CHAPTER 3

Baseliner Windows

This chapter describes the following windows displayed as a result of selecting options from the Connectivity Tools window's File and Options menus:

- New Baseline
- Open Baseline
  - Routers
  - New Router
- Delete Baseline
- Export Baseline
- Find Device
- Clipboard
  - Batch Analysis

The windows described in the chapters listed below are available for *viewing* network element configuration attributes when using the Connectivity Baseliner. The chapters are:

- "Router Configuration Windows"
- "IP Configuration Windows"
- "IPX Configuration Windows"
- "LAN Segment Windows"
- "Link Segment Window."

General Window Components

Various windows in this section contain buttons that provide like functionality. For brevity purposes, these buttons are described in this section.

- **OK**

  Click on the **OK** button for the additions/changes to take effect.

- **Cancel**

  Click on the **Cancel** button to dismiss the window and cancel the actions having taken place since the window was displayed or the **OK** button was last clicked.

- **Close**

  Click on this button to dismiss the corresponding window.

- **Help**

  Provided you have access to a Mosaic™ or Netscape™ HTML browser, clicking on the **Help** button displays documentation about the corresponding window. The HTML browser specified by the ECSP_HELPVIEWER environment variable is used for this purpose.

New Baseline Window

The New Baseline window, shown in Figure 3-1, is displayed when the **File>New Baseline** menu option in the Connectivity Tools window is selected. This option provides a mechanism for creating a new baseline from the provided router configuration files. Once a new baseline is created, it can be opened and loaded by selecting the **File>Open Baseline** menu option in the Connectivity Tools window. See “Open Baseline Window” for detailed information about the Open Baseline menu option.

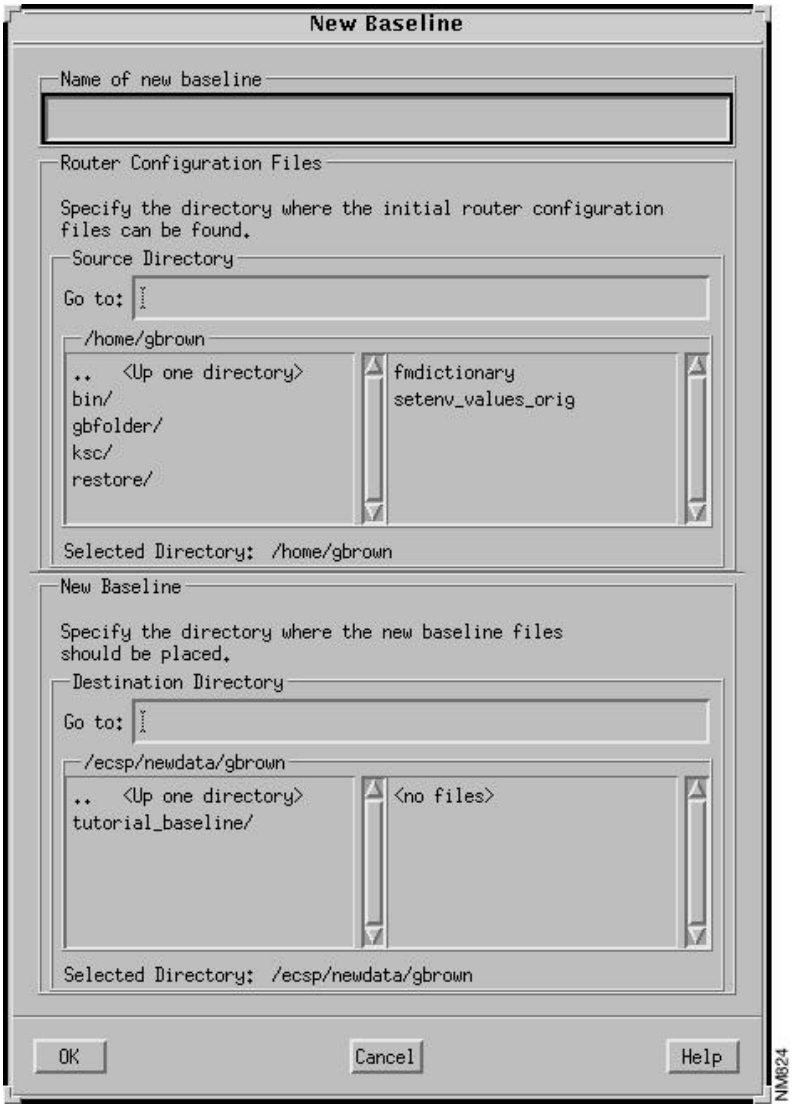

Figure 3-1 New Baseline Window

New Baseline Window Components

The components of this window are described below. See “General Window Components” for a description of the **OK**, **Cancel**, and **Help** buttons.

Name of New Baseline

Specify the unique name of the new baseline in this field. A baseline with the same name can not already exist in the destination directory.

Router Configuration Files - Source Directory

Specify the location of the router configuration files in the Source Directory **Go to** field then press **Return**. Navigation through the directories can also be accomplished by double-clicking on an entry in the list of directories. The **Selected Directory** field displays the current directory either specified or navigated to. The default directory is your home directory.

