



Working with Linksets

SGM enables you to view information about all discovered linksets, including their associated nodes, status, and other important information.

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Related Topics:

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- [Resizing, Sorting, and Hiding Table Columns, page 3-53](#)
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Viewing Basic Information for Linksets

SGM enables you to view basic information about all discovered linksets, including their associated nodes, status, and other important information.

To view basic information for linksets, select **Linksets** in the left pane of the SGM Main Window. SGM displays the Linkset Window.

The Linkset Window displays information about the linksets that have been discovered by SGM.

The Linkset Window is composed of the following sections:

- [Right-Click Menu for All Linksets, page 8-3](#)
- [Right-Click Menu for a Specific Linkset, page 8-3](#)
- [Linkset Table, page 8-7](#)

Related Topics:

- [Attaching a Note to a Linkset, page 8-53](#)
- [Changing SGM Client Preference Settings, page 23-2](#)
- [Resizing, Sorting, and Hiding Table Columns, page 3-53](#)
- [Using the SGM Main Menu, page 3-9](#)
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Right-Click Menu for All Linksets

To see the right-click menu for all linksets, select **Linksets** in the left pane and click the right mouse button. The linksets right-click menu provides the following options:

Menu Command	Description
Show In New Window	Opens the Linkset Window in a new window.
Sort Tree By Status	Sorts the entire tree in the left pane by the status of each object.
Sort Tree By Name	Sorts the entire tree in the left pane by the name of each object.
Back > List of Windows	Navigates back to a window viewed in this session. SGM maintains a list of up to 10 Back windows.
Forward > List of Windows	Navigates forward to a window viewed in this session. SGM maintains a list of up to 10 Forward windows.

Right-Click Menu for a Specific Linkset

The Linkset Window provides a subset of the SGM Main Menu as a right-click menu. To see this menu, select a linkset and click the right mouse button. The linkset right-click menu provides the following options:

Menu Command	Description
Edit Notes	Opens the Edit Notes Dialog for the selected linkset. If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher.
Clear Event Icon	Deletes the event icon (orange triangle) from SGM displays for the selected linkset, for this SGM client only. The actual events are not deleted from SGM, only the event icon for the selected linkset for this SGM client. This option is grayed-out if the selected linkset has no associated event icon.

Menu Command	Description
Delete	<p>Deletes the currently selected linkset from the SGM database. SGM displays the Confirm Deletion dialog:</p> <ul style="list-style-type: none"> To delete the selected linkset, click Yes. The linkset is deleted from the SGM database and the Confirm Deletion dialog is closed. To retain the selected linkset, click No. The linkset is kept in the SGM database and the Confirm Deletion dialog is closed. <p>Note If you delete all linksets to an Unmanaged node, SGM does not automatically delete the node. Instead, you must manually delete the node. See the “Deleting a Node” section on page 6-100 for more information.</p> <ul style="list-style-type: none"> To prevent SGM from displaying the Confirm Deletion dialog, select the Do not show this again checkbox. <p>Note If you select the Do not show this again checkbox, and you later decide you want SGM to begin displaying the Confirm Deletion dialog again, you must select the Confirm Deletions checkbox in the General GUI settings in the Preferences window. For more information, see the description of the Confirm Deletions checkbox in the “Startup/Exit Settings” section on page 23-6.</p> <p>If you have implemented SGM User-Based Access, this option is available to users with authentication level Network Administrator (Level 4) and higher.</p>
Go To > SP	<p>Displays the Signaling Point Window for the signaling point associated with this linkset.</p> <p>SGM displays two Go To > SP links if both sides are in the model.</p>

Menu Command	Description
Go To > Node	<p>Displays the Node Window for the node associated with this linkset.</p> <p>SGM displays two Go To > Node links if both sides are in the model.</p>
Back > List of Windows	<p>Navigates back to a window viewed in this session.</p> <p>SGM maintains a list of up to 10 Back windows.</p>
Forward > List of Windows	<p>Navigates forward to a window viewed in this session.</p> <p>SGM maintains a list of up to 10 Forward windows.</p>
View > Components	Displays the Components panel for the selected linkset.
View > Configuration Details	Displays the Configuration Data panel for the selected linkset.
View > Notes	<p>Displays the Notes panel for the selected linkset.</p> <p>If there are no notes associated with the selected linkset, this option is grayed-out.</p>
View > Events	Displays the Recent Events panel for the selected linkset and its associated links.
View > Real-Time Data and Charts	<p>Displays the Statistics Details Window for the selected linkset.</p> <p>If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher.</p> <p>This option is not available if the linkset is in Unknown or Unavailable status, or if the linkset is a Virtual linkset.</p>
View > Center in Topo	<p>Opens the Topology Window, with the display zoomed to center on the selected linkset.</p> <p>If more than one view contains the selected linkset, SGM prompts you to choose one of the views.</p>
Event History > Status Change Messages	Displays the SGM Network Status Log for Status Change Messages in a Web browser, with messages displayed for only the selected linkset.

Menu Command	Description
Event History > SNMP Trap Messages	Displays the SGM Network Status Log for SNMP Trap Messages in a Web browser, with messages displayed for only the selected linkset.
Event History > Status and Trap Messages	Displays the SGM Network Status Log for Status Change Messages and SNMP Trap Messages in a Web browser, with messages displayed for only the selected linkset.
Event History > Network Status Metrics	Displays the SGM Network Status Log for Metrics in a Web browser, with messages displayed for only the selected linkset.
Ignore	<p>Ignores the selected linkset at the next polling cycle.</p> <p>If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher.</p>
Unignore	<p>Stops ignoring the selected linkset at the next polling cycle.</p> <p>If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher.</p>
Drill-Down > Linkset Access List	<p>Opens the Linkset Details: Linkset Access Lists table, which displays all access lists associated with the selected linkset.</p> <p>This option is not available if the linkset is in Unknown or Unavailable status, or if the linkset is a Virtual linkset.</p>
Latest Reports > Linkset Statistics	Displays the most recent Linkset Statistics: Hourly Report for the linkset, in a Web browser.
Latest Reports > Linkset Peaks	Displays the most recent Linkset Utilization Peaks - Rolling 30 Days Report for the linkset, in a Web browser.
Latest Reports > Link Statistics	Displays the most recent Link Statistics: Hourly Report for the links associated with the linkset, in a Web browser.
Latest Reports > Link Peaks	Displays the most recent Link Utilization Peaks - Rolling 30 Days Report for the links associated with the linkset, in a Web browser.

Linkset Table

The linkset table displays information about the linksets that have been discovered by SGM.

Linksets that are associated with nodes that are excluded from the current view are not displayed in the linkset table. See the [“Creating a New View” section on page 4-68](#) for more information about excluding nodes.

To see mouse over help popup for each column in the table, place the cursor over a column header.

If a cell is too small to show all of its data, place the cursor over the cell to see the full data in a mouse over help popup.

You can resize each column, or sort the table based on the information in one of the columns. By default, this table is sorted by **Status**, and SGM displays all of the columns in the Linkset Table except **Internal ID**, **Node**, **SP**, **Congested Links**, and **Last Status Change**.

- To display hidden columns, right-click in the table header and select the checkboxes for the columns you want to display.
- To hide columns, right-click in the table header and clear the checkboxes for the columns you want to hide.

See the [“Resizing, Sorting, and Hiding Table Columns” section on page 3-53](#) for more information about resizing, sorting, displaying, or hiding columns.

The linkset table contains the following columns:

Column	Description
Internal ID	Internal ID of the linkset. The internal ID is a unique ID for every object, assigned by SGM for its own internal use. It can also be useful when the TAC is debugging problems.
Name	Name of the linkset.
Node	Node associated with the linkset.
Signaling Point	Signaling point associated with the linkset.
Local Point Code	Point code of the primary signaling point for the linkset.
Adj Point Code	Point code of the adjacent signaling point for the linkset.

Column	Description
Linkset Type	<p>Type of linkset, which SGM determines by examining the links defined in the linkset. Possible linkset types are:</p> <ul style="list-style-type: none"> • HSL—The links in this linkset use the SS7-over-ATM (Asynchronous Transfer Mode) high-speed protocol. • SCTPIP—The links in this linkset use the Stream Control Transmission Protocol (SCTP) IP transport protocol. • Serial—The links in this linkset use the serial SS7 signaling protocol. • Mixed—The links in this linkset are of two or more types. (This configuration is not recommended.) • Virtual—The links in this linkset are virtual links, which connect signaling point instances running on the same device. SGM does not poll virtual linksets, nor does it display real-time data or accounting statistics for virtual linksets. <p>Note Prior to IOS release 12.2(23)SW1, virtual linksets on multi-instance routers were created manually by the user. Within and after that release, virtual linksets are created automatically.</p> <ul style="list-style-type: none"> • Other—No links have been defined for this linkset.
Links	Total number of links in the linkset.
Active Links	Number of links in the linkset that are Active .
Congested Links	Number of links in the linkset that are Congested .
Ignored	<p>Indicates whether the linkset is to be included when aggregating and displaying SGM status information:</p> <ul style="list-style-type: none"> • Clear the checkbox to include the linkset. This is the default setting. • Select the checkbox to exclude the linkset. <p>This field can be edited by users with authentication level Power User (Level 2) and higher.</p>
Notes	Indicates whether there is a note associated with the linkset.

Column	Description
Events	<p>Indicates whether there is a recent event associated with the linkset. (Even if the server purges all of the events associated with the linkset, SGM continues to display the event icon in this field.)</p> <ul style="list-style-type: none">• To delete the event icon (orange triangle) from SGM displays for a specific linkset, select the linkset and click the icon.• To delete the event icon from SGM displays for all linksets, select Edit > Clear All Events from the SGM Main Menu. <p>Note During Discovery, SGM might flag most linksets with an event icon. If the event icons are too distracting, use the Edit > Clear All Events menu option to remove them.</p>
Last Status Change	Date and time that the status of the linkset last changed.

Column	Description
Status	<p>Current status of the linkset. Possible values are:</p> <p>Active (green)</p> <p>Shutdown (blue)</p> <p>Unavailable (red)</p> <p>Unknown (red)</p> <p>Warning (yellow)</p> <p>For detailed definitions of each status, see the “Status Definitions for Linksets” section on page A-5.</p>
Status Reason	<p>Reason for the current status of the signaling gateway mated pair.</p> <p>For a full list of possible reasons, see the <i>stateReasons.html</i> file:</p> <ul style="list-style-type: none"> • If you installed SGM in the default directory, <i>/opt</i>, then the file is located at <i>/opt/CSCOsgm/apache/share/htdocs/eventHelp</i> directory. • If you installed SGM in a different directory, then the help directory and file are located in that directory. <p>If the cell is too small to show all of the status reason, place the cursor over the cell to see the full status reason in a mouse over help popup.</p> <p>The status reasons are listed in order of decreasing magnitude. If two or more reasons apply, the reason of greatest magnitude is displayed.</p> <p>If the status reason is Unsupported Configuration, correct the configuration and enter the sgm cleandiscover command to delete all current network data and begin a clean discovery of the ITP network. If the status reason is still Unsupported Configuration, enter the sgm clean command to restore the SGM server to a “clean” state, such as would exist after a new installation of SGM. For more information on the use of these commands, see the “SGM Command Reference” section on page C-1.</p>

Viewing Detailed Information for a Linkset

SGM enables you to view detailed information about the selected linkset, including its associated links, status, and other information.

To display detailed information for a linkset, use one of the following procedures:

- Select **Linksets** in the left pane of the SGM Main Window, right-click a linkset in the right pane, then select **View > Configuration Details** in the right-click menu.
- Select the turner beside **Linksets** in the left pane of the SGM Main Window, then select a linkset.

SGM displays the Linkset Details Window.

