RADview-SC/TDMoIP

Network Management System

Service Center for TDMoIP Applications

ML-IP

Publication 01/05

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Introduction

1.1 Overview of RADview FCAPS Model

RADview provides a complete solution for monitoring and controlling ML-IP. The RADview solutions conform to ITU-T Telecommunication Management Network (TMN) recommendations for SNMP management systems, known as the FCAPS model:

- **Fault management** – detects and correlates fault in network devices, isolates faults and initiates recovery actions.
- **Configuration management** – tracks configuration changes, configures, installs and distributes software and configuration files across the network.
- **Accounting management** – collects accounting data and generates network usage reports.
- **Performance management** – continuously monitors network performance (QoS, CoS) and resource allocation.
- **Security management** – controls and restricts access to network resources.

1.2 System Level Operations

The element manager allows you to configure the device parameters.

➤ **To configure ML-IP via the element manager:**

- Select the node in the Service Center map and from the **Configuration** menu, select **Element Manager...**

  The Element Manager dialog box (*Figure 1-1*) appears allowing you to configure any of the elements listed.

Element Manager Window

The Element Manager window allows you to configure the ML-IP at different levels:

- System
- Port.

Focusing on the interface name (level) allows you to access the interface's menus.

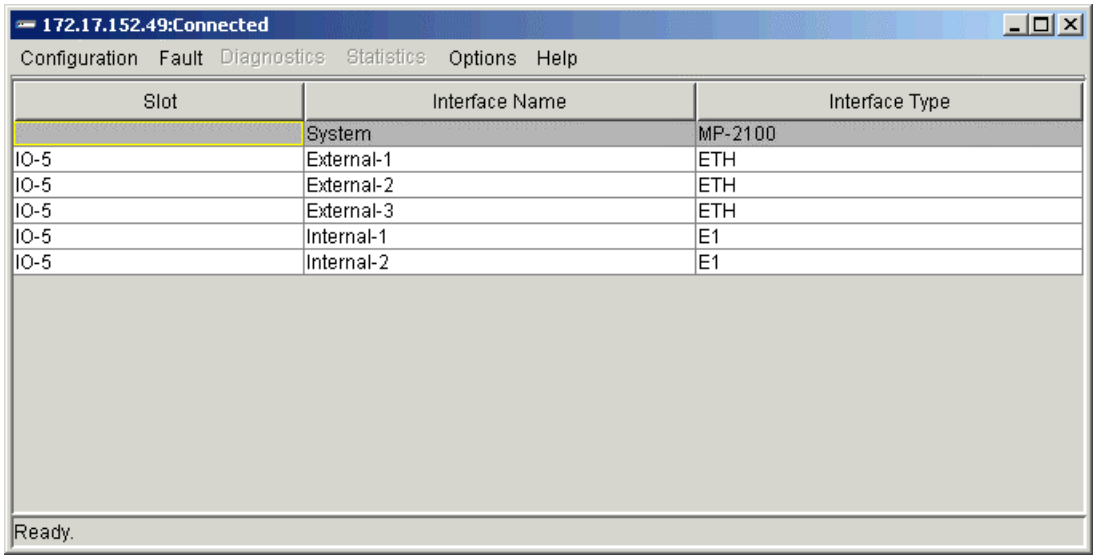

Figure 1-1. Element Manager – ML-IP

The ML-IP element manager allows you to monitor and configure the following system level management options.

Table 1-1. System Management Options

Tasks – Configuration	**Dialog Box and Parameter Location**	**Path**
Viewing system information	System Information dialog box See *Configuring System Information*	Configuration ➥System Info…
Viewing and removing bundles	Bundle ConnectionTable See *Configuring Bundles*	Configuration ➥Bundle Connection Table…
Viewing timeslots	Timeslot Assignment dialog box See *Displaying Time Slot Assignments*	Configuration ➥TS Assignment…
Polling the agent	See *Polling the Agent*	Configuration ➥Poll Agent
Tasks – Fault	**Dialog Box and Parameter Location**	**Path**
Viewing list of errors from last sanity check	Sanity Check Errors List See *Displaying Sanity Check Results*	Fault ➥Sanity Check Errors…
Tasks – Options	**Dialog Box and Parameter Location**	**Path**
Establishing link between Megaplex and manager	Manager List See *Maintaining Manager List*	Options ➥Manager List…

1.3 Port Level Operations

Focusing on the interface name (level) allows you to access the interface's menus.