New Baseline - Destination Directory

Specify the directory where the new baseline files should be placed in the Destination Directory **Go to** field then press **Return**. Navigation through the directories can also be accomplished by double-clicking on an entry in the list of directories. The **Selected Directory** field displays the current directory either specified or navigated to. The default directory is the location specified by the ECSP_DATA environment variable.

Click on the **OK** button to create a new baseline directory in the location specified. The router configuration files are copied into the new baseline directory under SCCS control.

Open Baseline Window

The Open Baseline window is displayed when the **File>Open Baseline** menu option in the Connectivity Tools window is selected. The format of the Open Baseline window is dependent upon whether you are using the Connectivity Baseliner or Connectivity Solver. As the Connectivity Baseliner does not support the **Analysis** and **Routing Table** options, they are not present in the Connectivity Baseliner's Open Baseline window. The Open Baseline window shown in Figure 3-2 is displayed when you are using the Connectivity Solver.

The Open Baseline window allows you to open and load an existing baseline thereby creating the baseline scenario and, when using the Connectivity Solver, compute the Routing Tables according to the **Analysis** and **Routing Table** options you specify.

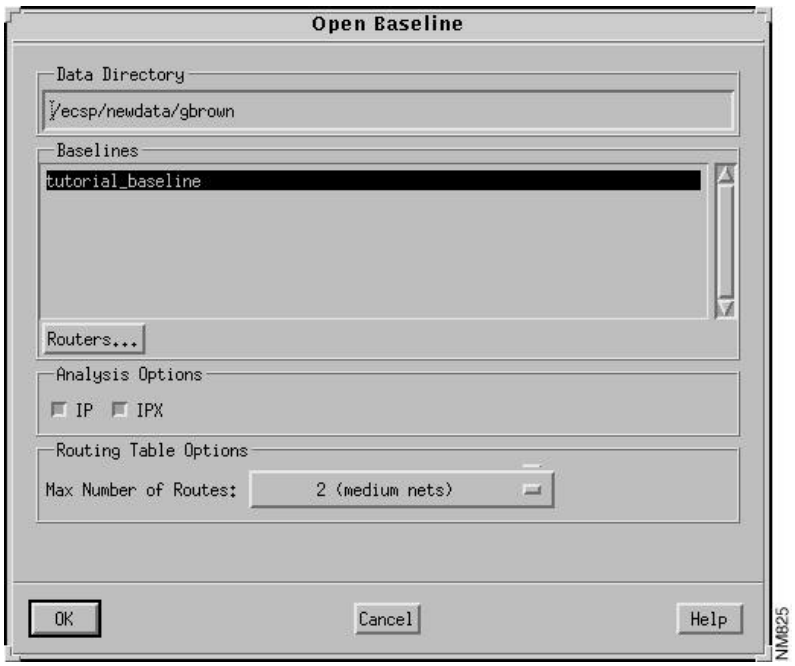

Figure 3-2 Connectivity Solver: Open Baseline Window

Open Baseline Window Components

The components of this window are described below. See “General Window Components” for a description of the **OK**, **Cancel**, and **Help** buttons.

Data Directory

Specify the directory where existing baselines are located, in this field. If the ECSP_DATA environment variable is set, its value is displayed in this field. To specify an alternative directory, enter the directory path in the **Data Directory** text field then press **Return**.

Baselines

The baselines located in the directory specified in the **Data Directory** field are displayed in this pane. Select the baseline you want to open from the **Baselines** list.

When you double-click on an entry in the **Baselines** list or select an entry and then click on the **OK** button, the selected baseline is loaded and an initial baseline scenario, using the baseline name as its name, is created. An entry for this initial baseline scenario is displayed and selected in the Connectivity Tools window’s **Scenarios** list. The following Connectivity Baseliner features are now available through the Connectivity Tools window:

- the baseline topology can be displayed (**Topology** button)
- the diagnostic report created from the router configuration files can be generated and displayed (**Report** button)
- the network’s router, LAN, link, and end system parameter settings can be viewed
- the static route, default network, and routing algorithm parameter settings can be viewed
- the windows associated with the baseline scenario can be iconified and reopened

Return to “Connectivity Baseliner” and “Connectivity Solver” for detailed information about the tasks that can be accomplished using the Connectivity Baseliner and Connectivity Solver.

Routers Button

Click on the **Routers** button to display the list of routers associated with the selected baseline, in the Routers window, as shown in Figure 3-3.

