDs with loop-attache devices (FL ports) need to remain connected to the same port in which they were configured.

To create a new persistent FCID, do the following:

Step 1 Click the Create button.

The Create Domain Manager Persistent FCIDs dialog is displayed.

Step 2 Enter the VSAN ID.

Step 3 Enter the WWN.

Step 4 Enter the FCID.

Step 5 Select the Mask.

This is the number of FC IDs which are assigned either statically or dynamically for this WWN on this VSAN. Possible values are Single, meaning just one FCI ID is assigned, or Area, meaning all of the FC IDs in the area that is specified are assigned.

Step 6 Select the Assignment.

This is the type of persistency of this FC ID (static or dynamic).

Step 7 Click Create to create the persistent FCID; click Close to return to the Domain Manager without creating the FCID.

To delete a persistent FCID, do the following.

Step 1 Select the persistent FCID you want to delete.

The Delete button is enabled.

Step 2 Click the Delete button to delete the FCID.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing Domain Area Ports

To monitor area ports for domains from the Device Manager, choose **Domain Manager** from the FC menu and click the **Area Ports** tab. The Domain Manager dialog box, with the Area Ports tab, displays area ports for domains for a single switch.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Configuring the Name Server

Configuring the Name Server includes the following tasks.

Viewing General Attributes for the Name Server

To view general name server attributes from the Device Manager, choose **Name Server** from the FC menu. The Name Server dialog box, with the General tab selected, displays name server attributes for a single switch.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing Advanced Attributes for the Name Server

To monitor advanced name server attributes from the Device Manager, choose **Name Server** from the FC menu and click the **Advanced** tab. The Name Server dialog box, with the Advanced tab selected, displays advanced name server attributes for a single switch.

Note   You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Proxy Ports for the Name Server

To configure proxy ports for the name server from Fabric Manager, choose **FC > Name Server** on the menu tree and click the **Proxies** tab. The Information pane from the Fabric Manager displays name server proxy ports for multiple switches.

To configure proxy ports for the name server from the Device Manager, choose **Name Server** from the FC menu and click the **Proxy** tab. The Name Server dialog box, with the Proxy tab selected, displays name server proxies for a single switch.

Configure proxy attributes for the name server.

Note   You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing Name Server Statistics

To monitor name server statistics from the Fabric Manager, choose **FC > Name Server** on the menu tree and click the **Statistics** tab. The Information pane from the Fabric Manager displays name server statistics for multiple switches.

To monitor name server statistics from the Device Manager, choose **Name Server** from the FC menu and click the **Statistics** tab. The Name Server dialog box, with the Statistics tab selected, displays name server statistics for a single switch.

Note   You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing LUN Information

This section describes how to manage LUN information and includes the following topics:

- Configuring LUN Discovery, page 14-7
- Viewing Logical Unit Information, page 14-7
- Viewing LUNs Information, page 14-7

Configuring LUN Discovery

To view logical unit number (LUN) information from the Device Manager, choose **LUN** from the FC menu.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing Logical Unit Information

To view logical unit number (LUN) information from the Device Manager, choose **LUN** from the FC menu and click the **Logical Units** tab.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing LUNs Information

To view LUNs information from the Device Manager, choose **LUN** from the FC menu and click the **LUNs** tab.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing RSCN Information

This section describes how to view RSCN information and includes the following topics:

- Viewing RSCN Nx Registrations, page 14-8
- Viewing RSCN Statistics, page 14-8

Viewing RSCN Nx Registrations

To view Nx registrations for RSCN from the Fabric Manager, choose **FC > RSCN** on the menu tree, and click the **Registrations** tab. The Information pane from the Fabric Manager displays Nx registrations for RSCN for multiple switches.

To monitor Nx registrations for RSCN from the Device Manager, choose **RSCN** from the FC menu. The RSCN dialog box, with the Nx Registrations tab selected, displays Nx registrations for RSCN for a single switch.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing RSCN Statistics

To monitor registered state change notification (RSCN) statistics from the Fabric Manager, choose **FC > RSCN** on the menu tree and click the **Statistics** tab. The Information pane from the Fabric Manager displays RSCN statistics for multiple switches.

To monitor RSCN from the Device Manager, choose **RSCN** from the FC menu and click the **Statistics** tab. The RSCN dialog box, with the Statistics tab selected, displays RSCN statistics for a single switch.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Configuring Timers

To configure timers from the Fabric Manager, choose **FC > Timers & Policies** on the menu tree. The Information pane from the Fabric Manager displays timers for multiple switches.

To configure timers from the Device Manager, choose **Timers/Policies** from the FC menu. The dialog box from the Device Manager displays timers for a single switch.

Configure the timer attributes.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Configuring Virtual Routing Redundancy Protocol (VRRP)

Cisco MDS 9000 Family switches support the Virtual Router Redundancy Protocol (VRRP), as described in RFC 2338. VRRP provides redundant paths to a gateway switch. For further information about VRRP, refer to the *Cisco MDS 9000 Family Configuration Guide*.

This section describes how to use Device Manager to configure VRRP and includes the following information:

- Configuring VRRP Operations Attributes, page 14-9
- Managing IP Addresses for VRRP, page 14-9
- Viewing VRRP Statistics, page 14-9

Configuring VRRP Operations Attributes

To configure VRRP operations attributes from Device Manager, choose **VRRP** option from the IP menu. The VRRP dialog box with the Operations tab selected is displayed.

Configure Operations attributes for the virtual router .

To create a new VRRP entry, click the **Create** button. You see the Create VRRP Entry window.

Complete the fields on this window to create a new VRRP entry, and click **OK** or **Apply**.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Managing IP Addresses for VRRP

To manage IP addresses for virtual routers from Device Manager, click the **IP Addresses** tab on the VRRP dialog box.

The VRRP dialog box with the IP Addresses tab selected is displayed.

To create a new VRRP entry, click the **Create** button. You see the Create VRRP IP Addresses window.

Complete the fields on this window to create a new VRRP IP Address, and click **OK** or **Apply**.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Viewing VRRP Statistics

To monitor VRRP statistics, click the **Statistics** tab on the VRRP dialog box. The VRRP dialog box with the Statistics tab selected is displayed.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Configuring Virtual Routing Redundancy Protocol (VRRP)