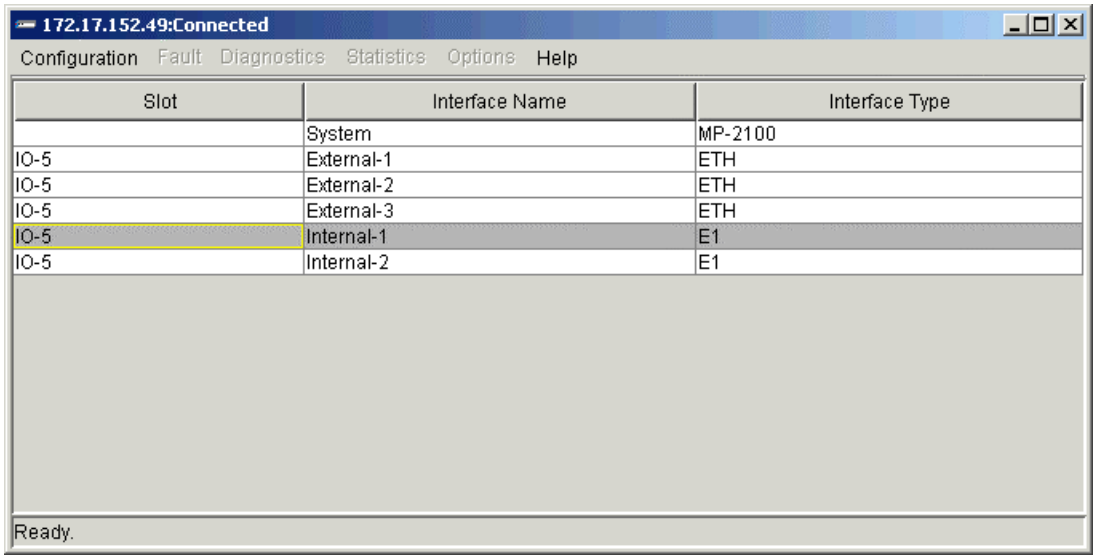

Figure 1-2. Element Manager – Internal Port in Focus

RADview for Megaplex allows you to monitor and configure the following port level management options.

Table 1-2. Internal Port Level Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Setting internal port parameters	Parameters dialog box See *Configuring Interface Parameters*	Configuration ➥Parameters…
Configuring bundles	Bundle dialog box See *Configuring Bundles*	Configuration ➥Bundles…

Table 1-3. External Port Level Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Displaying interface parameters	Parameters dialog box See *Viewing Interface Parameters*	Configuration ➥Interface Parameters…

Chapter 2

Fault Configuration

This section describes Fault Configuration operation for system and port levels.

2.1 System Level

At system level you can:

- View Sanity Check Results.

Viewing Sanity Check Results

➤ **To view the latest sanity check results:**

- From the **Fault** menu, select **Sanity Check Errors…**

  The Sanity Check Error List appears displaying a list of errors and/or warnings detected during the latest sanity check.

  If the latest sanity check detected no errors, the message "**NO SANITY ERRORS"** appears.

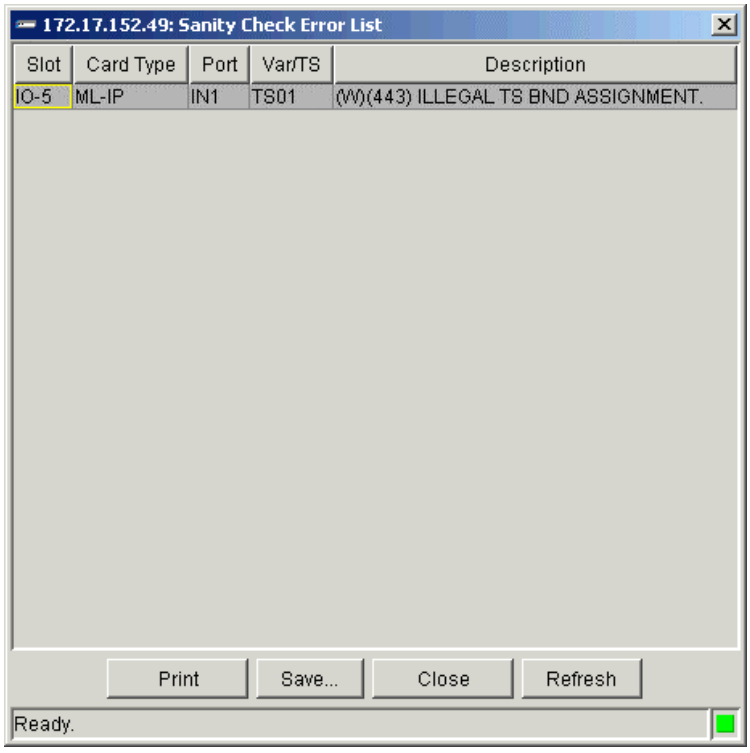

Figure 2-1. Sanity Check Error List

Table 2-1. Sanity Check Error Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the error was detected.
Card Type	Type of card in which the error was detected.
Port	Port in which the error was detected.
VAR/TS	Timeslot in which the error was detected.
Description	Brief description of the error.
[Save…]	Click **Save…** to save the Sanity Check Errors List in a file. The Save dialog box appears with the default output file name output.txt. This file name can be changed, if desired. Enter path and filename and click <**OK**>.