Detailed information for the selected linkset is displayed in the left column, and for the adjacent linkset in the right column.

Updates for the linkset that are received from the SGM server are reflected automatically in this window.

The Linkset Details Window is composed of the following sections:

- [Linkset Details: Right-Click Menu, page 8-12](#)
- [Linkset Details: Components, page 8-16](#)
- [Linkset Details: Configuration Data, page 8-19](#)
- [Linkset Details: Notes, page 8-22](#)
- [Linkset Details: Recent Events, page 8-22](#)
- [Linkset Details: Linkset Access Lists, page 8-27](#)

Related Topics:

- [Working with Linksets, page 8-1](#)

Linkset Details: Right-Click Menu

The Linkset Details Window provides a right-click menu. To see this menu for a linkset, select a linkset in the left pane and click the right mouse button. The linkset details right-click menu provides the following options:

Menu Command	Description
Show In New Window	Opens the Linkset Details Window for the selected linkset in a new window.
Edit Notes	Opens the Edit Notes Dialog for the selected linkset. If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher.
Clear Event Icon	Deletes the event icon (orange triangle) from SGM displays for the selected linkset, for this SGM client only. The actual events are not deleted from SGM, only the event icon for the selected linkset for this SGM client. This option is grayed-out if the selected linkset has no associated event icon.

Menu Command	Description
Delete	<p>Deletes the currently selected linkset from the SGM database. SGM displays the Confirm Deletion dialog:</p> <ul style="list-style-type: none"> To delete the selected linkset, click Yes. The linkset is deleted from the SGM database and the Confirm Deletion dialog is closed. To retain the selected linkset, click No. The linkset is kept in the SGM database and the Confirm Deletion dialog is closed. <p>Note If you delete all linksets to an Unmanaged node, SGM does not automatically delete the node. Instead, you must manually delete the node. See the “Deleting a Node” section on page 6-100 for more information.</p> <ul style="list-style-type: none"> To prevent SGM from displaying the Confirm Deletion dialog, select the Do not show this again checkbox. <p>Note If you select the Do not show this again checkbox, and you later decide you want SGM to begin displaying the Confirm Deletion dialog again, you must select the Confirm Deletions checkbox in the General GUI settings in the Preferences window. For more information, see the description of the Confirm Deletions checkbox in the “Startup/Exit Settings” section on page 23-6.</p> <p>If you have implemented SGM User-Based Access, this option is available to users with authentication level Network Administrator (Level 4) and higher.</p>
Go To > SP	<p>Displays the Signaling Point Window for the signaling point associated with this linkset.</p> <p>SGM displays two Go To > SP links if both sides are in the model.</p>

Menu Command	Description
Go To > Node	Displays the Node Window for the node associated with this linkset. SGM displays two Go To > Node links if both sides are in the model.
Back > List of Windows	Navigates back to a window viewed in this session. SGM maintains a list of up to 10 Back windows.
Forward > List of Windows	Navigates forward to a window viewed in this session. SGM maintains a list of up to 10 Forward windows.
View > Components	Displays the Components panel for the selected linkset.
View > Configuration Details	Displays the Configuration Data panel for the selected linkset.
View > Notes	Displays the Notes panel for the selected linkset. If there are no notes associated with the selected linkset, this option is grayed-out.
View > Events	Displays the Recent Events panel for the selected linkset and its associated links.
View > Real-Time Data and Charts	Displays the Statistics Details Window for the selected linkset. If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher. This option is not available if the linkset is in Unknown or Unavailable status, or if the linkset is a Virtual linkset.
View > Center in Topo	Opens the Topology Window, with the display zoomed to center on the selected linkset. If more than one view contains the selected linkset, SGM prompts you to choose one of the views.
Event History > Status Change Messages	Displays the SGM Network Status Log for Status Change Messages in a Web browser, with messages displayed for only the selected linkset.

Menu Command	Description
Event History > SNMP Trap Messages	Displays the SGM Network Status Log for SNMP Trap Messages in a Web browser, with messages displayed for only the selected linkset.
Event History > Status and Trap Messages	Displays the SGM Network Status Log for Status Change Messages and SNMP Trap Messages in a Web browser, with messages displayed for only the selected linkset.
Event History > Network Status Metrics	Displays the SGM Network Status Log for Metrics in a Web browser, with messages displayed for only the selected linkset.
Ignore	<p>Ignores the selected linkset at the next polling cycle.</p> <p>If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher.</p>
Unignore	<p>Stops ignoring the selected linkset at the next polling cycle.</p> <p>If you have implemented SGM User-Based Access, this option is available to users with authentication level Power User (Level 2) and higher.</p>
Drill-Down > Linkset Access List	<p>Opens the Linkset Details: Linkset Access Lists table, which displays all access lists associated with the selected linkset.</p> <p>This option is not available if the linkset is in Unknown or Unavailable status, or if the linkset is a Virtual linkset.</p>
Latest Reports > Linkset Statistics	Displays the most recent Linkset Statistics: Hourly Report for the linkset, in a Web browser.
Latest Reports > Linkset Peaks	Displays the most recent Linkset Utilization Peaks - Rolling 30 Days Report for the linkset, in a Web browser.
Latest Reports > Link Statistics	Displays the most recent Link Statistics: Hourly Report for the links associated with the linkset, in a Web browser.
Latest Reports > Link Peaks	Displays the most recent Link Utilization Peaks - Rolling 30 Days Report for the links associated with the linkset, in a Web browser.

Linkset Details: Components

The Linkset Details: Components section displays information about the links that are associated with the selected linkset. (If the linkset is not associated with any links, the Linkset Details: Components section is empty.)

To see mouse over help popup for each column in the table, place the cursor over a column header.

If a cell is too small to show all of its data, place the cursor over the cell to see the full data in a mouse over help popup.

You can resize each column, or sort the table based on the information in one of the columns. By default, SGM displays all of the columns in the link table except **Internal ID**, **Congestion Level**, and **Last Status Change**.

- To display hidden columns, right-click in the table header and select the checkboxes for the columns you want to display.
- To hide columns, right-click in the table header and clear the checkboxes for the columns you want to hide.

See the [“Resizing, Sorting, and Hiding Table Columns”](#) section on page 3-53 for more information about resizing, sorting, displaying, or hiding columns.

The link table contains the following columns:

Column	Description
Internal ID	Internal ID of the link. The internal ID is a unique ID for every object, assigned by SGM for its own internal use. It can also be useful when the TAC is debugging problems.
Node	Name of the node associated with the link.
Signaling Point	Name of the signaling point associated with the link.
Linkset	Name of the linkset associated with the link.
SLC	Signaling link code (SLC) ID for the link.

Column	Description
Type	<p>Type of link. Possible link types are:</p> <ul style="list-style-type: none"> • HSL—The link uses the SS7-over-ATM (Asynchronous Transfer Mode) high-speed protocol. • SCTPIP—The link uses the Stream Control Transmission Protocol (SCTP) IP transport protocol. • Serial—The link uses the serial SS7 signaling protocol. • Virtual—The link is a virtual link, which connects signaling point instances running on the same device. SGM does not poll virtual links, nor does it display real-time data or accounting statistics for virtual links.
Congestion Level	<p>Indicates whether there is congestion on the link. A link is congested if it has too many packets waiting to be sent. This condition could be caused by the failure of an element in your network.</p> <p>Possible values for the Congestion Level field are None, indicating no congestion, and 1 to 7, indicating levels of congestion from very light (1) to very heavy (7).</p>
Ignored	<p>Indicates whether the link is to be included when aggregating and displaying SGM status information:</p> <ul style="list-style-type: none"> • Clear the checkbox to include the link. This is the default setting. • Select the checkbox to exclude the link. <p>This field can be edited by users with authentication level Power User (Level 2) and higher.</p>
Notes	Indicates whether there is a note associated with the link.
Events	<p>Indicates whether there is a recent event associated with the link. (Even if the server purges all of the events associated with the link, SGM continues to display the event icon in this field.)</p> <ul style="list-style-type: none"> • To delete the event icon (orange triangle) from SGM displays for a specific link, select the link and click the icon. • To delete the event icon from SGM displays for all links, select Edit > Clear All Events from the SGM Main Menu. <p>Note During Discovery, SGM might flag most links with an event icon. If the event icons are too distracting, use the Edit > Clear All Events menu option to remove them.</p>

Column	Description
Last Status Change	Date and time that the status of the link last changed.
Status	<p>Current status of the link. Possible values are:</p> <p>Active (green)</p> <p>Blocked (red)</p> <p>Failed (red)</p> <p>InhibitLoc (blue)</p> <p>InhibitRem (blue)</p> <p>Shutdown (blue)</p> <p>Unknown (red)</p> <p>Warning (yellow)</p> <p>For detailed definitions of each status, see the “Status Definitions for Links” section on page A-4.</p>
Status Reason	<p>Reason for the current status of the signaling gateway mated pair.</p> <p>For a full list of possible reasons, see the <i>stateReasons.html</i> file:</p> <ul style="list-style-type: none"> • If you installed SGM in the default directory, <i>/opt</i>, then the file is located at <i>/opt/CSCOsgm/apache/share/htdocs/eventHelp</i> directory. • If you installed SGM in a different directory, then the help directory and file are located in that directory. <p>If the cell is too small to show all of the status reason, place the cursor over the cell to see the full status reason in a mouse over help popup.</p> <p>The status reasons are listed in order of decreasing magnitude. If two or more reasons apply, the reason of greatest magnitude is displayed.</p> <p>If the status reason is Unsupported Configuration, correct the configuration and enter the sgm cleandiscover command to delete all current network data and begin a clean discovery of the ITP network. If the status reason is still Unsupported Configuration, enter the sgm clean command to restore the SGM server to a “clean” state, such as would exist after a new installation of SGM. For more information on the use of these commands, see the “SGM Command Reference” section on page C-1.</p>

Linkset Details: Configuration Data

The Linkset Details: Configuration Data section is composed of the following sub-sections:

- [Naming Information, page 8-19](#)
- [Status Information, page 8-19](#)
- [Description, page 8-20](#)
- [General Information, page 8-21](#)
- [Links Information, page 8-22](#)

Configuration data for the selected linkset is displayed in the left column, and for the adjacent linkset in the right column.

Naming Information

The Naming Information sub-section contains the following fields:

Field	Description
Name	Name of the linkset.
Node	Node associated with the linkset.
Signaling Point	Signaling point associated with the linkset.
Local Point Code	Point code of the primary signaling point for the linkset.
Adj Point Code	Point code of the adjacent signaling point for the linkset.

Status Information

The Status Information sub-section contains the following fields:

Field	Description
Is Ignored	Indicates whether the linkset is Ignored (that is, whether the linkset is to be included when aggregating and displaying SGM status information).
Last Status Change	Date and time that the status of the linkset last changed.

Field	Description
Status	<p>Current status of the linkset. Possible values are:</p> <p>Active (green)</p> <p>Shutdown (blue)</p> <p>Unavailable (red)</p> <p>Unknown (red)</p> <p>Warning (yellow)</p> <p>For detailed definitions of each status, see the “Status Definitions for Linksets” section on page A-5.</p>
Status Reason	<p>Reason for the current status of the signaling gateway mated pair.</p> <p>For a full list of possible reasons, see the <i>stateReasons.html</i> file:</p> <ul style="list-style-type: none"> • If you installed SGM in the default directory, <i>/opt</i>, then the file is located at <i>/opt/CSCOsgm/apache/share/htdocs/eventHelp</i> directory. • If you installed SGM in a different directory, then the help directory and file are located in that directory. <p>If the cell is too small to show all of the status reason, place the cursor over the cell to see the full status reason in a mouse over help popup.</p> <p>The status reasons are listed in order of decreasing magnitude. If two or more reasons apply, the reason of greatest magnitude is displayed.</p> <p>If the status reason is Unsupported Configuration, correct the configuration and enter the sgm cleandiscover command to delete all current network data and begin a clean discovery of the ITP network. If the status reason is still Unsupported Configuration, enter the sgm clean command to restore the SGM server to a “clean” state, such as would exist after a new installation of SGM. For more information on the use of these commands, see the “SGM Command Reference” section on page C-1.</p>

Description

The Description sub-section contains a description of the linkset. If the linkset has no description, this sub-section is blank.