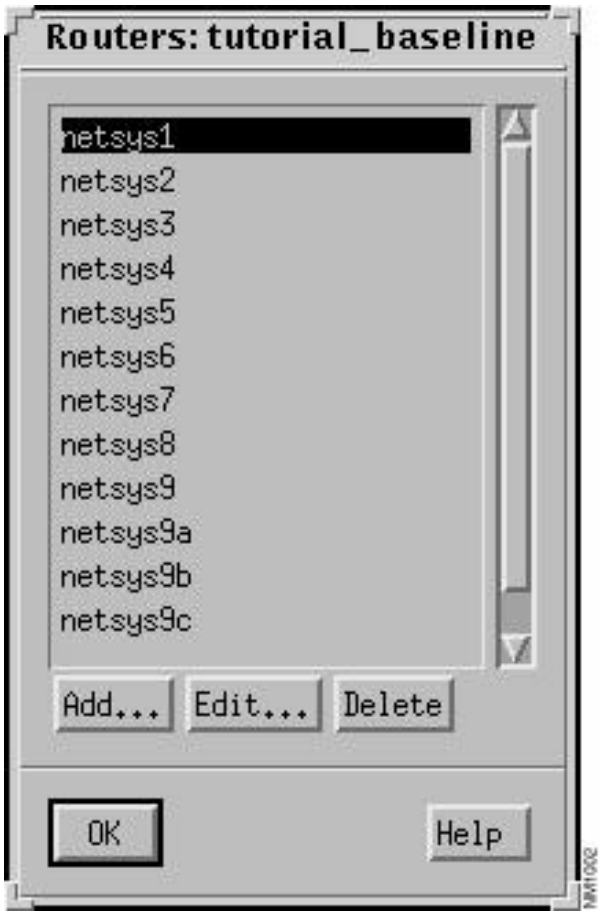

Figure 3-3 Routers Window

To add a new router to the baseline configuration, click on the **Add** button. The New Router window, shown in Figure 3-4, is displayed. Specify the location and name of the new router's configuration file in the **Selection** field, press **Return**, then click on the **OK** button. If a router with the same name you are attempting to add already exists in this baseline, you are given the option of replacing the existing router configuration file with the new one. The default path in the **Selection** field is the location specified by the ECSP_DATA environment variable.

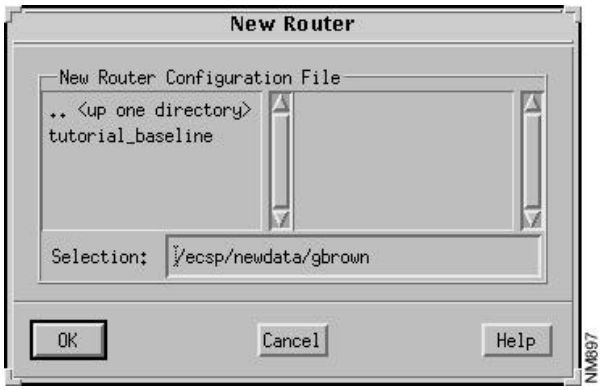

Figure 3-4 New Router Window

To edit a router's router configuration file, select the router from the list of routers, then click on the **Edit** button. The editor specified by the EDITOR environment variable is used to view or edit the selected router's configuration file. Depending on the file access permissions in place, the file can be opened in read only or read/write mode. Upon making the desired changes, click on the **OK** button.

To delete a router from the baseline, select the router from the list of routers, then click on the **Delete** button.

Analysis Options - IP and IPX Buttons

Note These buttons are available only when using the Connectivity Solver. The Connectivity Baseliner does not support the analysis feature.

Select the **IP** and/or **IPX** analysis buttons to select the type of routing protocol analysis to be performed on the baseline network. The default is to perform both IP and IPX analysis. If your network uses only one of the routing protocols, deselect the other routing protocol button prior to clicking on the **OK** button. Even if your network supports both protocols you may want to select only one protocol for analysis as the process can be resource intensive.

Routing Table Options - Max Number of Routes

Note These options are available only when using the Connectivity Solver. The Connectivity Baseliner does not support the computing of Routing Tables.

This option allows you to select the maximum number of routes per destination, in each Routing Table (IP and/or IPX), to be calculated during analysis. This parameter is the same as the router algorithm max routes metric; its purpose is to enable the global setting of the metric for all router/algorithms. Performance impact rises with the increased number of routes per destination chosen.

- 1 (large nets/fast analysis)

  Select this option when you have a large network (many router configuration files) or when you wish to perform a fast analysis of your network. A maximum of one route per destination in each Routing Table (IP and/or IPX) is calculated when you select this option.

- 2 (medium nets)

  Select this option when you have a medium sized network. A maximum of two routes per destination in each Routing Table (IP and/or IPX) are calculated when you select this option. This is the default.

- 3 (small nets)

  Select this option when you have a small sized network. A maximum of three routes per destination, in each Routing Table (IP and/or IPX) are calculated when you select this option.

- 4 (Be careful!)

  Select this option with care. A maximum of four routes per destination, in each Routing Table (IP and/or IPX) are calculated when you select this option. Selecting this option can lead to long processing times and can be very memory expensive.

Delete Baseline Window

The Delete Baseline window, shown in Figure 3-5, is displayed when the **File>Delete Baseline** menu option in the Connectivity Tools window is selected. This option allows an existing baseline to be deleted from the baselines directory specified by the ECSP_DATA environment variable.

Note You can not delete the current baseline.