Chapter 3

Configuration Management

This section describes the different configuration operations for system and port levels.

3.1 System Level

At system level you can:

- Configure system information
- Configure bundles
- View timeslot assignments
- Poll the agent
- Configure managers.

Configuring System Information

➤ **To set system information for the selected Megaplex device:**

1. **Configuration** > **System Info...**

   The System Information dialog box appears (*Figure 3-1*).

2. Enter the required settings. You can change the **Name, Contact** and **Location** fields.

3. Click <**Set**> to implement the changes.

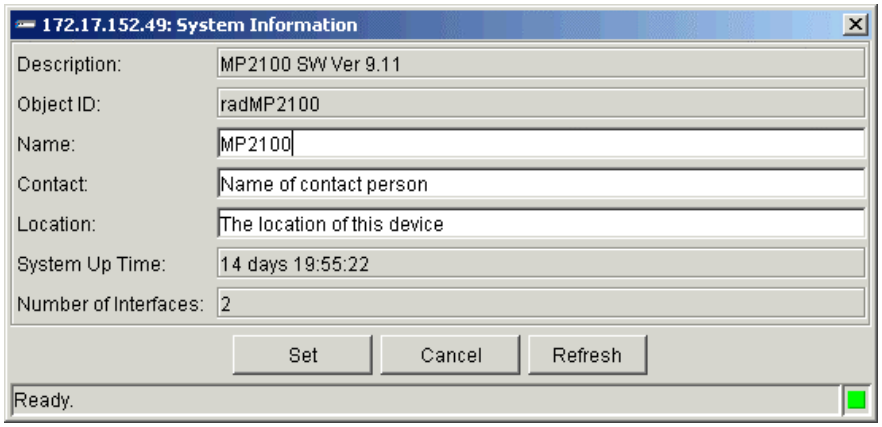

Figure 3-1. System Information Dialog Box

Table 3-1. System Information

Parameter	Possible Values / Remarks
Description	HW and SW information for the device
Object ID	Object ID
Name	User specified name
Contact	User specified name of contact person
Location	User specified location of Megaplex
System Up Time	Period of time system has been on
Number of Interfaces	Number of interfaces in Megaplex

Configuring Bundles

➤ **To view the bundle connection table:**

- **Configuration > Bundle Connection Table…**

  The Bundle Connection Table appears.

Note *The Bundle Connection Table is used by all the different Megaplex products. Not all parameters are relevant to ML-IP.*

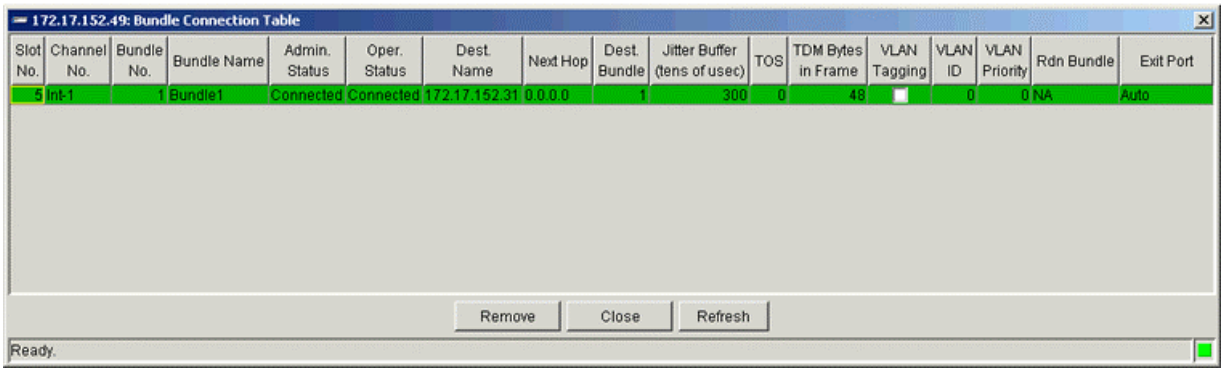

Figure 3-2. Bundle Connection Table

Table 3-2. Bundle Connection Parameters

Parameter	Possible Values/Remarks
Slot No	Slot to be configured **1–1..12**
Channel No	
Bundle No.	**1–120**
Bundle Name	Bundle name for selected channel. Table displays one bundle name per line
Admin Status	**Connected**, **Disconnected** (frames will not be sent from this channel)
Oper Status	**Up, Remote Fail, Local Fail**

Table 3-2. Bundle Connection Parameters (Cont.)

