Chapter 19

Configuring Bridge Interfaces

This chapter describes how to configure bridge interfaces (transparent bridging) using the NMC-RX application.

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Overview

A *transparent bridge* is a data–link layer (layer 2) relay device that connects two or more networks or network systems. When a transparent bridge powers up, it automatically begins learning the network topology by examining the media access control (MAC) source address of every incoming packet. The bridge then creates an entry in the forwarding table consisting of the address and associated interface where the packet was received.

You configure transparent bridging by creating one or more bridge groups on the system (you must do this using the CLI). A *bridge group* is a collection of network interfaces (ports) that forms a broadcast domain. Each bridge group has its own set of forwarding tables and filters and, as such, functions as a logical transparent bridging device.

After you create a bridge group, you assign one or more network interfaces with the bridge group. The association is called a *bridge group interface*, or simply *bridge interface*.

You can configure bridge interfaces to add transparent bridging capabilities to your existing network configurations. Currently, bridge interfaces can be stacked on:

- Bridged Ethernet over ATM1483 subinterfaces [Bridged IP (1483)]
- VLAN subinterfaces over Fast Ethernet or Gigabit Ethernet interfaces

- Fast Ethernet interfaces
- Gigabit Ethernet interfaces

References

For more detailed information, see *JUNOSe Link Layer Configuration Guide, Chapter 10, Configuring Transparent Bridging*.

Creating Bridge Interfaces

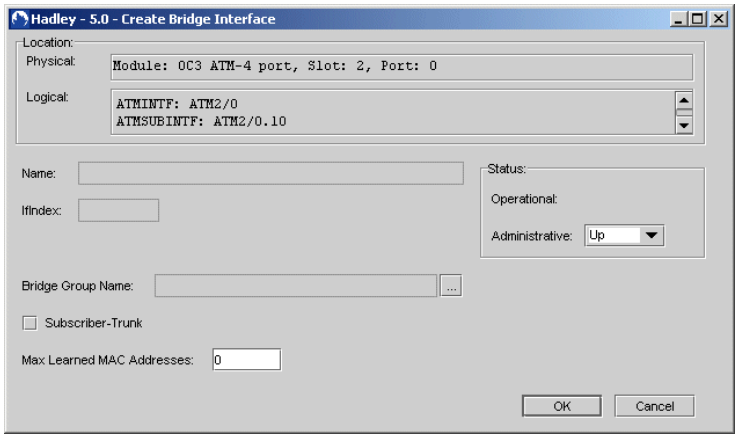
On an E-series device, you can create bridge interfaces over an ATM 1483 subinterface, an Fast Ethernet interface, or a Gigabit Ethernet interface. The procedure for creating bridge interfaces is basically the same regardless of what interface you create them on.

NOTE: Before creating a bridge interface using the NMC-RX application, you must create a bridge group using the CLI.

To create a bridge interface on an ATM 1483 subinterface:

1. In the Device-wide Explorer, select Bridged IP (RFC 1483), right-click, and select List All.
2. In the list area, select the Bridged IP (RFC 1483) subinterface you want, right-click, select Create, and click Bridge Interface.

   The Create Bridge Interface dialog box appears.



3. Set the bridge interface parameters (Table 69).

Table 69: Bridge Interface Parameters

Field	Description
Name	Identifies the interface; generated automatically; cannot edit
IfIndex	Identifies the interface on the particular line interface; generated automatically; cannot edit
Operational	Current operational status of the interface; cannot edit
Administrative	Desired status of the interface: Up/Down; default: Up
Bridge Group Name	Click ... to select a bridge group from the Associate Bridge Group dialog box. See *Related Dialog Box* on page 239.
Subscriber-Trunk	Enables subscriber-trunk mode; default: unselected
Max Learned MAC Addresses	Maximum number of learned MAC addresses; 0 indicates that there is no limit; range 0-64000; default 0

4. Click OK.

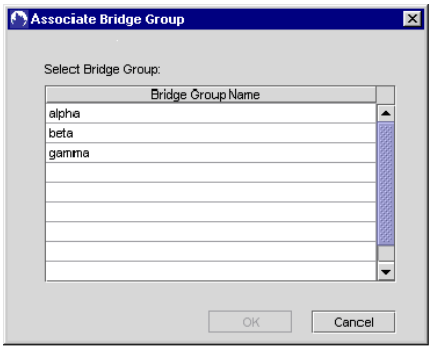
   The bridge interface is created.

