



CHAPTER 6

Ethernet Tasks

These topics describe the Chassis Manager Ethernet tasks:

- [Viewing and Managing Bridge Groups, page 6-1](#)
- [Viewing and Managing Bridge Subnets, page 6-5](#)
- [Viewing and Managing Bridge Forwarding, page 6-6](#)
- [Viewing and Managing Redundancy Groups, page 6-8](#)
- [Viewing and Managing Trunk Groups, page 6-11](#)

Viewing and Managing Bridge Groups

These topics describe how to view and manage bridge groups:

- [Viewing Bridge Groups, page 6-1](#)
- [Viewing Bridge Group Properties, page 6-2](#)
- [Adding Bridge Groups, page 6-3](#)
- [Configuring Bridge Groups, page 6-4](#)
- [Deleting Bridge Groups, page 6-5](#)

Viewing Bridge Groups

To view the bridge groups on your server switch, follow these steps:

Step 1 Expand **Ethernet** in the Tree frame.

Step 2 Select the **Bridge Groups** branch.

The Bridge Groups table appears in the View frame. [Table 6-1](#) describes the fields in this table.

Table 6-1 *Bridge Groups Table Field Descriptions*

Field	Description
ID	Bridge group ID number.
Name	Bridge group name.

Table 6-1 Bridge Groups Table Field Descriptions (continued)

Field	Description
Ethernet Port	Trunk group and ports available that the bridge group uses to connect to the Ethernet switch.
IB Port	Internal gateway slot#/port# that is associated with the bridge-group.
IB P_KEY	InfiniBand partition key of the bridge group.
Broadcast Forwarding	Broadcast forwarding configuration of the bridge group.
Gratuitous IGMP	Displays true if gratuitous IGMP is set; otherwise, displays false.

Viewing Bridge Group Properties

To view the properties of a bridge group, follow these steps:

- Step 1** Expand **Ethernet** in the Tree frame.
- Step 2** Select the **Bridge Groups** branch.
The Bridge Groups table appears in the View frame.
- Step 3** Click the radio button next to the bridge group whose properties you want to view, and then click **Properties**.

The Ethernet Chassis Manager window opens and displays the properties of the bridge group. [Table 6-2](#) describes the fields in this window.

Table 6-2 Ethernet Chassis Manager Window Field Descriptions

Field	Description
ID	ID number of the bridge group.
Name	Name of the bridge group.
Redundancy Group ID	ID of the redundancy group to which the bridge group belongs.
Admin Failover Priority	Failover priority of the bridge group.
Oper Failover Priority	Active failover priority of the bridge group.
Ethernet Port pull-down menu	Displays the trunk or ports that the bridge group uses to connect to the Ethernet switch.
Vlan	Virtual LAN (VLAN) identifier of the group.
IB Port pull-down menu	Displays the IB port that the bridge group uses.
IB P_KEY	Partition key of the bridge group.
Broadcast Forwarding	Displays a checked box when broadcast forwarding runs.
Broadcast Forwarding Mode	Active broadcast forwarding mode.
Loop Protection Method	Displays the loop protection method of the group.
IP Multicast	Displays a checked box when IP multicasting runs.

Table 6-2 Ethernet Chassis Manager Window Field Descriptions (continued)

Field	Description
Ip Multicast Mode	Active IP multicast mode.
Ip Address	IP address of the bridge group.
Gratuitous IGMP	Displays a checked box when gratuitous IGMP is enabled.
Gratuitous IGMP Mode	The mode in which the gratuitous IGMP was established.
IGMP Version	Selected radio button shows the active IGMP version.
IGMP Version Mode	Active IGMP version mode.
Directed Broadcast	Indicates whether directed broadcasting is enabled for the bridge group.
Directed Broadcast Mode	Active directed-broadcast mode.

Adding Bridge Groups

To create a new bridge group, follow these steps:

- Step 1** Expand **Ethernet** in the Tree frame.
- Step 2** Select the **Bridge Groups** branch.
The Bridge Groups table appears in the View frame.
- Step 3** Click **Add**.
The Add Ethernet Bridge Group window appears.
- Step 4** Enter a bridge group ID number in the ID field.
- Step 5** (Optional) Enter a name for the bridge group in the Name field.
- Step 6** (Optional) Check the **Enable** check box in the Broadcast Forwarding field to enable broadcast forwarding for this bridge group.
- Step 7** Click the **none** radio button or the **one** radio button in the Loop Protection Method field to choose a protection method.
- Step 8** (Optional) Check the **Enable** check box in the IP Multicast field to enable IP multicast forwarding.
- Step 9** (Optional) Enter an IP address for the bridge group in the IP Address field.
- Step 10** (Optional) Check the **Enable** check box in the Gratuitous IGMP field to enable gratuitous IGMP.
Enable this feature when IGMP snooping is enabled on the Ethernet switches connected to the Ethernet gateway.
- Step 11** (Optional) In the IGMP Version field, click the **v1**, **v2**, or **v3** radio button to select the IGMP version.
The IGMP version must be set to correspond to the version used by the hosts and routers bridged by this bridge group. It is used by gratuitous IGMP to generate reports and might have additional future uses.
- Step 12** (Optional) In the Directed Broadcast field, check the **Enable** check box to enable directed broadcasting for the bridge group.

Directed broadcasting allows directed broadcast traffic from the remote subnet Ethernet host to be broadcast to the IB network bridged by this bridge group.

- Step 13** Select a port from the Ethernet Port pull-down menu.
 - Step 14** Enter a virtual LAN in the Vlan field.
 - Step 15** Select an IB gateway port from the IB Port pull-down menu.
 - Step 16** (Optional) Enter a partition key in the IB P_KEY field.
 - Step 17** Click **Apply**.
-

Configuring Bridge Groups

To configure the properties of a bridge group, follow these steps:

-
- Step 1** Expand the **Ethernet** icon in the Tree frame.
 - Step 2** Select the **Bridge Groups** branch.
The Bridge Groups table appears in the View frame.
 - Step 3** Click the radio button next to the bridge group whose properties you want to view, and then click **Properties**.
The Ethernet Chassis Manager window opens.
 - Step 4** (Optional) Enter a name for the bridge group in the Name field.
 - Step 5** (Optional) Select a port from the Ethernet Port pull-down menu.
 - Step 6** (Optional) Enter a virtual LAN ID in the Vlan field.
 - Step 7** (Optional) Select a gateway port from the IB Port pull-down menu.
 - Step 8** (Optional) Enter a partition key in the IB P_KEY field.
 - Step 9** (Optional) Check (or uncheck) the **Enable** check box in the Broadcast Forwarding field to enable (or disable) broadcast forwarding for the bridge group.
 - Step 10** (Optional) Click the **none** radio button or **one** radio button in the Loop Protection Method field.
Currently, only one method of loop protection is supported.
 - Step 11** (Optional) Check (or uncheck) the **Enable** check box in the IP Multicast field to enable (or disable) multicast forwarding for the bridge group.
 - Step 12** (Optional) Enter an IP address for the bridge group in the IP Address field.
 - Step 13** (Optional) Check the **Enable** check box in the Gratuitous IGMP field to enable gratuitous IGMP.
Enable this feature when IGMP snooping is enabled on the Ethernet switches connected to the Ethernet gateway.
 - Step 14** (Optional) In the IGMP Version field, click the **v1**, **v2**, or **v3** radio button to select the IGMP version.
The IGMP version must be set to correspond to the version used by the hosts and routers bridged by this bridge group. It is used by gratuitous IGMP to generate reports and might have additional future uses.
 - Step 15** (Optional) In the Directed Broadcast field, check (or uncheck) the **Enable** check box to enable (or disable) directed broadcasting for the bridge group.

Directed broadcasting allows directed broadcast traffic from the remote subnet Ethernet host to be broadcast to the IB network bridged by this bridge group.

Step 16 Click **Apply**.

Deleting Bridge Groups

To delete a bridge group, follow these steps:

Step 1 Expand **Ethernet** in the Tree frame, and then select the **Bridge Groups** branch.

The Bridge Groups table appears in the View frame.

Step 2 Click the radio button next to the bridge group that you want to delete, and click **Delete**.



Note

You will not be asked for confirmation after you click Delete. The bridge group is removed immediately.

Viewing and Managing Bridge Subnets

These topics describe how to view and manage bridge subnets:

- [Viewing Bridge Subnets, page 6-5](#)
- [Adding a Bridge Subnet, page 6-6](#)
- [Deleting a Bridge Subnet, page 6-6](#)

Viewing Bridge Subnets

To view bridge subnets, follow these steps:

Step 1 Expand **Ethernet** in the Tree frame.

Step 2 Select the **Bridge Subnet** branch.

The Bridge Subnet display appears in the View frame. [Table 6-3](#) describes the fields in this display.