Parameter	Possible Values/Remarks
Dest. Name	Logical name or IP address of the destination mux
Next Hop	Indicates IP address to which the Ethernet frame will be sent when the Dest. Name IP is not in the device subnet
Dest. Bundle	Bundle number in the destination mux **1..2016**
Jitter Buffer (tens of seconds)	E1: **0..3..3200** T1: **0..3..2400**
TOS	**0..255** ***Note:*** *TOS configuration is enabled only for circuits consisting of two IPmux–1 units. It is not available for circuits with one IPmux–1 at one end and an IPmux–4 or IPmux–16 at the other end.*
TDM Bytes in Frame	E1/T1: **48..1440 (steps of 48)** ***Note:*** *List of values differs for different interfaces* E3/T3: **240..1440 (steps of 48)**
VLAN Tagging	**Yes** (checked), **No** (unchecked)
VLAN ID	**1..4094**
VLAN Priority	**0..7**
Rdn Bundle	**NA**, **Number of redundant bundle**
Exit Port	**External–1**, **External–2**, **Auto**

➤ **To remove an entry from the Bundle Connection Table:**

- Select a row in the **Bundle Connection Table** and click <**Remove**>.

Displaying Time Slot Assignments

➤ **To view time-slot assignments**

1. **Configuration** > **TS Assignment…**

   The Select ML Port dialog box appears.