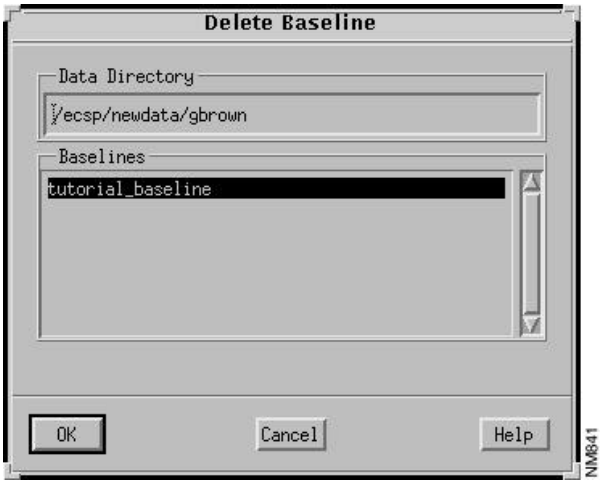

Figure 3-5 Delete Baseline Window

Delete Baseline Window Components

The components of this window are described below. See “General Window Components” for a description of the **OK**, **Cancel**, and **Help** buttons.

Data Directory

Specify the directory where existing baselines are stored in this field. If the ECSP_DATA environment variable is set, its value is displayed in this field. To specify an alternate directory, enter the directory path in this field, then press **Return**.

Baselines

A list of existing baselines found in the directory specified in the **Data Directory** field are displayed in this pane. Select the baseline entry to be deleted, then click on the **OK** button. Click on the **Cancel** button to dismiss the Delete Baseline window.

Export Baseline Window

The Export Baseline window, as shown in Figure 3-6, is displayed when the **File>Export Baseline** menu option in the Connectivity Tools window is selected. This option allows modified baseline router configuration files used for network simulation and/or analysis, to be saved. The router configuration files can then be used in another program or with routers in a work environment.

Figure 3-6 Export Baseline Window

Export Baseline Window Components

The components of this window are described below. See “General Window Components” for a description of the **OK**, **Cancel**, and **Help** buttons.

Destination directory

Specify the directory where the router configuration files are to be saved to in the **Go to** field, then press **Return**. The directories and files located in the current directory are displayed in the panes below the **Go to** field. Directories are listed in the left pane, files in the right pane. The default directory is your home directory. Navigation through the directories can be accomplished by

double-clicking on an entry in the directory list. The **Selected Directory** field displays the current directory either specified or navigated to. Click on the **OK** button when the desired location is reached or specified.

Find Device Window

The Find Device window, shown in Figure 3-7, is used to search for network elements by name or address (routers, links, and LAN components) and within router Routing Table entries. The search mechanism can also be used in conjunction with the Clipboard to collect sets of network elements for batch analysis purposes. It is displayed by selecting the **Options>Find Device** menu option in the Connectivity Tools window.

Note The Find Device windows shown in this chapter are displayed when using the Connectivity Solver. The Connectivity Baseliner does not support Routing Table queries. Therefore, you will not see Routing Table query entries in the Find Device windows when using the Connectivity Baseliner.

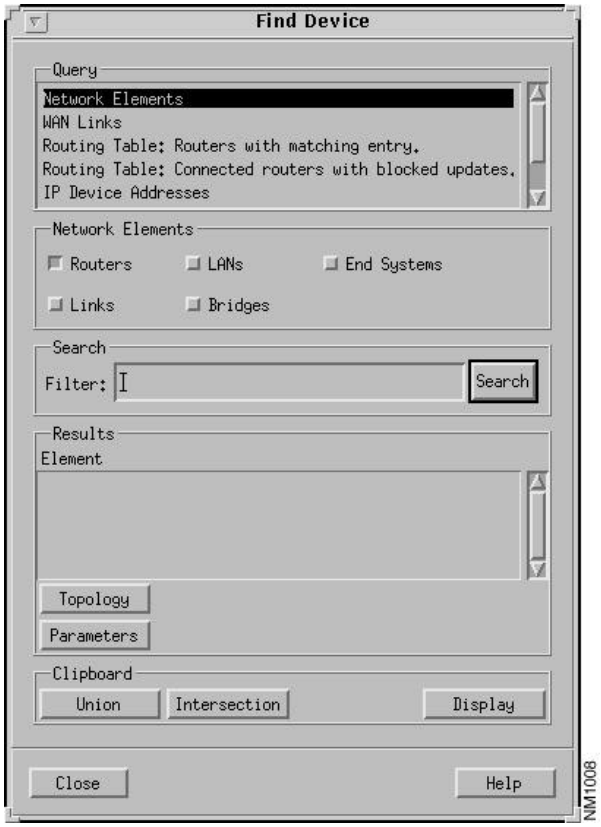

Figure 3-7 Connectivity Solver: Find Device Window

Find Device Window Components

The components of this window are described below. See “General Window Components” for a description of the **Close** and **Help** buttons.

Query - Network Elements

Select this entry to search for network elements by name. The **Network Elements** buttons and **Filter** field are used in conjunction with this type of search. The results of the search are displayed in the **Results** pane.