Table 6-3 *Bridge Subnets Field Descriptions*

Field	Descriptions
ID	Subnet ID number
Subnet Prefix	Subnet prefix, in A.B.C.D format.
Subnet Prefix Len	Length of the subnet prefix.

Adding a Bridge Subnet

To add a bridge subnet, follow these steps:

-
- Step 1** Expand **Ethernet** in the Tree frame.
 - Step 2** Select the **Bridge Subnet** branch.
 - Step 3** Click **Add**.
The Add Ethernet Bridge Group Subnet window opens.
 - Step 4** Enter an integer value in the ID field to assign an ID number to the subnet.
 - Step 5** Enter the subnet prefix in the Subnet Prefix field in A.B.C.D format.
 - Step 6** Enter an integer value in the Subnet Prefix Len field to configure a length for the subnet prefix.
 - Step 7** Click **Apply**.
-

Deleting a Bridge Subnet

To delete a bridge subnet, follow these steps:

-
- Step 1** Expand **Ethernet** in the Tree frame.
 - Step 2** Select the **Bridge Subnet** branch.
 - Step 3** Click the radio button next to the subnet that you want to delete, and then click **Delete**.

**Note**

You will not be asked for confirmation after you click Delete. The bridge subnet is removed immediately.

Viewing and Managing Bridge Forwarding

These topics describe how to view and manage bridge forwarding:

- [Viewing Bridge Forwarding, page 6-6](#)
- [Adding Bridge Forwarding, page 6-7](#)
- [Deleting Bridge Forwarding, page 6-7](#)

Viewing Bridge Forwarding

To view bridge forwarding, follow these steps:

-
- Step 1** Expand **Ethernet** in the Tree frame.
 - Step 2** Select the **Bridge Forwarding** branch.

The Bridge Forwarding display appears in the View frame. [Table 6-4](#) describes the fields in this display.

Table 6-4 Bridge Forwarding Field Descriptions

Field	Description
ID	Integer-value identifier of the bridge group.
Port Type	Displays eth for IP and ib for IPoIB.
Dest Address	Final destination of the packets.
Dest Length	Number of hops to the destination.
Next Hop	First hop out of the server switch to forward packets that you ultimately want to arrive at the destination.
Subnet Prefix	Subnet prefix of the bridge group.
Prefix Length	Subnet prefix length, in bits, of the bridge group.

Adding Bridge Forwarding

To add bridge forwarding information, follow these steps:

- Step 1** Expand **Ethernet** in the Tree frame.
- Step 2** Select the **Bridge Forwarding** branch.
- Step 3** Click **Add**.
The Add Ethernet Bridge Group Forwarding window opens.
- Step 4** Enter the ID of the bridge group in the ID field.
- Step 5** Click the **eth** or **ib** radio button to specify IP or IPoIB.
- Step 6** Enter an IP address in the Destination Address field.
- Step 7** Enter the destination length in the Dest Length field.
- Step 8** Enter the IP address of the next hop in the Next Hop field.
- Step 9** Enter the subnet prefix in the Subnet Prefix field.
- Step 10** Enter the subnet prefix length, in bits, in the Prefix Length field.
- Step 11** Click **Apply**.

Deleting Bridge Forwarding

To delete a bridge subnet, follow these steps:

- Step 1** Expand **Ethernet** in the Tree frame.
- Step 2** Select the **Bridge Forwarding** branch.

Step 3 Click the radio button next to the forwarding group that you want to delete, and then click **Delete**.

**Note**

You will not be asked for confirmation after you click Delete. The bridge forwarding group is removed immediately.

Viewing and Managing Redundancy Groups

These topics describe how to view and manage redundancy groups:

- [Viewing Redundancy Groups, page 6-8](#)
- [Creating a Redundancy Group, page 6-9](#)
- [Deleting a Redundancy Group, page 6-10](#)
- [Viewing or Editing Redundancy Group Properties, page 6-10](#)

Viewing Redundancy Groups

To view the redundancy groups on your server switch, follow these steps:

Step 1 Expand **Ethernet** in the Tree frame.

Step 2 Click the **Redundancy Group** branch.

The Redundancy Group display appears in the View menu. [Table 6-5](#) describes the fields in this display.

Table 6-5 *Redundancy Group Field Descriptions*

Field	Description
ID	ID number of the redundancy group.
Name	Name of the redundancy group.
Multicast PKey	Partition key of the multicast group to which the redundancy group belongs.
Load balancing	Displays enabled if load balancing runs; otherwise displays disabled.
Members	Number of members in the redundancy group.
Gratuitous IGMP	Indicates whether IGMP is enabled.