General Information

The General Information sub-section contains the following fields:

Field	Description
Linkset Type	<p>Type of linkset, which SGM determines by examining the links defined in the linkset. Possible linkset types are:</p> <ul style="list-style-type: none">• HSL—The links in this linkset use the SS7-over-ATM (Asynchronous Transfer Mode) high-speed protocol.• SCTPIP—The links in this linkset use the Stream Control Transmission Protocol (SCTP) IP transport protocol.• Serial—The links in this linkset use the serial SS7 signaling protocol.• Mixed—The links in this linkset are of two or more types. (This configuration is not recommended.)• Virtual—The links in this linkset are virtual links, which connect signaling point instances running on the same device. SGM does not poll virtual linksets, nor does it display real-time data or accounting statistics for virtual linksets. <p>Note Prior to IOS release 12.2(23)SW1, virtual linksets on multi-instance routers were created manually by the user. Within and after that release, virtual linksets are created automatically.</p> <ul style="list-style-type: none">• Other—No links have been defined for this linkset.
Inbound ACL	<p>Inbound IP access control list (ACL) number for the linkset.</p> <p>If there is no inbound ACL for the linkset, this field displays 0.</p> <p>If the linkset is a Virtual linkset, this field displays N/A.</p>
Outbound ACL	<p>Outbound ACL number for the linkset.</p> <p>If there is no outbound ACL for the linkset, this field displays 0.</p> <p>If the linkset is a Virtual linkset, this field displays N/A.</p>

Links Information

The Links Information sub-section contains the following fields:

Field	Description
Links	Total number of links in the linkset.
Active Links	Number of links in the linkset that are Active .
Congested Links	Number of links in the linkset that are Congested .

Linkset Details: Notes

The Linkset Details: Notes section displays:

- Notes associated with the selected linkset in the left column.
- Notes associated with the adjacent linkset in the right column.
- The date and time the notes associated with each linkset were last updated, or the phrase **Not Set** if there are no notes associated with the linkset.
- The phrase **No Notes** if there are no notes associated with the linkset.

Linkset Details: Recent Events

The Linkset Details: Recent Events table displays information about all recent events associated with the linkset, and enables you to perform event-related tasks, such as setting filters and acknowledging events.

To see mouse over help popup for each column in the table, place the cursor over a column header.

If a cell is too small to show all of its data, place the cursor over the cell to see the full data in a mouse over help popup.

You can resize each column, or sort the table based on the information in one of the columns. By default, SGM displays all of the columns in the table except **Internal ID**, **Note**, **Message Name**, **Ack By**, **Ack Time**, **Node**, **SP**, **Linkset**, **Link**, **SGMP**, **ASP**, **AS**, **ASPA**, **Probe Conn**, and **Probe Link**.

- To display hidden columns, right-click in the table header and select the checkboxes for the columns you want to display.
- To hide columns, right-click in the table header and clear the checkboxes for the columns you want to hide.

See the [“Resizing, Sorting, and Hiding Table Columns”](#) section on page 3-53 for more information about resizing, sorting, displaying, or hiding columns.

The Linkset Details: Recent Events table contains the following toolbar buttons and columns:

Toolbar Button or Column	Description
Set Filter	Opens the Event Filter dialog.
Apply Filter or Remove Filter	<p>Activates and deactivates the event filter specified in the Event Filter dialog:</p> <ul style="list-style-type: none"> • If the filter is activated, SGM displays only those events that pass the filter. • If the filter is deactivated, SGM displays all events. • If you activate a filter in an object’s Recent Events table in the SGM Main Window, the filter is activated in all Recent Events tables in the SGM Main Window for all other objects. The filter is not activated in Recent Events tables in Show In New Window windows or Real-Time Data and Charts windows.
Pause or Resume	<p>Pauses or resumes the table.</p> <p>While the table is paused, SGM does not display new events in the table (unless you apply an event filter or edit your event preferences). When the table is resumed, all new events since the table was paused are added to the display.</p> <p>If events are deleted while the table is paused, they are not removed from the table. Instead, they are grayed-out and cannot be acknowledged or edited. Deleted events are removed from the table when you resume the table.</p>
Acknowledge	Makes the selected event or events acknowledged.
Unacknowledge	Makes the selected event or events unacknowledged.
Event Properties	Opens the Event Properties window.

Toolbar Button or Column	Description
Edit Notes	Opens the Edit Event Dialog.
Time Difference	Displays the difference in days, minutes, hours, and seconds between two events.
Find	Finds specific text in the event table.
Create Sound Filter	Opens the Event Sound Filters dialog and the Event Sound Filters List dialog, with fields populated based on the selected event.
Adjust Row Height	<p>Adjusts the table row height and wraps the message text as follows:</p> <ul style="list-style-type: none"> • Click once to double the row height and wrap the message text. • Click again to triple the row height and wrap the message text. • Click again for single row height and no message text wrapping. This is the default setting. <p>This setting is saved automatically with your preferences.</p>
Help for Event	Displays context-sensitive help for the selected event in a separate Web browser.
Internal ID	Internal ID of the event. The internal ID is a unique ID for every object, assigned by SGM for its own internal use. It can also be useful when the TAC is debugging problems.
Ack	<p>Indicates whether the event has been acknowledged:</p> <ul style="list-style-type: none"> • To acknowledge an unacknowledged event, use the Acknowledge toolbar button. • To make a previously acknowledged event unacknowledged, use the Unacknowledge toolbar button.

Toolbar Button or Column	Description
Category	<p>Type of the event. Default values are:</p> <ul style="list-style-type: none">• Create—Creation event, such as the creation of a seed file.• Delete—Deletion event, such as the deletion of an object or file.• Discover—Discovery event, such as Discovery beginning.• Edit—Edit event. A user has edited an object.• Ignore—Ignore event. A user has Ignored a link or linkset.• Login—Login event. A user has logged in to SGM.• LoginDisable—LoginDisable event. SGM has disabled a user's User-Based Access authentication as a result of too many failed attempts to log in to SGM.• LoginFail—LoginFail event. An attempt by a user to log in to SGM has failed.• Logout—Logout event. A user has logged out of SGM.• OverWrite—OverWrite event. An existing file, such as a seed file or route file, has been overwritten.• Poll—Poll event, such as an SNMP poll.• Purge—Purge event. A user has requested Discovery with Delete Existing Data selected, and SGM has deleted the existing SGM database.• Status—Status change message generated.• Trap—SNMP trap message generated. <p>You can customize this field. See the “Changing Event Categories” section on page 5-34 for more information.</p>

Toolbar Button or Column	Description
Severity	<p>Severity of the event. Default values are:</p> <ul style="list-style-type: none"> • Admin—The default color is cyan. • Error—The default color is coral. • None—The default color is white. • Normal—The default color is light green. • Warning—The default color is yellow. <p>You can customize this field. See the “Changing Event Severities and Colors” section on page 5-35 for more information.</p>
Note	Indicates whether there is a note associated with the event.
Message Name	<p>User-specified message name for the event, used by SGM for trap forwarding. The default message name is SGM.</p> <p>For more information about user-specified message names and trap forwarding, see the “Forwarding Events as Traps to Other Hosts” section on page 5-46.</p>
Time	Date and time the event was logged.
Ack By	<p>If you have not implemented SGM User-Based Access, name of the device that last acknowledged the event.</p> <p>If you have implemented SGM User-Based Access, name of the user who last acknowledged the event.</p> <p>If no one has acknowledged the event, this field is blank.</p>
Ack Time	Date and time the event was last acknowledged or unacknowledged.
Node	Name of the node associated with the event. If there is no node associated with the event, None is displayed.
SP	Name of the signaling point associated with the event. If there is no signaling point associated with the event, None is displayed.
Linkset	Name of the linkset associated with the event. If there is no linkset associated with the event, None is displayed.
Link	Name of the link associated with the event. If there is no link associated with the event, None is displayed.

Toolbar Button or Column	Description
SGMP	Name of the signaling gateway mated pair associated with the event. If there is no signaling gateway mated pair associated with the event, None is displayed.
ASP	Name of the application server process associated with the event. If there is no application server process associated with the event, None is displayed.
AS	Name of the application server associated with the event. If there is no application server associated with the event, None is displayed.
ASPA	Name of the application server process association associated with the event. If there is no application server process association associated with the event, None is displayed.
Probe Conn	Name of the probe connection associated with the event. If there is no probe connection associated with the event, None is displayed.
Probe Link	Name of the probe link associated with the event. If there is no probe link associated with the event, None is displayed.
Message	<p>Text of the message.</p> <p>You can customize this field. See the “Changing the Way SGM Processes Events” section on page 5-28 for more information.</p>

Linkset Details: Linkset Access Lists

The Linkset Details: Linkset Access Lists section displays information about the access lists associated with the selected linkset and its adjacent linkset.



Note

This window polls your network periodically. To prevent unnecessary traffic on your network, close this window when you no longer need to refer to it.

This window is not available if the linkset is a **Virtual** linkset.

For each linkset, the Linkset Details: Linkset Access Lists section displays the following information:

Column	Description
Poll Interval	Poll interval used to collect data for the table.
Last Poll	Time the last poll was run. This field initially displays the phrase Polling device . After the first polling cycle, SGM populates this field with the actual time of the last poll.
Linkset	Name of the linkset for which access lists are being displayed.
In	Inbound access lists for the linkset. If the linkset has no inbound access lists, this field displays None .
Out	Outbound access lists for the linkset. If the linkset has no outbound access lists, this field displays None .
List #	Access list number configured on the node and applied to the linkset. ITP uses access list numbers 2700 through 2799.
Access List	List of commands in the access list.

Viewing Real-Time Data for a Linkset

SGM enables you to view detailed statistics for a selected linkset, including its associated links, status, and other information. Detailed information for the selected linkset is displayed in the left column, and for the adjacent linkset in the right column.

To display detailed statistics for a linkset, select **Linksets** in the left pane of the SGM Main Window, right-click a linkset in the right pane, then select **View > Real-Time Data and Charts** in the right-click menu. SGM displays the Statistics Details Window for a Linkset.

Updates for the linksets that are received from the SGM server are reflected automatically in this window.

Changes you make in this window might not be reflected throughout SGM until the next poll (by default, every 15 seconds). For information about changing the poll interval, see the [“Linkset Statistics Details: Poll Settings”](#) section on page 8-29.

**Note**

This window polls your network periodically. To prevent unnecessary traffic on your network, close this window when you no longer need to refer to it.

The Statistic Details Window for a Linkset is composed of the following sections:

- [Linkset Statistics Details: Poll Settings, page 8-29](#)
- [Linkset Statistics Details: Configuration Data, page 8-30](#)
- [Linkset Statistics Details: Notes, page 8-30](#)
- [Linkset Statistics Details: Recent Events, page 8-31](#)
- [Linkset Statistics Details: Linkset Access Lists, page 8-31](#)
- [Linkset Statistics Details: Statistics, page 8-31](#)
- [Linkset Statistics Details: Charts, page 8-35](#)

Related Topics:

- [Viewing Detailed Information for a Linkset, page 8-11](#)
- [Working with Linksets, page 8-1](#)

Linkset Statistics Details: Poll Settings

To view or change poll settings for the Linkset Statistics Details Window, select **Poll Settings** in the left pane. SGM displays the Linkset Statistics Details Poll Settings panel in the right pane.

