Oracle® Communications Performance Intelligence Center

SS7 Surveillance Guide

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Oracle® Communications Performance Intelligence Center SS7 Surveillance Guide, Release 10.4.0

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Chapter 1: About This Help Text

Scope and Audience

This Guide is designed to assist the user in working with SS7 Surveillance. Beginners and experienced users alike should find the information they need to cover important administration activities required to manage SS7 Surveillance.

General Information

You can find general information about Oracle® Communications Performance Intelligence Center, such as product overview, list of other guides, workstation requirements, login and logout procedures, user preference settings, in the Quick Start Guide. This document is available from the Portal menu or can be downloaded from Oracle Help Center (OHC).

Chapter 2: Getting Started with SS7 Surveillance

Introduction to SS7 Surveillance

SS7 Surveillance is an application used by users with the roles nspUser, nspPowerUser and nspManager to query or view link information from the site collectors, namely Integrated Acquisition and Probed Acquisition servers using Low Speed Links (LSLs) and High Speed Links (HSLs). Functioning as a near real-time application, SS7 Surveillance indicates status of nodes, linksets and links that make up a network. This description provides a overview of the SS7 Surveillance application.

Note: SS7 Surveillance monitors on SS7 links.

SS7 Surveillance application is built to integrate into Management Application Platform. The SS7 Surveillance application functions on a Network View context. SS7 Surveillance provides the capability to view overall status of nodes as well as to drill down to individual links.

The privileges assigned to each business user role are listed here.

Feature-Authority	**nspManager**	**nspPowerUser**	**nspUser**
View Counters	**x**	**x**	**x**
Reset Counters	**x**		

Logging into SS7 Surveillance

Complete these steps to open the SS7 Surveillance application.

Note: SS7 Surveillance is an application that runs on Management Application, it must be opened from the Management Application board.

1**.** Using a Web browser, type In the IP Address of the Management Application server.

Note: Management Application only supports versions of IE 11.0 or later and Firefox 3.6 or later. Before using Management Application, turn off the browser pop up blocker for the Management Application site.

Note: Contact your system administrator to obtain the IP address for the Management Application server.

Note: SS7 Surveillance runs on a Web interface and uses an IP address to access the Management Application platform. The URL can be saved in the Favorites list on your browser.

The Management Application *login* screen opens shown here.

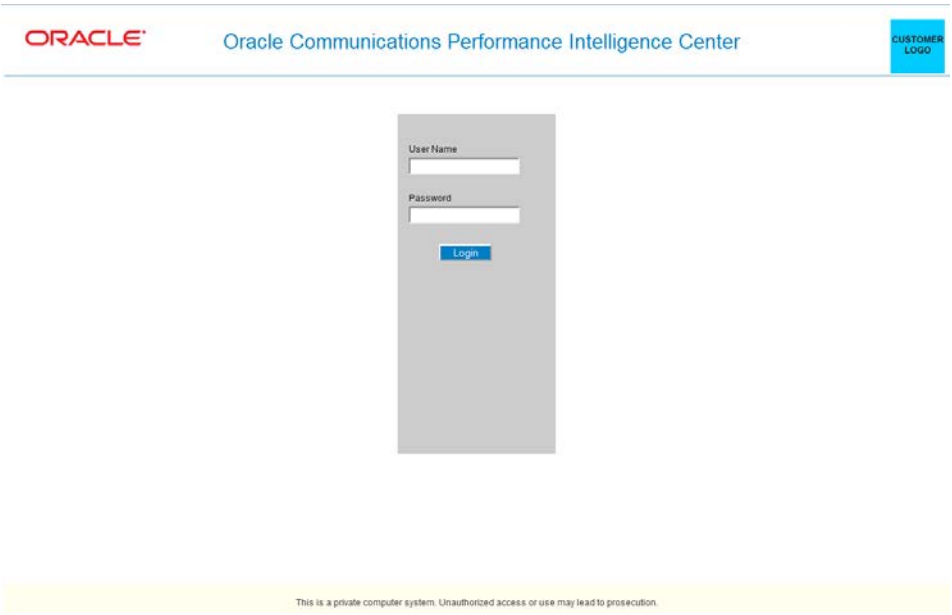


Figure 1 : Login Screen

2. Log into Management Application by typing:
a) Your User id
b) Your Password

Note: Check with your system administrator for your user id and password. The Management Application portal opens.

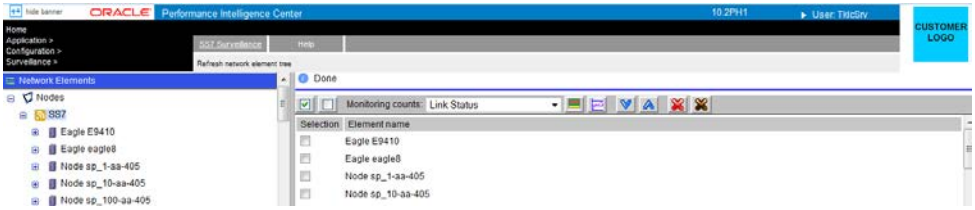


Figure 2 : SS7 Surveillance Screen

3. Click the **SS7 Surveillance** icon to open the SS7 Surveillance page shown here.

SS7 Surveillance User Interface

SS7 Surveillance allows you to view near-real-time status and statistics on the various links that make up your network. This application is designed to start with a context of a Network View. A Network View is a logical representation of the network configured by your System Administrator using Centralized Configuration Manager. The Network View is created as a collection of nodes (linksets and links) or Data Record storage sessions.

Note: For proper monitoring and viewing, the correct version and configuration of Adobe Flash Player Plugin and Internet Explorer must be loaded on the system. (The system must have IE 7 and Flash Player 10 or later.)

Note: Network Elements associated with Integrated Acquisition must be synchronized through the Centralized Configuration Manager (CCM). For more information about CCM, see the Centralized Configuration Guide or contact your system administrator.
This section describes the *SS7 Surveillance* screen.

- Object Tree - located on the left-hand section shows the nodes, linksets and links located on the system.
- Work area - located on the right-hand section provides an area to:

    - Toolbar- for manipulating element functions
    - Table - provides a graphic means of viewing elements in tabular form.

Note: All screens are configurable and allow for different table layouts (column layout button). Tables can be minimized or maximized so that the desired table can always be viewed. Record columns can to be re-arranged (by drag and drop) and sort order (ascending or descending) is changed by clicking on the column heading.

Object Tree

The object tree provides a graphic representation of the nodes, linksets and links in the system as well as the node type (SS7, GBRS, IP). The tree can be expanded or collapsed by clicking **(+)** or **(-)** to the left of the icon. *Figure 2 : SS7 Surveillance Screen* shows an expanded object tree showing nodes with link sets, links and link type.
Note: While you can view SS7, GBRS and IP nodes in the object tree, SS7 Surveillance monitoring functionality is designed only for SS7 links.
Note: SS7 Surveillance is capable of monitoring up to 1000 network links with no impact on performance.

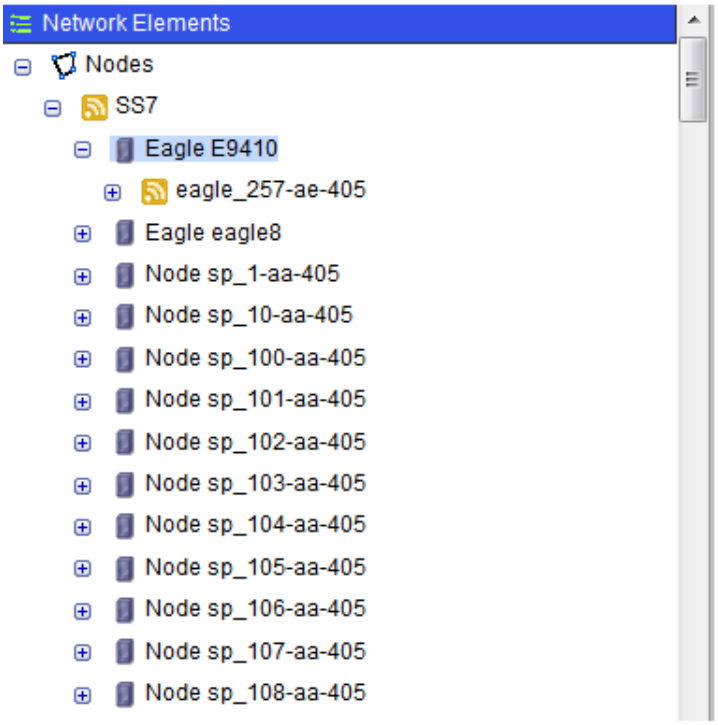


Figure 3 : Expanded Object Tree

Selecting an object opens all the elements that belong to that object in the work space. *Figure 4 : Object Tree With Linkset Selected Links In Workspace* shows the object tree with the link set Is_my_cili-linkset1 selected and all the links belonging to that node listed in the Workspace section.