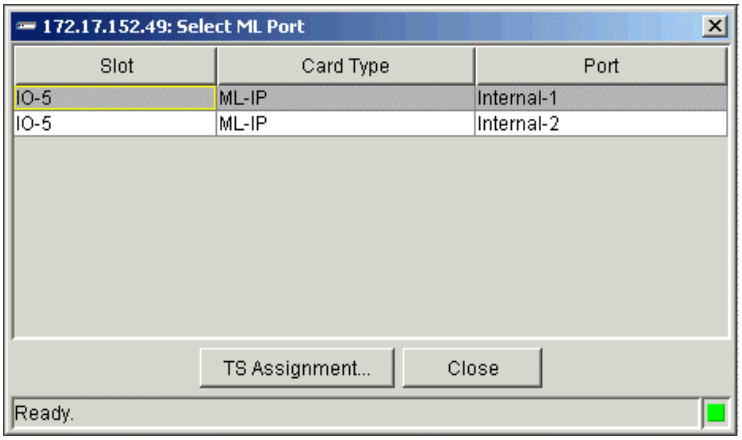

Figure 3-3. Time Slot Assignment

2. Select the desired ML-IP port and click <**TS Assignment…**>
   The Time Slot Assignment dialog box appears.

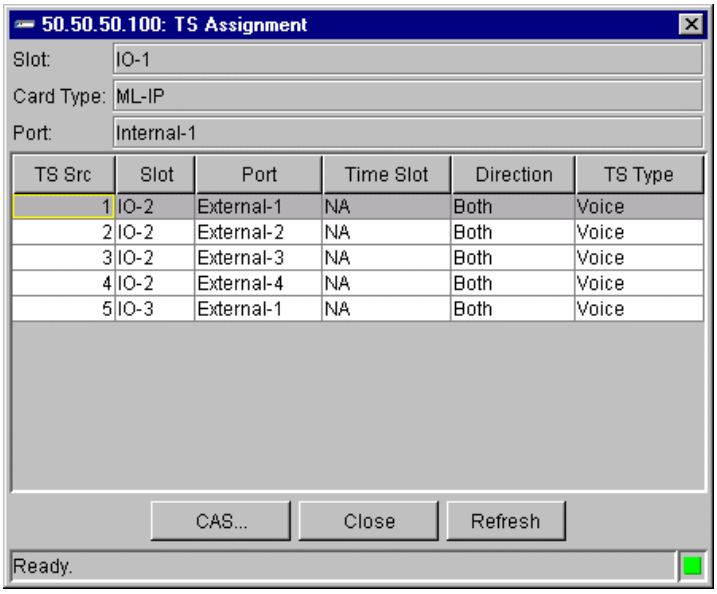

Figure 3-4. Select ML Port

3. Select the desired timeslot and click <**CAS…**>
   The Channel Associated dialog box appears.

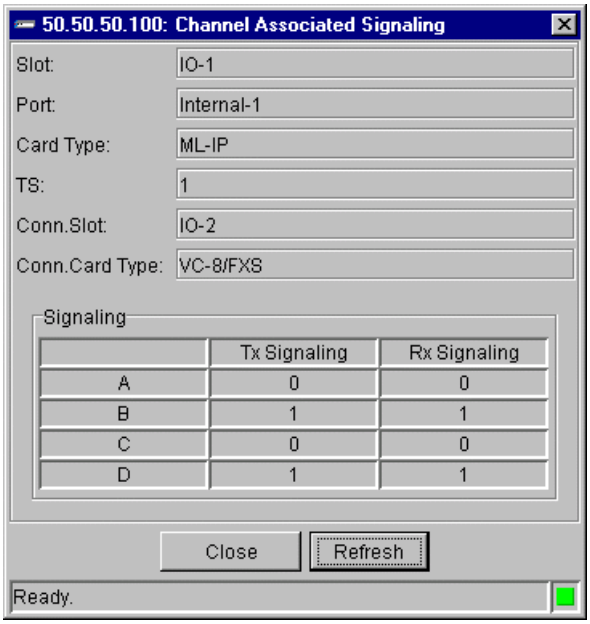

Figure 3-5. Channel Associated Signaling

Polling the Agent

➤ **To poll the agent:**

- **Configuration** > **Poll Agent**

  The agent is polled.

Maintaining Manager List

The **Manager List** command enables you to establish the actual link between the selected Megaplex device and the manager.

Note *You can define up to ten managers for each host.*

➤ **To display the manager list:**

- **Options** > **Manager List...**

  The Manager List appears.

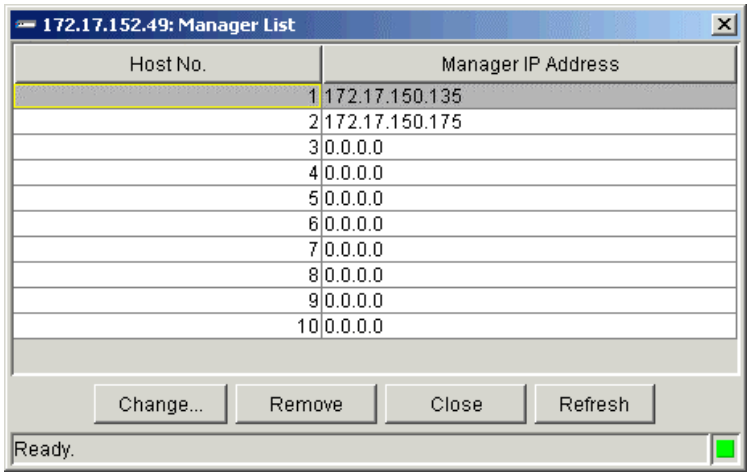

Figure 3-6. Manager List

Table 3-3. Manager List Parameters

Parameter	Possible Values / Remarks
Host No.	**1..10**
Manager IP Address	IP address of the Network Management System

➤ **To change an entry in the manager list :**

1. Select an entry in the **Manager List** and click **Change…**

   The Change Manager dialog box appears.

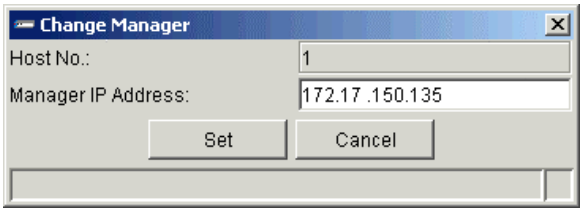

Figure 3-7. Change Manager

2. Change the **Manager IP Address**.
3. Click <**Set**> to implement the changes.

➤ **To remove an entry from the Manager List:**

- Select the desired entry in the **Manager List** and click <**Remove…**>

  A message appears warning about possible disconnection of the manager during work.

3.2 Port Level

The ML-IP element manager allows you to monitor and configure either External or Internal port level management options. The functionality for both types of ports is different and is explained below.

External Port

Focusing on the interface name (level) allows you to access the interface's menus.

