RADview/TDM

Element Management System for TDM Applications

DXC-4

Publication 05/04

Contents

Chapter 4. Performance Management

List of Figures

List of Tables

Chapter 1
Introduction

This chapter provides an overview of the DXC-4 device and the RADview DXC-4 user interface.

1.1 Overview of the DXC-4 Device

The DXC-4 is a standalone unit, used for protected monitoring of T1/E1 digital transmission lines. Protected monitoring is performed by connecting each pair of the T1/E1 link, from its protected monitoring point (PMP) to a receiver in the DXC-4. The DXC-4 can be equipped with up to 8 receivers, providing protected monitoring for 8 T1/E1 links. The DXC-4 is able to groom up to a full 24 (for a T1 link) or 31 (for an E1 link) DS0 timeslots over a single link towards a central location. Compliance with the ITU-T G.772 specifications allows the DXC-4 to groom the full number of timeslots on the link with no impedance of the transmitted digital signal, allowing the Telecom Carrier to monitor and analyze infrastructure performance without having to dispatch a field technician or equipment to a remote location.

Using the Graphical User Interface

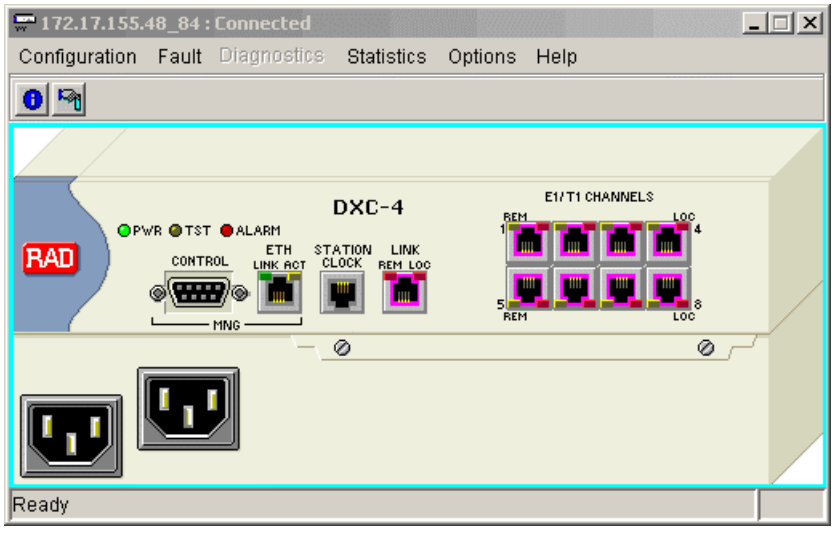


Figure 1-1. RADview DXC-4 Window

The RADview DXC-4 window provides a dynamically updated graphical representation of the DXC-4 front and rear panels, allowing you to monitor and manage DXC-4 operations. The window includes port interfaces and their operational and communication statuses, as well as the device's LED indicator statuses.

Menu Bar

The menu bar includes the following pull-down menus: Configuration, Fault, Diagnostics, Options, and Help. Menu availability and content varies depending on the selected interface (system or port).

Toolbar

The following button is available on the toolbar:

System Info – Displays the system information for the selected interface.

Poll agent – polls the agent.

Status Bar

The status bar indicates if RADview DXC-4 is ready or currently polling the device.

LEDs

The front panel of DXC-4 includes a series of LED indicators that show the current operating status of the unit. *Table 1-1* lists and describes the DXC-4 indicators.

Table 1-1. DXC-4 LEDs

Name	Function	Location
PWR (green)	ON – Power supply is ON Off - Power supply is OFF Blinking – When one of the power supplies is off (for dual power supply device)	Front panel
TST (yellow)	ON – Test is active on one of the device's ports.	Front panel
ALARM (red)	ON – Alarm is present in the alarm buffer	Front panel
ETH: LINK (green)	ON – LAN is connected to the Ethernet interface OFF – LAN is not connected to the Ethernet interface	Front panel
ETH: ACT (yellow)	ON – Ethernet interface is receiving/transmitting data OFF – Ethernet interface not receiving/transmitting data	Front panel
LINK: REM/LOC (red/yellow)	ON – Sync Loss exists on the link	Front panel

1.2 System Level Operations

Table 1-2 lists the different management options for the system level device mode.

Table 1-2. System Management Device Mode Options

Tasks – Configuration	**Dialog Box and Parameter Location**	**Path**
Setting the System Information	*System Information Dialog Box* (refer to *Viewing and Setting System Information* in *Chapter 3*)	Configuration ➥System Info…
Setting the System Parameters	*System Parameters Dialog Box* (refer to *Setting System Parameters* in *Chapter 3*)	Configuration ➥System Parameters…
Polling the Agent	*Polling the Agent* in *Chapter 3*	Configuration ➥System Commands ➥Poll Agent
Resetting the Hardware	*Reset HW Dialog Box* (refer to *Resetting the Hardware* in *Chapter 3*)	Configuration ➥System Commands ➥Reset HW
Tasks – Fault	**Dialog Box and Parameter Location**	**Path**
Displaying the Active Alarms	*All Active Alarm List Dialog Box* (refer to *Displaying the Active Alarms* in *Chapter 2*)	Fault ➥All Active Alarms ➥List…
Clearing the Active Alarms	*Clearing the Active Alarm Buffer* in *Chapter 2*)	Fault ➥All Active Alarms ➥Clear
Displaying the System Alarm Buffer List	*System Alarm Buffer List Dialog Box* (refer to *Displaying System Alarm Buffer List* in *Chapter 2*)	Fault ➥History Log ➥List...
Clearing the Alarm Buffer	*Clearing the Alarm Buffer* in *Chapter 2*	Fault ➥History Log ➥Clear
Tasks – Options	**Dialog Box and Parameter Location**	**Path**
Configuring the Manager List	*Manager List Dialog Box* (refer to *Configuring the Manager List* in *Chapter 3*)	Options ➥Manager List...
Tasks – Statistics	***Dialog Box and Parameter Location***	**Path**
Setting the Polling Interval	*Setting Polling Interval* in *Chapter 4*	Statistics ➥Polling Interval…

1.3 Port Level Operations

This section describes:

- *Link Port Level Operations*
- *Control Port Level Operation*
- *Channel Level Operations*

Link Port Level Operations

You can manage up to 8 T1/E1 ports in the DXC-4. *Table 1-3* lists the different management options for a link port.

Table 1-3. Link Port Management Options

Tasks – Configuration	**Dialog Box and Parameter Location**	**Path**
Configuring the Link Port Parameters	For T1, *T1 Port Parameters Dialog Box* (refer to *Configuring T1 Link Port Parameters* in *Chapter 3)* For E1, *E1 Port Parameters Dialog Box* (refer to *Configuring E1 Link Port Parameters* in *Chapter 3*)	Configuration ➥Parameters…
Assigning the Time Slots	*Link TS Assignment Dialog Box* (refer to *Assigning Time Slots* in *Chapter 3*)	Configuration ➥TS Assignment…
Tasks – Fault	**Dialog Box and Parameter Location**	**Path**
Displaying the Active Alarms	*Port Active Alarm List Dialog Box* (refer to *Displaying the Active Alarms for a Port* in *Chapter 2*)	Fault ➥Active Alarms…
Clearing the Active Alarms	*Clearing the Active Alarm Buffer* in *Chapter 2*	Fault ➥Clear
Tasks – Diagnostics	**Dialog Box and Parameter Location**	**Path**
Running a Test on the Link Port	*Port Test Dialog Box* (refer to *Running a Test on a Port* in *Chapter 2*)	Diagnostics ➥Test…
Tasks – Statistics	**Dialog Box and Parameter Location**	**Path**
Displaying Link Port Current Statistics	*Port Current Statistics (*refer to *Viewing Current Statistics* in *Chapter 4)*	Statistics ➥Current…
Displaying Link Port Interval Statistics	*Port Interval Statistics (*refer to *Viewing Interval Statistics* in *Chapter 4)*	Statistics ➥Interval…

Control Port Level Operation

There is one Control (DB9 Serial) port in the DXC-4. *Table 1-4* lists the different management options for the Control port.

Table 1-4. Control Port Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Configuring the Control Port Parameters	*Control Port Parameters Dialog Box* (refer to *Configuring Control Port Parameters* in *Chapter 3*)	Configuration ➥Parameters…

Channel Level Operations

Any configured E1/T1 Channel may be by the DXC-4. *Table 1-5* lists the different management options for a Channel.

Table 1-5. Channel Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Configuring the Channel Parameters	For T1, *T1 Channel Parameters Dialog Box* (refer to *Configuring T1 Channel Parameters* in *Chapter 3*) For E1, *E1 Channel Parameters Dialog Box* (refer to *Configuring E1 Channel Parameters* in *Chapter 3*)	Configuration ➥Parameters…
Tasks – Fault	**Dialog Box and Parameter Location**	**Path**
Displaying the Active Alarms	*Port Active Alarms List Dialog Box for Channels* (refer to *Displaying the Active Alarms for a Channel* in *Chapter 2*)	Fault ➥Active Alarms…
Clearing the Active Alarms	*Clearing the Channel Active Alarm Buffer* in *Chapter 2*	Fault ➥Clear
Tasks – Diagnostics	**Dialog Box and Parameter Location**	**Path**
Running a Test on the Channel	*Port Test Dialog Box* (refer to *Running a Test on a Channel* in *Chapter 2*)	Diagnostics ➥Test…

Table 1-5. Channel Management Options (Cont.)