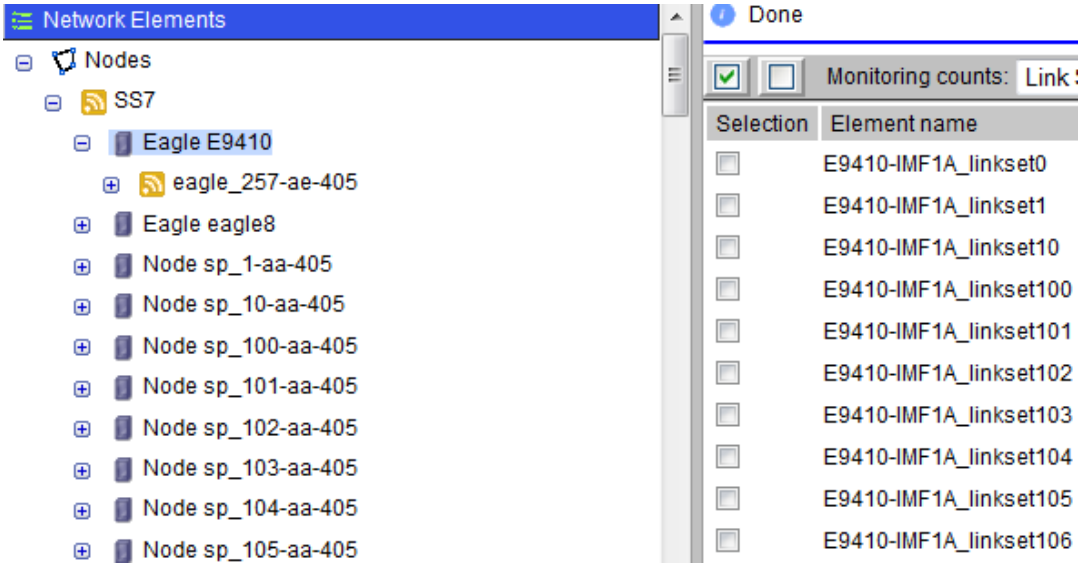


Figure 4 : Object Tree With Linkset Selected Links In Workspace

Toolbar
The SS7 Surveillance toolbar

Figure 5 : SS7 Surveillance Toolbar

The toolbar is composed of seven buttons.

Icon	Explanation
	Select All - selects all elements
	Select None - clears all elements that have been selected
	**Monitoring Counts list** - enables you to select what type of element you are monitoring: • Link status - monitors the status of a link(s) (see *Status Table Node and Linkset Column Headings* ") • Link state - monitors the state of a link(s) (see *Status Table Node and Linkset Column Headings*") • NetMgmt Transfer Signals - monitors the transfer information (see *NetMgmt transfer signals Column Headings*") • NetMgmt Signal Route - monitors the route information (see *NetMgmt signal Route Column Headings*") • NetMgmt Others - monitors other information (see *NetMgmt others Column Headings*")*S*
	Start Table Monitoring - opens a new page and displays the monitored element(s) in tabular format
	Start Chart Monitoring - opens a new page that displays the charted status of all the selected elements
	Save as Favorite - saves selected element as a "favorite" to be stored in the system. For more information about saving favorites, see *How to Create Favorites*"
	Load Favorites- shows all the saved local elements selected as favorites that are stored in the system. For more information on using saved element lists, see *How to Load Saved Favorites*
	Reset Counts - resets all counters displayed on Link State to zero (only functional to users with role nspManager).
	Reset Selected Counts - resets only selected counts displayed on the Link Status to zero (only functional to users with role nspManager).

Table 1: SS7 Surveillance Toolbar Icons

Note: For link state the counters displayed continuously increment from the time of system set up from the last time the reset button was selected.

Element Table

The SS7 Surveillance table is divided into columns to show pertinent information on node elements. *Figure 6 : SS7 Surveillance Work Area Section* is an example of the SS7 Surveillance table layout.

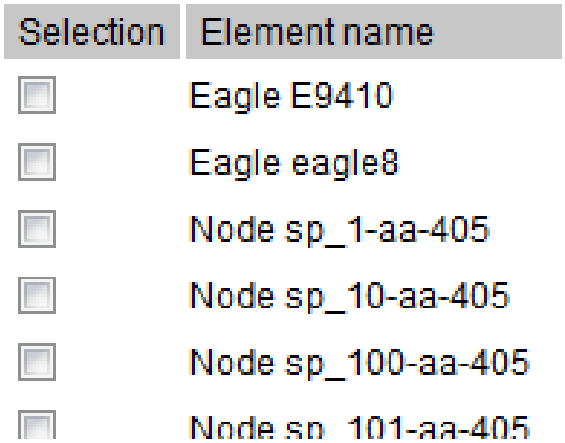


Figure 6 : SS7 Surveillance Work Area Section

The Work area table has two columns:

- Selection - that provides a check box for selecting the Element.
- Element name - that shows the Element (node/linkset/link) name.

When you select a monitoring option and open a element, a separate page opens that shows all the pertinent information of that element (node/linkset/link) the five figures shown below show the tabular form of each of the monitoring modes of *Start Status Start State, NetMgmt Transfer Signals, NetMgmt Signal Route and NetMgmt Other.*