Query - WAN Links

Select this **Query** entry to search for serial interconnections. To search for all WAN links, use the default filter (asterisk) and click on the **Search** button. Upon completing the search, entries containing the names of the routers on both ends of the links and their interfaces, matching the filter you specified, are displayed in the **Results** pane.

When this **Query** mode is selected, the Find Device window, shown in Figure 3-8, contains three sets of **Topology** and **Parameters** buttons. See “Results - Topology Button(s)” and “Results - Parameters Button(s)” for information about these buttons.

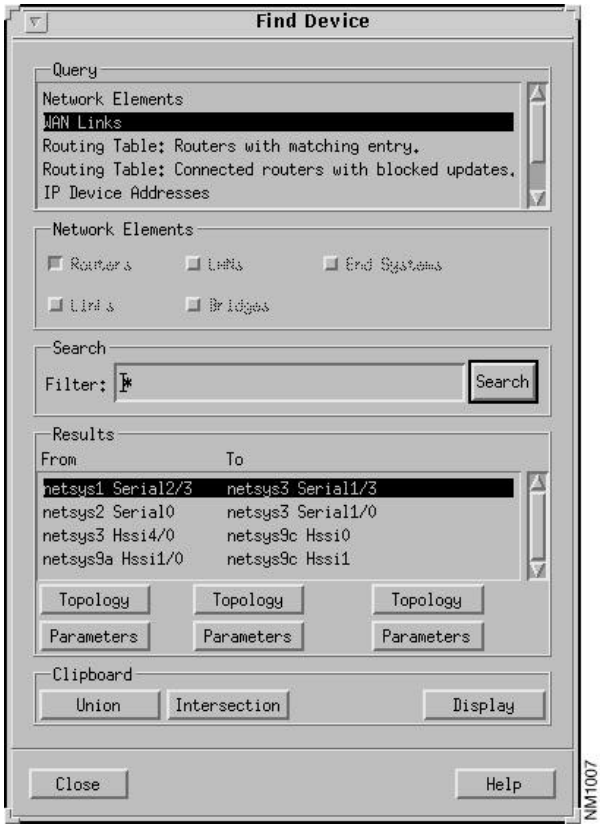

Figure 3-8 Connectivity Solver Find Device Window: WAN Links

Query - Routing Table: Routers with matching entry

Select this **Query** entry to search for routers with an IP Routing Table entry matching the IP address specified in the **Filter** field or to search for routers with an IPX Routing Table entry matching the IPX network address specified in the **Filter** field. The results of the search are displayed in the **Results** pane. An IP or IPX network address *must* be specified in the **Filter** field when this query option is selected.

Note This query is available only when using the Connectivity Solver. The Connectivity Baseliner does not support the Routing Table search feature.

Query - Routing Table: Connected routers with blocked updates

Select this **Query** entry to search for connected routers where one of the connected routers has an IP or IPX Routing Table entry matching the IP or IPX network address specified in the **Filter** field, while the other connected router does not have an IP or IPX Routing Table entry matching the IP or IPX network address specified in the **Filter** field. An IP or IPX network address *must* be specified in the **Filter** field when this query option is selected. When you click on this button, the format of the Find Device window changes, as shown in Figure 3-9. The results of this search are displayed in the **Results** pane. The connected routers with an IP or IPX Routing Table entry matching the IP or IPX network address specified in the **Filter** field are listed in the **Contains Entry** column while the routers without an IP or IPX Routing Table entry matching the IP or IPX network address specified in the **Filter** field are listed in the **Lacks Entry** column.

When this **Query** mode is selected, the Find Device window contains two sets of **Topology** and **Parameters** buttons. Each set is associated with the **Contains Entry** and **Lacks Entry** columns in the **Results** pane. See “Results - Topology Button(s)” and “Results - Parameters Button(s)” for information about these buttons.

Note This query is available only when using the Connectivity Solver. The Connectivity Baseliner does not support the Routing Table search feature.

