DECnet Routing & Bridging

Main DECnet Routing Configuration Dialog Box

To access this dialog box (Figure 5-1), select Global/DECnet Routing in the Device View.

Figure 5-1   Main DECnet Routing Configuration Dialog Box

DECnet On

This checkbox controls how DECnet packets are handled for this <u>router</u>.

 * If **checked**, then DECnet packets received on any interface in the router which has DECnet turned on will be routed to the correct interface.

 * If **unchecked**, then DECnet packets received by this router will be discarded, and no DECnet packets will be sent by this router.

Area

DECnet areas create a logical group of DECnet nodes. A DECnet area may include one or more physical network segments. The **Area** value must be within the range of 1 to 63.

The area information is specific to this individual router and, along with the **Node** number, uniquely identifies it on the network. If you are unsure what value to use here, check with your network administrator.

Node

Each device in an area must have a <u>unique</u> node number. The Node value must be within the range of 1 to 1023.

The node number is specific to this individual router and, along with the **Area** number, uniquely identifies it on the network. If you are unsure what value to use here, check with your administrator.

Using the same **Area:Node** combination as an address for two different devices can cause difficult-to-diagnose problems on your network. You should carefully track the assignment of this information for devices on your DECnet network.

Hello Timer

DECnet hello messages tell end nodes which routers are available to route packets. This parameter tells the router how frequently it should send hello messages on its LAN interfaces.

The Hello Timer value is also inserted into the hello messages themselves. Once an end node has received a hello message from a router, it begins to track the availability of that router. If an end node does not hear an additional hello message within 3 timer periods, it assumes that this router is no longer available.

The default value for this parameter is 30 seconds.

The **Hello Timer** values for individual WAN interfaces are set in separate windows. For more information, see the "DECnet: WAN Configuration Dialog Box" section on page 5-4.

Routing Timer

DECnet routing messages are exchanged between routers and contain routing table information including node numbers, hello timer values, hop counts and costs. This parameter tells the router how frequently it should send routing messages on its LAN interfaces.

The default value for this parameter is 120 seconds.

The **Routing Timer** values for individual WAN interfaces are set in separate windows. For more information, see the "DECnet: WAN Configuration Dialog Box" section on page 5-4.

Max Addresses

This is the maximum number of node addresses allowed for this particular area. The default value for this parameter is 1023.

By limiting the number of addresses, a network administrator can limit the size of the internal routing table and the size of the routing messages sent to other routers.

Generally, all routers on the network should be consistent and use the same value for this parameter. This number should be at least as large as the number entered for this router's node number.

DECnet: Ethernet Configuration Dialog Box

Bridging operates on physical network addresses (such as Ethernet addresses), rather than logical addresses (such as DECnet addresses). From the standpoint of DECnet networking, router interfaces which are set to bridge DECnet between themselves appear as a single logical entity.

Thus, a router's "DECnet Bridge Group" is made up of all of the physical network interfaces in a router which have been set to bridge DECnet.

Logically, the DECnet Bridge Group is treated by the router as an interface (Bridge 0). The settings in the Main DECnet Routing Configuration dialog box (Figure 5-1) determine the DECnet parameters for all of the physical network interfaces which make up the DECnet Bridge Group. This is shown schematically in Figure 5-2.

Figure 5-2   Bridge Logical Diagram

To access the DECnet: Ethernet Configuration dialog box (Figure 5-3), select Ethernet/DECnet Routing in the Device View.

The Cisco VPN 5000 Manager only provides this configuration dialog box for routers which support bridging. Ethernet parameters for other routers are set globally in the Main DECnet Routing Configuration dialog box.

Figure 5-3   DECnet: Ethernet Configuration Dialog Box

DECnet Routing/Bridging/Off

This set of radio buttons controls how DECnet packets are handled for this interface.

- If set to **DECnet Routing**, then DECnet packets received on this interface are routed to the correct interface on the router.
- If set to **DECnet Bridging**, then any DECnet packets received on this interface are forwarded to the router's internal bridge. This setting makes this Ethernet interface a member of the "DECnet Bridge Group" for this router.

The DECnet Bridging radio button will be grayed out unless bridging has been turned on globally for the device using the Main Bridging Configuration dialog box (under Global/Bridging) and locally on this interface using the Bridging: Ethernet dialog box (under Ethernet/Bridging).

- If it is set to **DECnet Off**, then any DECnet packets received on this interface are discarded.

DECnet: WAN Configuration Dialog Box

To access this dialog box (Figure 5-4), select WAN/DECnet Routing in the Device View.

Figure 5-4   DECnet: WAN Configuration Dialog Box

DECnet On/Bridging/Off

This set of radio buttons controls how DECnet packets are handled for this interface.

- If set to **DECnet On**, then DECnet packets received on this interface are routed to the correct interface on the router.

- If set to **DECnet Bridging**, then any DECnet packets received on this interface are forwarded to the router's internal bridge. This setting makes this WAN interface a member of the "DECnet Bridge Group" for this router.

The DECnet Bridging radio button will be grayed out unless bridging has been turned on globally for the device using the Main Bridging Configuration dialog box (under Global/Bridging) and locally on this interface using the Bridging: WAN dialog box (under WAN/Bridging).

- If it is set to **DECnet Off**, then any DECnet packets received on this interface are discarded.

Hello Timer

DECnet hello messages tell end nodes which routers are available to route packets. This parameter tells the router how frequently it should send hello messages on this interface.

The Hello Timer value is also inserted into the hello messages themselves. Once an end node has received a hello message from a router, it begins to track the availability of that router. If an end node does not hear an additional hello message within 3 timer periods, it assumes that this router is no longer available.

The default value for this parameter is 30 seconds. The maximum value is 8191 seconds (approximately 2 hours and 15 minutes).

For dial-on-demand links, this parameter should be set to the longest period practical, since the router will dial the remote end each time one of these packets is sent.

Routing Timer

DECnet routing messages are exchanged between routers and contain routing table information including node numbers, hello timer values, hop counts and costs. This parameter tells the router how frequently it should send routing messages on this interface.

The default value for this parameter is 120 seconds. The maximum value is 8191 seconds (approximately 2 hours and 15 minutes).

For dial-on-demand links, this parameter should be set to the longest period practical, since the router will dial the remote end each time one of these packets is sent.