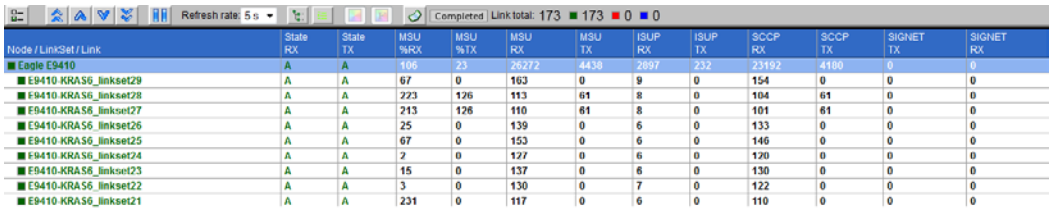


Figure 7 : Element Table- Link Status

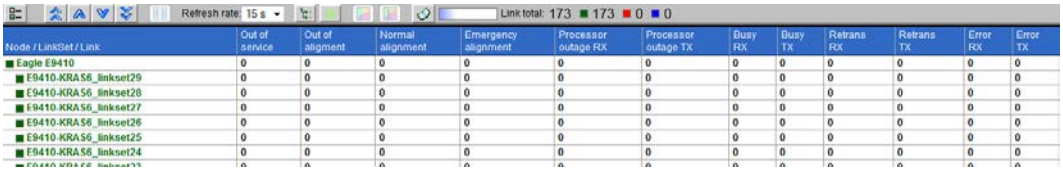


Figure 8 : Element Table- State Status

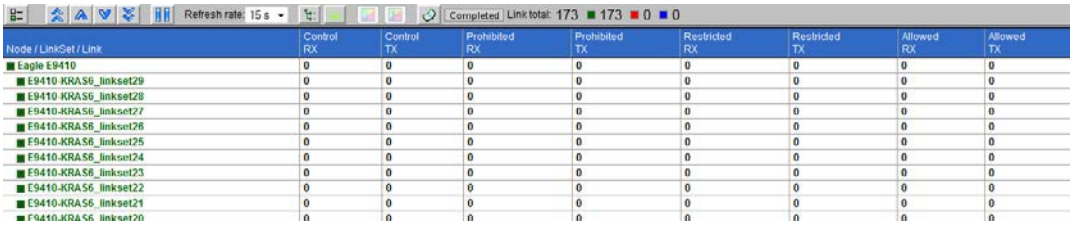


Figure 9 : Element Table- NetMgmt Transfer Signal

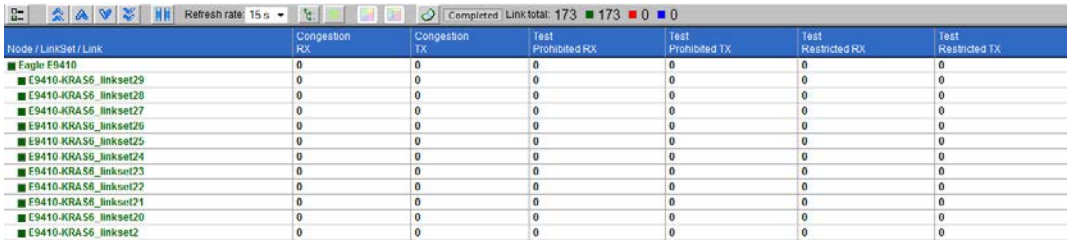


Figure 10 : Element Table - NetMgmt Signal Route

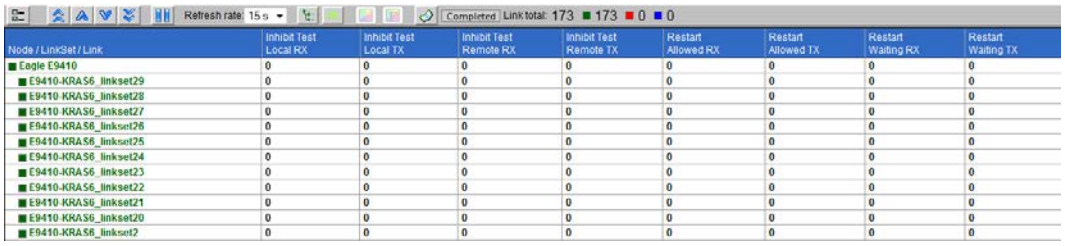


Figure 11 : Element Table - NetMgmt Other

These tables provide the pertinent status or state information for the node, linkset, or link selected.
Note: All these screens are discussed in section *Table Layout and Column Descriptions*."
Elements opened from the Welcome page appear in a separate page. To close an element, you need to close the page. Each user can have up to 10 monitoring sessions open at one time.

Chapter 3: Working In SS7 Surveillance

Overview

This chapter provides information on SS7 Surveillance's features for monitoring *Node, Linkset and* Link status and state. This chapter will cover:

- Monitoring node, linkset and link status and state
- Charting node, linkset and link states
- Displaying network levels
- Customizing colors
- Linking from Alarm

Working with Network Elements

Network elements refer to customer network SS7 elements such Nodes or Signaling Points, Linksets and Links that are monitored by the system.

Element Selection

Initially, SS7 Surveillance opens with the object tree collapsed in the left side.

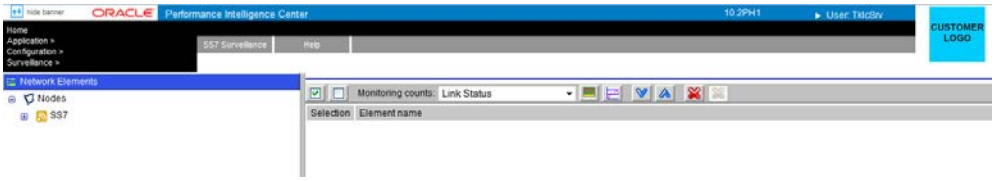


Figure 12 : Initial Page Setting

You can open any element within in the Network View (node, linkset or link). All levels of the Network View can be displayed in the object tree below by expanding or collapsing the object tree. When you select an element in the object tree, all the children of that element are displayed in the right side.

Figure 13 : Selecting Level to Display Sublevel

How to Open an Element

All elements are opened from the workspace section table. Complete these steps to open an element.

1. Select parent **level** in the object tree.
2. Select one or more **element(s)** using the selection boxes in the Selection column

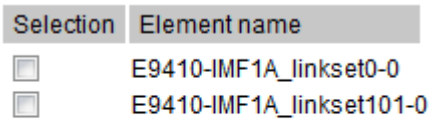


Figure 14 : Selected Element to be Opened

(In this example, links are shown.)

3. Click either **Start Status** or **Start State** (depending on the procedure).

The element page opens in expanded format.

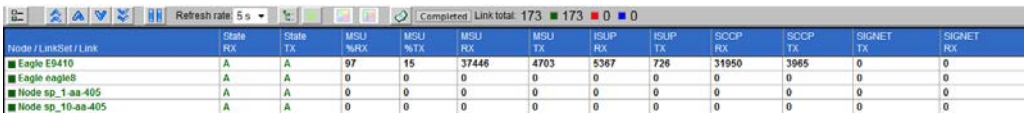


Figure 15 : Opened Element Page

4. Click the **node or linkset row** to expand or contract the element to the level below or just to show that level.

How to Create Favorites

If you work with specific elements (specific nodes, linksets or links) you can save them as Favorites. Complete these steps to save specific groups as Favorites.

1. Select the **Network Element(s)** from the work space that you want to save by clicking in the desired **box** in the Selection column.

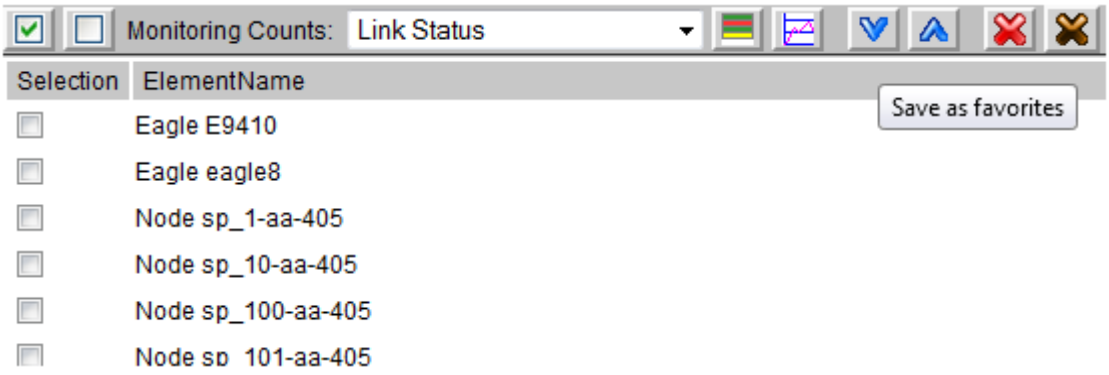


Figure 16 : Selected Network Elements

2. Click **Save as favorites** (downward-facing arrow located on the toolbar).
   The Select favorite element list screen opens.

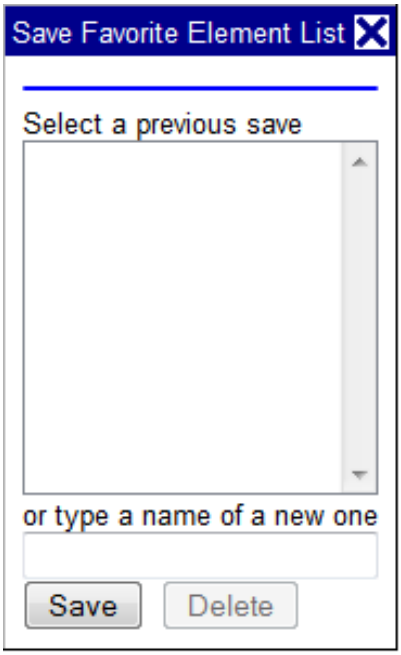


Figure 17 : Select Favorite Element List Screen

3. Type in the **Name** of the list.
4. Click **Save.**

A message appears in the top of the page stating that the list was saved.

How to Load Saved Favorites

Complete these steps to open a list of elements saved in the favorites list.
Note: If nodes have been deleted in CCM they will not appear in the list.
1. Click **Load favorites** (upward facing arrow located on the toolbar).
   The Load favorites list opens shown below.

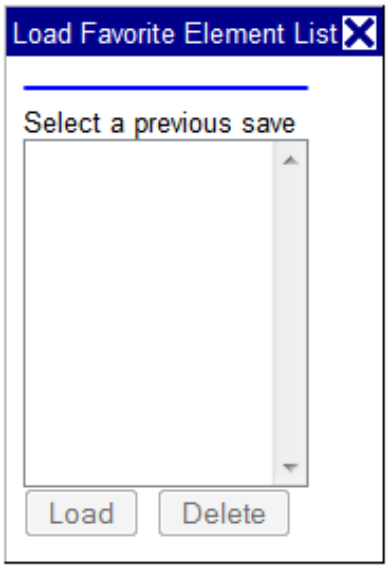


Figure 18 : Load Favorite List

2. Select an **Element List.**
3. **Click Load.** The work space opens showing the element list with the selections present.