Tasks – Statistics	Dialog Box and Parameter Location	Path
Displaying Channel Current Statistics	*Port Current Statistics Dialog Box (*refer to *Viewing Current Statistics* in *Chapter 4)*	Statistics ➥Current…
Displaying Channel Interval Statistics	*Port Interval Statistics Dialog Box(*refer to *Viewing Interval Statistics* in *Chapter 4)*	Statistics ➥Interval…

Chapter 2

Fault Management

This chapter describes DXC-4 fault management at the system, port, and channel levels.

2.1 System Level – Fault Menu

The **Fault** menu provides access to the system alarm options. You can view alarm severity as well as mask alarms.

Figure 2-1. System Level Fault Menu

Displaying the Active Alarms

➤ **To display the active alarms:**

1. In the RADview DXC-4 window, select the device.
2. Select **Fault** > **All Active Alarms** > **List...**

Note *You can sort the Active Alarm List by clicking any of the column headings.*

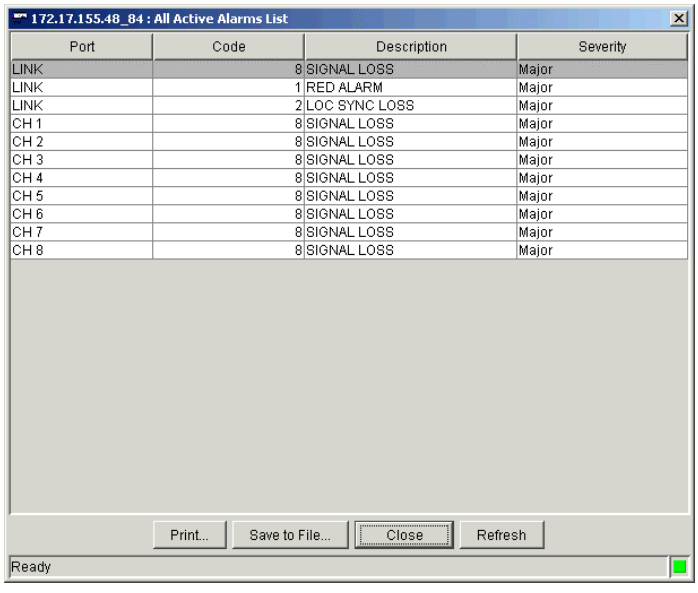


Figure 2-2. All Active Alarm List Dialog Box

Table 2-1. All Active Alarm List Parameters

Parameter	Possible Values / Remarks
Port	The port reporting the alarm
Code	Alarm code
Description	Description of the alarm
Severity	Event, Major, Minor
[Close]	Click <**Close**> to close the Active Alarm List dialog box
[Save File...]	Click <**Save File...**> to save the Active Alarm List. The Save dialog box appears. In the File Name field, enter the name of the file. In the File of type field, select **Acrobat (*pdf)** or **HTML (*.htm)**. Click **Save**
[Print...]	Click <**Print...**> to print the Active Alarm List
[Refresh]	Click <**Refresh**> to update the Active Alarm List

Clearing the Active Alarm Buffer

The **All Active Alarm > Clear** command enables you to clear all entries in the active alarm buffer.

➤ **To clear the active alarm buffer:**

1. In the RADview DXC-4 window, select the device.
2. Select **Fault** > **All Active Alarms** > **Clear**.

   The next time you view the All Active Alarm List, only alarms that occur after the Clear operation appear in the list.

Displaying the System Alarm Buffer List

The **History Log > List** command enables you to display the alarm buffer that contains the recorded alarms of the device.

➤ **To display the alarm buffer list:**

1. In the RADview DXC-4 window, select the device.
2. Select **Fault** > **History Log** > **List...**

Note *You can sort the System Alarm Buffer List by clicking any of the column headings.*

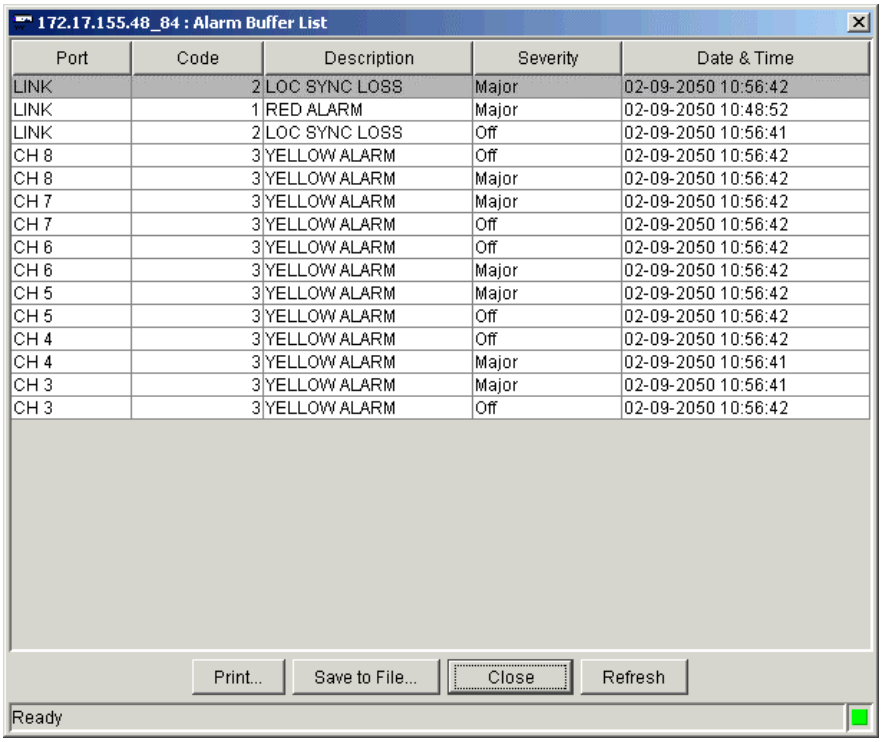


Figure 2-3. System Alarm Buffer List Dialog Box

Table 2-2. System Alarm Buffer List Parameters

Parameter	Possible Values / Remarks
Port	Port reporting the alarm
Code	Alarm code
Description	Description of the alarm
Severity	Off, Minor, Major
Date & Time	Date of the alarm. To set the format, refer to the *System Information Dialog Box* in *Chapter 3* Time of the alarm in the format: HH:MM:SS
[Close]	Click <Close> to close the System Alarm Buffer List
[Save File...]	Click <**Save File...**> to save the System Alarm Buffer List to a file. The Save dialog box appears. In the File Name field, enter the name of the file. In the File of type field, select **Acrobat (*pdf)** or **HTML (*.htm)**. Click <**Save**>
[Print...]	Click <**Print...**> to print the System Alarm Buffer List
[Refresh]	Click <**Refresh**> to update the System Alarm Buffer List

Clearing the Alarm Buffer

The **History Log > Clear** command enables you to clear all entries in the alarm buffer.

➤ **To clear the alarm buffer:**

1. In the RADview DXC-4 window, select the device.
2. Select **Fault** > **History Log** > **Clear**.

   The next time you view the Alarm Buffer List, only alarms that occur after the Clear operation appear in the list.

2.2 Link Port Level – Fault Menu

The **Fault** menu provides access to the port level alarm options. You can view alarm severity.

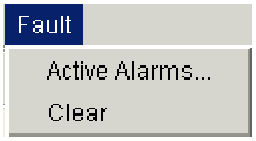


Figure 2-4. Link Port Level Fault Menu

Displaying the Active Alarms for a Link Port

➤ **To display the active alarms for a link port:**

1. In the RADview DXC-4 window, select the link port.
2. Select **Fault** > **Active Alarms…**

Note *You can sort the Active Alarms List by clicking any of the column headings.*

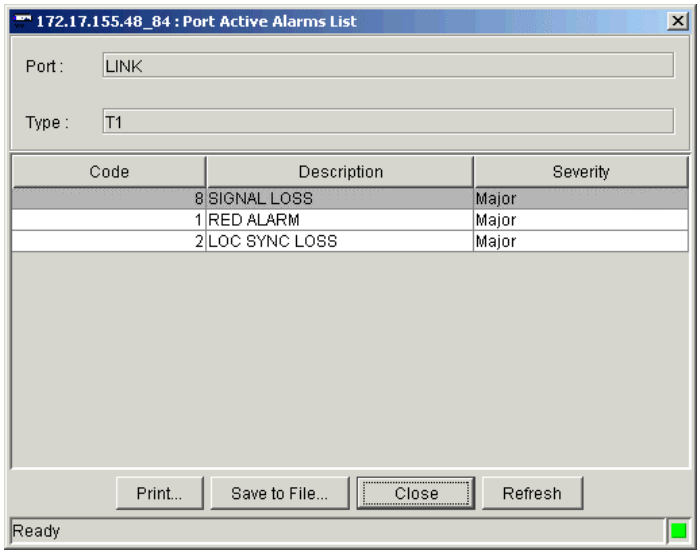


Figure 2-5. Port Active Alarms List Dialog Box

Table 2-3. Port Active Alarms List Parameters

Parameter	Possible Values / Remarks
Port	The port reporting the alarm
Type	T1, E1
Code	Alarm code
Description	Description of the alarm
Severity	**Event, Major**, **Minor**
[Close]	Click <**Close**> to close the Active Alarm List dialog box
[Save File...]	Click <**Save File...**> to save the Active Alarm List to a file. The Save dialog box appears. In the File Name field, enter the name of the file. In the File of type field, select **Acrobat (*pdf)** or **HTML (*.htm)**. Click **Save**
[Print...]	Click <**Print...**> to print the Active Alarm List
[Refresh]	Click <**Refresh**> to update the Active Alarm List

Clearing the Link Port Active Alarm Buffer

The **Fault > Clear** command enables you to clear all entries in the port active alarm buffer.

➤ **To clear the port active alarm buffer:**

1. In the RADview DXC-4 window, select the link port.
2. Select **Fault >Clear**.

   The next time you view the port level Active Alarm List, only alarms that occur after the Clear operation appear in the list.