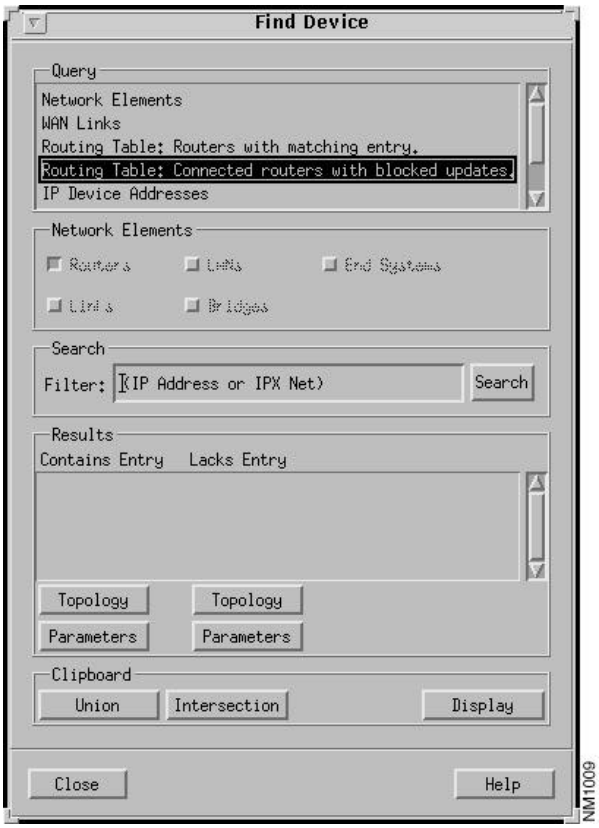

Figure 3-9 Connectivity Solver Find Device Window: Routers With Blocked Updates

Query - IP Device Addresses

Select this **Query** entry to search for network elements by IP address. Upon completing the search, qualifying IP addresses and their corresponding router names are displayed in the **Results** pane. The **Results** list is sorted by the IP addresses.

Query - Novell IPX Device Addresses

Select this **Query** entry to search for network elements by IPX address. Upon completing the search, qualifying IPX addresses and their corresponding router names are displayed in the **Results** pane. The **Results** list is sorted by the IPX addresses.

Query - RSRB Peers

Select this **Query** entry to search for Remote Source-Route Bridging peers. Upon completing the search the RSRB peer's ring group name and the peer router names and their addresses are displayed in the **Results** pane.

Network Elements

Click on a network element button to select that network element type to search for. Multiple device types can be selected as parameters for a single search. You can search for routers, LANs, end systems, links, and bridges. **Search**ing for Routing Table entries and RSRB Peers are relative to routers only, therefore the **Routers** button is selected by default and all of the **Network Elements** buttons are deactivated when queries of these types are selected.

Search - Filter

You are able to use the **Filter** field to specify a network element name or network element address to search for. Pressing **Return** or clicking on the **Search** button initiates the search using the filter you have specified. The results of the search are then displayed in the **Results** pane.

Special characters are available for your use. The backslash character is used as a means to escape special characters. The wild card character (an asterisk) is used to match any character. For example, if you selected **Network Elements** as the query mode, **Routers** as the network element type, specified **`net*`** in the **Filter** field and then clicked on the **Search** button, a list of the routers whose names begin with **`net`** are displayed in the **Results** pane. If the **Filter** field contained only an asterisk (the default search mode) in the above example, the names of all routers existing in the current baseline are displayed in the **Results** list.

The question mark is used to denote any one character. For example, if in the previous example you specified **`netsys?`** in the **Filter** field, all routers whose names begin with **`netsys`** and end with any character are listed in the **Results** list.

The negation operator (a tilde) is used to denote the characters *not* to match on during the search. It is only allowed as the first character in the **Filter** field. For example, if you did not want to display IP devices with an address beginning with **`132`**, you would specify **`~132*`** in the **Filter** field and click on the **Search** button. All IP devices whose IP address did not start with 132 are then displayed in the **Results** pane.

Compound searches are also permitted. For example, if you want to find routers whose names do not start with **`net`** and end with **`6`** *and* whose IP address does not start with **`132`**, you would specify **`~132* net*6`** in the **Filter** field and then click on the **Search** button. An existing router named **`netsys6`** with an IP address starting with any number other than **`132`** is displayed in the **Results** list after the completion of the search.

Note The search pattern specified in the **Filter** field when one of the Routing Table queries is selected *must* be an IP address or IPX network address in dotted decimal format. Routing Table searches are only available when using the Connectivity Solver. Wildcard characters are not accepted in the **Filter** field for Routing Table searches. There is no default. Upon entering an IP address or IPX network address search pattern, press **Return** or click on the **Search** button to initiate the Routing Table search.

Search - Search Button

Click on this button to initiate the search. The search process uses the selections specified in the **Query**, **Network Elements**, and **Filter** fields as search parameters. The results of the search are displayed in the window's **Results** pane.

Results

The results of the search are displayed in this pane. The network element type, the name of the network element, and where applicable, the name of the routers containing the Routing Table entries matching the filter pattern, are displayed.

Selecting an entry in the **Results** list highlights the corresponding network element's icon and displays its name or address in the Topology window, if it is already displayed. Double-clicking on a **Results** entry displays the corresponding Router/LAN/Link/End System configuration window.

Results - Topology Button(s)

Depending on the query mode you have specified, the Find Device window will have from one to three **Topology** buttons displayed.

Click on this button, after having selected an entry in the **Results** list, to highlight the corresponding network element's icon in the Topology window (if it is already displayed.)

When the query is set to `Routing Table: Connected routers with blocked updates`, two **Topology** buttons are displayed in the Find Device window. The buttons are associated with the **Contains Entry** and **Lacks Entry** columns in the **Results** pane. When you select a **Results** list entry and then click on a **Topology** button, the router icon associated with that entry is highlighted in the Topology window (if it is already displayed.)

