



CHAPTER 7

Fibre Channel Tasks

This chapter describes the Chassis Manager Fibre Channel tasks and contains these sections:

- [Configuring Global ITL Attributes, page 7-1](#)
- [Viewing and Managing SRP Hosts \(Initiators\), page 7-2](#)
- [Viewing and Configuring Fibre Channel Targets, page 7-7](#)
- [Viewing and Managing Fibre Channel LUNs, page 7-9](#)
- [Viewing ITs and IT Properties, page 7-12](#)
- [Viewing ITLs and ITL Properties, page 7-14](#)
- [Viewing Global Statistics, page 7-15](#)

Configuring Global ITL Attributes

Configure global initiator, target, LUN (ITL) attributes to select the attributes that apply by default to all new ITLs. For detailed information about these attributes, see the *Fibre Channel Gateway User Guide*.



Note

If you change ITL attributes, the changes apply only to ITLs created after the change. Existing ITLs do not change.

To configure global attributes, follow these steps:

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- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **Global Policies** branch.
- The Global Policies display appears in the View frame.
- Step 3** Configure host attributes as follows:
- (Optional) Check the **Restricted** check box in the Gateway Port Access field to follow these steps:
 - Check the check box and deny all new initiators access to ports.
 - Uncheck the check box and grant all new initiators access to ports.
 - (Optional) Check the **Restricted** check box in the LUN Access field to follow these steps:
 - Check the check box and deny all new initiators access to LUNs.
 - Uncheck the check box and grant all new initiators access to LUNs.

Step 4 Configure random access device attributes as follows:

- a. (Optional) Enter an integer value between 1 and 256 in the ITL HI Mark field.
- b. (Optional) Enter an integer value between 1 and 100 in the ITL Max Retries field.
- c. (Optional) Enter an integer value between 1 and 1800 in the ITL Min I/O Timeout field.
- d. (Optional) In the ITL Dynamic Loading field, click one of the following:
 - The **Path Affinity** radio button to enable dynamic path affinity on all new ITLs.
 - The **Gateway Port Load Balancing** radio button to enable load balancing among all gateway ports on all new ITLs.
 - The **Gateway Port Failover** radio button to enable FC gateway port failover for all new ITLs.

Step 5 Configure sequential access device attributes as follows:

- a. (Optional) Enter an integer value between 1 and 256 in the ITL HI Mark field.
- b. (Optional) Enter an integer value between 1 and 100 in the ITL Max Retries field.
- c. (Optional) Enter an integer value between 1 and 1800 in the ITL Min I/O Timeout field.
- d. (Optional) In the ITL Dynamic Loading field, click one of the following:
 - The **Path Affinity** radio button to enable dynamic path affinity on all new ITLs.
 - The **Gateway Port Load Balancing** radio button to enable load balancing between Fibre Channel gateway ports on all new ITLs.
 - The **Gateway Port Failover** radio button to enable FC gateway port failover for all new ITLs.

Step 6 Click **Apply**.

Viewing and Managing SRP Hosts (Initiators)

These topics describe how to view and manage SRP hosts:

- [Viewing SRP Hosts \(Initiators\), page 7-3](#)
- [Viewing SRP Host \(Initiator\) Properties, page 7-3](#)
- [Viewing SRP Host \(Initiator\) World-Wide Port Names, page 7-4](#)
- [Viewing IT Policies of the Host, page 7-4](#)
- [Viewing ITL Policies of the Host, page 7-5](#)
- [Adding a SRP Host, page 7-5](#)
- [Deleting a SRP Host, page 7-6](#)
- [Configuring SRP Host \(Initiator\) Properties, page 7-6](#)

Viewing SRP Hosts (Initiators)

To view the SRP hosts that connect to your device and, with your server switch, behave as Fibre Channel initiators, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **SRP Hosts** branch.

A SRP Hosts table of SRP hosts that connect to the chassis appears in the View frame. [Table 7-1](#) describes the fields in this table.