2.3 Link Port Level – Diagnostics Menu

The Diagnostics menu provides access to the link port level diagnostic test options.

Figure 2-6. Link Port Level Diagnostics Menu

Running a Test on a Link Port

➤ **To display the active alarms for a link port:**

1. In the RADview DXC-4 window, select the link port.
2. Select **Diagnostics > Test...**

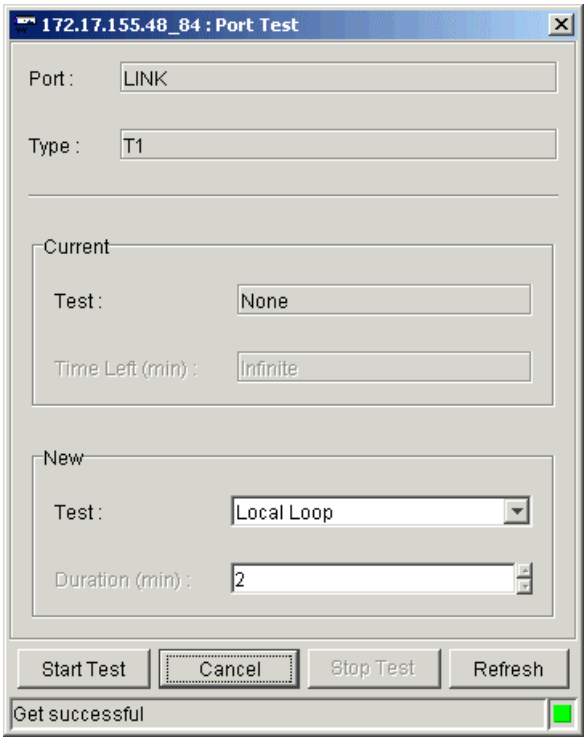


Figure 2-7. Port Test Dialog Box

Table 2-4. Port Test Parameters

Parameter	**Possible Values / Remarks**
Port	The port being tested
Type	T1, E1
Current	
Test	Description of the test currently running
Time Left	Time remaining in the running test
New	
Test	**Local Loop, Remote Loop**
Duration (min)	Duration of test to be run. This option is only available for Remote Loop tests
[Start Test]	Click <**Start Test**> to begin testing a port
[Cancel]	Click <**Cancel**> to close the Port Test Dialog Box
[Stop Test]	Click <**Stop Test**> to stop the currently running test before its configured duration
[Refresh]	Click <**Refresh**> to update the Port Test information

2.4 Channel Level – Fault Menu

The **Fault** menu provides access to the channel level alarm options. You can view alarm severity.

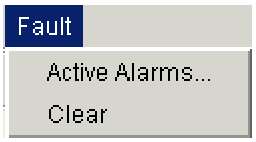


Figure 2-8. Channel Level Fault Menu

Displaying the Active Alarms for a Channel

➤ **To display the active alarms for a channel:**

1. In the RADview DXC-4 window, select the channel.
2. Select **Fault** > **Active Alarms…**

Note *You can sort the Active Alarm List by clicking any of the column headings.*

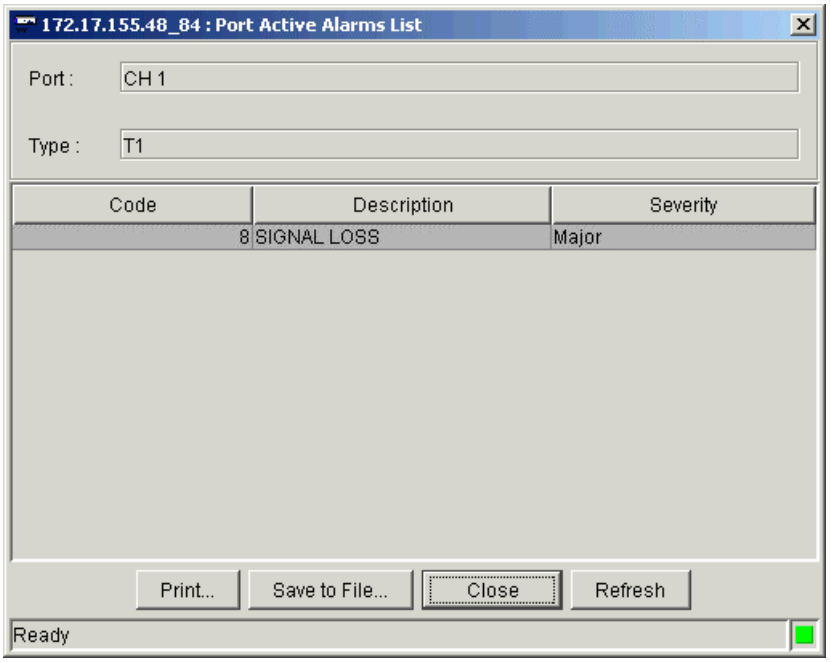


Figure 2-9. Port Active Alarms List Dialog Box

Table 2-5. Port Active Alarms List Parameters for Channels

Parameter	Possible Values / Remarks
Port	The channel reporting the alarm
Type	T1, E1
Code	Alarm code
Description	Description of the alarm
Severity	Event, Major, Minor
[Close]	Click <**Close**> to close the Active Alarm List dialog box
[Save File...]	Click <**Save File...**> to save the Active Alarm List to a file. The Save dialog box appears. In the File Name field, enter the name of the file. In the File of type field, select **Acrobat (*pdf)** or **HTML (*.htm)**. Click **Save**
[Print...]	Click <**Print...**> to print the Active Alarm List
[Refresh]	Click <**Refresh**> to update the Active Alarm List

Clearing the Channel Active Alarm Buffer

The **Fault > Clear** command enables you to clear all entries in the channel active alarm buffer.

➤ **To clear the channel active alarm buffer:**

1. In the RADview DXC-4 window, select the channel.
2. Select **Fault > Clear**.

   The next time you view the channel level Active Alarm List, only alarms that occur after the Clear operation appear in the list.

2.5 Channel Level – Diagnostics Menu

The Diagnostics menu provides access to the channel level diagnostic test options.

Figure 2-10. Channel Level Diagnostics Menu

Running a Test on a Channel

➤ **To display the active alarms for a channel:**

1. In the RADview DXC-4 window, select the channel.
2. Select **Diagnostics > Test...**

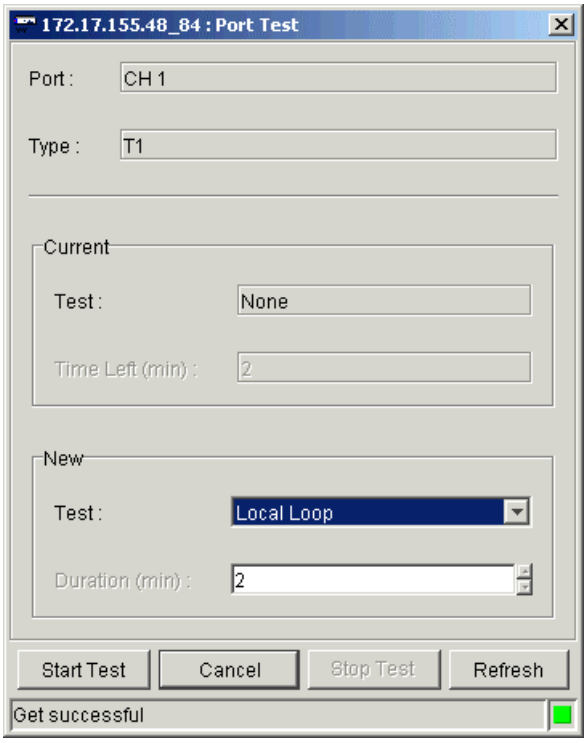


Figure 2-11. Port Test Dialog Box

Table 2-6. Port Test Parameters

Parameter	**Possible Values / Remarks**
Port	The channel being tested
Type	T1, E1
Current	
Test	Description of the test currently running
Time Left	Time remaining in the running test
New	
Test	**Local Loop, Remote Loop**
Duration (min)	Duration of test to be run. This option is only available for Remote Loop tests
[Start Test]	Click <**Start Test**> to begin testing a port
[Cancel]	Click <**Cancel**> to close the Port Test Dialog Box
[Stop Test]	Click <**Stop Test**> to stop the currently running test before its configured duration
[Refresh]	Click <**Refresh**> to update the Port Test information

Chapter 3

Configuration Management

The chapter describes the DXC-4 configuration management at the system, port, and channel levels.

3.1 System Level – Configuration Menu

The **Configuration** menu provides system level configuration information.

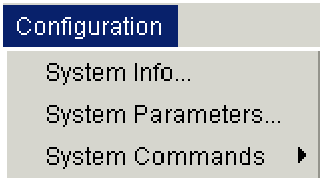


Figure 3-1. System Level Configuration Menu

Viewing and Setting System Information

The **System Info** command enables you to view and set physical information about the DXC-4.

➤ **To view and set system information:**

1. In the RADview DXC-4 window, select the device.
2. Select **Configuration** > **System Info...**
   or
   From the toolbar, click  .
3. Configure the desired parameters and click <**Set**>.