When the query is set to `WAN Links`, three **Topology** buttons are displayed in the Find Device window. Upon selecting an entry in the **Results** list, clicking on the left **Topology** button highlights the corresponding link in the Topology window (if it is already displayed.) Clicking on the middle **Topology** button highlights the router icon listed in the **From** column of the **Results** list in the Topology window (if it is already displayed). Clicking on the right **Topology** buttonhighlights the router icon listed in the **To** column of the **Results** list in the Topology window (if it is already displayed).

Results - Parameters Button(s)

The results of clicking on this button depends on the type of query you invoke. On network element searches, clicking on this button displays the Router/LAN/Link Configuration window pertaining to the network element selected in the **Results** list. For example, if you select the **netsys1** router entry in the **Results** list and then click on the **Parameters** button, the **netsys1** Router Configuration window, containing the **netsys1** router attributes, is displayed.

When the query mode is `Routing Table: Routers with matching entry`, clicking on this button displays a Router Configuration window corresponding to the router selected in the **Results** list.

When the query mode is `Routing Table: Connected routers with blocked update`**s**, two **Parameters** buttons are displayed in the Find Device window. The buttons are associated with the **Contains Entry** and **Lacks Entry** columns in the **Results** pane and are used to display the corresponding router's Router Configuration window. For example, to display the Router Configuration window for a router in the **Contains Entry** column, select the appropriate entry in the **Results** list then click on the **Parameters** button displayed below that column.

When the query is set to `WAN Links`, three **Parameters** buttons are displayed in the Find Device window. Upon selecting an entry in the **Results** list, clicking on the left **Parameters** button displays the Link Configuration window pertaining to the selected entry's WAN link. Clicking on the middle **Parameters** button displays the Router Configuration window pertaining to the selected entry's router listed in the **From** column of the **Results** list. Clicking on the right **Parameters** button displays the Router Configuration window pertaining to the selected entry's router listed in the **To** column of the **Results** list.

Clipboard

The buttons in the **Clipboard** pane are used to add the search results to the **Results** pane in the Clipboard window and to display or bring to the front of the screen the Clipboard window. See “Clipboard Window” for a detailed information about the Clipboard window.

Clipboard - Union Button

Click on this button to merge the entries in the search **Results** pane with the entries in the Clipboard window’s **Results** pane, if they do not already exist. This is equivalent to doing a logical **OR** operation.

Clipboard - Intersection Button

Click on this button to save the entries that exist in *both* the Find Device and Clipboard window’s **Results** panes. If none of the entries exist in both windows, the **Results** pane in the Clipboard window is cleared. This is equivalent to doing a logical **AND** operation.

Clipboard - Display Button

Click on this button to display the Clipboard window.

Clipboard Window

The Clipboard window, shown in Figure 3-10, allows you to save and merge the results of various queries performed in the Find Device window and to perform the batch processing actions listed in the **Batch Analysis Actions** list when using the Connectivity Solver. See Chapter 6 in the *Enterprise/Solver Connectivity Tools User’s Guide* for a tutorial describing the use of the batch

analysis capabilities. You display the Clipboard window by clicking on the **Display** button in the Find Device window or by selecting the **Options>Show Clipboard** menu option in the Connectivity Tools window.

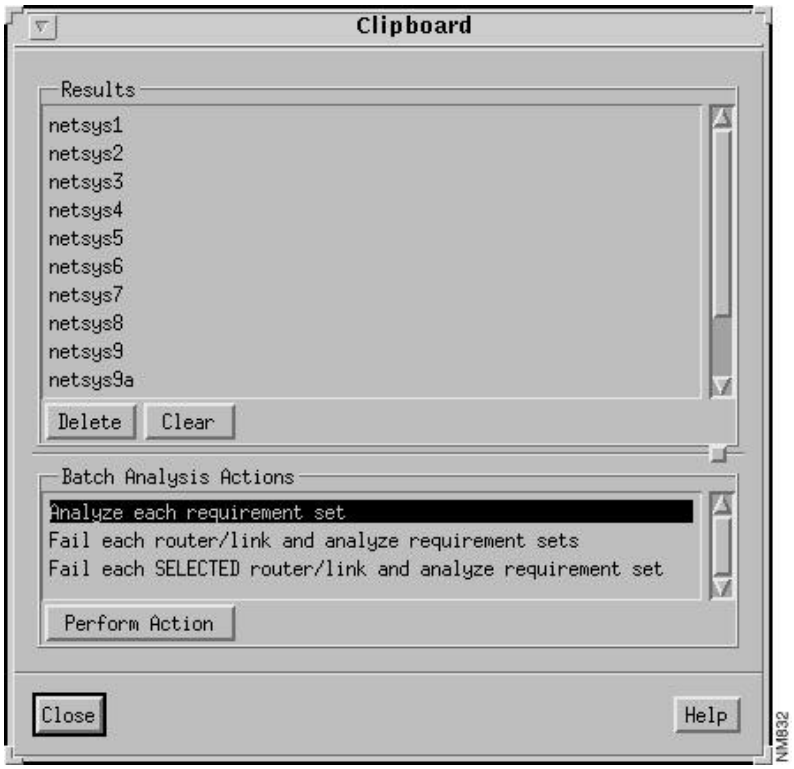

Figure 3-10 Clipboard Window

Clipboard Window Components

The components of this window are described below. See “General Window Components” for a description of the **Close** and **Help** buttons.