The Linkset Statistics Details Poll Settings panel contains the following fields:

Field	Description
Poll Interval (secs)	New poll interval for the Linkset Statistics Details Window, in seconds. Enter the new poll interval in this field. The valid range is 15 seconds to an unlimited number of seconds. The default value is 15 seconds.
Current Poll Interval	Current poll interval for the Linkset Statistics Details Window, in seconds.

Field	Description
Number of Polls Received	Total number of polls received since polling began for the Linkset Statistics Details Window.
Running Time	Total elapsed time since polling began for the Linkset Statistics Details Window.
Last Message	Date and time of the last poll for the Linkset Statistics Details Window.
Poll Counter Mode	Displays the current mode for poll counters, and the date and time that counters were last reset. Possible modes are: <ul style="list-style-type: none"> • Since Reboot—Counters display values aggregated since the last reboot of the ITP, or since ITP last reset the counters. • Since Last Poll—Counters display values aggregated since the last poll. • Since User Reset—Counters display values aggregated since the last time they were reset by the user.
Reset Counters	Opens the SGM Reset Counters Dialog, which enables you to change SGM poller and counter settings. For more information, see the “Changing Real-Time Poller and Counter Settings” section on page 3-78.

Linkset Statistics Details: Configuration Data

The information presented in the Linkset Statistics Details: Configuration Data section is the same as that presented by the [“Linkset Details: Configuration Data”](#) section on page 8-19.

Linkset Statistics Details: Notes

The information presented in the Linkset Statistics Details: Notes section is the same as that presented by the [“Linkset Details: Notes”](#) section on page 8-22.

Linkset Statistics Details: Recent Events

The information presented in the Linkset Statistics Details: Recent Events section is the same as that presented by the [“Linkset Details: Recent Events”](#) section on page 8-22.

Linkset Statistics Details: Linkset Access Lists

The information presented in the Linkset Statistics Details: Linkset Access Lists section is the same as that presented by the [“Linkset Details: Linkset Access Lists”](#) section on page 8-27.

Linkset Statistics Details: Statistics

The Linkset Statistics Details: Statistics section is composed of the following sub-sections:

- [Packet Information, page 8-32](#)
- [Bit Information or Byte Information, page 8-32](#)
- [Utilization Information, page 8-33](#)
- [Service Information, page 8-35](#)

Statistics for the selected linkset are displayed in the left column, and for the adjacent linkset in the right column.

Packet Information

The Packet Information sub-section contains the following fields:

Field	Description
Sent Per Sec	Number of packets sent by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.
Received Per Sec	Number of packets received by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.
Drops	Total number of packets that have been dropped by the linkset.

Bit Information or Byte Information

The Bit Information sub-section (or Byte Information sub-section, if you cleared the **Show Details in Bits Instead of Bytes** checkbox in the Preferences Window) contains the following fields:

Field	Description
Sent Per Sec	Number of bits or bytes (as set in the Preferences window) sent by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.
Received Per Sec	Number of bits or bytes (as set in the Preferences window) received by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.

Utilization Information

The Utilization Information sub-section contains the following fields:

Field	Description
Send Plan Capacity	<p>Planned capacity of the linkset to send, in bits per second.</p> <ul style="list-style-type: none">For a linkset of type Serial or HSL, available bandwidth for the linkset.For a linkset of type SCTPIP or Mixed, set on the ITP using the plan-capacity CS7 linkset configuration command. <p>If Send Plan Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the value 0.</p> <ul style="list-style-type: none">For a linkset of type Other, this field always displays the value 0.
Send Utilization %	<p>Amount of the linkset's send capacity being used, as a percentage or in Erlangs (as set in the Preferences window), calculated using the following formula:</p> $\text{Send Utilization \%} = (\text{Bits Sent Per Sec}) / \text{Planned Capacity}$ <p>This field initially displays the phrase Waiting for second poll. After two polling cycles, SGM populates this field with actual calculated rates.</p> <ul style="list-style-type: none">For a linkset of type SCTPIP or Mixed, if Send Plan Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the phrase Set Plan Capacity on ITP.For a linkset of type Other, this field always displays the phrase Set Plan Capacity on ITP.

Field	Description
Receive Plan Capacity	<p>Planned capacity of the linkset to receive, in bits per second.</p> <ul style="list-style-type: none"> For a linkset of type Serial or HSL, available bandwidth for the linkset. For a linkset of type SCTPIP or Mixed, set on the ITP using the plan-capacity CS7 linkset configuration command. <p>If Receive Plan Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the value 0.</p> <ul style="list-style-type: none"> For a linkset of type Other, this field always displays the value 0.
Receive Utilization %	<p>Amount of the linkset's receive capacity being used, as a percentage or in Erlangs (as set in the Preferences window), calculated using the following formula:</p> $\text{Receive Utilization} = (\text{Bits Received Per Sec}) / \text{Receive Plan Capacity}$ <p>This field initially displays the phrase Waiting for second poll. After two polling cycles, SGM populates this field with actual calculated rates.</p> <ul style="list-style-type: none"> For a linkset of type SCTPIP or Mixed, if Receive Plan Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the phrase Set Plan Capacity on ITP. For a linkset of type Other, this field always displays the phrase Set Plan Capacity on ITP.

Service Information

The Service Information sub-section contains the following fields:

Field	Description
MTP3 Accounting Enabled	Indicates whether the collection of MTP3 accounting statistics is enabled for the linkset. If the linkset is a Virtual linkset, this field displays N/A .
GTT Accounting Enabled	Indicates whether the collection of GTT accounting statistics is enabled for the linkset. For Cisco IOS software releases prior to 12.2(4)MB10, this field displays Unknown . If the linkset is a Virtual linkset, this field displays N/A .
Duration In Service %	Percentage of time the linkset has been in service since the last reboot of the ITP, or since ITP last reset the counters.
Duration Out Of Service %	Percentage of time the linkset has been out of service since the last reboot of the ITP, or since ITP last reset the counters.

Linkset Statistics Details: Charts

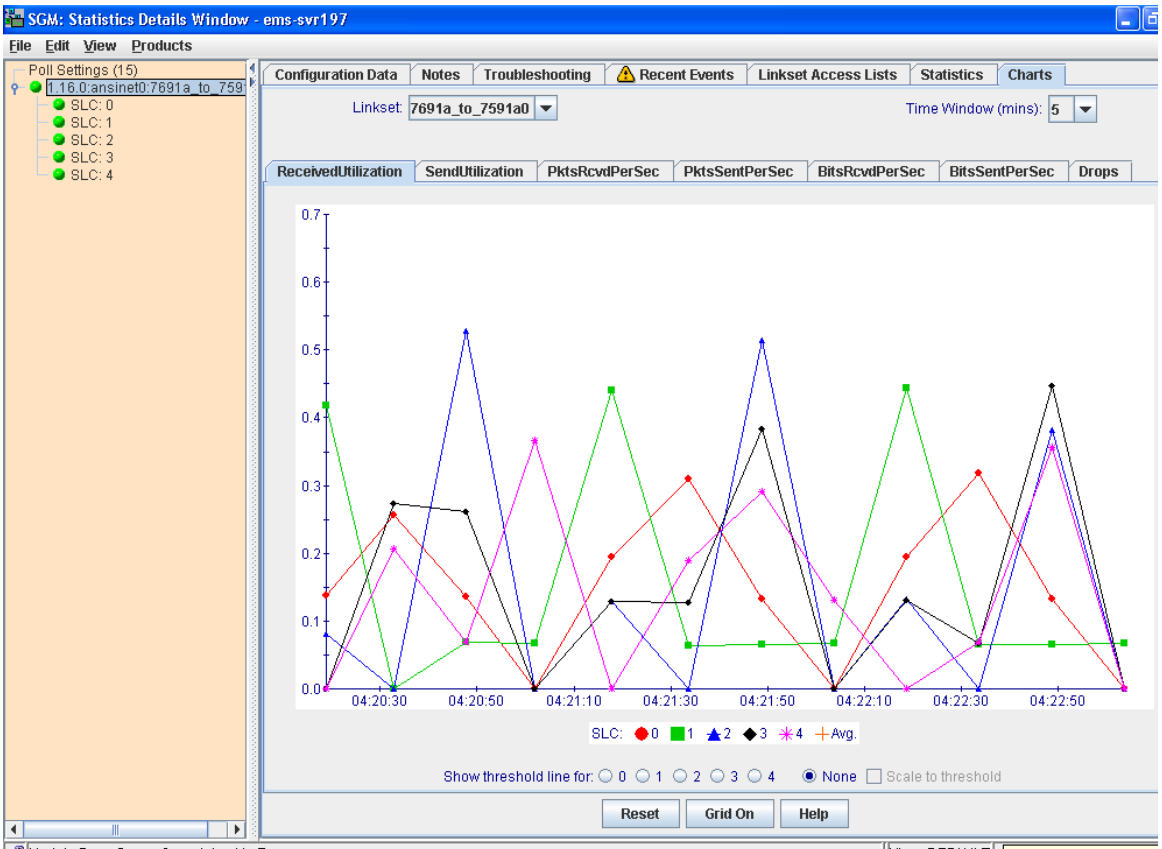
The Linkset Statistics Details: Charts section is composed of the following sub-sections:

- [ReceivedUtilization, page 8-36](#)
- [SendUtilization, page 8-40](#)
- [PktsRcvdPerSec, page 8-43](#)
- [PktsSentPerSec, page 8-45](#)
- [BitsRcvdPerSec or BytesRcvdPerSec, page 8-47](#)
- [BitsSentPerSec or BytesSentPerSec, page 8-49](#)
- [Drops, page 8-51](#)

ReceivedUtilization

SGM enables you to view real-time Received Utilization information for the selected linkset. To do so, select the **Charts** tab in the Statistic Details Window for a Linkset, then select the **ReceivedUtilization** tab. SGM displays the ReceivedUtilization chart (Figure 8-1).

Figure 8-1 ReceivedUtilization Chart for a Linkset



The ReceivedUtilization chart contains the following fields and buttons:

Field or Button	Description
Linkset	Drop-down list box used to select the linkset for which data is to be displayed. By default, data is displayed for the selected linkset. To display data for the adjacent linkset, select it in this list box.
Time Window (mins)	Drop-down list box used to specify the length of time displayed in the Received Utilization Chart . Valid selections are 1, 2, 5, 10, 20, 40, or 60 minutes. The default selection is 5 minutes.