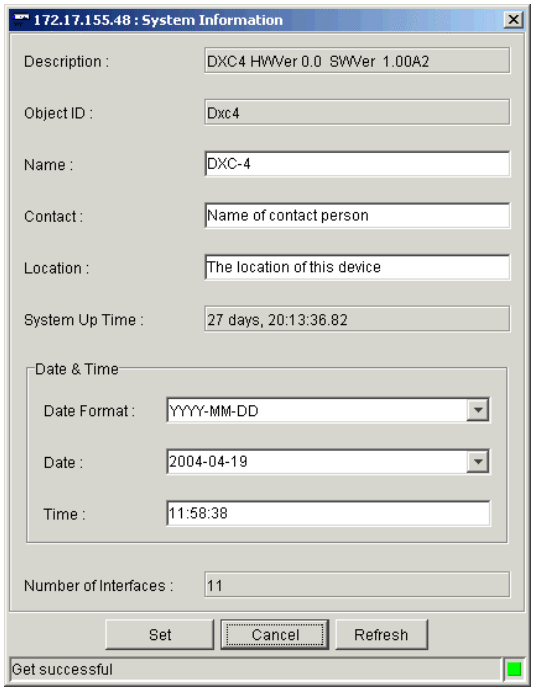


Figure 3-2. System Information Dialog Box

Table 3-1. System Information Parameters

Parameter	Possible Values / Remarks
Description	Brief description of each agent configuration in the RADview database
Object ID	ID of the selected device
Name	System name
Contact	Contact information
Location	System location
System Up Time	Format: X days HH:MM:SS
Date & Time	
Date Format	DD-MM-YYYY, MM-DD-YYYY, YYYY-MM-DD
Date	System date
Time	System time (HH:MM:SS)
Number of Interfaces	Number of available interfaces.
[Set]	Click <**Set**> to send new values to the agent
[Cancel]	Click <**Cancel**> to close the System Information dialog box
[Refresh]	Click <**Refresh**> to refresh the data in the System Information dialog box

Setting System Parameters

The **System Parameters** command enables you to set system parameters for the DXC-4 device.

➤ **To set system parameters:**

1. In the RADview DXC-4 window, select the device.
2. Select **Configuration** > **System Parameters...**
3. Configure the desired parameters and click <**Set**>.

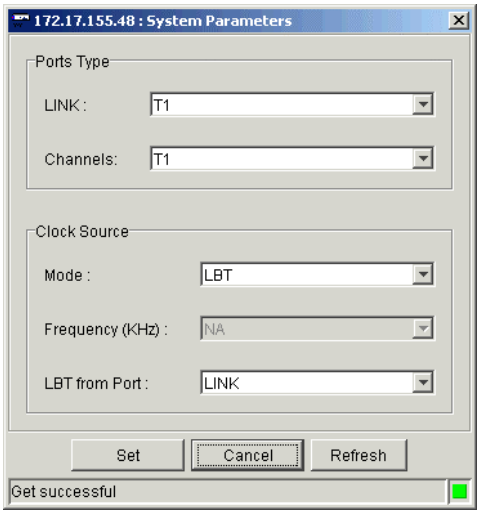


Figure 3-3. System Parameters Dialog Box

Table 3-2. System Parameters

Parameter	Possible Values / Remarks
Ports Type	
LINK	**T1, E1**
Channels	**T1, E1**
Clock Source	
Mode	**Internal, Station Clock, Automatic, LBT**
Frequency (KHz)	Bandwidth in KHz
LBT from Port	**LINK, Channels 1-8**
[Set]	Click <**Set**> to send new values to the agent
[Cancel]	Click <**Cancel**> to close the System Parameters dialog box
[Refresh]	Click <**Refresh**> to refresh the data in the System Parameters dialog box

Polling the Agent

The **Polling Agent** command causes the device to immediately poll the Agent. This command is useful if you configure the device NOT to perform periodic polling of the Agent. Using this command, you can perform a 'one time' polling to update the device's status.

➤ **To poll the Agent:**

1. In the RADview DXC-4 window, select the device.
2. Select **Configuration** > **System Commands** > **Poll Agent**
   or
   From the toolbar, click  .
   The device immediately polls the agent.

Resetting the Hardware

The **Reset HW** command enables you to reset the Agent's hardware.

➤ **To reset the hardware:**

1. In the RADview DXC-4 window, select the device.
2. Select **Configuration** > **System Commands** > **Reset HW**.
3. Click <**OK**>.
   The agent's hardware is reset.

Figure 3-4. Reset HW Dialog Box

3.2 System Level – Options Menu

The **Options** menu enables you to configure the Manager List.

Figure 3-5. System Level Options Menu

Configuring the Manager List

The **Manager List** dialog box enables you to display and configure the Manager List, where you designate the destination NMS stations for SNMP traps.

➤ **To configure the manager list:**

1. In the RADview DXC-4 window, select the device.
2. Select **Options** > **Manager List...**
3. Configure the desired parameters and click <**Set**>.

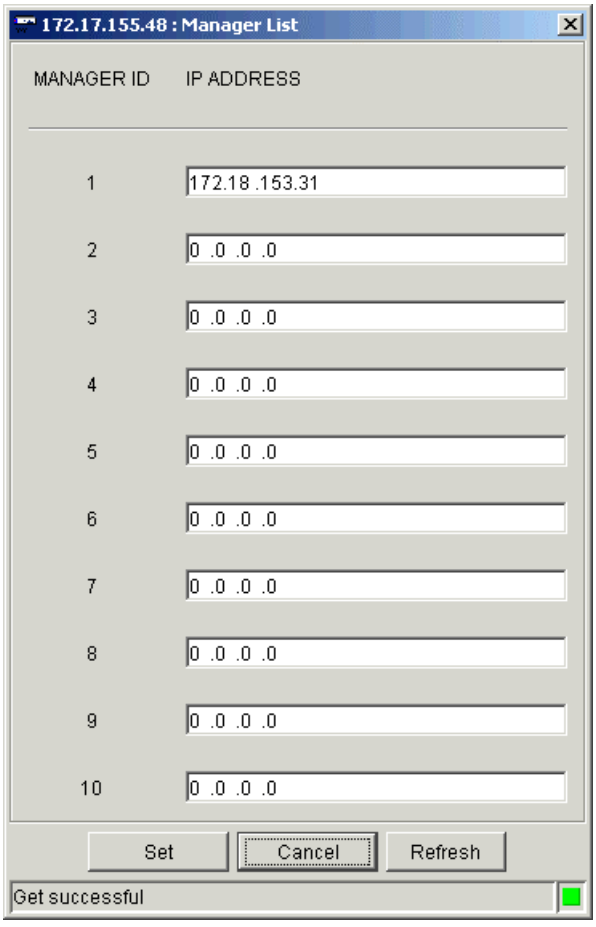


Figure 3-6. Manager List Dialog Box

Table 3-3. Manager List Parameters

Parameter	Possible Values / Remarks
Manager ID	**1..10**
IP Address	IP address of manager
[Set]	Click <**Set**> to send new values to the agent
[Cancel]	Click <**Cancel**> to close the Manager List dialog box
[Refresh]	Click <**Refresh**> to refresh the data in the Manager List dialog box

3.3 Link Port Level – Configuration Menu

There can be two different types of link ports, T1 or E1.

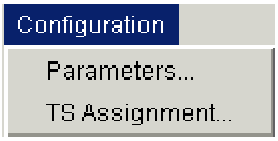


Figure 3-7. Link Port Level Configuration Menu

Note *A different Configuration dialog appears for each type of Link Port. The DXC-4 will automatically detect the Link Port type and open the proper Configuration dialog.*

Configuring T1 Link Port Parameters

The **Parameters** command enables you to configure parameters for the selected T1 link port.

➤ **To configure T1 link port parameters:**

1. In the RADview DXC-4 window, select the desired T1 link port.
2. Select **Configuration** > **Parameters...**
3. Configure the desired parameters and click <**Set**>.

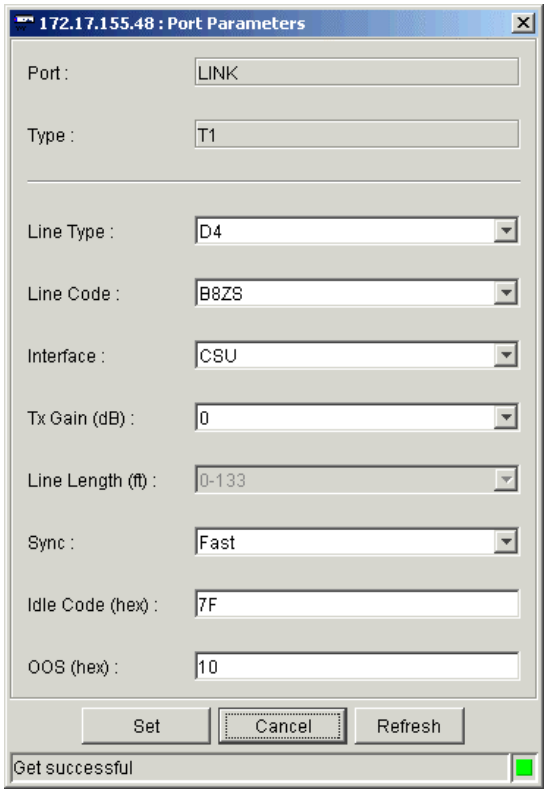


Figure 3-8. T1 Port Parameters Dialog Box

Table 3-4. T1 Port Parameters

Parameter	Possible Values / Remarks
Port	LINK
Type	T1
Line Type	**D4, ESF**
Line Code	**B8ZS, B7ZS, Transparent**
Interface	**CSU, DSU**
Tx Gain (dB)	**0, 7.5, 15.0, 22.5**
Line Length (ft)	**0-133, 134-266, 267-399, 400-533, 534-655, FCC-68A**
Sync	**Fast, TR-62411**
Idle Code (hex)	**00…FF**
OOS (hex)	**00…FF**
[Set]	Click <**Set**> to send the new configuration to the agent
[Cancel]	Click <**Cancel**> to close the T1 Port Parameters dialog box
[Refresh]	Click <**Refresh**> to update the data in the T1 Interface Parameters dialog box

Configuring E1 Link Port Parameters

The **Parameters** command enables you to configure parameters for the selected E1 link port.