Creating a Redundancy Group

To create a redundancy group, follow these steps:

-
- | | |
|----------------|--|
| Step 1 | Expand Ethernet in the Tree frame. |
| Step 2 | Select the Redundancy Group branch. |
| Step 3 | Click Add .

An Add Ethernet Redundancy Group window opens. |
| Step 4 | Enter an integer in the ID field. |
| Step 5 | Enter an ASCII text name in the Name field. |
| Step 6 | (Optional) Check the Enable check box in the Load Balancing field. |
| Step 7 | (Optional) Check the Enable check box in the Broadcast Forwarding Mode field to enable broadcast forwarding for the redundancy group.

Applying broadcast forwarding temporarily overwrites the broadcast forwarding setting on all members of the redundancy group. Once a bridge group is removed from a redundancy group the original broadcast forwarding setting is restored. |
| Step 8 | (Optional) Check the Enable check box in the Ip Multicast Mode field to apply the multicast forwarding feature to this redundancy group.

Applying multicast forwarding temporarily overwrites the multicast forwarding setting on all members of the redundancy group. Once a bridge group is removed from a redundancy group the original multicast forwarding setting is restored. |
| Step 9 | (Optional) Check the Enable check box in the Gratuitous IGMP field to enable gratuitous IGMP for this redundancy group.

Gratuitous IGMP applied to a redundancy group temporarily overwrites the gratuitous IGMP status on all bridge groups members of the redundancy group. Once a bridge group is removed from a redundancy group the original gratuitous IGMP status is restored. |
| Step 10 | (Optional) In the IGMP Version field, click the v1 , v2 , or v3 radio button to select the IGMP version.

This setting temporarily overwrites the IGMP version setting on all bridge groups members of the redundancy group. Once a bridge group is removed from a redundancy group the original IGMP version setting is restored. |
| Step 11 | (Optional) Check the Enable check box in the Directed Broadcast field to enable directed-broadcast mode.

Directed broadcasting allows directed broadcast traffic from the remote subnet Ethernet host to be broadcast to the IB network bridged by this redundancy group.

Directed broadcast applied to a redundancy group temporarily overwrites the directed-broadcast setting on all bridge groups that are members of the redundancy group. Once a bridge group is removed from a redundancy group the original directed-broadcast setting is restored. |
| Step 12 | Click Apply . |
-

Deleting a Redundancy Group

To delete a redundancy group, follow these steps:

- Step 1** Expand **Ethernet** in the Tree frame.
- Step 2** Select the **Redundancy Group** branch.
- Step 3** Click the radio button next to the redundancy group you want to delete, and then click **Delete**.

**Note**

You will not be asked for confirmation after you click Delete. The redundancy group is removed immediately.

Viewing or Editing Redundancy Group Properties

To view redundancy group properties, follow these steps:

- Step 1** Expand **Ethernet** in the Tree frame.
- Step 2** Select the **Redundancy Group** branch.
- Step 3** Click the radio button next to the redundancy group whose properties you want to view.
- Step 4** Click **Properties**.

A Redundancy Group Properties window opens. [Table 6-6](#) describes the fields in this window.

Table 6-6 Redundancy Group Properties Field Descriptions

Field	Description
ID	ID number of the redundancy group.
Name	View or edit the name of the redundancy group.
Multicast PKey	View or edit the partition key of the multicast group to which the redundancy group belongs.
Load Balancing	View the status of load balancing in the redundancy group, or alter the status by checking or unchecking the Enable check box.
Members	Number of members in the redundancy group.
Action	Provides a pull-down menu of actions to execute with the group. Choose Fail Over to cause a failover within the group.
Result	Result of the action that you apply in the Action field.
Broadcast Forwarding Mode	View whether broadcast forwarding mode is enabled for the redundancy group or alter the status by checking or unchecking the Enable check box.
IP Multicast Mode	View whether multicast forwarding mode is enabled for the redundancy group or alter the status by checking or unchecking the Enable check box.

Table 6-6 Redundancy Group Properties Field Descriptions (continued)

Field	Description
Gratuitous IGMP	View whether gratuitous IGMP is enabled for the redundancy group or alter the status by checking or unchecking the Enable check box.
IGMP Version	View the configured version of IGMP or alter the configuration by clicking the corresponding radio button.
Directed Broadcast	View whether directed-broadcast mode is enabled for the redundancy group or alter the status by checking or unchecking the Enable check box.