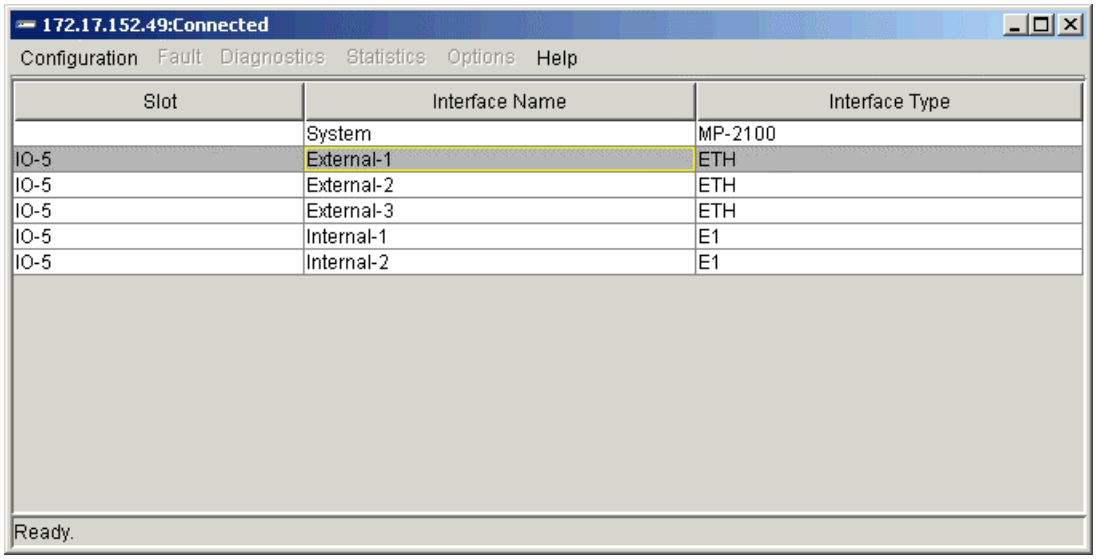

Figure 3-8. Element Manager – External Port in Focus

Viewing Interface Parameters

➤ **To view interface parameters for the external port:**

1. Click the external port.
2. **Configuration** > **Interface Parameters...**

   The Interface Parameters dialog box appears.

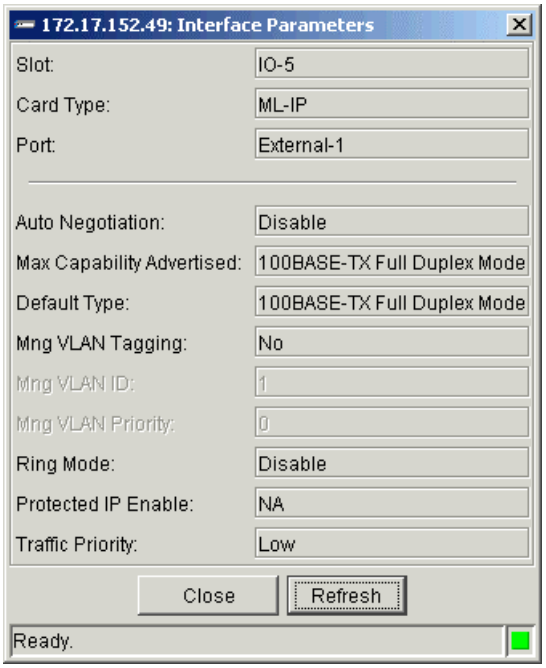

Figure 3-9. Interface Parameters Dialog Box – External Port

Table 3-4. Interface Parameters

Parameter	Possible Values / Remarks
Slot	IO slot of ML-IP card
Card Type	**ML-IP**
Port	Selected port **External_1..External_3**
Auto Negotiation	**Enable, Disable**
Max Capability Advertised	Defines the maximum capabilities of the interface **10BASE-T half duplex mode, 10BASE-T full duplex mode, 100BASE TX half duplex mode, 100BASE-TX full duplex mode** Only applicable when autonegotiation is enabled
Default Type	**10BASE-T half duplex mode, 10BASE-T full duplex mode, 10BASE TX half duplex mode, 10BASE-TX full duplex mode** Only applicable when autonegotiation is disabled
Mng VLAN Tagging	Enable VLAN tagging **Yes**, **No**
Mng VLAN ID	VLAN ID **1..4094** This field exist only when Mng VLAN Tagging is Yes. This field does not exist for external–3 port.
Mng VLAN Priority	**0..7** This field exist only when Mng VLAN Tagging is Yes. This field does not exist for external–3 port.
Ring Mode	Indicates If Ring Mode is enabled or not **Enable**, **Disable**

Table 3-4. Interface Parameters (Cont.)

Parameter	Possible Values / Remarks
Protected IP Enable	Indicates whether a list of protected IP addresses is enabled or not **NA, Disable, Enable**
Traffic Priority	Indicates the traffic priority of this port **NA, Low, High**

Note *When **Auto Negotiation** is disabled and **Max Capability Advertised** is different from the capabilities of the LAN (i.e. Max Capability = 100Bas-T full duplex, while LAN works in 10BaseT half duplex), NMS will disconnect.*

Internal Port

Focusing on the interface name (level) allows you to access the interface menus.