➤ **To configure E1 link port parameters:**

1. In the RADview DXC-4 window, select the E1 link port.
2. Select **Configuration** > **Parameters...**
3. Configure the desired parameters and click <**Set**>.

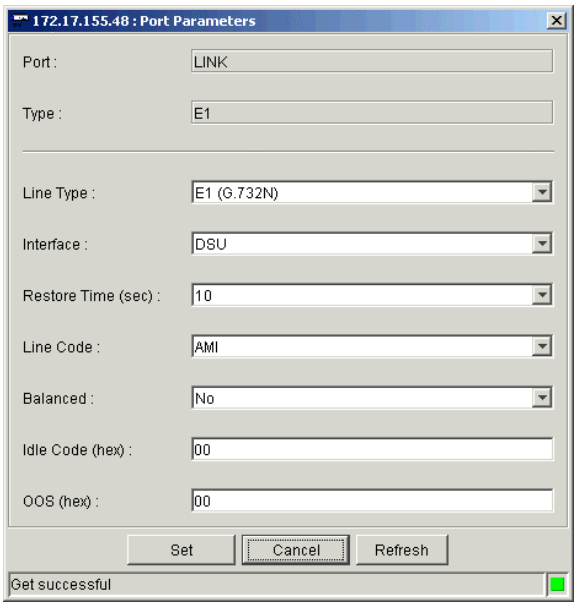


Figure 3-9. E1 Port Parameters Dialog Box

Table 3-5. E1 Port Parameters

Parameter	Possible Values / Remarks
Port	LINK
Type	E1
Line Type	**E1 (G.732N), E1-CRC (G.732N-CRC4), E1-MF (G.732S), E1-CRC-MF (G.732S-CRC4)**
Interface	**DSU, LTU**
Restore Time (sec)	**1, 10, CCITT**
Line Code	**HDB3, AMI**
Balanced	**Yes, No**
Idle Code (hex)	**00…FF**
OOS (hex)	**00…FF**
[Set]	Click <**Set**> to send the new configuration to the agent
[Cancel]	Click <**Cancel**> to close the E1 Interface Parameters dialog box
[Refresh]	Click <**Refresh**> to update the data in the E1 Interface Parameters dialog box

Assigning Time Slots

The **TS Assignment** command enables you to assign time slots on the selected link port to channels.

Note *The available Channels on a link port are determined by your selection of Ports Type parameters, refer to Setting System Parameters.*

➤ **To assign time slots on a link port to a channel:**

1. In the RADview DXC-4 window, select the desired link port.
2. Select **Configuration** > **TS Assignment...**

   Or

   From the Toolbar, click  .

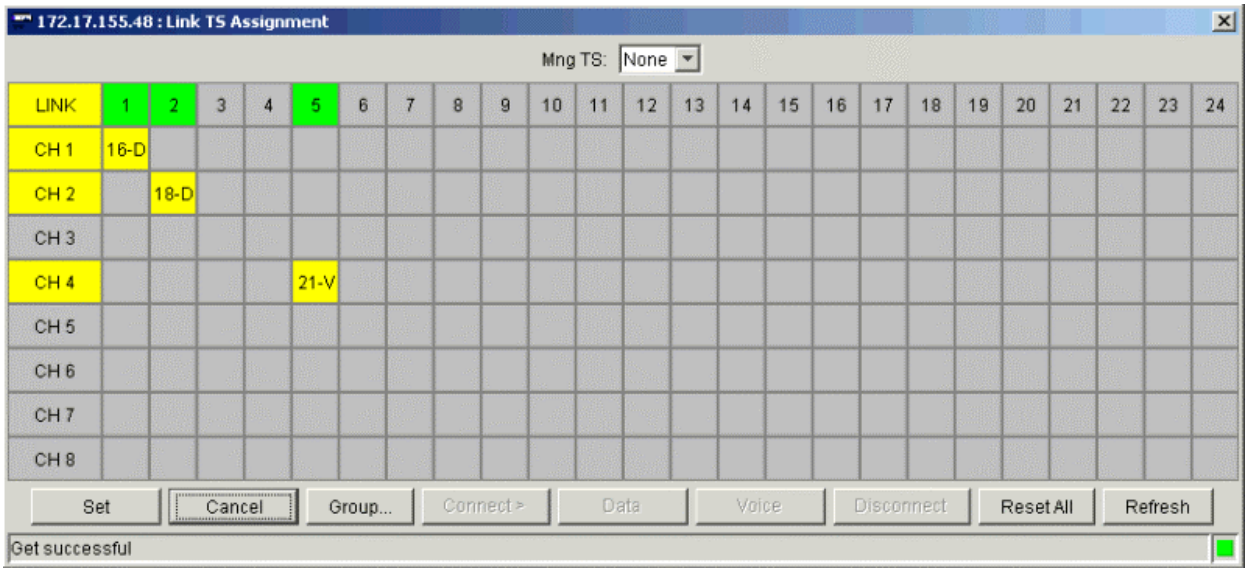


Figure 3-10. Link TS Assignment Dialog Box – T1 Link

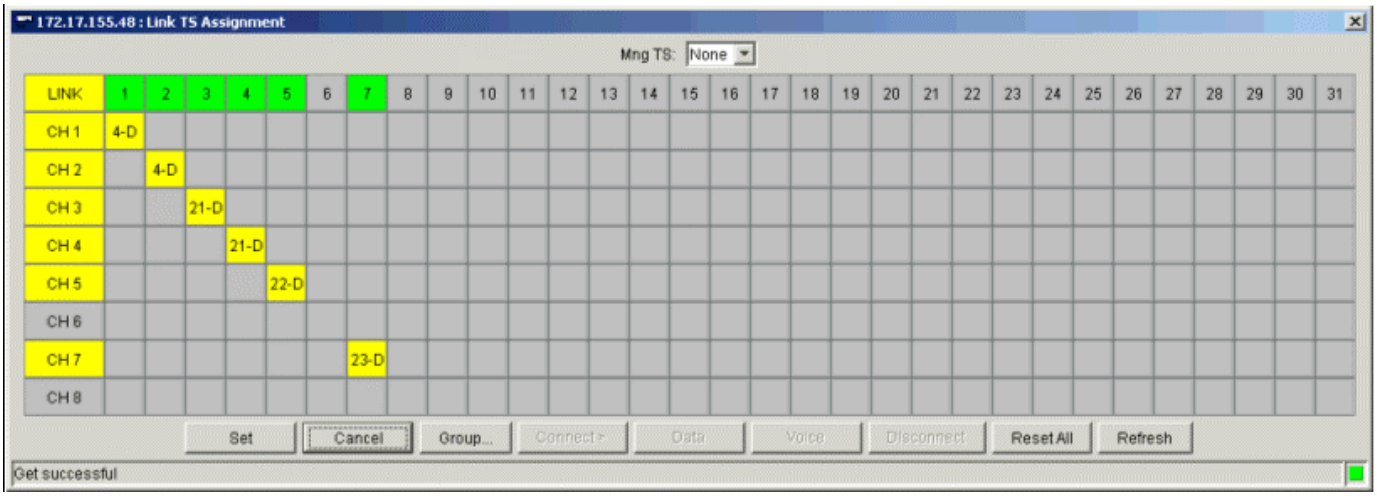


Figure 3-11. Link TS Assignment Dialog Box – E1 Link

Table 3-6. Link TS Assignment Parameters – T1 or E1 Link

Parameter	Possible Values / Remarks
Mng TS	Timeslot dedicated to in-band management. This timeslot will be dedicated on all available links
LINK	**1-32** For a T1 link, there are 24 available timeslots For an E1 link, there are 31 available timeslots
[Set]	Click <**Set**> to send the new configuration to the agent
[Cancel]	Click <**Cancel**> to close the Link TS Assignment dialog box
[Group]	Group timeslots across channels. Opens the Group TS dialog box
[Connect >]	Connect timeslot to channel
[Data]	Sets TS Type to Data
[Voice]	Sets TS Type to Voice
[Disconnect]	Disconnect timeslot from a channel
[Reset All]	Reset all timeslot assignments
[Refresh]	Click <**Refresh**> to update the data in the E1 Interface Parameters dialog box

3. Click the cell that represents the timeslot and link to which you wish to assign a Channel**.**

   A list of available Channels appears.

4. Select a Channel from the list.

   The cell turns yellow and the number of the Channel you selected appears in the cell.

5. If desired, click <**Group**> to group together timeslots and Channels across multiple links.

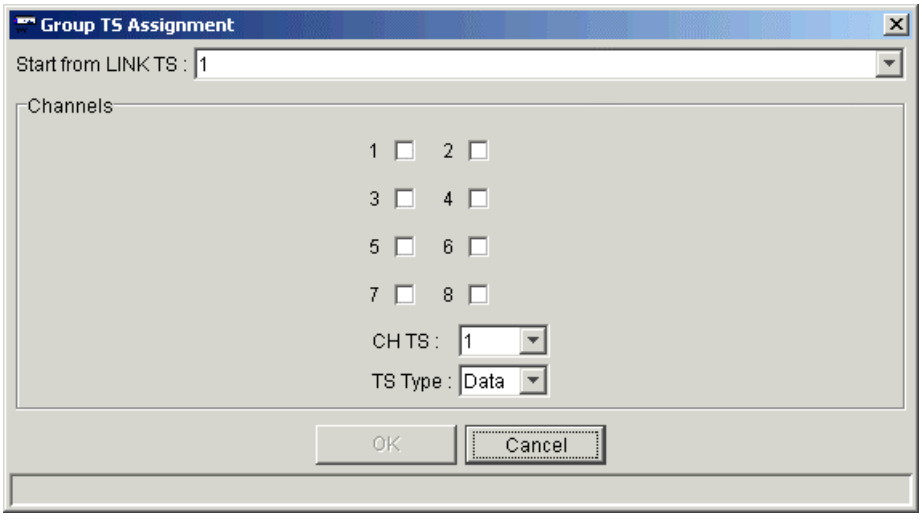


Figure 3-12. Group TS Assignment Dialog Box

Table 3-7. Group TS Assignment Parameters

Parameter	Possible Values / Remarks
Start from LINK TS	First timeslot to be included in group
Channels	**1-8**
CH TS	Selected timeslot
TS Type	**Data, Voice**
[OK]	Click <**OK**> to send the new configuration to the agent
[Cancel]	Click <**Cancel**> to close the Link TS Assignment dialog box

6. Configure any additional desired parameters and click <**Set**>.

3.4 Control Port Level – Configuration Menu

Figure 3-13. Control Port Configuration Menu

Configuring Control Port Parameters

The **Parameters** command enables you to configure parameters for the control port.