NOTE: Bridge interfaces appear in the Instance Explorer only when created on a Fast Ethernet or a Gigabit Ethernet interface. To list all bridge interfaces on a system, double-click Bridge Interface in the Device-wide Explorer.

Related Dialog Box

Associate Bridge Group

The Associate Bridge Group dialog box appears when you click ... next to the Bridge Group Name field in the Create Bridge Interface dialog box. Use it to select a bridge group.



- Select a bridge group name, and click OK.

  The bridge group name is entered in the Bridge Group Name field.

Bridge Interface Statistics

The NMC-RX application allows you to view and monitor information about bridge interfaces. Once you select a configured device, you simply list the objects and request statistics, and a Statistics tab is displayed.

To view statistics:

1. From the Device-wide Explorer, select Bridge Interface.
2. Right-click, and select List All.

   A list of all objects of the type you selected, which are configured on the device, appears in the list area.
3. From the list, select the bridge interface for which you want to view statistics, right-click, and select Statistics.

   The Statistics tab appears. See Table 70 for descriptions.

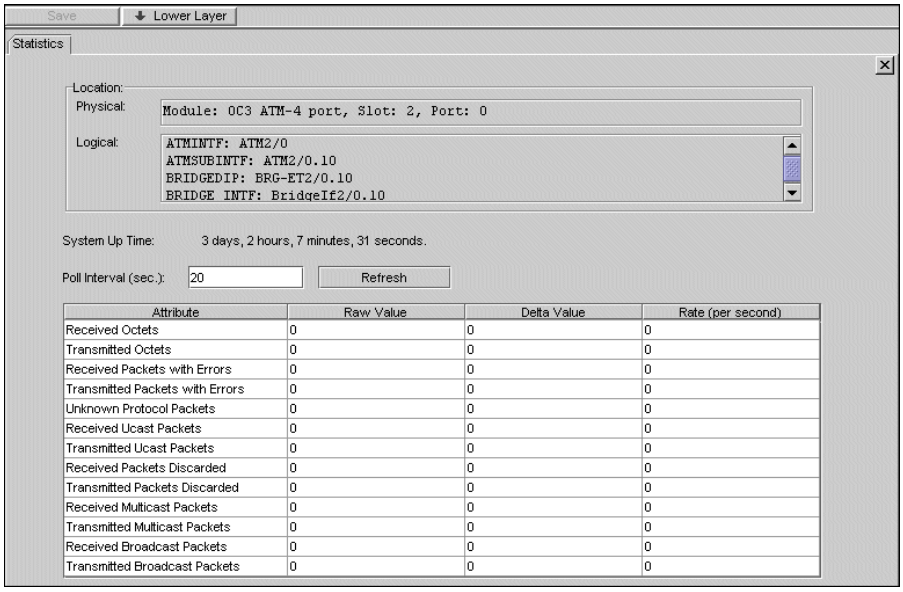


Table 70: Bridge Interface Statistics Attributes

Attribute	Description
System Up Time	Time since last reported change to the operational status
Poll Interval (sec)	Interval in seconds between poll PDU transmissions
Refresh	When button is clicked, the statistics are refreshed
Received Octets	Number of incoming octets received on this interface or subinterface
Transmitted Octets	Number of outgoing octets transmitted on this interface or subinterface

Table 70: Bridge Interface Statistics Attributes (continued)

Attribute	Description
Received Packets with Errors	Number of incoming errors received on this interface or subinterface
Transmitted Packets with Errors	Number of outgoing packets with errors on this interface or subinterface
Unknown Protocol Packets	Number of packets discarded because of an unknown or unsupported protocol
Received Ucast Packets	Number of packets received that were not addressed to a multicast or broadcast address
Transmitted Ucast Packets	Number of packets transmitted that were not addressed to a multicast or broadcast address
Received Packets Discarded	Number of received packets without errors discarded
Transmitted Packets Discarded	Number of transmitted packets without errors discarded
Received Multicast Packets	Number of packets received that were addressed to a multicast address
Transmitted Multicast Packets	Number of packets transmitted that were addressed to a multicast address
Received Broadcast Packets	Number of packets received that were addressed to a broadcast address
Transmitted Broadcast Packets	Number of packets transmitted that were addressed to a broadcast address