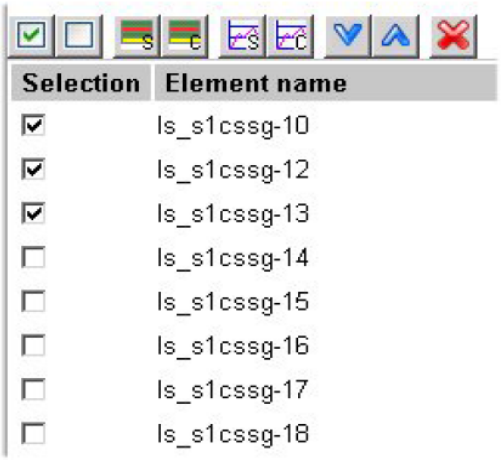


Figure 19 : Loaded Favorite Element List

How to Modify Element Lists

Complete these steps to modify a saved element list.

1. Click **Load favorites** (upward facing arrow). The Load favorites list opens.

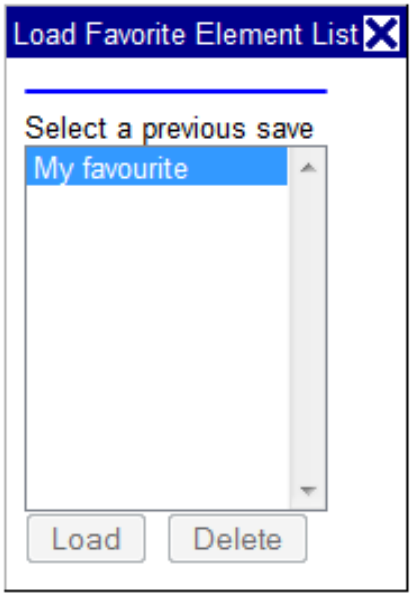


Figure 20 : Load Favorites List

2. Select and **load** an element list.
3. Add or delete an **element(s).**
4. Click **Save as Favorites** (down arrow).
5. Select the **List** to be modified.
6. Click **Save.**
7. Click **OK** at the prompt.
8. The modified list is saved.

How to Delete Element Lists

Complete these steps to delete a saved element list.

1. Open **Load Favorites.**
2. Select the **list** to be deleted.
3. Click **Delete.**
4. Click **OK** at the prompt. The list is deleted.

Using the Monitoring Counts Feature

SS7 Surveillance's Monitoring Counts feature provides a way to display five different statistical views for a node, linkset or link.

Monitoring Toolbar

The status toolbar provides a way of navigating through elements, selecting columns, selecting monitoring colors and exporting files. The buttons are described here.

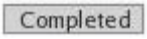
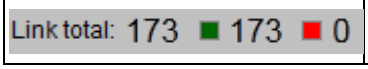
Icon	Explanation
	Selecting Columns - enables you to select the element columns you want displayed.
	First Row - enables you to go to the first row of elements displayed.
	Previous Row - enables you to move to the previous element from the current element selected.
	Next Row - enables you to move to the next row from the current row selected.
	Last Row - enables you to move to the last row of elements displayed.
	Pause Monitoring - enables you to pause the monitoring process to work with current displayed elements.
	Refresh Rate - enables you to adjust the refresh rate for either the Start State or Start Status feature. For Start State monitoring, you can select 5,10, 15 sec. (The default is 15 sec.) For Start Status monitory you can select 1, 3 or 5 sec. (The default value is 5 sec.)
	Expand All - enables you to view all the elements in node, linkset and link (you can also just click on the row itself to expand the element).
	Collapse All - enables to collapse all the child elements of the node or linkset (you can also just click on the row itself to expand the element).
	Colors - enables you to choose color preferences for columns monitoring status *Customizing Colors and Columns*
	Visual Preferences - enables you to customize the color of the monitoring page (see *How to Configure Screen Visual Preferences."*
	Export monitoring data to PNG file - enables you to export all the data in the table that is shown in the monitoring page (see *How to Export Data in png Format"*
	Informs you that the current monitoring session has completed (see refresh rate)
	Link total - displays all the links in the table by monitoring color *Using the Monitoring Counts Feature*.

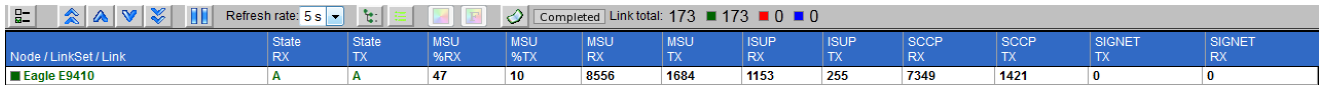
Table 2: Monitoring Toolbar Icons

Table Layout and Column Descriptions

The Monitoring pages are displayed either in table or chart format. In the table format, the columns differ depending on the type of monitoring you use.

Link Status

The Link Status function provides a way of displaying the information for a node, linkset or link. The traffic statistics are displayed in tabular format.



Node / LinkSet / Link	State RX	State TX	MSU %RX	MSU %TX	MSU RX	MSU TX	ISUP RX	ISUP TX	SCCP RX	SCCP TX	SIGNET TX	SIGNET RX
Eagle E9410	A	A	47	10	8556	1684	1153	255	7349	1421	0	0

Figure 21 : Status Column Headings

The status table is organized into 13 columns with column headings described *in Status Table Node and Linkset Column Headings*.

Node/Linkset Status Color Code

These are descriptions for the default color codes for network element status.

- Green - All links are operational. When all links of the linkset/node are listed in green, then the name of the linkset/node is listed in green.
- Yellow - At least one link is operational. When at least one link, but not all, of the linkset/node is operational (listed in green), then the name of the linkset/node name is yellow.
- Blue - No link sent status. When all links of the linkset/node are listed in blue, then the name of the linkset/node is listed in blue.
- Red - No link is operational. The status *else* (not operational) is signified by the node/linkset name being listed in red.

Status Table Node and Linkset Column Headings

- Rx Status - shows a the four types of status of the element depicted by a color-coded letter.
- Rx Messages/sec - shows cumulative sum of Rx Messages/sec for all linksets/links comprising the node/linkset.
- Tx Messages/sec - shows cumulative sum of Tx Messages/sec for all linksets/links comprising the node/linkset.
- %Rx Messages/sec - shows the sum of Rx messages/sec on all linksets divided by total number of messages that can be received on all linksets.
- %Tx Messages/sec - shows the sum of Tx messages/sec on all linksets divided by total number of messages that can be transmitted on all linksets.
- SCCP Rx Messages/sec - shows the cumulative sum of SCCP Rx Messages/sec for all linksets/links comprising the node/linkset.
- SCCP Tx Messages/sec - shows the cumulative sum of SCCP Tx Messages/sec for all linksets/links comprising the node/linkset.
- ISUP Rx Messages/sec - shows thecumulative sum of ISUP Rx Messages/sec for all linksets/links comprising the node/linkset.
- ISUP Tx Messages/sec - shows the cumulative sum of ISUP Tx Messages/sec for all linksets/links comprising the node/linkset.
- SIGNET Rx Messages/sec - shows the cumulative sum of SIGNET Rx msgs/sec.
- SIGNET Tx Messages/sec - shows the cumulative sum of SIGNET Tx msgs/sec for all linksets/links comprising the node/linkset.

NetMgmt transfer signals Column Headings

- Transfer Signals Control - Transmitted / Received
- Transfer Signals Prohibited - Transmitted / Received
- Transfer Signals Restricted - Transmitted / Received
- Transfer Signals Allowed - Transmitted / Received

NetMgmt signal Route Column Headings

- Signal Route Congestion - Transmitted / Received
- Signal Route Test Prohibited - Transmitted / Received
- Signal Route Test Restricted - Transmitted / Received

NetMgmt others Column Headings

- Link Inhibit Test Local - Transmitted / Received
- Link Inhibit Test Remote - Transmitted / Received
- Traffic Restart Allowed - Transmitted / Received
- Traffic Restart Waiting - Transmitted / Received

Node and Linkset Rx/Tx Status Values

Each node or linkset can have one of four status values. Each value is described here.

- Green A - Shows that all links have "A" status .
- Yellow A - Shows that at least one link has a "Green A" status shown here.
- Red OS - Shows that link is bad shown here.
- Empty string (any color) - Shows other types of Rx/Tx status shown here.