Field or Button	Description
Received Utilization Chart	<p>Displays the average Receive Utilization % for all links on the linkset as a function of time, and optionally the Receive Utilization % for up to 16 individual links on the linkset.</p> <p>To see the exact time and data coordinates for a data point, left-click the data point. The coordinates are displayed in the format (<i>hh:mm:ss, dd.dd</i>), where:</p> <ul style="list-style-type: none"> <i>hh:mm:ss</i> is the time for that data point in hours, minutes, and seconds. <i>dd.dd</i> is the receive utilization percentage for that data point. <p>Note For serial and HSL links on Cisco 7507 and 7513 series routers, the displayed utilization data can vary by up to 5% from the actual utilization—SGM might even display utilization data above 100%. This variance results from the synchronization of Layer 2 counters between the Versatile Interface Processor (VIP) CPU and the Route Switch Processor (RSP) CPU on 7500 series routers. This variance does not occur for links on Cisco 2600, 7200, or 7300 series routers.</p> <p>To remove the data for a link or for the average from the chart, click the icon in the SLC field. To return the data to the chart, click the icon again.</p> <p>The total time displayed in the chart is specified in the Time Window (mins) field.</p> <p>New data points are added to the right side of the chart. When the chart reaches the end of the time window (for example, after 5 minutes, if the Time Window (mins) field is set to 5), new data points continue to be added to the right side of the chart, while old data points “drop off” the left side of the chart.</p> <p>If a poll is missed (for example, as a result of an SNMP timeout), SGM ignores the missing data point, stops drawing the line, and waits for the next valid data point to begin drawing the line again.</p> <p>To scroll left, right, up, or down in the chart, drag the cursor while holding down Ctrl and the left mouse button.</p> <p>To zoom in on a section of the chart, drag the cursor while holding down Shift and the left mouse button.</p> <p>To reset the chart to the default view and scaling, click Reset.</p>

Field or Button	Description
SLC	<p>Displays up to 17 color-coded icons:</p> <ul style="list-style-type: none"> • One for each link (SLC) in the Received Utilization Chart, up to 16 total links. • One for the average of all SLCs. <p>To remove the data for a link or for the average from the chart, click the icon in this field. To return the data to the chart, click the icon again.</p> <p>SGM enables you to customize the symbols, line styles, and colors assigned to data points in real-time data charts. For more information, see the Charts Settings, page 23-13.</p>
Show threshold line for:	<p>Draws a horizontal line on the Received Utilization Chart, indicating the receive threshold for the selected link.</p> <p>If you do not want to draw a threshold line, select None. This is the default setting.</p>
Scale to threshold	<p>Scales the Received Utilization Chart in order to draw the threshold selected in the Show threshold line for field:</p> <ul style="list-style-type: none"> • To scale the chart, select this checkbox. • To remove the scaling from the chart, clear this checkbox. This is the default setting. <p>The Scale to threshold checkbox is not available if the Show threshold line for: field is set to None.</p>
Reset	If you scrolled or zoomed the chart, resets the chart to the default view and scaling.
Grid On	Superimposes a graphic grid on the chart. The grid can make the data easier to read.
Grid Off	Removes the graphic grid from the chart.
Help	Displays online help for the current window.

SendUtilization

SGM enables you to view real-time SendUtilization information for the selected linkset. To do so, select the **Charts** tab in the Statistic Details Window for a Linkset, then select the **SendUtilization** tab. SGM displays the SendUtilization chart.

The SendUtilization chart contains the following fields and buttons:

Field or Button	Description
Linkset	Drop-down list box used to select the linkset for which data is to be displayed. By default, data is displayed for the selected linkset. To display data for the adjacent linkset, select it in this list box.
Time Window (mins)	Drop-down list box used to specify the length of time displayed in the Send Utilization Chart . Valid selections are 1, 2, 5, 10, 20, 40, or 60 minutes. The default selection is 5 minutes.

Field or Button	Description
Send Utilization Chart	<p>Displays the average Send Utilization % for all links on the linkset as a function of time, and optionally the Send Utilization % for up to 16 individual links on the linkset.</p> <p>To see the exact time and data coordinates for a data point, left-click the data point. The coordinates are displayed in the format (<i>hh:mm:ss, dd.dd</i>), where:</p> <ul style="list-style-type: none"> <i>hh:mm:ss</i> is the time for that data point in hours, minutes, and seconds. <i>dd.dd</i> is the send utilization percentage for that data point. <p>Note For serial and HSL links on Cisco 7507 and 7513 series routers, the displayed utilization data can vary by up to 5% from the actual utilization—SGM might even display utilization data above 100%. This variance results from the synchronization of Layer 2 counters between the Versatile Interface Processor (VIP) CPU and the Route Switch Processor (RSP) CPU on 7500 series routers. This variance does not occur for links on Cisco 2600, 7200, or 7300 series routers.</p> <p>To remove the data for a link or for the average from the chart, click the icon in the SLC field. To return the data to the chart, click the icon again.</p> <p>The total time displayed in the chart is specified in the Time Window (mins) field.</p> <p>New data points are added to the right side of the chart. When the chart reaches the end of the time window (for example, after 5 minutes, if the Time Window (mins) field is set to 5), new data points continue to be added to the right side of the chart, while old data points “drop off” the left side of the chart.</p> <p>If a poll is missed (for example, as a result of an SNMP timeout), SGM ignores the missing data point, stops drawing the line, and waits for the next valid data point to begin drawing the line again.</p> <p>To scroll left, right, up, or down in the chart, drag the cursor while holding down Ctrl and the left mouse button.</p> <p>To zoom in on a section of the chart, drag the cursor while holding down Shift and the left mouse button.</p> <p>To reset the chart to the default view and scaling, click Reset.</p>

Field or Button	Description
SLC	<p>Displays up to 17 color-coded icons:</p> <ul style="list-style-type: none"> • One for each link (SLC) in the Send Utilization Chart, up to 16 total links. • One for the average of all SLCs. <p>To remove the data for a link or for the average from the chart, click the icon in this field. To return the data to the chart, click the icon again.</p> <p>SGM enables you to customize the symbols, line styles, and colors assigned to data points in real-time data charts. For more information, see the Charts Settings, page 23-13.</p>
Show threshold line for:	<p>Draws a horizontal line on the Send Utilization Chart, indicating the send threshold for the selected link.</p> <p>If you do not want to draw a threshold line, select None. This is the default setting.</p>
Scale to threshold	<p>Scales the Send Utilization Chart in order to draw the threshold selected in the Show threshold line for field:</p> <ul style="list-style-type: none"> • To scale the chart, select this checkbox. • To remove the scaling from the chart, clear this checkbox. This is the default setting. <p>The Scale to threshold checkbox is not available if the Show threshold line for field is set to None.</p>
Reset	If you scrolled or zoomed the chart, resets the chart to the default view and scaling.
Grid On	Superimposes a graphic grid on the chart. The grid can make the data easier to read.
Grid Off	Removes the graphic grid from the chart.
Help	Displays online help for the current window.

PktsRcvdPerSec

SGM enables you to view real-time packets-received-per-second information for the selected linkset. To do so, select the **Charts** tab in the Statistic Details Window for a Linkset, then select the **PktsRcvdPerSec** tab. SGM displays the PktsRcvdPerSec chart.

The PktsRcvdPerSec chart contains the following fields and buttons:

Field or Button	Description
Linkset	Drop-down list box used to select the linkset for which data is to be displayed. By default, data is displayed for the selected linkset. To display data for the adjacent linkset, select it in this list box.
Time Window (mins)	Drop-down list box used to specify the length of time displayed in the Packets Received Chart . Valid selections are 1, 2, 5, 10, 20, 40, or 60 minutes. The default selection is 5 minutes.

Field or Button	Description
Packets Received Chart	<p>Displays the Packets Received Per Sec for the linkset as a function of time, including data for up to 16 links.</p> <p>To see the exact time and data coordinates for a data point, left-click the data point. The coordinates are displayed in the format (<i>hh:mm:ss, dd.dd</i>), where:</p> <ul style="list-style-type: none"> <i>hh:mm:ss</i> is the time for that data point in hours, minutes, and seconds. <i>dd.dd</i> is the number of packets received per second for that data point. <p>To remove the data for a link from the chart, click the icon in the SLC field. To return the data to the chart, click the icon again.</p> <p>The total time displayed in the chart is specified in the Time Window (mins) field.</p> <p>New data points are added to the right side of the chart. When the chart reaches the end of the time window (for example, after 5 minutes, if the Time Window (mins) field is set to 5), new data points continue to be added to the right side of the chart, while old data points “drop off” the left side of the chart.</p> <p>If a poll is missed (for example, as a result of an SNMP timeout), SGM ignores the missing data point, stops drawing the line, and waits for the next valid data point to begin drawing the line again.</p> <p>To scroll left, right, up, or down in the chart, drag the cursor while holding down Ctrl and the left mouse button.</p> <p>To zoom in on a section of the chart, drag the cursor while holding down Shift and the left mouse button.</p> <p>To reset the chart to the default view and scaling, click Reset.</p>
SLC	<p>Displays up to 16 color-coded icons, one for each link (SLC) in the Packets Received Chart.</p> <p>To remove the data for a link from the chart, click the icon in this field. To return the data to the chart, click the icon again.</p> <p>SGM enables you to customize the symbols, line styles, and colors assigned to data points in real-time data charts. For more information, see the Charts Settings, page 23-13.</p>
Reset	<p>If you scrolled or zoomed the chart, resets the chart to the default view and scaling.</p>

Field or Button	Description
Grid On	Superimposes a graphic grid on the chart. The grid can make the data easier to read.
Grid Off	Removes the graphic grid from the chart.
Help	Displays online help for the current window.

PktsSentPerSec

SGM enables you to view real-time packets-sent-per-second information for the selected linkset. To do so, select the **Charts** tab in the Statistic Details Window for a Linkset, then select the **PktsSentPerSec** tab. SGM displays the PktsSentPerSec chart.

The PktsSentPerSec chart contains the following fields and buttons:

Field or Button	Description
Linkset	Drop-down list box used to select the linkset for which data is to be displayed. By default, data is displayed for the selected linkset. To display data for the adjacent linkset, select it in this list box.
Time Window (mins)	Drop-down list box used to specify the length of time displayed in the Packets Sent Chart . Valid selections are 1, 2, 5, 10, 20, 40, or 60 minutes. The default selection is 5 minutes.

Field or Button	Description
Packets Sent Chart	<p>Displays the Packets Sent Per Sec for the linkset as a function of time, including data for up to 16 links.</p> <p>To see the exact time and data coordinates for a data point, left-click the data point. The coordinates are displayed in the format (<i>hh:mm:ss, dd.dd</i>), where:</p> <ul style="list-style-type: none"> <i>hh:mm:ss</i> is the time for that data point in hours, minutes, and seconds. <i>dd.dd</i> is the number of packets sent per second for that data point. <p>To remove the data for a link from the chart, click the icon in the SLC field. To return the data to the chart, click the icon again.</p> <p>The total time displayed in the chart is specified in the Time Window (mins) field.</p> <p>New data points are added to the right side of the chart. When the chart reaches the end of the time window (for example, after 5 minutes, if the Time Window (mins) field is set to 5), new data points continue to be added to the right side of the chart, while old data points “drop off” the left side of the chart.</p> <p>If a poll is missed (for example, as a result of an SNMP timeout), SGM ignores the missing data point, stops drawing the line, and waits for the next valid data point to begin drawing the line again.</p> <p>To scroll left, right, up, or down in the chart, drag the cursor while holding down Ctrl and the left mouse button.</p> <p>To zoom in on a section of the chart, drag the cursor while holding down Shift and the left mouse button.</p> <p>To reset the chart to the default view and scaling, click Reset.</p>
SLC	<p>Displays up to 16 color-coded icons, one for each link (SLC) in the Packets Sent Chart.</p> <p>To remove the data for a link from the chart, click the icon in this field. To return the data to the chart, click the icon again.</p> <p>SGM enables you to customize the symbols, line styles, and colors assigned to data points in real-time data charts. For more information, see the Charts Settings, page 23-13.</p>
Reset	<p>If you scrolled or zoomed the chart, resets the chart to the default view and scaling.</p>

Field or Button	Description
Grid On	Superimposes a graphic grid on the chart. The grid can make the data easier to read.
Grid Off	Removes the graphic grid from the chart.
Help	Displays online help for the current window.

BitsRcvdPerSec or BytesRcvdPerSec

SGM enables you to view real-time bits-received-per-second information for the selected linkset (or bytes-received-per-second information, if you cleared the **Show Details in Bits Instead of Bytes** checkbox in the Preferences Window). To do so, select the **Charts** tab in the Statistic Details Window for a Linkset, then select the **BitsRcvdPerSec** or **BytesRcvdPerSec** tab. SGM displays the BitsRcvdPerSec or BytesRcvdPerSec chart.