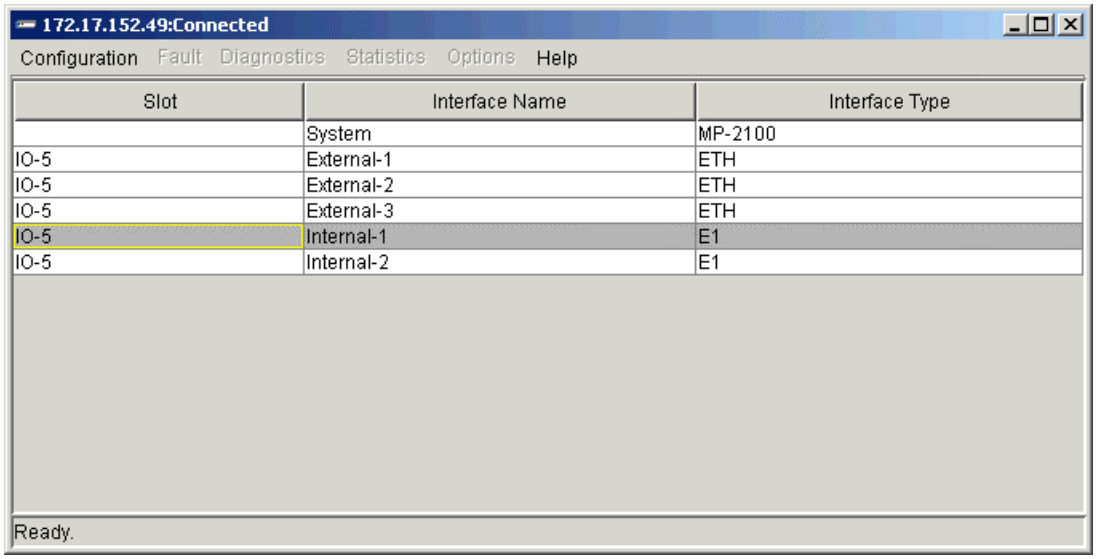

Figure 3-10. Element Manager – Internal Port in Focus

RADview for Megaplex allows you to monitor and configure the following port level management options.

Configuring Interface Parameters

➤ **To display interface parameters for the internal port:**

1. Click an internal port.
2. **Configuration** > **Interface Parameters...**

   The Interface Parameters dialog box appears.

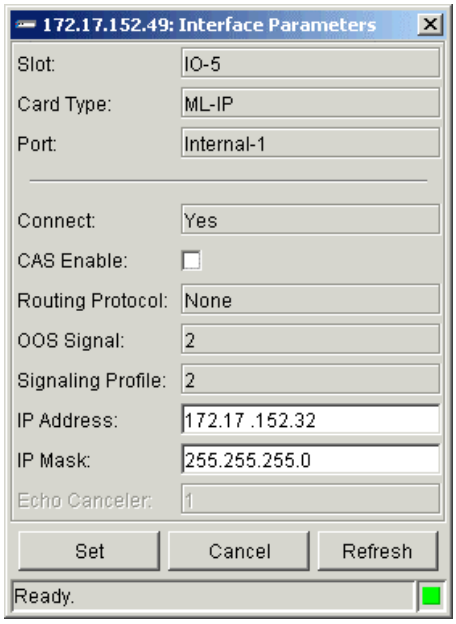

Figure 3-11. Interface Parameters Dialog Box – Internal Port

Table 3-5. Interface Parameters – Internal Port

Parameter	Possible Values / Remarks
Slot	IO slot of ML-IP card
Card Type	**ML-IP**
Port	Selected port **Internal_1, Internal_2**
Connect	**No**, **Yes**
CAS Enable	Enables CAS **Enable** (checked), **Disable** (unchecked)
Routing Protocol	**None**, **RIP2**, **Proprietary RIP**
OOS Signal	State of the signaling bits when the link is in out-of-service (OOS) state: **Forced Idle** – Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle. **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy. **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state. **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state.
Signaling Profile	**1**, **2**, **3**, **4**, **5**
IP Address	IP Address
IP Mask	IP Mask
Echo Canceler	**Off**, **On**

Configuring Bundles

➤ **To configure bundles for an internal port:**

1. Click an internal port.
2. **Configuration** > **Bundles...**

   The Bundle Table appears.