➤ **To configure Control interface parameters:**

1. In the RADview DXC-4 window, select the control port.
2. Select **Configuration** > **Parameters...**
3. Configure the desired parameters and click <**Set**>.

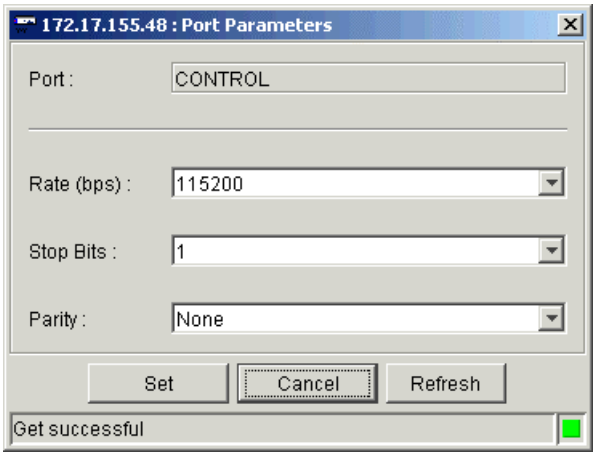


Figure 3-14. Control Port Parameters Dialog Box

Table 3-8. Control Port Parameters

Parameter	Possible Values / Remarks
Port	Control
Rate (bps)	**9600, 19200, 38400, 57600, 115200**
Stop Bits	**1, 1.5, 2**
Parity	**None, Odd, Even**
[Set]	Click <**Set**> to send the new configuration to the agent
[Cancel]	Click <**Cancel**> to close the Control Port Parameters dialog box
[Refresh]	Click <**Refresh**> to update the data in the Control Port Parameters dialog box

3.5 Channel Level – Configuration Menu

There can be two types of channels, T1 or E1.

Figure 3-15. Channel Level Configuration Menu

Note *A different Configuration dialog appears for each type of channel. The DXC-4 will automatically detect the type and open the proper Configuration dialog*

Configuring T1 Channel Parameters

The **Parameters** command enables you to configure parameters for the selected channel.

➤ **To configure T1 channel parameters:**

1. In the RADview DXC-4 window, select the T1 channel.
2. Select **Configuration** > **Parameters...**
3. Configure the desired parameters and click <**Set**>.

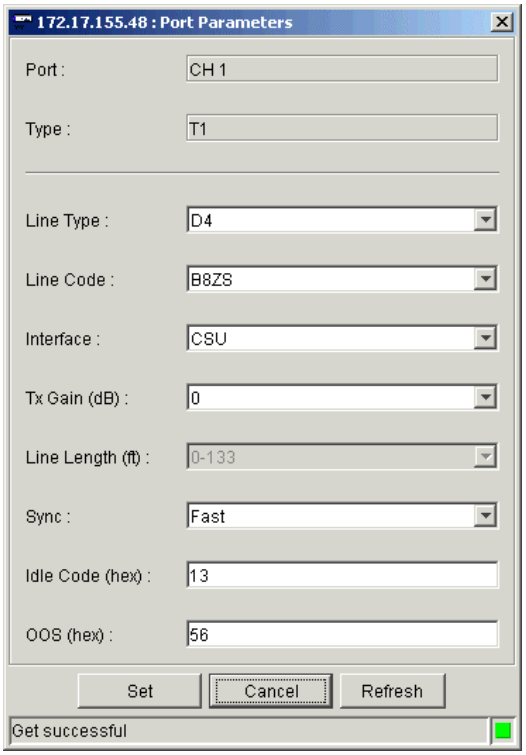


Figure 3-16. T1 Channel Parameters Dialog Box

Table 3-9. T1 Channel Parameters

Parameter	Possible Values / Remarks
Port	**CH1..CH8**
Type	T1
Line Type	**D4, ESF**
Line Code	**B8ZS, B7ZS, Transparent**
Interface	**CSU, DSU**
Tx Gain (dB)	**0, 7.5, 15.0, 22.5**
Line Length (ft)	**0-133, 134-266, 267-399, 400-533, 534-655, FCC-68A**
Sync	**Fast, TR-62411**
Idle Code (hex)	**00…FF**
OOS (hex)	**00…FF**
[Set]	Click <**Set**> to send the new configuration to the agent
[Cancel]	Click <**Cancel**> to close the T1 Channel Parameters dialog box
[Refresh]	Click <**Refresh**> to update the data in the T1 Channel Parameters dialog box

Configuring E1 Channel Parameters

The **Parameters** command enables you to configure parameters for the selected E1 channel.

➤ **To configure E1 Channel parameters:**

1. In the RADview DXC-4 window, select the E1 channel.
2. Select **Configuration** > **Parameters...**
3. Configure the desired parameters and click <**Set**>.

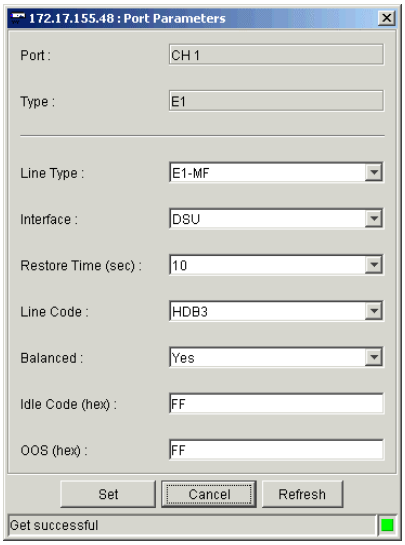


Figure 3-17. E1 Channel Parameters Dialog Box

Table 3-10. E1 Channel Parameters

Parameter	Possible Values / Remarks
Port	**CH1..CH8**
Type	E1
Line Type	**E1 (G.732N), E1-CRC (G.732N-CRC4), E1-MF (G.732S), E1-CRC-MF (G.732S-CRC4)**
Interface	**DSU, LTU**
Restore Time (sec)	**1, 10, CCITT**
Line Code	**HDB3, AMI**
Balanced	**Yes, No**
Idle Code (hex)	**00…FF**
OOS (hex)	**00…FF**
[Set]	Click <**Set**> to send the new configuration to the agent
[Cancel]	Click <**Cancel**> to close the E1 Channel Parameters dialog box
[Refresh]	Click <**Refresh**> to update the data in the E1 Channel Parameters dialog box

Chapter 4

Performance Management

This chapter describes DXC-4 statistics at the system, port, and channel levels.

4.1 System Level Performance Management – Statistics Menu

The **Statistics** menu provides access to the system statistics.

Figure 4-1. System Level Statistics Menu

Setting Polling Interval

➤ **To set the polling interval:**

1. Select **Statistics** > **Port Performance** > **Polling Interval...**
2. Select a polling interval by selecting an interval (5 to 60 seconds in 5 second intervals) and click <**Set**>.

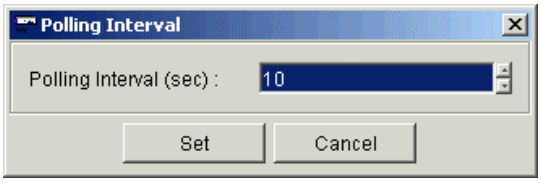


Figure 4-2. Polling Interval Selection Dialog Box

4.2 Link Port Level Performance Management – Statistics Menu

At link port level you can display:

- Current Statistics
- Interval Statistics.