The BitsRcvdPerSec chart (or BytesRcvdPerSec chart, if you cleared the **Show Details in Bits Instead of Bytes** checkbox in the Preferences Window) contains the following fields and buttons:

Field or Button	Description
Linkset	Drop-down list box used to select the linkset for which data is to be displayed. By default, data is displayed for the selected linkset. To display data for the adjacent linkset, select it in this list box.
Time Window (mins)	Drop-down list box used to specify the length of time displayed in the Bits Received Chart or Bytes Received Chart . Valid selections are 1, 2, 5, 10, 20, 40, or 60 minutes. The default selection is 5 minutes.

Field or Button	Description
Bits Received Chart or Bytes Received Chart	<p>Displays the Bits Received Per Sec or Bytes Received Per Sec for the linkset as a function of time, including data for up to 16 links.</p> <p>To see the exact time and data coordinates for a data point, left-click the data point. The coordinates are displayed in the format (<i>hh:mm:ss, dd.dd</i>), where:</p> <ul style="list-style-type: none"> <i>hh:mm:ss</i> is the time for that data point in hours, minutes, and seconds. <i>dd.dd</i> is the number of bits or bytes (as set in the Preferences window) received per second for that data point. <p>To remove the data for a link from the chart, click the icon in the SLC field. To return the data to the chart, click the icon again.</p> <p>The total time displayed in the chart is specified in the Time Window (mins) field.</p> <p>New data points are added to the right side of the chart. When the chart reaches the end of the time window (for example, after 5 minutes, if the Time Window (mins) field is set to 5), new data points continue to be added to the right side of the chart, while old data points “drop off” the left side of the chart.</p> <p>If a poll is missed (for example, as a result of an SNMP timeout), SGM ignores the missing data point, stops drawing the line, and waits for the next valid data point to begin drawing the line again.</p> <p>To scroll left, right, up, or down in the chart, drag the cursor while holding down Ctrl and the left mouse button.</p> <p>To zoom in on a section of the chart, drag the cursor while holding down Shift and the left mouse button.</p> <p>To reset the chart to the default view and scaling, click Reset.</p>
SLC	<p>Displays up to 16 color-coded icons, one for each link (SLC) in the Bits Received Chart or Bytes Received Chart.</p> <p>To remove the data for a link from the chart, click the icon in this field. To return the data to the chart, click the icon again.</p> <p>SGM enables you to customize the symbols, line styles, and colors assigned to data points in real-time data charts. For more information, see the Charts Settings, page 23-13.</p>
Reset	<p>If you scrolled or zoomed the chart, resets the chart to the default view and scaling.</p>

Field or Button	Description
Grid On	Superimposes a graphic grid on the chart. The grid can make the data easier to read.
Grid Off	Removes the graphic grid from the chart.
Help	Displays online help for the current window.

BitsSentPerSec or BytesSentPerSec

SGM enables you to view real-time bits-sent-per-second information for the selected linkset (or bytes-sent-per-second information, if you cleared the **Show Details in Bits Instead of Bytes** checkbox in the Preferences Window). To do so, select the **Charts** tab in the Statistic Details Window for a Linkset, then select the **BitsSentPerSec** or **BytesSentPerSec** tab. SGM displays the BitsSentPerSec or BytesSentPerSec chart.

The BitsSentPerSec chart (or BytesSentPerSec chart, if you cleared the **Show Details in Bits Instead of Bytes** checkbox in the Preferences Window) contains the following fields and buttons:

Field or Button	Description
Linkset	Drop-down list box used to select the linkset for which data is to be displayed. By default, data is displayed for the selected linkset. To display data for the adjacent linkset, select it in this list box.
Time Window (mins)	Drop-down list box used to specify the length of time displayed in the Bits Sent Chart or Bytes Sent Chart . Valid selections are 1, 2, 5, 10, 20, 40, or 60 minutes. The default selection is 5 minutes.

Field or Button	Description
Bits Sent Chart or Bytes Sent Chart	<p>Displays the Bits Sent Per Sec or Bytes Sent Per Sec for the linkset as a function of time, including data for up to 16 links.</p> <p>To see the exact time and data coordinates for a data point, left-click the data point. The coordinates are displayed in the format (<i>hh:mm:ss, dd.dd</i>), where:</p> <ul style="list-style-type: none"> <i>hh:mm:ss</i> is the time for that data point in hours, minutes, and seconds. <i>dd.dd</i> is the number of bits or bytes (as set in the Preferences window) sent per second for that data point. <p>To remove the data for a link from the chart, click the icon in the SLC field. To return the data to the chart, click the icon again.</p> <p>The total time displayed in the chart is specified in the Time Window (mins) field.</p> <p>New data points are added to the right side of the chart. When the chart reaches the end of the time window (for example, after 5 minutes, if the Time Window (mins) field is set to 5), new data points continue to be added to the right side of the chart, while old data points “drop off” the left side of the chart.</p> <p>If a poll is missed (for example, as a result of an SNMP timeout), SGM ignores the missing data point, stops drawing the line, and waits for the next valid data point to begin drawing the line again.</p> <p>To scroll left, right, up, or down in the chart, drag the cursor while holding down Ctrl and the left mouse button.</p> <p>To zoom in on a section of the chart, drag the cursor while holding down Shift and the left mouse button.</p> <p>To reset the chart to the default view and scaling, click Reset.</p>
SLC	<p>Displays up to 16 color-coded icons, one for each link (SLC) in the Bits Sent Chart or Bytes Sent Chart.</p> <p>To remove the data for a link from the chart, click the icon in this field. To return the data to the chart, click the icon again.</p> <p>SGM enables you to customize the symbols, line styles, and colors assigned to data points in real-time data charts. For more information, see the Charts Settings, page 23-13.</p>
Reset	<p>If you scrolled or zoomed the chart, resets the chart to the default view and scaling.</p>

Field or Button	Description
Grid On	Superimposes a graphic grid on the chart. The grid can make the data easier to read.
Grid Off	Removes the graphic grid from the chart.
Help	Displays online help for the current window.

Drops

SGM enables you to view drops information for the selected linkset. To do so, select the **Charts** tab in the Statistic Details Window for a Linkset, then select the **Drops** tab. SGM displays the Drops chart.

The Drops chart contains the following fields and buttons:

Field or Button	Description
Linkset	Drop-down list box used to select the linkset for which data is to be displayed. By default, data is displayed for the selected linkset. To display data for the adjacent linkset, select it in this list box.
Time Window (mins)	Drop-down list box used to specify the length of time displayed in the Drops Chart . Valid selections are 1, 2, 5, 10, 20, 40, or 60 minutes. The default selection is 5 minutes.

Field or Button	Description
Drops Chart	<p>Displays the Drops for the linkset as a function of time, including data for up to 16 links.</p> <p>To see the exact time and data coordinates for a data point, left-click the data point. The coordinates are displayed in the format (<i>hh:mm:ss, dd.dd</i>), where:</p> <ul style="list-style-type: none"> <i>hh:mm:ss</i> is the time for that data point in hours, minutes, and seconds. <i>dd.dd</i> is the number of drops for that data point. <p>To remove the data for a link from the chart, click the icon in the SLC field. To return the data to the chart, click the icon again.</p> <p>The total time displayed in the chart is specified in the Time Window (mins) field.</p> <p>New data points are added to the right side of the chart. When the chart reaches the end of the time window (for example, after 5 minutes, if the Time Window (mins) field is set to 5), new data points continue to be added to the right side of the chart, while old data points “drop off” the left side of the chart.</p> <p>If a poll is missed (for example, as a result of an SNMP timeout), SGM ignores the missing data point, stops drawing the line, and waits for the next valid data point to begin drawing the line again.</p> <p>To scroll left, right, up, or down in the chart, drag the cursor while holding down Ctrl and the left mouse button.</p> <p>To zoom in on a section of the chart, drag the cursor while holding down Shift and the left mouse button.</p> <p>To reset the chart to the default view and scaling, click Reset.</p>
SLC	<p>Displays up to 16 color-coded icons, one for each link (SLC) in the Drops Chart.</p> <p>To remove the data for a link from the chart, click the icon in this field. To return the data to the chart, click the icon again.</p> <p>SGM enables you to customize the symbols, line styles, and colors assigned to data points in real-time data charts. For more information, see the Charts Settings, page 23-13.</p>
Reset	<p>If you scrolled or zoomed the chart, resets the chart to the default view and scaling.</p>

Field or Button	Description
Grid On	Superimposes a graphic grid on the chart. The grid can make the data easier to read.
Grid Off	Removes the graphic grid from the chart.
Help	Displays online help for the current window.

Attaching a Note to a Linkset

SGM enables you to annotate a linkset, attaching a descriptive string to it.

To annotate a linkset, right-click a linkset in a window, then select **Edit Notes** in the right-click menu. SGM displays the Edit Notes Dialog for a Linkset.

If both ends of the linkset are known to SGM, one is displayed in the top half of the Edit Notes Dialog for a Linkset, the other in the bottom half. If only one end is known to SGM, only that end is displayed.

The Edit Notes Dialog for a Linkset contains the following fields and buttons:

Field or Button	Description
Name	Name of the linkset. You cannot edit this field.
Note Last Updated	Date and time the Notes field for this linkset was last updated. If there is no note currently associated with this linkset, this field displays the value Not Set . You cannot edit this field.
Notes	Notes to associate with this linkset. In this field, you can enter any important information about the linkset, such as a detailed description, its location, its service history, and so on.
Save	Saves changes you have made to the linkset's notes and exits the dialog.
Cancel	Exits the dialog without saving any changes.
Help	Displays online help for the dialog.

Related Topics:

- [Viewing Notes for a Linkset, page 8-54](#)

Viewing Notes for a Linkset

SGM enables you to view any notes that have been associated with a linkset.

To view a note for a linkset, right-click a linkset in a window, then select **View > Notes** in the right-click menu. (The **Notes** option is grayed-out if there is no note associated with the selected linkset.)

SGM displays the Notes panel for the selected linkset, which displays:

- Notes associated with the linkset.
- The date and time the notes associated with the linkset were last updated, or the phrase **Not Set** if there are no notes associated with the linkset.
- The phrase **No Notes** if there are no notes associated with the linkset.

Related Topics:

- [Attaching a Note to a Linkset, page 8-53](#)

Deleting a Linkset

After Discovery, the linksets in your network are known to SGM and added to the SGM database. Physically deleting linksets from your network is not the same as deleting them from the SGM database. The following sections describe the differences between deleting linksets from your network and from the SGM database, and the procedures for doing so:

- [Deleting a Linkset from Your Network, page 8-54](#)
- [Deleting a Linkset from the SGM Database, page 8-55](#)

Deleting a Linkset from Your Network

If you physically delete a known linkset from your network, it remains in the SGM database, SGM labels it **Unknown**, and it is the system administrator's responsibility to delete it from the SGM database, if you choose to do so. SGM labels all associated nodes **Warning** and all associated links **Unknown**.

When you redefine the linkset (that is, when you define a linkset with the same destination point code as the original linkset, but not necessarily with the same linkset name), SGM rediscovers the linkset and labels it with the appropriate status (such as **Active**).

Deleting a Linkset from the SGM Database

Typically, you delete a linkset in the SGM database for one of the following reasons:

- You have physically deleted the linkset from your network. This is the most common reason for deleting a linkset from the SGM database.
- The linkset is **Unknown** or **Unavailable**, you are aware of the reason, and you no longer want to see it in SGM displays. For example, the linkset might be associated with a node that was removed from the network, or it might be a previously discovered linkset associated with a test lab device.

If you have physically deleted a known linkset from your network, and you then delete it from SGM, it is no longer in the SGM database, it does not appear in SGM windows, and it is not discovered when you run Discovery.