Table 7-1 SRP Hosts Table Field Descriptions

Field	Description
Description	User-assigned text description of the SRP host.
SRP Initiator ID	Host GUID and GUID extension.
WWNN	World-wide node name (WWNN) of the SRP host.
Ports Registered With	Ports on your server switch that connect to the host.

Viewing SRP Host (Initiator) Properties

To view the properties of a SRP host, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **SRP Hosts** branch.

A SRP Hosts table that includes all SRP hosts that connect to the chassis appears in the View frame.

Step 3 Click the radio button next to the SRP host whose properties you want to view, and then click **Properties**.

The SRP Host Properties window opens. [Table 7-2](#) describes the fields of this window.

Table 7-2 SRP Host Properties Window Fields

Field	Description
SRP Initiator ID	Host GUID and GUID extension.
Ports Registered With	Ports on your server switch that connect to the host.
WWNN	World-wide node name (WWNN) of the SRP host.
Description	User-assigned text description of the SRP host.
PKeys	Partition keys of the SRP host.
Boot Target	WWPN of the target that contains the image that the SRP host uses to boot.
Boot LUN	LUN ID of the LUN that contains the image that the SRP host uses to boot.
Action	Provides a pull-down menu of actions that you can perform on the host. Select an action, and then click Apply .

Table 7-2 SRP Host Properties Window Fields (continued)

Field	Description
Result	Displays the result of the action that you performed with the pull-down menu in the Action field.
Alternate Boot Target WWPN	World-wide port name (WWPN) of the alternate target port that the initiator can access through the virtual port.
Alternate Boot FC LUN	Logical unit number of the alternate target device.

Viewing SRP Host (Initiator) World-Wide Port Names

To view the world-wide port names (WWPNs) of the virtual ports through which FC nodes communicate with SRP hosts, follow these steps:

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- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **SRP Hosts** branch.
- A SRP Hosts table that includes all SRP hosts that connect to the chassis appears in the View frame.
- Step 3** Click the radio button next to the SRP host whose WWPNs you want to view.
- Step 4** Select **Show WWPNs** from the Show Options pull-down menu.
- A SRP Host Wwpns table appears in the View frame. [Table 7-3](#) describes the fields in this table.

Table 7-3 SRP Host Wwpns Table Field Descriptions

Field	Description
GUID	GUID of the SRP host.
Extension	GUID extension of the SRP host.
Slot/Port	Physical FC gateway port (in slot#/port# format) that passes traffic (addressed to the virtual port WWPN) to the SRP host.
WWPN	WWPN of the virtual FC port.
FC Address	FC address of the virtual FC port.

Viewing IT Policies of the Host

To view the details of the initiator-target (IT) pairs to which a host (initiator) belongs, follow these steps:

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- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **SRP Hosts** branch.
- A SRP Hosts table that includes all SRP hosts that connect to the chassis appears in the View frame.

Step 3 Click the radio button next to the SRP host whose ITs you want to view.

Step 4 Select **Show IT Policies** from the **Show Options** pull-down menu.

The Show IT display appears in the View frame but lists only ITs that include the initiator that you selected. For more information, see the [“Viewing ITs and IT Properties” section on page 7-12](#) or see [Table 7-8](#).

Viewing ITL Policies of the Host

To view details of the initiator-target-LUN (ITL) groups to which a host (initiator) belongs, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **SRP Hosts** branch.

A SRP Hosts table that includes all SRP hosts that connect to the chassis appears in the View frame.

Step 3 Click the radio button next to the SRP host whose ITLs you want to view.

Step 4 Select **Show ITL Policies** from the **Show Options** pull-down menu.

The Show ITL display appears in the View frame, but lists only ITLs that include the initiator that you selected. For more information, see the [“Viewing ITLs and ITL Properties” section on page 7-14](#) or see [Table 7-10](#).

Adding a SRP Host

To add a SRP host to the configuration file, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **SRP Hosts** branch.

An SRP Hosts table that includes all SRP hosts that connect to the chassis appears in the View frame.