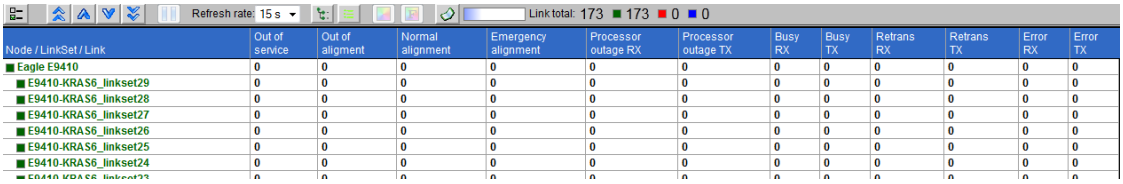
Different Rx/Tx Status Types

The Rx/Tx Status can be one of 10 different status values. Each value is described here.

- UA - Link not connected
- AD - Link has been administratively disabled (not used)
- ND - Link is in "No Data" state
- OS - Link is out of service
- O - Link is Out of Alignment
- N - Link has entered Normal Alignment proving period
- E - Link has entered Emergency Alignment proving period
- A - Link is in service
- PO - Link is reporting Processor Outage
- B - Link is reporting Busy
- CONN - Link is connected by not sent status

Link State Table

The Link State monitoring count displays the information for a network element. The statistics are displayed in table format shown in



Node / LinkSet / Link	Out of service	Out of alignment	Normal alignment	Emergency alignment	Processor outage RX	Processor outage TX	Busy RX	Busy TX	Retrans RX	Retrans TX	Error RX	Error TX
Eagle E9410	0	0	0	0	0	0	0	0	0	0	0	0
E9410-KRAS6_linkset29	0	0	0	0	0	0	0	0	0	0	0	0
E9410-KRAS6_linkset28	0	0	0	0	0	0	0	0	0	0	0	0
E9410-KRAS6_linkset27	0	0	0	0	0	0	0	0	0	0	0	0
E9410-KRAS6_linkset26	0	0	0	0	0	0	0	0	0	0	0	0
E9410-KRAS6_linkset25	0	0	0	0	0	0	0	0	0	0	0	0
E9410-KRAS6_linkset24	0	0	0	0	0	0	0	0	0	0	0	0

Figure 22 : State Table Column Display

- Out of service count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Out of Alignment count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Normal Alignment count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Emergency Alignment count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Rx Processor outage count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.

- Tx Processor outage count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Rx Busy count - shows the cumulative sum of count for all linksets comprising the node.
- Tx Busy count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Rx Retransmission Request count - cumulative sum of count for all linksets/links comprising the node/linkset.
- Tx Retransmission Request count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Rx Error count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.
- Tx Error count - shows the cumulative sum of count for all linksets/links comprising the node/linkset.

Note: Each counter indicates the number of times that event has occurred since the counter was last reset.

How to Reset Counts for Selected Nodes

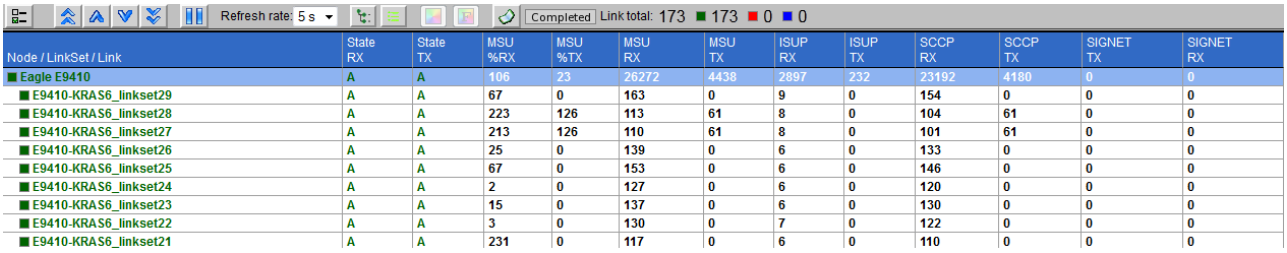
Note: This feature is only available to users who have the role nspManager.

SS7 Surveillance provides a feature for selecting specific nodes from the workspace and resetting the counts for those particular nodes. Complete these steps to reset specific node counts.

1. From the object tree, select the **root node.**
   All the nodes in the workspace area are displayed.
2. Select the **Nodes** that need to be reset.
3. Click **Reset Selected Nodes.**
   The counts are reset for the selected nodes.

How to chart monitoring Counts

SS7 Surveillance provides you with a means of viewing network elements (nodes, linksets and links) in chart form. This feature provides you with an additional means of viewing, in full page, all monitoring states. Shown here are both a table and charting screens of the same network elements (links).



Node / LinkSet / Link	State RX	State TX	MSU %RX	MSU %TX	MSU RX	MSU TX	ISUP RX	ISUP TX	SCCP RX	SCCP TX	SIGNET TX	SIGNET RX
Eagle E9410	A	A	106	23	26272	4438	2897	232	23192	4180	0	0
E9410-KRAS6_linkset29	A	A	67	0	163	0	9	0	154	0	0	0
E9410-KRAS6_linkset28	A	A	223	126	113	61	8	0	104	61	0	0
E9410-KRAS6_linkset27	A	A	213	126	110	61	8	0	101	61	0	0
E9410-KRAS6_linkset26	A	A	25	0	139	0	6	0	133	0	0	0
E9410-KRAS6_linkset25	A	A	67	0	153	0	6	0	146	0	0	0
E9410-KRAS6_linkset24	A	A	2	0	127	0	6	0	120	0	0	0
E9410-KRAS6_linkset23	A	A	15	0	137	0	6	0	130	0	0	0
E9410-KRAS6_linkset22	A	A	3	0	130	0	7	0	122	0	0	0
E9410-KRAS6_linkset21	A	A	231	0	117	0	6	0	110	0	0	0

Figure 23 : Monitoring Screen of Two Links

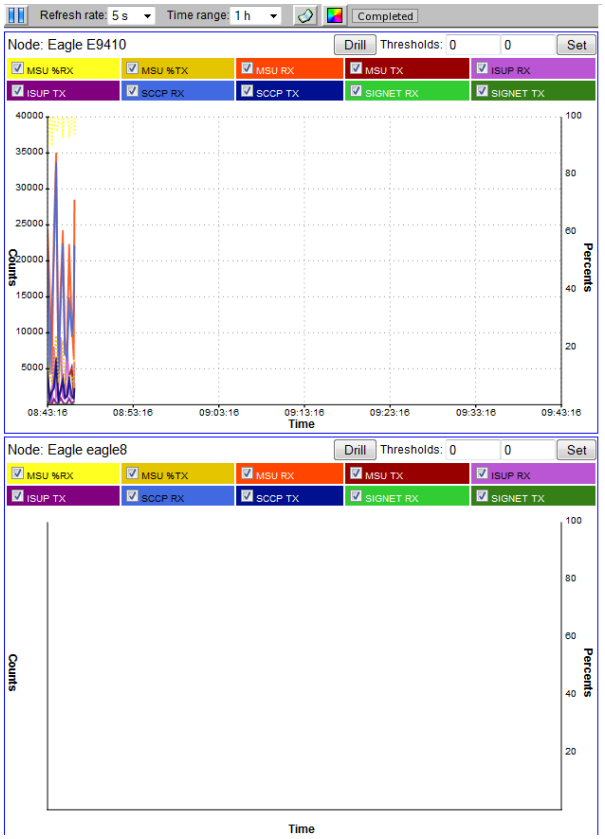


Figure 24 : Charting Screen of Two Links

How to Start Chart Monitoring

SS7 Surveillance enables you to graphically view all the states with the table monitoring and chart monitoring features. Complete these steps to use the chart feature.

1. Select the **network element(s)** to be charted.

Note: A maximum of eight graph windows can be displayed at one time.

2. Select the **monitoring status** (Link status, link state, NetMgmt Transfer Signals etc).
3. Click **Start Chart Monitoring.**
   The Chart page opens shown in *Figure 25 : Start Status Chart of Linkset* and described in *Table 3 : Start Status Chart* Page.

Field/Element	Description
Pause Button	Pauses the monitoring process.
Refresh Rate	Provides the interval when the screen is refreshed.
Time Range	Shown in the x-axis and provides the length of time previous to the current time for and can run for more than the previous 24-hours.
Export to PNG File Button	Enables you export the chart in PNG file format.
Change Colors to Chart Button	Enables you to choose the colors for each of the columns being monitored.