If you have *not* physically deleted a known linkset from your network, and you delete it from SGM, SGM also automatically deletes all associated links from the SGM database. However, at the next poll SGM finds the linkset and associated links and adds them back to the SGM database, setting the status appropriately. If this happens, do not delete the linkset again. Instead, set it to **Ignored**. See the [“Ignoring a Linkset” section on page 8-56](#) for more information.



Note

If you delete a linkset from the SGM database, the linkset is deleted for *all* SGM clients and views connected to that SGM server.

If you delete all linksets to an **Unmanaged** node, SGM does not automatically delete the node. Instead, you must manually delete the node. See the [“Deleting a Node” section on page 6-100](#) for more information.

To delete a linkset from the SGM database, use one of the following procedures:

- Select one or more linksets in a window, then select **Edit > Delete** from the SGM Main Menu.
- Right-click a linkset in a window, then select **Delete** in the right-click menu. (You cannot delete more than one linkset at a time from the right-click menu.)

SGM asks you to confirm the deletion:

- Select **Yes** to delete the selected linksets. SGM deletes the linksets and all associated links from the SGM database. However, if the linksets were not physically deleted from your network, then at the next poll SGM finds the linksets and their associated links and adds them back to the SGM database, setting the status appropriately.
- Select **No** to return to the window without deleting any linksets or links from the SGM database.

You can also use the **sgm delete linkset** command to delete one or more linksets from the SGM database. See the “[sgm delete](#)” section on page C-24 for more information on the use of this command.

Ignoring a Linkset

You can instruct SGM to ignore a linkset when it aggregates and displays network data. Setting linksets to **Ignored** prevents known linkset problems from affecting SGM displays for associated objects. In effect, you are preventing a known problem from distracting you from other, more urgent network problems.

For example, you can set a linkset to **Ignored** before shutting down the linkset for maintenance.



Note

If you set a linkset to **Ignored**, the linkset is ignored for *all* SGM clients and views connected to that SGM server.

Also, if you set a linkset to **Ignored**, make a note of the change, and do not forget to reset the linkset when the problem is corrected or the maintenance is complete.

To set a linkset to **Ignored** in the Linkset Window, select the **Ignored** checkbox for the linkset you want SGM to ignore.

To set a linkset to **Ignored** in the Topology Window, select a linkset in the topology map, then, in the left pane, select the **Ignored** checkbox for the linkset you want SGM to ignore.

Viewing Ignored Linksets

To display all linksets that are **Ignored**, display the Linkset Window and click the **Ignored** column header. SGM displays all ignored linksets at the top of the table.

Viewing Linkset Information Using a Web Browser

SGM enables you to use a Web browser to view the following information about linksets:

- [Viewing the Network Status Linkset Dashboard, page 8-57](#)
- [Viewing ITP Linkset Status, page 8-59](#)
- [Viewing ITP Linkset Details, page 8-62](#)
- [Viewing ITP Linkset Information: Access Lists, page 8-72](#)

Viewing the Network Status Linkset Dashboard

The SGM Linkset Dashboard page lists all discovered linksets, and provides links to messages and metrics for each linkset.

To access the SGM Linkset Dashboard page, select **Network Status Dashboard** from the SGM Server Home Page, then click **Linkset Dashboard**.

The Linkset Dashboard table contains the following columns:

Column	Description
Server Name (in header)	Name of the SGM server associated with the linkset.
Update Interval (in header)	Time between automatic updates for the page. None means the page is not automatically updated.
Last Update (in header)	Date and time the information on the page was last updated by SGM.
Linksets	Linksets discovered by SGM. You can sort the table based on the information in the Linksets column. See the “ Resizing, Sorting, and Hiding Table Columns ” section on page 3-53 for more details.
Drill-Down Links: Messages	Opens the Network Status: Last X Status Change and Trap Messages Web page for the linkset.
Drill-Down Links: Metrics	Opens the Network Status Messages: Metrics Web page for the linkset.
Drill-Down Links: Access Lists	Opens the SGM ITP Access Lists Web page for the linkset. This option is not available if the linkset is in Unknown or Unavailable status, or if the linkset is a Virtual linkset.
Latest Reports: Linkset Statistics	Displays the most recent Linkset Statistics: Hourly Report for the linkset, in a Web browser.
Latest Reports: Linkset Peaks	Displays the most recent Linkset Utilization Peaks - Rolling 30 Days Report for the linkset, in a Web browser.
Latest Reports: Link Statistics	Displays the most recent Link Statistics: Hourly Report for the links associated with the linkset, in a Web browser.
Latest Reports: Link Peaks	Displays the most recent Link Utilization Peaks - Rolling 30 Days Report for the links associated with the linkset, in a Web browser.
Displaying Results	Shows the total number of results found, and allows you to page through the results. To configure the page range counts, see the “ Changing SGM Web Preferences ” section on page 17-12.

Viewing ITP Linkset Status

The SGM ITP Linkset Status page displays information about the linksets that have been discovered by SGM.

To access the SGM ITP Linkset Status page, select **ITP Linkset Status** from the SGM Server Home Page. SGM displays the SGM ITP Linkset Status page.

You can sort the SGM ITP Linkset Status table based on the information in one of the columns. See the [“Resizing, Sorting, and Hiding Table Columns” section on page 3-53](#) for more details.

The SGM ITP Linkset Status page displays the following information for each linkset:

Column	Description
Server Name (in header)	Name of the SGM server associated with the linkset.
Update Interval (in header)	Time between automatic updates for the page.
Last Update (in header)	Date and time the information on the page was last updated by SGM.
Linkset Name	Name of the linkset. To see detailed information for the linkset, click the linkset name.
Node	Name of the node associated with the linkset. To see detailed information for the node, click the node name.
SP Name	Name of the signaling point associated with the linkset. To see detailed information for the signaling point, click the signaling point name.
Point Code	Point code of the primary signaling point for the linkset.
Adjacent Linkset Name	Name of adjacent linkset. To see detailed information for the linkset, click the linkset name.
Adjacent Node	Name of adjacent node for the linkset. To see detailed information for the node, click the node name.

Column	Description
Adjacent SP	Name of adjacent signaling point for the linkset. To see detailed information for the signaling point, click the signaling point name.
Adjacent Point Code	Point code of the adjacent signaling point for the linkset.
Status	Current status of the linkset, with a color-coded background. Possible values are: Active (green) Shutdown (blue) Unavailable (red) Unknown (red) Warning (yellow) For detailed definitions of each status, see the “Status Definitions for Linksets” section on page A-5 .

Column	Description
Status Reason	<p>Reason for the current status of the signaling gateway mated pair.</p> <p>For a full list of possible reasons, see the <i>stateReasons.html</i> file:</p> <ul style="list-style-type: none">• If you installed SGM in the default directory, <i>/opt</i>, then the file is located at <i>/opt/CSCOsgm/apache/share/htdocs/eventHelp</i> directory.• If you installed SGM in a different directory, then the help directory and file are located in that directory. <p>If the cell is too small to show all of the status reason, place the cursor over the cell to see the full status reason in a mouse over help popup.</p> <p>The status reasons are listed in order of decreasing magnitude. If two or more reasons apply, the reason of greatest magnitude is displayed.</p> <p>If the status reason is Unsupported Configuration, correct the configuration and enter the sgm cleandiscover command to delete all current network data and begin a clean discovery of the ITP network. If the status reason is still Unsupported Configuration, enter the sgm clean command to restore the SGM server to a “clean” state, such as would exist after a new installation of SGM. For more information on the use of these commands, see the “SGM Command Reference” section on page C-1.</p>

Column	Description
Type	<p>Type of linkset, which SGM determines by examining the links defined in the linkset. Possible linkset types are:</p> <ul style="list-style-type: none"> • HSL—The links in this linkset use the SS7-over-ATM (Asynchronous Transfer Mode) high-speed protocol. • SCTPIP—The links in this linkset use the Stream Control Transmission Protocol (SCTP) IP transport protocol. • Serial—The links in this linkset use the serial SS7 signaling protocol. • Mixed—The links in this linkset are of two or more types. (This configuration is not recommended.) • Virtual—The links in this linkset are virtual links, which connect signaling point instances running on the same device. SGM does not poll virtual linksets, nor does it display real-time data or accounting statistics for virtual linksets. <p>Note Prior to IOS release 12.2(23)SW1, virtual linksets on multi-instance routers were created manually by the user. Within and after that release, virtual linksets are created automatically.</p> <ul style="list-style-type: none"> • Other—No links have been defined for this linkset.

Viewing ITP Linkset Details

The SGM Linkset Details page displays detailed information about all discovered linksets, including their associated signaling points, links, events, status, and other information.

To access the SGM Linkset Details page, click a linkset name in the SGM ITP Linkset Status page. SGM displays the SGM Linkset Details page.

The SGM Linkset Details page is composed of the following sections:

- [SGM Linkset Details Table, page 8-63](#)
- [SGM Links Detail Table, page 8-70](#)

Related Topic

- [Viewing ITP Linkset Details, page 8-62](#)

SGM Linkset Details Table

The SGM Linkset Details table displays the following information for the selected linkset:

Field	Description
Node Name, Signaling Point Name, and Linkset Name (in header)	DNS name of the node, as discovered by SGM, signaling point name, and linkset name.
Server Name (in header)	Name of the SGM server associated with the linkset.
Update Interval (in header)	Time between automatic updates for the page.
Last Update (in header)	Date and time the information on the page was last updated by SGM.
Node	Name of primary node for the linkset. To see detailed information for the node, click the node name.
Signaling Point	Name of primary signaling point for the linkset. To see detailed information for the signaling point, click the signaling point name.
Linkset Name	Name of the linkset.
Drill-Down Links: Messages	Opens the Network Status: Last X Status Change and Trap Messages Web page for the linkset.
Drill-Down Links: Metrics	Opens the Network Status Messages: Metrics Web page for the linkset.
Drill-Down Links: Access Lists	Opens the SGM ITP Access Lists Web page for the linkset. This option is not available if the linkset is in Unknown or Unavailable status, or if the linkset is a Virtual linkset.
Latest Reports: Linkset Statistics	Displays the most recent Linkset Statistics: Hourly Report for the linkset, in a Web browser.
Latest Reports: Linkset Peaks	Displays the most recent Linkset Utilization Peaks - Rolling 30 Days Report for the linkset, in a Web browser.
Latest Reports: Link Statistics	Displays the most recent Link Statistics: Hourly Report for the links associated with the linkset, in a Web browser.

Field	Description
Latest Reports: Link Peaks	Displays the most recent Link Utilization Peaks - Rolling 30 Days Report for the links associated with the linkset, in a Web browser.
Status	<p>Current status of the linkset, with a color-coded background. Possible values are:</p> <p>Active (green)</p> <p>Shutdown (blue)</p> <p>Unavailable (red)</p> <p>Unknown (red)</p> <p>Warning (yellow)</p> <p>For detailed definitions of each status, see the “Status Definitions for Linksets” section on page A-5.</p>
Status Reason	<p>Reason for the current status of the signaling gateway mated pair.</p> <p>For a full list of possible reasons, see the <i>stateReasons.html</i> file:</p> <ul style="list-style-type: none"> • If you installed SGM in the default directory, <i>/opt</i>, then the file is located at <i>/opt/CSCOsgm/apache/share/htdocs/eventHelp</i> directory. • If you installed SGM in a different directory, then the help directory and file are located in that directory. <p>If the cell is too small to show all of the status reason, place the cursor over the cell to see the full status reason in a mouse over help popup.</p> <p>The status reasons are listed in order of decreasing magnitude. If two or more reasons apply, the reason of greatest magnitude is displayed.</p> <p>If the status reason is Unsupported Configuration, correct the configuration and enter the sgm cleandiscover command to delete all current network data and begin a clean discovery of the ITP network. If the status reason is still Unsupported Configuration, enter the sgm clean command to restore the SGM server to a “clean” state, such as would exist after a new installation of SGM. For more information on the use of these commands, see the “SGM Command Reference” section on page C-1.</p>
Description	Description of the linkset. If the linkset has no description, this field is blank.