Viewing Current Statistics

➤ **To view link port current statistics:**

1. Select a link port.
2. Select **Statistics** > **Current...**

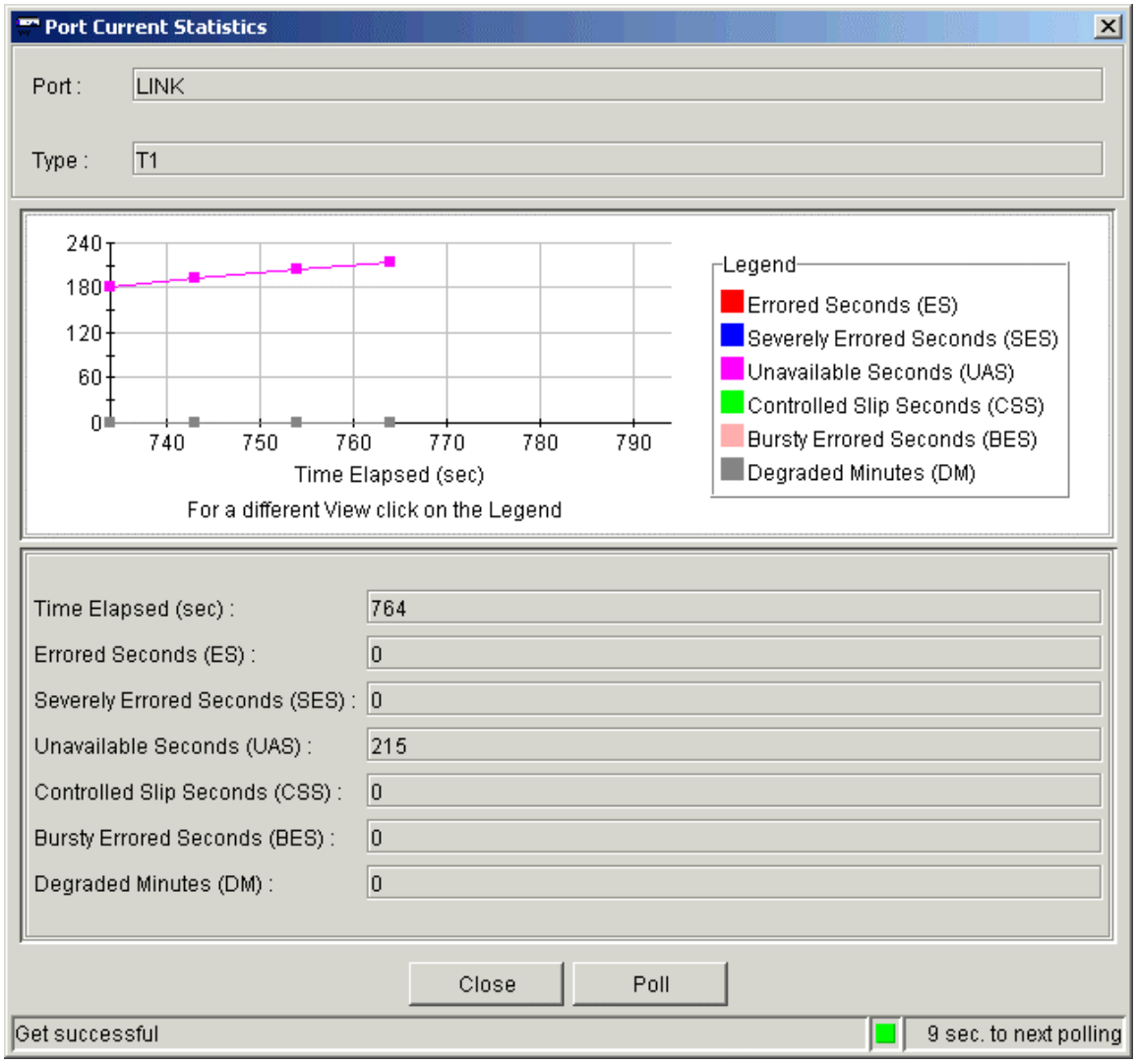


Figure 4-3. Port Current Statistics Dialog Box

Table 4-1. Port Current Statistics Parameters

Parameter	Possible Values / Remarks
Port	Link
Type	**T1/E1**
Time Elapsed	Number of seconds since the beginning of the current interval **0..899**
Errored Seconds (ES)	Number of seconds in the current interval in which an event or alarm occurred **0..899**
Severe Errored Seconds (SES)	Number of seconds in the current interval in which at least 320 CRC events or one OOF event occurred **0..899**
Unavailable Seconds (UAS)	Number of seconds in the current interval in which a failed signal state exists. A failed signal state occurs after 10 consecutive severe errored seconds. This state is cleared only after the DXC processes 10 consecutive seconds of data without an SES **0..899**
Controlled Slip Seconds (CSS)	Number of seconds in the current interval in which at least one controlled SLIP event occurred **0..899**
Bursty Errored Seconds (BES)	Number of seconds in the current interval in which 2 – 319 CRC events occurred **0..899**
Degraded Minutes (DM)	Number of minutes in the current interval in which the bit error rate (BER) exceeded 1x10–6 **0..15**

Viewing Interval Statistics

➤ **To view port interval statistics:**

1. Select a link port.
2. Select **Statistics** > **Intervals...**

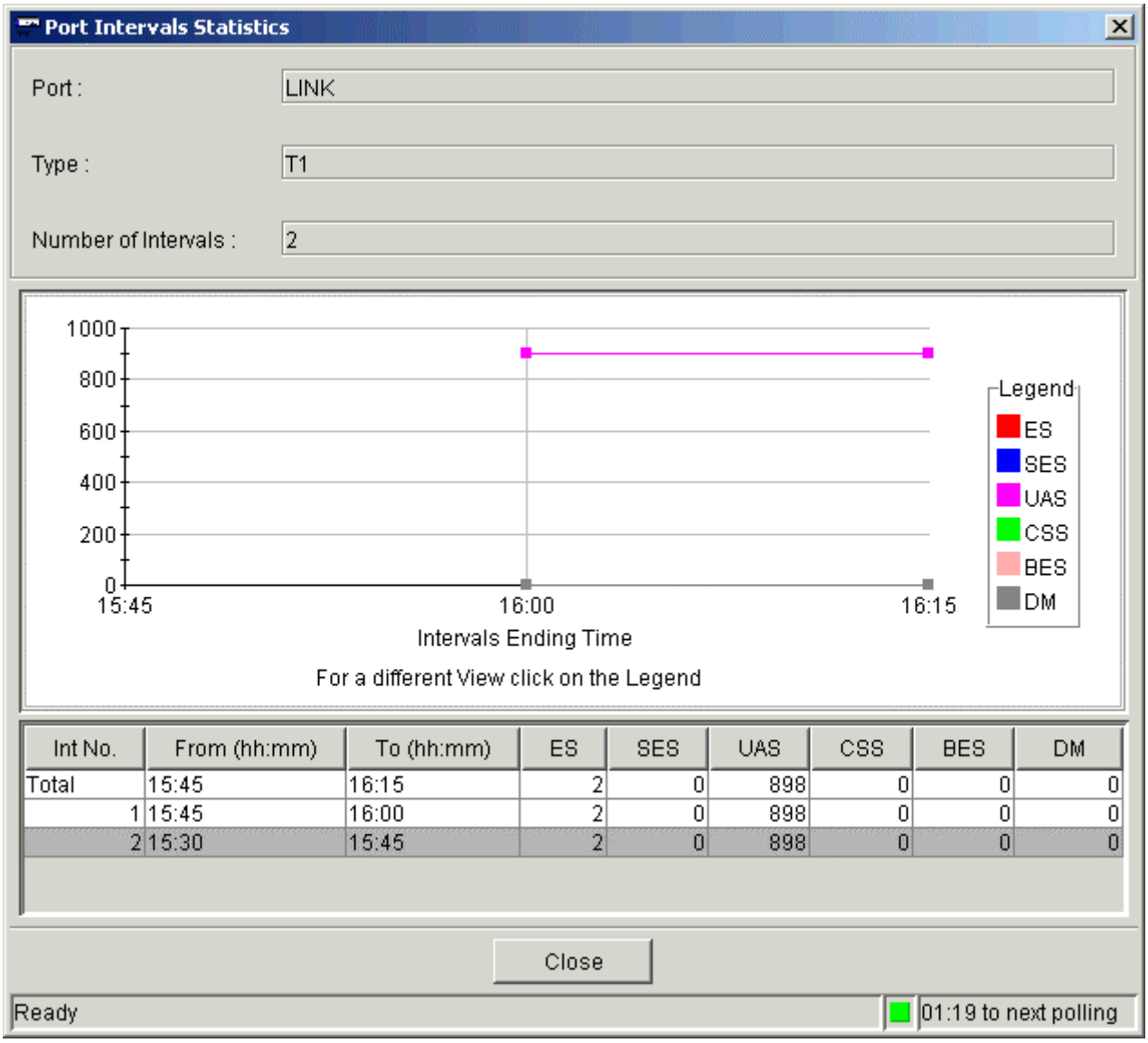


Figure 4-4. Port Intervals Statistics Dialog Box

Table 4-2. Port Intervals Statistics Parameters

Parameter	Possible Values / Remarks
Port	Link
Type	**T1/E1**
Number of Intervals	**0..96**
Int. No.	Interval number
From (hh:mm)	Time interval started
To (hh:mm)	Time interval ended
Errored Seconds (ES)	Number of seconds in the current interval in which an event or alarm occurred **0..899**
Severe Errored Seconds (SES)	Number of seconds in the current interval in which at least 320 CRC events or one OOF event occurred **0..899**
Unavailable Seconds (UAS)	Number of seconds in the current interval in which a failed signal state exists. A failed signal state occurs after 10 consecutive severe errored seconds. This state is cleared only after the DXC processes 10 consecutive seconds of data without an SES **0..899**
Controlled Slip Seconds (CSS)	Number of seconds in the current interval in which at least one controlled SLIP event occurred **0..899**
Bursty Errored Seconds (BES)	Number of seconds in the current interval in which 2 – 319 CRC events occurred **0..899**
Degraded Minutes (DM)	Number of minutes in the current interval in which the bit error rate (BER) exceeded 1x10–6 **0..15**

4.3 Channel Level Performance Management – Statistics Menu

At channel level you can display:

- Current Statistics
- Interval Statistics.