Drill Button	Enables you to also monitor the children of either nodes or linksets.
Thresholds	Provides a visual aid for during the monitoring. The threshold appears as a red line. Threshold = 0 removes the threshold marker.
Set Button	Sets the threshold level which appears in the screen as a red line.
Parameter Selection fields	Provides check boxes and color coding. When checked the tracking will be represented as a line with that color.
Graph Interface	Counts - for *states* the interface shows the alarm count of each parameter.

Table 3 : Start Status Chart Page

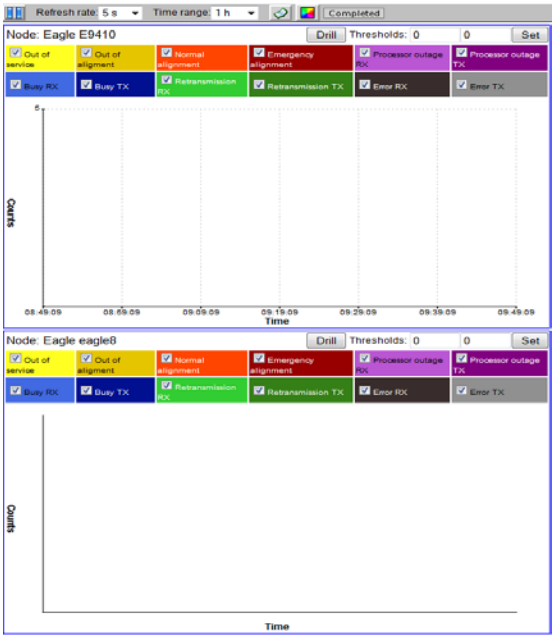


Figure 25 : Start Status Chart of Linkset

5. Set the **Time Range** from the pull-down list.
   The range is 15 minutes to 24 hours. (Default is 1 hour.)
6. (Optional) Set the **Thresholds.**
   Note: The threshold feature is used only as a visual aid.
   a) Set lower **Threshold** by typing in a number in the left-hand field.
   b) Set upper **Threshold** by typing in a number in the right-hand field.
7. Click **Set** to set the thresholds.

How to Use the Drill-down Function

The drill-down function is used to drill-down to the children of either a node or linkset in order to concurrently monitor those elements as well as the parent element. In addition, you can concurrently view the status of children, say links, while charting the state of the parent, linksets and vice versa. In addition, you can save the selected *children* to *Favorites.*

Complete these steps to use the drill-down function.

1. Select the **network element(s)** to be monitored and charted.
   Note: You can select up to four elements at either at the linkset or link level. You cannot use the drill-down feature on links, only nodes and linksets.
2. Click **Chart Start State** or **Chart Start Status.**

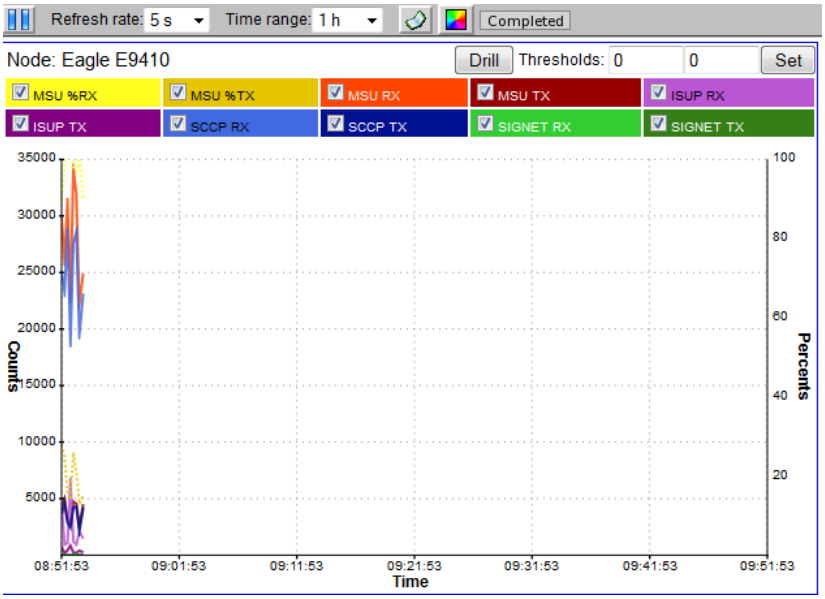


Figure 26 : Start Status Chart of Linkset

3. Click **Drill.**

The Child selection pop-up opens

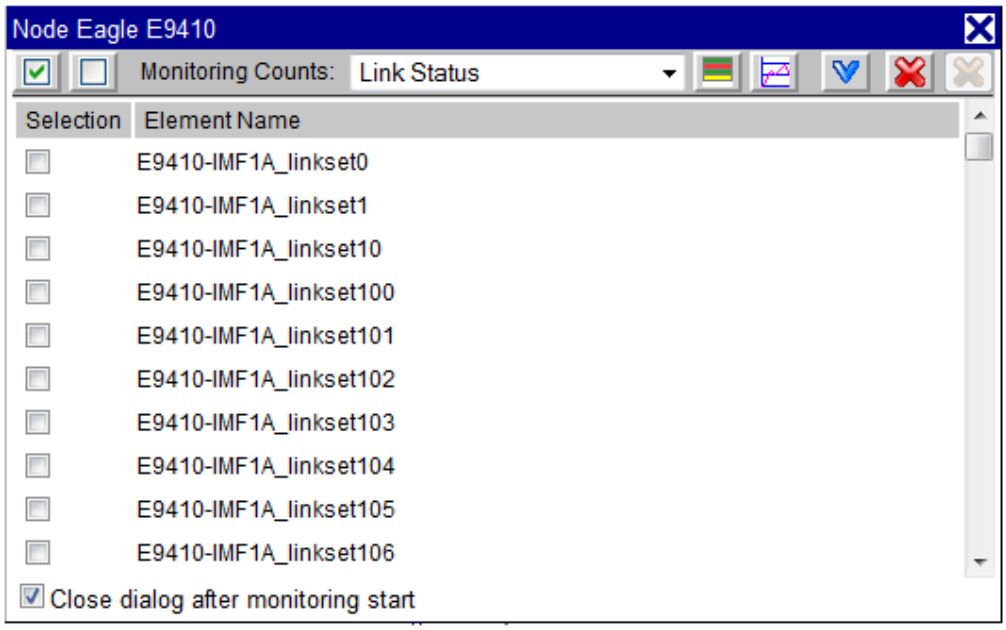


Figure 27 : Child Selection Pop-Up

4. Select the **element(s)** to be charted. (In this example no links are visible.)
5. Click either **Start Table Monitoring** to see the monitoring table or **Start Chart Monitoring** depending on what function you are performing.

The child elements page opens

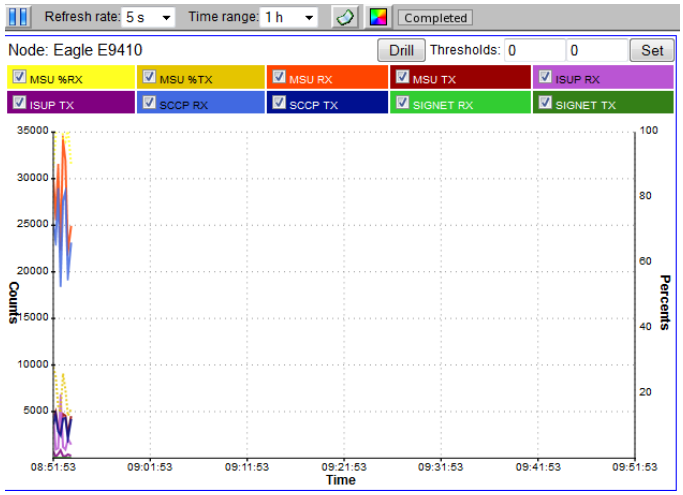


Figure 28 : Chart Monitoring Status Page with Child Element

6. Close the page by clicking the "X" in the upper right-hand corner of the page and click **OK** at the prompt.

Displaying Network Levels

You can view at either the node, linkset or link level. For more information see: *Node View ,Linkset View and Link View*

Node View

SS7 Surveillance enables you to drill down from nodes to links. Complete these steps to display a node view.