Step 3 Click **Add**.

The Add SRP Host window opens.

Step 4 Enter the GUID of the new initiator in the Host GUID field.

Step 5 (Optional) Enter a description for the new initiator in the Description field.

Step 6 Click **Apply**.

Deleting a SRP Host

To delete an SRP host, follow these steps:

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- Step 1** Expand the **Fibre Channel** icon in the Tree frame.
- Step 2** Select the **SRP Hosts** branch.
- A SRP Hosts table that includes all SRP hosts that connect to the chassis appears in the View frame.
- Step 3** Click the radio button next to the host that you want to delete from the configuration file, and then click **Delete**.
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Configuring SRP Host (Initiator) Properties

To configure properties of a SRP host, follow these steps:

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- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **SRP Hosts** branch.
- A SRP Hosts table that includes all SRP hosts that connect to the chassis appears in the View frame.
- Step 3** Click the radio button next to the SRP host whose properties you want to view, and then click **Properties**.
- The SRP Host Properties window opens.
- Step 4** (Optional) Enter a text description for the SRP host in the Description field.
- Step 5** (Optional) Enter a partition key (or comma-separated keys) in the PKeys field.
- Step 6** (Optional) Enter the world-wide port name (WWPN) of a target that holds a boot image in the Boot Target field.
- Step 7** (Optional) Enter the LUN ID of a disk that holds a boot image in the Boot LUN field.
- Step 8** Click **Apply**, and then click **Close**.
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Viewing and Configuring Fibre Channel Targets

These topics describe how to view and configure Fibre Channel targets:

- [Viewing Fibre Channel Targets, page 7-7](#)
- [Viewing Fibre Channel Target Properties, page 7-7](#)
- [Configuring Fibre Channel Target Properties, page 7-8](#)
- [Viewing IT Policies of the Target, page 7-9](#)
- [Viewing ITL Policies of the Target, page 7-9](#)

Viewing Fibre Channel Targets

To view the Fibre Channel targets in the configuration file of your server switch, follow these steps:

Step 1 Expand the **Fibre Channel** icon in the Tree frame.

Step 2 Select the **Targets** branch.

A Targets table that includes all targets in your configuration file appears in the View frame. [Table 7-4](#) describes the fields in this table.

Table 7-4 *Targets Table Field Descriptions*

Field	Description
WWPN	World-wide port name (WWPN) of the port on the target through which your server switch accesses the target.
Description	User-assigned target description. Note If no user has assigned a description, a default description appears.
Physical Access	Port on your server switch (in slot#card# format) through which your server switch accesses the target.
Connection Type	Displays nlport to indicate a virtual FC port or down to indicate a faulty connection.

Viewing Fibre Channel Target Properties

To view the properties of a Fibre Channel target, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **Targets** branch.

A Targets table that includes all targets in your configuration file appears in the View frame.

Step 3 Click the radio button next to the target whose properties you want to view, and then click **Properties**.

The SRP Target Properties window opens. [Table 7-5](#) describes the fields in this window.

Table 7-5 *SRP Target Properties Window Field Descriptions*

Field	Description
WWPN	World-wide port name (WWPN) of the port on the target through which your server switch accesses the target.
WWNN	World-wide node name (WWNN) of the target.
FC Address	Fibre Channel address of the target.
IOC GUID	InfiniBand I/O controller (IOC) through which initiators access the target. On the Cisco SFS 3012 and Cisco SFS 3001 platforms, the IOC identifies a Fibre Channel gateway slot.
Physical Access	Port on your server switch (in slot#/card# format) through which your server switch accesses the target.
MTU	Maximum transmission unit, in bytes, of the target.
Connection Type	The down and nlPort radio buttons assign a connection type to the target.
Description	User-assigned target description. Note If no user has assigned a description, a default description appears.
Service Name	Name of the service to associate with the WWPN.