Results

The **Results** list is populated from the Find Device window’s **Results** list. Network elements, and where applicable, their addresses and other pertinent information, displayed in the Find Device window’s **Results** list can be added to or merged with the existing entries in this list. See “Clipboard” for a description of how the Find Device window’s **Results** list entries are added to or merged with the entries in this list.

When you click on an entry in this list its corresponding network element icon in the Topology window is highlighted and its name, symbolic name, or address is displayed.

Results - Delete Button

Select the entries you want to delete from the **Results** list then click on this button to delete them.

Results - Clear Button

Click on this button to delete all entries from the **Results** list.

Batch Analysis Actions

Note This feature is available only when using the Connectivity Solver.

A list of the batch analysis actions you can perform is displayed in this pane. Double-clicking on a **Batch Analysis Actions** list entry or selecting a **Batch Analysis Actions** list entry and then clicking on the **Perform Action** button initiates that action. The batch analysis actions currently available are:

- Analyze Each Requirement Set

  Select this option to analyze all of the connectivity requirements that currently exist. The **Results** list entries are not used with this option. The Requirements Analysis window is displayed showing the results of the analysis as they are performed. The results and exceptions found during analysis of each of the existing connectivity requirements are saved to the */tmp/batch_reqts.txt* log file.

- Fail Each Router/Link and Analyze Requirement Sets

  Select this option to set the operational status of each of the devices/links (one at a time) in the **Results** list to a failed state and then perform analysis on each of the existing connectivity requirement sets against that failed device/link. The Requirements Analysis window is displayed showing the results of each analysis as it is performed. The results and exceptions found during analysis of each of the existing connectivity requirements are saved to the */tmp/batch_fail.txt* log file.

Note In order to perform this batch processing action, you *must not* be using the baseline scenario.

- Fail Each Selected Router/Link and Analyze Requirement Sets

  Select this action option to set the operational status of each of the devices/links (one at a time) you selected in the **Results** list to a failed state and then perform analysis on each of the existing connectivity requirement sets against that failed device/link. The Requirements Analysis window is displayed showing the results of each analysis as it is performed. The results and exceptions found during analysis of each of the existing connectivity requirements are saved to the */tmp/batch_fail.txt* log file.

Note In order to perform this batch processing action, you *must not* be using the baseline scenario.

Batch Analysis Actions - Perform Action Button

Select the action you want performed, and if necessary, the device/link(s) from the **Results** list, then click on this button to initiate that action. The Batch Analysis window is then displayed. See “Batch Analysis Window” for a detailed description of the Batch Analysis window.

Batch Analysis Window

The Batch Analysis window is displayed when you select an action you want performed, and if necessary the device/link(s) from the **Results** list in the Clipboard window, and then click on the **Perform Action** button. Figure 3-11 is an example of the Batch Analysis window that is displayed when the **Analyze each requirement set** batch analysis action option in the Clipboard window was selected and the **Perform Action** button was clicked.

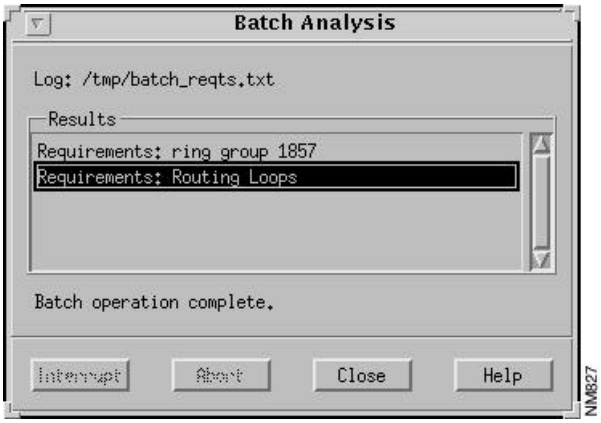

Figure 3-11 Batch Analysis Window

Batch Analysis Window Components

The components of this window are described below. See “General Window Components” for a description of the **Close** and **Help**.

Log

The log file */tmp/batch_reqts.txt* is created when the **Analyze each requirement set** batch processing action is initially selected. The results of the analysis performed on each of the Connectivity Requirements that currently exist by this action are saved to this log file on an ongoing basis.

The log file */tmp/batch_fail.txt* is created when either of the **Fail each router/link...** batch processing actions are initially selected. The results of the analysis performed on each of the Connectivity Requirements that currently exist by these actions are saved to this log file on an ongoing basis.

Results

Information pertaining to the batch analysis action currently being performed is displayed in this list on an ongoing basis until the batch analysis action is complete.

Interrupt/Resume Button

Click on this toggle button to interrupt the batch analysis action currently being executed. When you click on this button, it becomes a **Resume** button. Click on the **Resume** button to resume the batch analysis option that you had previously interrupted.

Abort Button

Click on this button to terminate the batch analysis action currently being executed.