1. Select the Main topic heading of nodes.

All the nodes that are monitored appear in the Workspace section of the page. Node list shows the object tree-workspace correlation.

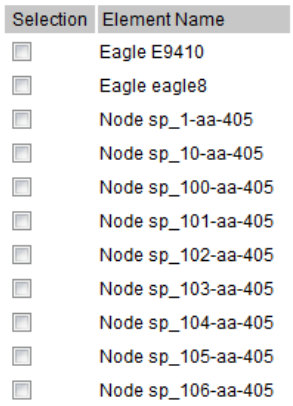
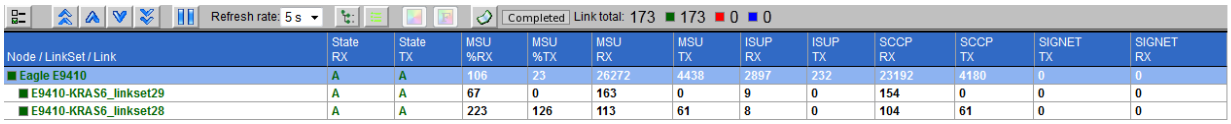


Figure 29: Node List

2. Select one or more **node** elements.
3. Select the **type of monitoring status** (in this case it is Link Status)
4. Click **Start Table Monitoring.**

   The Status page opens, as a separate page, with the selected nodes in table form. (Eagle E9410 has been selected).



Node / LinkSet / Link	State RX	State TX	MSU %RX	MSU %TX	MSU RX	MSU TX	ISUP RX	ISUP TX	SCCP RX	SCCP TX	SIGNET TX	SIGNET RX
Eagle E9410	A	A	106	23	26272	4438	2897	232	23192	4180	0	0
E9410-KRAS6_linkset29	A	A	67	0	163	0	9	0	154	0	0	0
E9410-KRAS6_linkset28	A	A	223	126	113	61	8	0	104	61	0	0

Figure 30 : Viewing Nodes in Status Page (Abbreviated View)

The table shows how many nodes are being monitored and what status they are in. You can then click **Expand All** to see the linksets and links that belong to that node.

Linkset View

Complete these steps to display the linkset view.

1. Select the **node** or **signaling point** that contains the linksets you want. The linksets displayed in the work section table.

Note: Signaling points act as placeholders in the menu tree and cannot be accessed in the workspace.

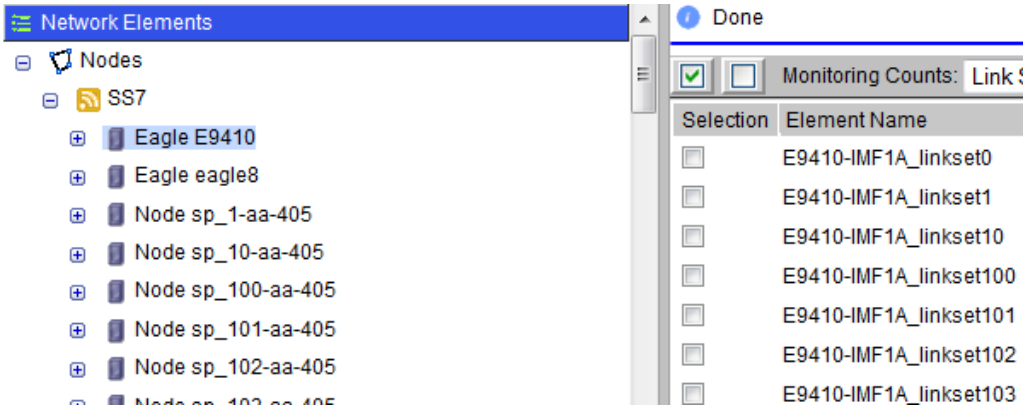


Figure 31 : Linkset Display

2. Select the linkset (s) you want

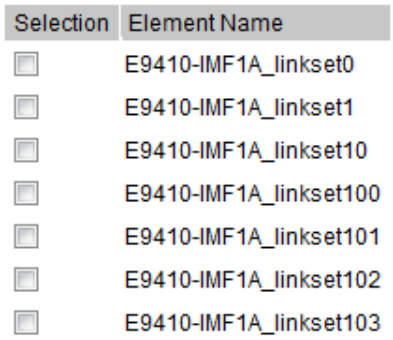


Figure 32 : Selected Linksets

3. Select the **monitoring mode.**
   (Link Status, Link State, NetMgmt Transfer Signals, etc).
4. Click **Start Table Monitoring.**
   The Table Monitoring page opens (as separate page) showing the expanded view of the linksets along with their parent nodes.

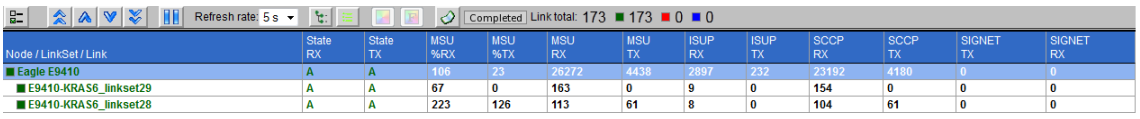


Figure 33 : Expanded View Of Linksets In Tabular Form

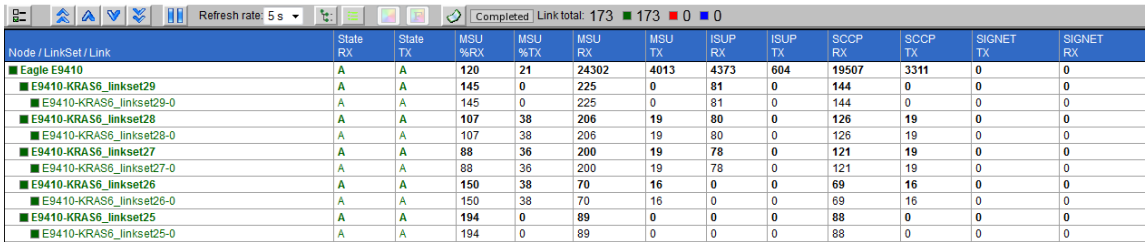
Link View

Complete these steps to display links view.

1. Select the **linkset** that contains the links you want. The links are displayed in the workspace section table.

Figure 34 : Link Display

2. Select the **link(s)** you want to monitor.
3. Select the **monitoring mode.**
   (Link Status, Link State, NetMgmt Transfer Signals, etc).
4. Click **Start Table Monitoring.**
   The Table Monitoring page opens (as separate page) showing the expanded view of links along with the parent node and linksets.



Node / LinkSet / Link	State RX	State TX	MSU %RX	MSU %TX	MSU RX	MSU TX	ISUP RX	ISUP TX	SCCP RX	SCCP TX	SIGNET TX	SIGNET RX
Eagle E9410	A	A	120	21	24302	4013	4373	604	19507	3311	0	0
E9410-KRAS6_linkset29	A	A	145	0	225	0	81	0	144	0	0	0
E9410-KRAS6_linkset29-0	A	A	145	0	225	0	81	0	144	0	0	0
E9410-KRAS6_linkset28	A	A	107	38	206	19	80	0	126	19	0	0
E9410-KRAS6_linkset28-0	A	A	107	38	206	19	80	0	126	19	0	0
E9410-KRAS6_linkset27	A	A	88	36	200	19	78	0	121	19	0	0
E9410-KRAS6_linkset27-0	A	A	88	36	200	19	78	0	121	19	0	0
E9410-KRAS6_linkset26	A	A	150	38	70	16	0	0	69	16	0	0
E9410-KRAS6_linkset26-0	A	A	150	38	70	16	0	0	69	16	0	0
E9410-KRAS6_linkset25	A	A	194	0	89	0	0	0	88	0	0	0
E9410-KRAS6_linkset25-0	A	A	194	0	89	0	0	0	88	0	0	0

Figure 35 : Expanded Link View

Customizing Colors and Columns

SS7 Surveillance enables you to customize the colors and columns for a trace for easier identification. For more information on this feature see:

Node/Linkset Status Color Code
How to Configure Screen Visual Preferences
How to Configure Chart Colors
How to Configure Status Colors

Status Colors

SS7 Surveillance codes the element status using different colors. The default colors are:

- Green - links in operational state
- Yellow - Some links in operational state
- Red - All links in operational state
- Blue - link state is indeterminate

How to Configure Status Colors

You have to ability using the *color* button on the Status toolbar to change the colors to fit you needs. Complete these steps to configure status colors.