Viewing Current Statistics

➤ **To view channel current statistics:**

1. Select a channel.
2. Select **Statistics** > **Current...**

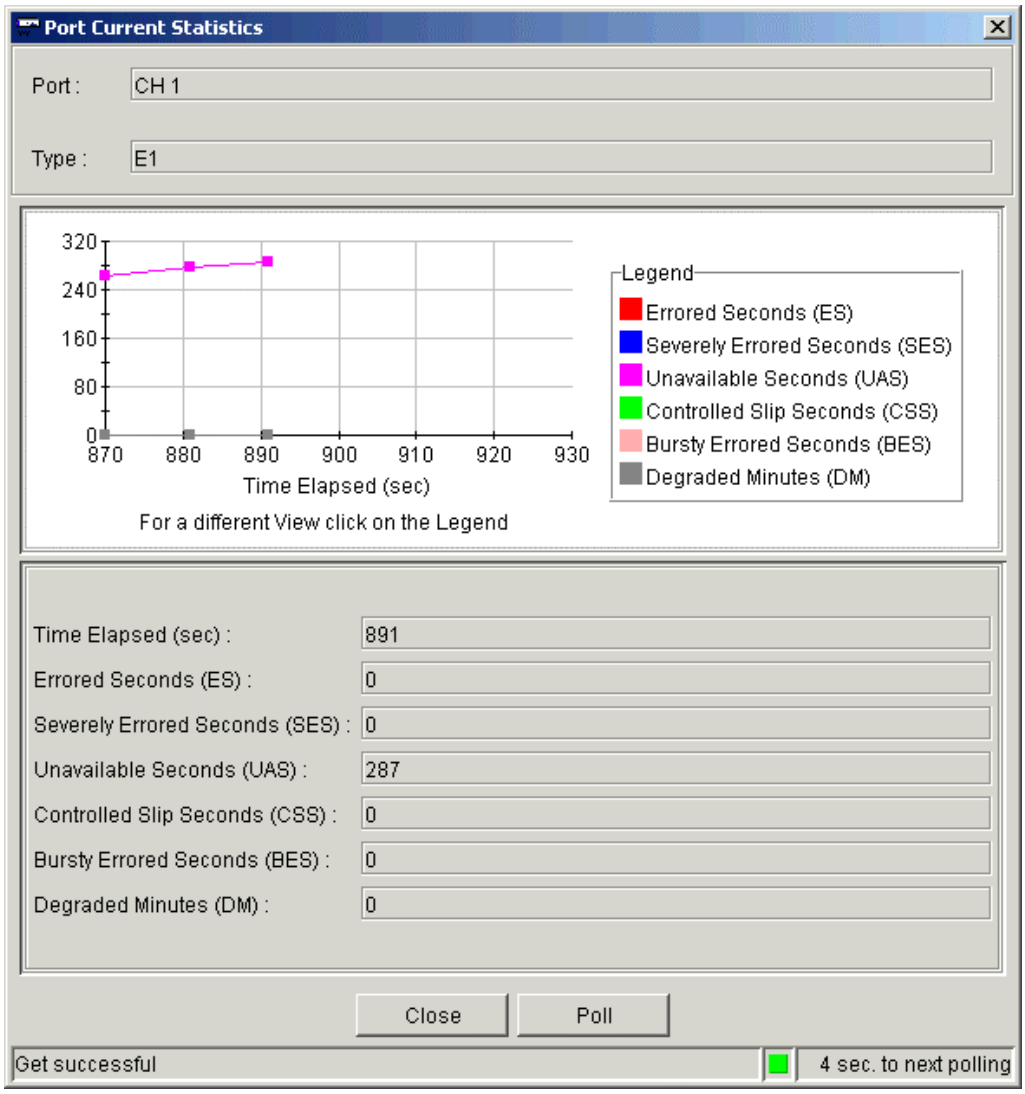


Figure 4-5. Channel Current Statistics Dialog Box

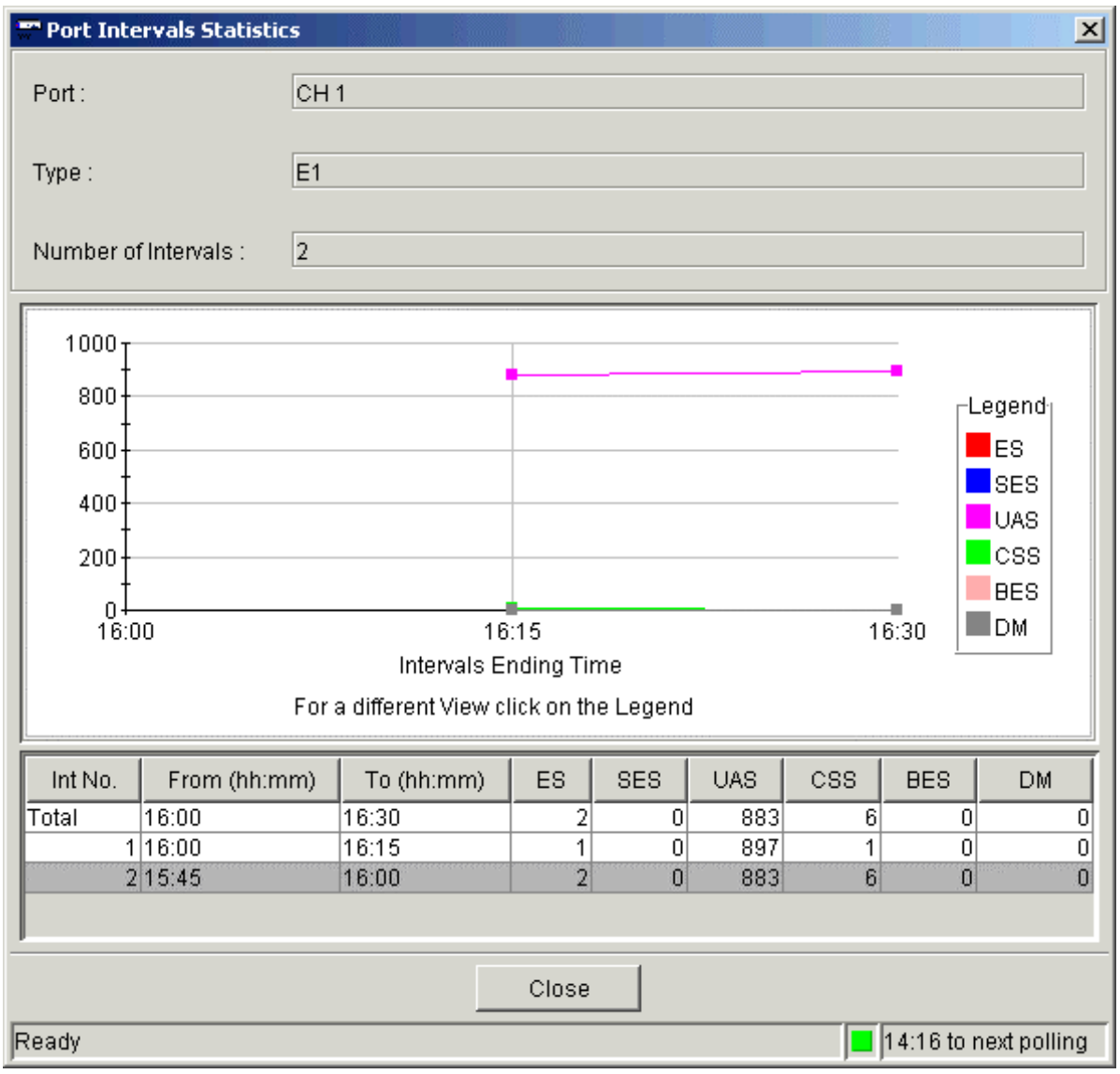
Table 4-3. Channel Current Statistics Parameters

Parameter	Possible Values / Remarks
Port	**CH1..CH8**
Type	**T1/E1**
Time Elapsed	Number of seconds since the beginning of the current interval **0..899**
Errored Seconds (ES)	Number of seconds in the current interval in which an event or alarm occurred **0..899**
Severe Errored Seconds (SES)	Number of seconds in the current interval in which at least 320 CRC events or one OOF event occurred **0..899**
Unavailable Seconds (UAS)	Number of seconds in the current interval in which a failed signal state exists. A failed signal state occurs after 10 consecutive severe errored seconds. This state is cleared only after the DXC processes 10 consecutive seconds of data without an SES **0..899**
Controlled Slip Seconds (CSS)	Number of seconds in the current interval in which at least one controlled SLIP event occurred **0..899**
Bursty Errored Seconds (BES)	Number of seconds in the current interval in which 2 – 319 CRC events occurred **0..899**
Degraded Minutes (DM)	Number of minutes in the current interval in which the bit error rate (BER) exceeded 1x10–6 **0..15**

Viewing Interval Statistics

➤ **To view channel interval statistics:**

1. Select a channel.
2. Select **Statistics** > **Intervals...**



Int No.	From (hh:mm)	To (hh:mm)	ES	SES	UAS	CSS	BES	DM
Total	16:00	16:30	2	0	883	6	0	0
1	16:00	16:15	1	0	897	1	0	0
2	15:45	16:00	2	0	883	6	0	0

Figure 4-6. Channel Intervals Statistics Dialog Box

Table 4-4. Channel Intervals Statistics Parameters

Parameter	Possible Values / Remarks
Port	**CH1..CH8**
Type	**T1/E1**
Number of Intervals	**0..96**
Int. No.	Interval number
From (hh:mm)	Time interval started
To (hh:mm)	Time interval ended
Errored Seconds (ES)	Number of seconds in the current interval in which an event or alarm occurred **0..899**
Severe Errored Seconds (SES)	Number of seconds in the current interval in which at least 320 CRC events or one OOF event occurred **0..899**
Unavailable Seconds (UAS)	Number of seconds in the current interval in which a failed signal state exists. A failed signal state occurs after 10 consecutive severe errored seconds. This state is cleared only after the DXC processes 10 consecutive seconds of data without an SES **0..899**
Controlled Slip Seconds (CSS)	Number of seconds in the current interval in which at least one controlled SLIP event occurred **0..899**
Bursty Errored Seconds (BES)	Number of seconds in the current interval in which 2 – 319 CRC events occurred **0..899**
Degraded Minutes (DM)	Number of minutes in the current interval in which the bit error rate (BER) exceeded 1x10–6 **0..15**

Index