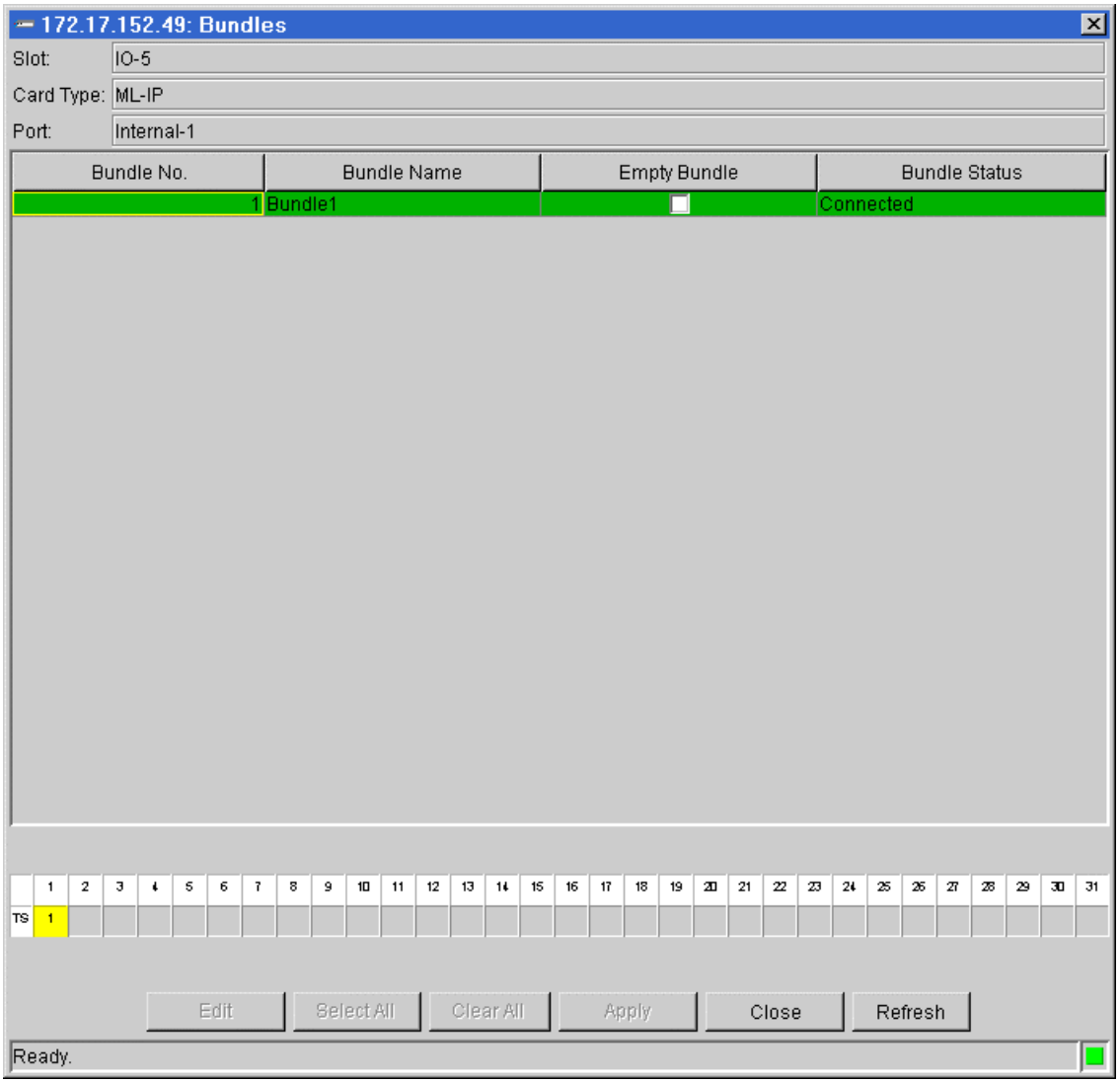

Figure 3-12. Bundle Configuration Table – Port Level

Bundles are groups of timeslots. The Bundle Table displays the details of each bundle in the upper section of the table, and a representation of each timeslot with the bundle assigned to it in the lower section of the table. Each bundle can be assigned to multiple timeslots, but each timeslot can only have one bundle assigned to it.

Table 3-6. Bundle Configuration Table Parameters – Internal Port

Parameter	Possible Values / Remarks
Slot	IO slot of ML-IP card
Card Type	**ML-IP**
Port	Selected port **Internal_1, Internal_2**
Bundle No.	Bundle Number
Bundle Name	Name of the selected bundle
Empty Bundle	When checked, indicates the bundle has not been assigned to any TSs (time slots)
Bundle Status	**--, Up, Down, Remote Fail, Local Fail, Unavailable, Validation Fail**
Time Slots	The timeslots and the bundles assigned to them. Timeslots with bundles assigned to them are marked with a dark blue box, while unassigned time slots are marked with a gray box. A T1 port has 24 timeslots that can be assigned to a bundle; an E1 port has 31 (without MF) or 30 (with MF).

Timeslots already selected as part of another bundle are colored dark blue. Available Timeslots are colored gray.

➤ **To select an available timeslot:**

1. Select a bundle from the **Bundle Configuration Table** and click **Edit…**
2. Click the square beneath the TS number.

   Selected timeslots appear yellow.
3. Click <**Apply**>.

➤ **To select all available timeslots for the selected bundle:**

- Click <**Select All**>.

➤ **To remove all selected timeslots from the selected bundle:**

- Click <**Clear All**>.

Note *You cannot edit a bundle that has already been used to define a connection in the Bundle Connection Table (Figure 3-2). To edit such a bundle, first delete the bundle from the Bundle Connection Table (Configuring Bundles), and then return to the Bundle Table to select new parameters.*