1. From the Status view, click **Colors.**

The Color Settings page opens.

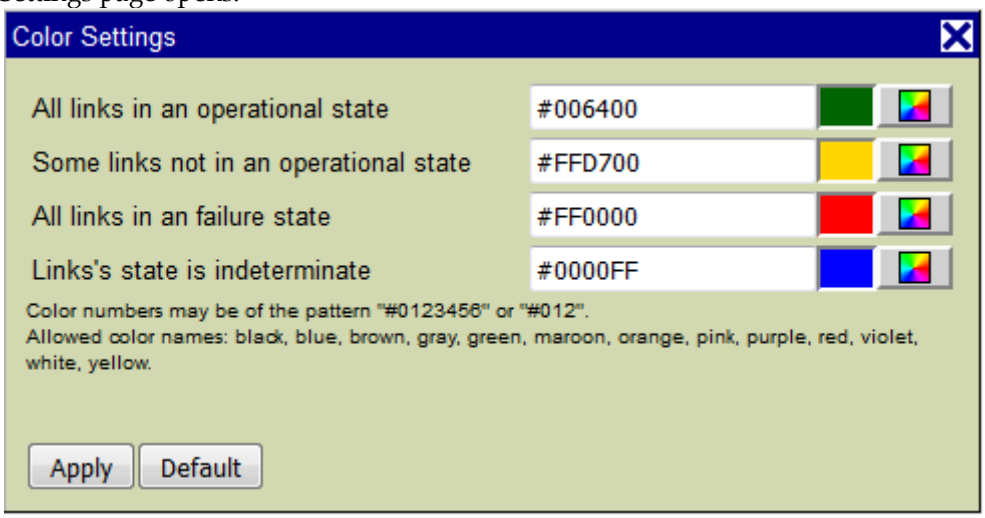


Figure 36 : Color Settings

2. Click on the **Color** icon to the right of the color status you want to change.
3. Select the **color.**
   The color code appears in the color name field.
4. Click **Apply** when you have finished configuration. The color changes are saved.

How to Configure Chart Colors

You have to ability to change the colors used for the columns being monitored by using the Chart Color feature. Complete these steps to configure chart colors.

1. From the Table or Chart monitoring page, click **Change Colors.**

The Color Settings screen opens.

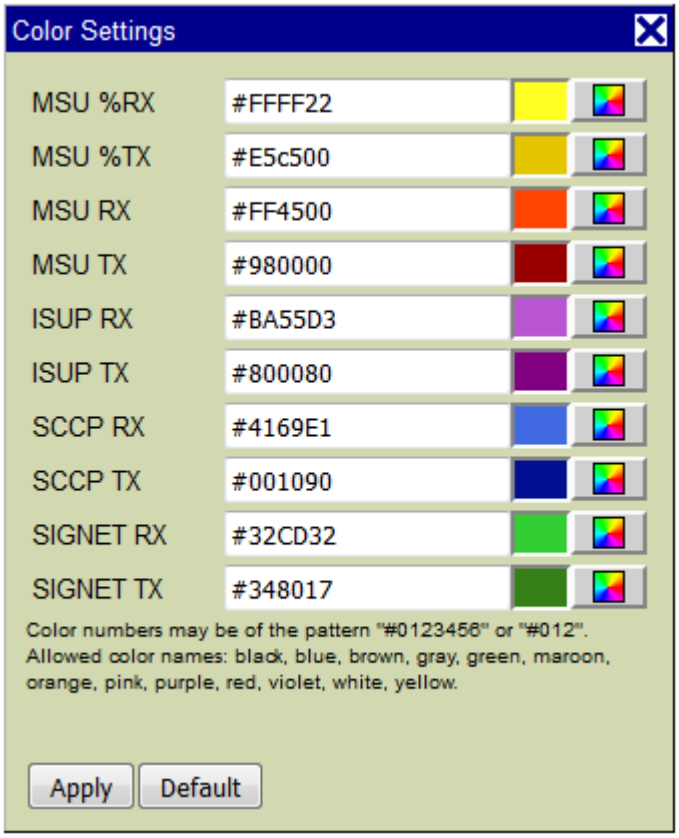


Figure 37 : Color Settings Screen

2. Click the **color palette** on the column to be changed.
3. Select the **color** from the selection.
4. Repeat steps 2-3 to change other column colors.
5. Click **Apply.**

The column colors are changed.

Note: If you choose a color that is already being used, you prompted that that you must choose another color.

How to Configure Screen Visual Preferences

You have to ability to change the look of a page by using the Visual Preferences feature. Complete these steps to configure visual preferences.

1. From the Table monitoring page, click **Visual Preferences.**

The Visual Preferences screen opens

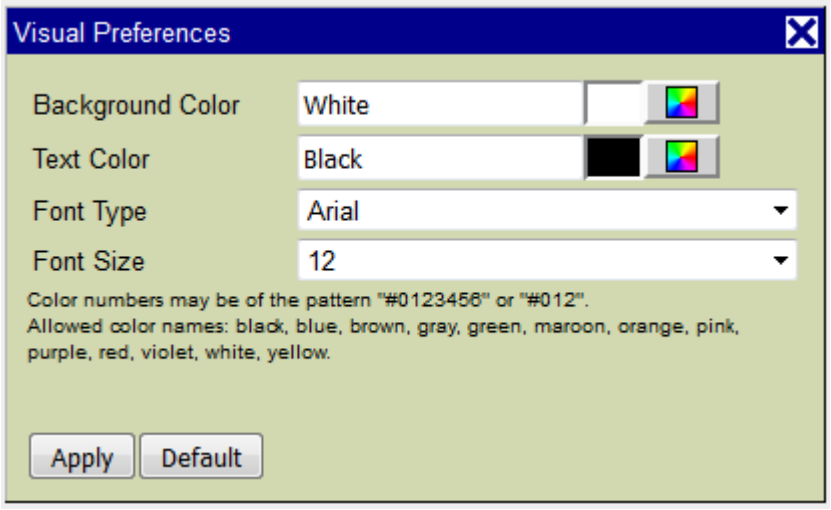


Figure 38 : Visual Preferences

1. (Optional) Select the **Background Color:**
a) Click the Palette.
b) Choose the color.
3. (Optional) Select the **Text Color**
a) Click the Palette.
b) Choose the color.
4. (Optional) Select the **Font type** from the pull-down menu.
5. (Optional) Select the **Font size** from the pull-down menu.
6. Click **Apply.**

The preferences are saved.

How to Configure Columns

You have to ability using the column select button on the *Status toolbar* to select the information columns to fit you needs. Complete these steps to select columns.

1. Select a **node/linkset/link** from the table in the work section.
2. Click **Start Status.**
   The status page opens (as a separate page).
3. Click **Column Select.**

The Column Select page opens with the column headings for that element.

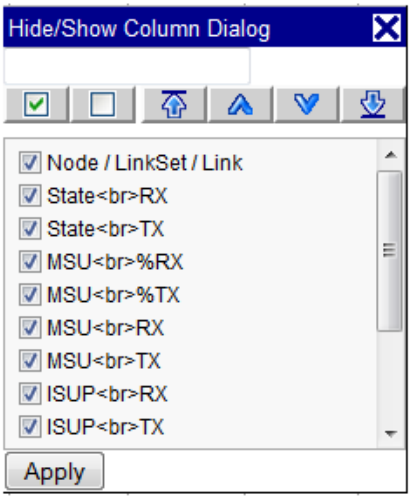


Figure 39 : Column Select Page (Status View)

4. You can **show/hide** all the columns or you can select specific columns by selecting or de-selecting the column field.
5. Click **Apply.**
   The changes are saved.

How to Export Data in png Format

Complete these steps to export a chart in png format.

1. Select the **chart** to be exported.
2. Click on the **Export** button.
3. The **Save As dialog** screen opens
4. Select **output directory.**
5. Enter a **file name** (or accept the default name).
6. Click the **Save** button.

The file is exported to the selected directory as a PNG file.

Appendix A: My Oracle Support

MOS (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select 2 for New Service Request
2. Select 3 for Hardware, Networking and Solaris Operating System Support
3. Select 2 for Non-technical issue

You will be connected to a live agent who can assist you with MOS registration and provide Support Identifiers. Simply mention you are a Tekelec Customer new to MOS.

MOS is available 24 hours a day, 7 days a week.