Configuring Fibre Channel Target Properties

To configure the properties of a Fibre Channel target, follow these steps:

- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **Targets** branch.
A Targets table that includes all targets in your configuration file appears in the View frame.
- Step 3** Click the radio button next to the target whose properties you want to view, and then click **Properties**.
The SRP Target Properties window opens.
- Step 4** (Optional) Click either the **down** radio button or **nlPort** radio button to configure the connection type of the target.
- Step 5** (Optional) Enter a description in the Description field.
- Step 6** (Optional) Enter a server name in the Service Name field.
- Step 7** Click **Apply**, and then click **Close**.

Viewing IT Policies of the Target

To view the details of the initiator-target (IT) pairs to which a target belongs, follow these steps:

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- | | |
|---------------|--|
| Step 1 | Expand Fibre Channel in the Tree frame. |
| Step 2 | Select the Targets branch.

A Targets table that includes all FC targets that connect to the chassis appears in the View frame. |
| Step 3 | Click the radio button next to the target whose ITs you want to view. |
| Step 4 | Select Show IT Policies from the Show Options pull-down menu.

The ITs display appears in the View frame, but lists only ITs that include the target that you selected. For more information, see the “Viewing ITs and IT Properties” section on page 7-12 or see Table 7-8 . |
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Viewing ITL Policies of the Target

To view the details of the initiator-target-LUN (ITL) groups to which a target belongs, follow these steps:

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- | | |
|---------------|--|
| Step 1 | Expand Fibre Channel in the Tree frame. |
| Step 2 | Select the SRP Hosts branch.

A Targets table that includes all FC targets that connect to the chassis appears in the View frame. |
| Step 3 | Click the radio button next to the target whose ITLs you want to view. |
| Step 4 | Select Show ITL Policies from the Show Options pull-down menu.

The ITLs display appears in the View frame but lists only ITLs that include the target that you selected. For more information, see the “Viewing ITLs and ITL Properties” section on page 7-14 or see Table 7-10 . |
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Viewing and Managing Fibre Channel LUNs

These topics describe how to view and manager Fibre Channel LUNs:

- [Viewing Fibre Channel LUNs, page 7-10](#)
- [Viewing Fibre Channel LUN Properties, page 7-10](#)
- [Configuring Fibre Channel LUN Properties, page 7-11](#)
- [Viewing ITL Policies of the LUN, page 7-12](#)

Viewing Fibre Channel LUNs

To view the logical units (FC storage disks) in the configuration file of your server switch, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **Logical Units** branch.

A Logical Units table that includes all LUs in your configuration file appears in the View frame.

[Table 7-6](#) describes the fields in this table.

Table 7-6 *Logical Units Table Field Descriptions*

Field	Description
Logical ID	Logical ID of the logical unit (disk).
Description	User-assigned logical unit description. If no user has assigned a description, a default description appears.
Physical Access	Physical FC gateway ports through which your server switch accesses the LU.

Viewing Fibre Channel LUN Properties

To view Fibre Channel LUN properties, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **Logical Units** branch.

A Logical Units table that includes all LUs in your configuration file appears in the View frame.

Step 3 Click the radio button next to the LUN whose properties you want to view, and then click **Properties**.

The SRP LUN Properties window opens. [Table 7-7](#) describes the fields in this window.

Table 7-7 *SRP LUN Properties Window Field Descriptions*

Field	Description
Logical ID	Logical ID of the LUN.
Device Category	Provides the random radio button and sequential radio button to identify disk devices and tape devices respectively.
Inquiry Data	SCSI inquiry data retrieved about the LU.
Physical Access	Ports on your server switch that can access the LUN.
Description	User-assigned description of the LUN.
Hi Mark	The maximum number of outstanding requests from the initiator to the storage that the ITL can maintain.
Max Retry	Number of failed communication attempts that must occur before the LUN identifies the initiator as inaccessible.