Field	Description
Poll Error Message	Last error message received by the linkset. If there have been no polling errors, this field is not displayed.
Local Point Code	Point code of the primary signaling point for the linkset.
Adjacent Node	Name of adjacent node for the linkset. To see detailed information for the adjacent node, click the node name.
Adjacent Signaling Point	Name of adjacent signaling point for the linkset. To see detailed information for the adjacent signaling point, click the signaling point name.
Adjacent Point Code	Point code of the adjacent signaling point for the linkset.
Linkset Type	<p>Type of linkset, which SGM determines by examining the links defined in the linkset. Possible linkset types are:</p> <ul style="list-style-type: none"> • HSL—The links in this linkset use the SS7-over-ATM (Asynchronous Transfer Mode) high-speed protocol. • SCTPIP—The links in this linkset use the Stream Control Transmission Protocol (SCTP) IP transport protocol. • Serial—The links in this linkset use the serial SS7 signaling protocol. • Mixed—The links in this linkset are of two or more types. (This configuration is not recommended.) • Virtual—The links in this linkset are virtual links, which connect signaling point instances running on the same device. SGM does not poll virtual linksets, nor does it display real-time data or accounting statistics for virtual linksets. <p>Note Prior to IOS release 12.2(23)SW1, virtual linksets on multi-instance routers were created manually by the user. Within and after that release, virtual linksets are created automatically.</p> <ul style="list-style-type: none"> • Other—No links have been defined for this linkset.
Links	Total number of links in the linkset.
Active Links	Number of links in the linkset that are Active .
Congested Links	Number of links in the linkset that are Congested .
Note	Note associated with this linkset. If there is no note associated with this linkset, this field is blank.

Field	Description
Note Timestamp	Date and time the note associated with this linkset was last updated. If there is no note associated with this linkset, this field is blank.
Internal ID	Internal ID of the linkset. The internal ID is a unique ID for every object, assigned by SGM for its own internal use. It can also be useful when the Cisco TAC is debugging problems.
MTP3 Accounting Enabled	Indicates whether the collection of MTP3 accounting statistics is enabled for the linkset. If the linkset is a Virtual linkset, this field displays N/A .
GTT Accounting Enabled	Indicates whether the collection of GTT accounting statistics is enabled for the linkset. For Cisco IOS software releases prior to 12.2(4)MB10, this field displays Unknown . If the linkset is a Virtual linkset, this field displays N/A .
Packets Received Per Sec.	Number of packets received by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.
Packets Sent Per Sec.	Number of packets sent by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.
Bits Received Per Sec.	Number of bits received by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.
Bits Sent Per Sec.	Number of bits sent by the linkset per second. This field initially displays the phrase Waiting for second poll . After two polling cycles, SGM populates this field with actual calculated rates.

Field	Description
Receive Utilization	<p>Amount of the linkset's receive capacity being used, as a percentage or in Erlangs (as set in the Preferences window), calculated using the following formula:</p> $\text{Receive Utilization} = (\text{Bits Received Per Sec.}) / \text{Planned Capacity}$ <p>Planned Capacity is the planned capacity of the linkset in bits per second.</p> <ul style="list-style-type: none"> For a linkset of type Serial, Planned Capacity is the available bandwidth for the linkset. For a linkset of type SCTPIP or of type Mixed, Planned Capacity is set on the ITP using the plan-capacity CS7 linkset configuration command. <p>If Planned Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the phrase Planned Capacity for ITP Not Set.</p> <ul style="list-style-type: none"> For a linkset of type Other, this field displays the phrase Planned Capacity for ITP Not Set. <p>This field initially displays the phrase Waiting for second poll. After two polling cycles, SGM populates this field with actual calculated rates.</p> <p>If the planned receive capacity is not set for the SCTP link, this field displays Set Plan Capacity on ITP.</p>

Field	Description
Send Utilization	<p>Amount of the linkset's send capacity being used, as a percentage or in Erlangs (as set in the Preferences window), calculated using the following formula:</p> $\text{Send Utilization} = (\text{Bits Sent Per Sec.}) / \text{Planned Capacity}$ <p>Planned Capacity is the planned capacity of the linkset in bits per second.</p> <ul style="list-style-type: none"> For a linkset of type Serial, Planned Capacity is the available bandwidth for the linkset. For a linkset of type SCTPIP or of type Mixed, Planned Capacity is set on the ITP using the plan-capacity CS7 linkset configuration command. <p>If Planned Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the phrase Planned Capacity for ITP Not Set.</p> <ul style="list-style-type: none"> For a linkset of type Other, this field displays the phrase Planned Capacity for ITP Not Set. <p>This field initially displays the phrase Waiting for second poll. After two polling cycles, SGM populates this field with actual calculated rates.</p> <p>If the planned send capacity is not set for the SCTP link, this field displays Set Plan Capacity on ITP.</p>
Receive Plan Capacity	<p>Planned capacity of the linkset to receive, in bits per second.</p> <ul style="list-style-type: none"> For a linkset of type Serial or HSL, available bandwidth for the linkset. For a linkset of type SCTPIP or Mixed, set on the ITP using the plan-capacity CS7 linkset configuration command. <p>If Receive Plan Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the value 0.</p> <ul style="list-style-type: none"> For a linkset of type Other, this field always displays the value 0.

Field	Description
Send Plan Capacity	<p>Planned capacity of the linkset to send, in bits per second.</p> <ul style="list-style-type: none"> For a linkset of type Serial or HSL, available bandwidth for the linkset. For a linkset of type SCTPIP or Mixed, set on the ITP using the plan-capacity CS7 linkset configuration command. <p>If Send Plan Capacity is not set on the ITP for one or more of the links associated with this linkset, this field displays the value 0.</p> <ul style="list-style-type: none"> For a linkset of type Other, this field always displays the value 0.
Drops	Total number of packets that have been dropped by the linkset.
Inbound ACL	<p>Inbound IP access control list (ACL) number for the linkset.</p> <p>If there is no inbound ACL for the linkset, this field displays 0.</p> <p>If the linkset is a Virtual linkset, this field displays N/A.</p>
Outbound ACL	<p>Outbound ACL number for the linkset.</p> <p>If there is no outbound ACL for the linkset, this field displays 0.</p> <p>If the linkset is a Virtual linkset, this field displays N/A.</p>
Duration In Service %	Percentage of time the linkset has been in service since the last reboot of the ITP, or since ITP last reset the counters.
Duration Out Of Service %	Percentage of time the linkset has been out of service since the last reboot of the ITP, or since ITP last reset the counters.

SGM Links Detail Table

The SGM Links Detail table displays the following information about links associated with the selected linkset:

Column	Description
SLC	Signaling link code (SLC) ID for the link.
Type	<p>Type of link. Possible link types are:</p> <ul style="list-style-type: none"> • HSL—The link uses the SS7-over-ATM (Asynchronous Transfer Mode) high-speed protocol. • SCTPIP—The link uses the Stream Control Transmission Protocol (SCTP) IP transport protocol. • Serial—The link uses the serial SS7 signaling protocol. • Virtual—The link is a virtual link, which connects signaling point instances running on the same device. SGM does not poll virtual links, nor does it display real-time data or accounting statistics for virtual links.
Interface Name	<p>Primary IP address and interface name of the link. The primary IP address is the first CS7 local IP address configured in the ITP. For example, if the following IP addresses are configured in the ITP:</p> <pre>cs7 local-peer 4180 local-ip 128.3.0.77 local-ip 128.3.0.254</pre> <p>Then SGM uses 128.3.0.77 as the primary IP address. If at any time that IP address is deleted from the ITP configuration, or if a new IP address is added to the beginning of the list, SGM detects the change and automatically updates this field to reflect the new primary IP address.</p> <p>If the link has no interface name, this field is blank.</p>
Ports	Local and remote ports for the link.
QoS	Quality of service (QoS) class of the link.

Column	Description
Congestion	<p>Indicates whether there is congestion on the link. A link is congested if it has too many packets waiting to be sent. This condition could be caused by the failure of an element in your network.</p> <p>Possible values for the Congestion Level field are None, indicating no congestion, and 1 to 7, indicating levels of congestion from very light (1) to very heavy (7).</p>
Utilization	<p>Receive Utilization (Rcvd) and Send Utilization (Sent) for the link, expressed as either a utilization percentage or a number of Erlangs.</p> <p>This field initially displays the phrase Waiting for second poll. After two polling cycles, SGM populates this field with actual calculated rates.</p> <p>If the planned send or receive capacity is not set for the SCTP link, this field displays Set Plan Capacity on ITP.</p>
Bits/Sec	<p>Number of bits received (Rcvd) and sent by the link per second.</p> <p>This field initially displays the phrase Waiting for second poll. After two polling cycles, SGM populates this field with actual calculated rates.</p>
Ignored	Indicates whether the link has been flagged as Ignored (that is, whether the link is to be included when aggregating and displaying SGM status information).
Status	<p>Current status of the link, with a color-coded background. Possible values are:</p> <p>Active (green)</p> <p>Blocked (red)</p> <p>Failed (red)</p> <p>InhibitLoc (blue)</p> <p>InhibitRem (blue)</p> <p>Shutdown (blue)</p> <p>Unknown (red)</p> <p>Warning (yellow)</p> <p>For detailed definitions of each status, see the “Status Definitions for Links” section on page A-4.</p> <p>There is no Unshut or No Shut status.</p>

Column	Description
Status Reason	<p>Reason for the current status of the signaling gateway mated pair.</p> <p>For a full list of possible reasons, see the <i>stateReasons.html</i> file:</p> <ul style="list-style-type: none"> • If you installed SGM in the default directory, <i>/opt</i>, then the file is located at <i>/opt/CSCOsgm/apache/share/htdocs/eventHelp</i> directory. • If you installed SGM in a different directory, then the help directory and file are located in that directory. <p>If the cell is too small to show all of the status reason, place the cursor over the cell to see the full status reason in a mouse over help popup.</p> <p>The status reasons are listed in order of decreasing magnitude. If two or more reasons apply, the reason of greatest magnitude is displayed.</p> <p>If the status reason is Unsupported Configuration, correct the configuration and enter the sgm cleandiscover command to delete all current network data and begin a clean discovery of the ITP network. If the status reason is still Unsupported Configuration, enter the sgm clean command to restore the SGM server to a “clean” state, such as would exist after a new installation of SGM. For more information on the use of these commands, see the “SGM Command Reference” section on page C-1.</p>
Status Summary	Opens the SGM Link Status Summary Web Page.

Viewing ITP Linkset Information: Access Lists

The SGM ITP Access Lists page displays all access lists associated with the selected linkset.

To access the SGM ITP Access Lists page for a linkset:

From the SGM Linkset Details page, select **Access List** from the **Drill-Down Links** drop-down menu and click **Go!** (this option is not available if the associated signaling point is in **Unknown** or **Unmanaged** status, or if the linkset is a **Virtual** linkset.)

The SGM ITP Access Lists table displays the following information for the selected linkset:

Column	Description
Node Name, Signaling Point Name, and Linkset Name (in header)	Name of the node, signaling point, and linkset for which access lists are being displayed.
Server Name (in header)	Name of the SGM server associated with the signaling point or linkset.
Update Interval (in header)	Time between automatic updates for the page.
Last Update (in header)	Date and time the information on the page was last updated by SGM.
Node/SP/Linkset	Name of the node, signaling point, and linkset for which access lists are being displayed. To see detailed information for the node, signaling point, or linkset, click the node, signaling point, or linkset name.
List #	Access list number configured on the node and applied to the linkset. ITP uses access list numbers 2700 through 2799.
Access List	List of commands in the access list.