Step 5 Click **Apply** to activate any configuration changes.

Viewing and Managing Trunk Groups

These topics describe how to view and manage trunk groups:

- [Viewing Trunk Groups, page 6-11](#)
- [Adding a Trunk Group, page 6-13](#)
- [Configuring a Trunk Group, page 6-13](#)
- [Deleting a Trunk Group, page 6-14](#)

Viewing Trunk Groups

To view the trunk groups on your server switch, follow these steps:

Step 1 Expand **Ethernet** in the Tree frame.

Step 2 Select the **Trunk Groups** branch.

The Trunk Groups table appears in the View frame. [Table 6-7](#) lists and describes the fields in this table.

Table 6-7 Trunk Groups Table Field Descriptions

Field	Description
ID	ID number of the trunk group.
Name	Name of the trunk group.
Port Members	Ports that belong to the trunk group.
Distribution Type	Distribution type of the trunk group. This field displays one of the following types: • srcMac bases load distribution on the source MAC address of the incoming packet. Packets from different hosts use different ports in the channel, but packets from the same host use the same port in the trunk group. • dstMac bases the load distribution on the destination host MAC address of the incoming packet. Packets to the same destination travel on the same port, but packets to different destinations travel on different ports in the trunk group. • srcDstMac bases load distribution on the MAC address of the source logic gate (XOR) destination. • srcIp bases the load distribution on the source IP address. Packets from the same source travel on the same port, but packets from different sources travel on different ports in the trunk group. • dstIp bases the load distribution on the destination IP address of the incoming packet. Packets to the same destination travel on the same port, but packets to different destinations travel on different ports in the trunk group. • srcDstIp bases load distribution on the IP address of the source logic gate (XOR) destination.
Trunk Group Enabled	Displays a checked Enable check box to indicate an active trunk group.
MTU	Maximum transmission unit (MTU) of the group.
MAC Address	Media Access Control (MAC) address of the trunk group, such as 00:05:ad:01:59:30. This is a unique physical address associated with the trunk (link-aggregated) interface. This address is separate from the individual port MAC addresses.
IfIndex	Displays a management software unique identifier for all physical and logical (trunks, gateway-ports) interfaces.

Adding a Trunk Group

To add a trunk group, follow these steps:

-
- | | |
|----------------|---|
| Step 1 | Expand Ethernet in the Tree frame. |
| Step 2 | Select the Trunk Groups branch.
The Trunk Groups table appears in the View frame. |
| Step 3 | Click Add .
The Add Ethernet Trunk Group window opens. |
| Step 4 | Enter a trunk group ID number in the ID field. |
| Step 5 | Enter a name for the trunk group in the Name field. |
| Step 6 | In the Port Members field, check the check boxes of the ports that you want to include. |
| Step 7 | Check the check box of a particular card to automatically check all ports on that card. |
| Step 8 | Click the radio button of the distribution type to apply to the trunk group in the Distribution Type field. |
| Step 9 | (Optional) Check the Trunk Group Enabled check box to immediately enable the trunk group. |
| Step 10 | Click Apply . |
-

Configuring a Trunk Group

To configure an existing trunk group, follow these steps:

-
- | | |
|---------------|---|
| Step 1 | Expand Ethernet in the Tree frame. |
| Step 2 | Select the Trunk Groups branch.
The Trunk Groups table appears in the View frame. |
| Step 3 | Click the radio button next to the group that you want to delete, and then click Properties .
The Ethernet Trunk Group Properties window opens. |
| Step 4 | (Optional) Create or change the name of the trunk group in the Name field. |
| Step 5 | (Optional) Check or uncheck check boxes in the Port Members field to add or remove ports from the group. |
| Step 6 | (Optional) Click a radio button in the Distribution Type field to change the type. |
| Step 7 | (Optional) Check or uncheck the Enabled check box in the Trunk Group Enabled field to enable or disable the trunk group. |
| Step 8 | Click Apply . |
-

Deleting a Trunk Group

To delete a trunk group, follow these steps:

Step 1 Expand **Ethernet** in the Tree frame.

Step 2 Select the **Trunk Groups** branch.

The Trunk Groups table appears in the View frame.

Step 3 Click the radio button next to the group that you want to delete, and then click **Delete**.



Note

You will not be asked for confirmation after you click Delete. The truck group is removed immediately.