Table 7-7 SRP LUN Properties Window Field Descriptions (continued)

Field	Description
Min IO Timeout	Maximum amount of time that elapses before a SRP request times out.
Size	Size of the LUN.
Dynamic Pathing	Provides the following radio buttons: Path Affinity This feature locks a storage connection to a path for the duration of data transfer to increase speed and efficiency. Gateway Port Load Balancing This feature distributes traffic evenly across both ports in an FC gateway card (when both of the ports can access the same storage). Gateway Port Failover This feature leaves one port on an FC gateway dormant so it can adopt the traffic of the other port (when both of the ports can access the same storage) if that port goes down.

Configuring Fibre Channel LUN Properties

To configure Fibre Channel LUN properties, follow these steps:

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- Step 1** Expand **Fibre Channel** in the Tree frame.
 - Step 2** Select the **Logical Units** branch.
A Logical Units table that includes all LUs in your configuration file appears in the View frame.
 - Step 3** Click the radio button next to the LUN whose properties you want to view, and then click **Properties**.
The SRP LUN Properties window opens.
 - Step 4** (Optional) Enter a description in the Description field.
 - Step 5** (Optional) Enter an integer value in the Hi Mark field.
 - Step 6** (Optional) Enter an integer value in the Max Retry field.
 - Step 7** (Optional) Enter an integer value in the Min IO Timeout field.
 - Step 8** (Optional) Click a radio button in the Dynamic Pathing field.
 - Step 9** Click **Apply**, and then click **Close**.
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Viewing ITL Policies of the LUN

To view the details of the initiator-target-LUN (ITL) groups to which a LUN belongs, follow these steps:

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- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **Logical Units** branch.
- A Logical Units table that includes all FC targets that connect to the chassis appears in the View frame.
- Step 3** Click the radio button next to the LUN whose ITLs you want to view.
- Step 4** Select **Show ITL Policies** from the Show Options pull-down menu.

The **ITLs** display appears in the View frame but lists only ITLs that include the LUN that you selected. For more information, see the [“Viewing ITLs and ITL Properties” section on page 7-14](#) or see [Table 7-10](#).

Viewing ITs and IT Properties

These topics describe how to view ITs and their properties:

- [Viewing ITs, page 7-12](#)
- [Viewing IT Properties, page 7-13](#)

Viewing ITs

To view Initiator-Target (IT) pairs on your server switch, follow these steps:

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- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **ITs** branch.

The ITs table appears in the View frame. [Table 7-8](#) describes the fields in this table.

Table 7-8 *ITs Table Field Descriptions*

Field	Description
SRP Initiator ID	GUID of the initiator (host).
Target WWPN	WWPN of the target.
Current Access	Physical FC gateway port through which the host currently accesses the target.
Physical Access	Physical FC gateway ports through which the host can access the target.

Viewing IT Properties

To view detailed Initiator-Target (IT) pair properties, follow these steps:

- Step 1** Expand **Fibre Channel** in the Tree frame.
- Step 2** Select the **ITs** branch.
The ITs table appears in the View frame.
- Step 3** Click the radio button next to the IT pair whose properties you want to view, and then click **Properties**.
The SRP IT Properties window opens. [Table 7-9](#) describes the fields in this window.

Table 7-9 SRP IT Properties Window Field Descriptions

Field	Description
SRP Initiator ID	GUID of the host.
Target WWPN	WWPN of the target.
Description	User-assigned description of the IT.
Current Access	Physical FC gateway port through which the host currently accesses the target.
Physical Access	Physical FC gateway ports through which the host can access the target.
Port Mask	Displays a check box for every FC gateway card and FC gateway port on the chassis. Ports with a checked check box grant the initiator access to the target.
Mode	The active radio button in this field represents the mode configuration. The Normal radio button configures the IT pair to behave normally and the Test radio button configures the gateway to do ITL logins for this IT without the participation of the HBA of the initiator. You cannot change the mode of an IT pair to test.
Action pull-down menu	Discovers ITLs that the initiator can form with the LUNs in the target.
Result	Displays the status of the action if you select Discover ITLs from the Action pull-down menu and then click Apply .

Viewing ITLs and ITL Properties

These topics describe how to view ITLs and their properties:

- [Viewing ITLs, page 7-14](#)
- [Viewing ITL Properties, page 7-14](#)

Viewing ITLs

To view Initiator-Target-LUN (ITL) properties, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **ITLs** branch.

The ITLs table appears in the View frame. [Table 7-10](#) describes the fields in this table.

Table 7-10 *ITLs Table Field Descriptions*

Field	Description
SRP Initiator ID	GUID of the initiator (host).
Target WWPN	WWPN of the target.
FC LUN ID	Fibre Channel ID of the disk or tape in the target. The ID of the first LUN is always 00:00:00:00:00:00:00:00, and the IDs for subsequent LUNs increment by 1 in hexadecimal.
LUN Logical ID	Logical ID of the disk or tape in the target.

Viewing ITL Properties

To view detailed Initiator-Target-LUN (ITL) properties, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **ITLs** branch.

The ITLs table appears in the View frame.

Step 3 Click the radio button next to the ITL whose properties you want to view, and then click **Properties**.

The SRP ITL Properties window opens. [Table 7-11](#) describes the fields in this window.

Table 7-11 *SRP ITL Properties Window Field Descriptions*

Field	Description
SRP Initiator ID	GUID of the initiator (host).
Target WWPN	WWPN of the target.

Table 7-11 SRP ITL Properties Window Field Descriptions (continued)

Field	Description
FC LUN ID	Fibre Channel ID of the disk or tape in the target. The ID of the first LUN is always 00:00:00:00:00:00:00:00 , and the IDs for subsequent LUNs increment by 1 in hexadecimal notation.
LUN Logical ID	Logical ID of the disk or tape in the target.
Device Category	Identifies a LUN as random (a disk) or sequential (a tape).
Description	User-assigned text identifier of the ITL.
SRP LUN ID	SRP ID of the disk or tape in the target. The ID of the first LUN is always 00:00:00:00:00:00:00:00 , and the IDs for subsequent LUNs increment by 1 in hexadecimal notation.
Physical Access	Physical FC gateway port through which the host currently accesses the LUN.
Current Access	Physical FC gateway ports through which the host can access the LUN.
Port Mask	Displays a check box for every FC gateway card and FC gateway port on the chassis. Ports with a checked check box grant the initiator access to the LUN.

Viewing Global Statistics

To view global SRP statistics, follow these steps:

Step 1 Expand **Fibre Channel** in the Tree frame.

Step 2 Select the **Global Statistics** branch.

The SRP Global Statistics display appears in the View frame. [Table 7-12](#) describes the fields in this display.

Table 7-12 SRP Global Statistics Display Field Descriptions

Field	Description
Link Events	Total number of link events (link up, link down) processed by the Fibre Channel interface gateways.
SRP Initiated IOs	Total number of I/O transactions requested by the SRP initiator.
SRP Commands Completed	Total number of SRP commands completed on the Fibre Channel interface gateways.
SRP Bytes Read	Total number of I/O bytes read by the SRP initiator that is connected to this chassis.
SRP Bytes Written	Total number of I/O bytes written by the SRP initiator.
SRP Connections	Total number of connections used by the SRP initiator.
SRP Commands Outstanding	Total number of SRP commands outstanding on the Fibre Channel interface gateways.

Table 7-12 **SRP Global Statistics Display Field Descriptions (continued)**

Field	Description
SRP Errors	Total number of SRP errors encountered on the Fibre Channel interface gateways.
FCP Initiated IOs	Total number of I/O responses by the Fibre Channel device to SRP initiator requests.
FCP Commands Completed	Total number of FCP commands completed on the Fibre Channel interface gateways.
FCP Bytes Read	Total number of I/O bytes read by the target device.
FCP Bytes Written	Total number of I/O bytes written by the target device.
FCP Commands Outstanding	Total number of FCP commands outstanding on the Fibre Channel interface gateways.
FCP Errors	Total number of FCP errors encountered on the Fibre Channel interface gateways.