



## **Tmedia Web Portal**

### **System Configuration Tutorial Guide**

9020-00047-A2, Issue 2



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# Preface

## About this Guide

This guide describes the setup and configuration of a Tmedia system consisting of TMP6400s and TMS1600s, or a TMG3200 using the Tmedia Web Portal. The Web Portal is described and tutorial procedures are provided to teach the reader how to configure a Tmedia system.

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**Note**

This document assumes familiarity with topics, such as:

- ISDN Signaling
- SIP Signaling
- SS7 Signaling

Although every attempt is made to clarify topics of theory, the reader is directed to other background reading.

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## Before You Begin

Ensure that you have installed the TMP6400 or TMG3200 as described in their respective guides as listed below:

- Tmedia System Installation Guide for TMP6400 and TMS1600, 9010-00162-1A
- TMP6400 Quick Reference Guide, 9020-00043-A1
- TMP6402 Quick Reference Guide, 9020-00045-A2
- TMG3200 Quick Reference Guide, 9020-00044-A1
- TMG3202 Quick Reference Guide, 9020-00046-A2
- Toolpack 2.1 Win32 installation guide, 9010-00162-1A
- Toolpack 2.1 Linux installation guide, 9010-00163-1A
- Toolpack 2.1 Solaris installation guide, 9010-00164-1A

## Other Reading

For further information, refer to the following reading list:

- Tmedia System Architecture Description for Developers of VoIP and TDM Solutions, 9020-004201A
- TB640 User's Guide, 9000-00002-2H
- TB640 SS7 User's Guide, 9010-00030-1Z
- TB640 SIP User's Guide, 9010-00087-04

# Table of Contents

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|           |   |    |
|-----------|---|----|
| Chapter 1 | Introduction .....  | 1  |
| 1.1       | Tmedia Web Portal .....                                     | 2  |
| 1.2       | Navigating the Web Portal .....                             | 3  |
| 1.2.1     | The Web Portal: Navigation and Information Panels .....     | 3  |
| 1.2.2     | Knowing Your Location .....                                 | 4  |
| 1.3       | Concepts and Terms .....                                    | 4  |
| 1.4       | Typographic Conventions .....                               | 5  |
| 1.5       | Graphical Conventions .....                                 | 6  |
| 1.6       | Other Conventions .....                                     | 7  |
| 1.7       | Configuring Your Tmedia System .....                        | 8  |
| Chapter 2 | Log On and User Access Levels .....                         | 9  |
| 2.1       | Logging On .....  | 10 |
| 2.2       | User Access .....   | 12 |
| 2.2.1     | Viewing the User List .....                                 | 13 |
| 2.2.2     | Creating a New User .....                                   | 14 |
| 2.2.3     | Deleting a User .....                                       | 16 |
| 2.2.4     | Logging Off .....   | 18 |
| 2.3       | Summary .....   | 18 |
| Chapter 3 | Application Startup and Verification .....                  | 19 |
| 3.1       | Prerequisites .....   | 19 |
| 3.2       | Viewing the List of Installed Applications .....            | 20 |
| 3.3       | Starting an Application .....                               | 21 |
| 3.4       | Verifying that an Application is Operating .....            | 23 |
| 3.4.1     | Verifying the Application Path .....                        | 24 |
| 3.5       | Activating the Configuration .....                          | 26 |
| 3.6       | Summary .....   | 28 |
| Chapter 4 | Tmedia Units .....  | 29 |
| 4.1       | Prerequisites .....   | 29 |
| 4.2       | Listing Hardware .....                                      | 30 |
| 4.3       | TMP6400 .....   | 31 |
| 4.3.1     | Adding a TMP6400 .....                                      | 32 |
| 4.3.2     | Switching between Tmedia Unit Hardware Configurations ..... | 35 |
| 4.4       | Verifying Status .....                                      | 36 |
| 4.5       | Summary .....   | 36 |
| Chapter 5 | TMS Network .....   | 37 |
| 5.1       | TMS1600 .....   | 38 |
| 5.1.1     | Adding a TMS1600 .....                                      | 39 |
| 5.1.2     | Configuring a TMS Network System .....                      | 41 |
| 5.2       | Verifying Status .....                                      | 42 |
| 5.3       | Summary .....   | 42 |

|            |  |    |
|------------|--|----|
| Chapter 6  | Line Interfaces.....                             | 43 |
| 6.1        | Prerequisites .....                              | 43 |
| 6.2        | The TDM Module Options .....                     | 44 |
| 6.3        | T1, E1, and J1 .....                             | 45 |
| 6.3.1      | Adding a Line Interface .....                    | 46 |
| 6.3.1.1    | Verifying Status .....                           | 48 |
| 6.3.2      | Configuring Line Services .....                  | 49 |
| 6.3.3      | Activating the Configuration .....               | 52 |
| 6.3.4      | Verifying Status .....                           | 52 |
| 6.4        | DS3 .....  | 53 |
| 6.4.1      | Adding a Line Interface .....                    | 54 |
| 6.4.2      | Configuring Line Services .....                  | 56 |
| 6.4.3      | Activating the Configuration .....               | 59 |
| 6.4.4      | Verifying Status .....                           | 59 |
| 6.5        | SONET/SDH .....                                  | 60 |
| 6.5.1      | Creating a Primary Line Interface.....           | 61 |
| 6.5.2      | Create a Protection Line Interface .....         | 63 |
| 6.5.3      | Verify the Status of the OC3 Line Interface..... | 66 |
| 6.5.4      | Verifying Status .....                           | 66 |
| 6.5.5      | Configuring Line Services .....                  | 67 |
| 6.6        | Activating the Configuration .....               | 73 |
| 6.7        | Verifying Status .....                           | 73 |
| 6.8        | Summary .....                                    | 73 |
| Chapter 7  | BITS .....                                       | 75 |
| 7.1        | BITS Ports.....                                  | 76 |
| 7.2        | Creating BITS Ports as a Clocking Source .....   | 76 |
| 7.3        | Verifying Status .....                           | 78 |
| 7.4        | Summary .....                                    | 78 |
| Chapter 8  | Clocking .....                                   | 79 |
| 8.1        | Clocking Sources .....                           | 80 |
| 8.2        | Verifying the Current Clocking Source .....      | 81 |
| 8.3        | Creating a Clocking Source .....                 | 82 |
| 8.4        | Verifying Status .....                           | 84 |
| 8.5        | Summary .....                                    | 84 |
| Chapter 9  | ISDN Signaling.....                              | 85 |
| 9.1        | ISDN.....  | 86 |
| 9.2        | Prerequisites .....                              | 86 |
| 9.3        | Configuring the ISDN Signaling Stack.....        | 87 |
| 9.4        | Verifying Status .....                           | 89 |
| 9.5        | Summary .....                                    | 89 |
| Chapter 10 | SIP Signaling.....                               | 91 |

|                   |  |            |
|-------------------|--|------------|
| 10.1              | SIP .....                                      | 92         |
| 10.2              | Creating an SIP Signaling Stack .....          | 93         |
| 10.3              | Domain Name Server .....                       | 95         |
| 10.3.1            | Creating a Transport Server .....              | 95         |
| 10.3.2            | Configuring DNS Parameters .....               | 100        |
| 10.4              | Creating a SAP .....                           | 102        |
| 10.5              | Activating the Configuration .....             | 103        |
| 10.6              | Verifying Status .....                         | 103        |
| 10.7              | Summary .....                                  | 103        |
| <b>Chapter 11</b> | <b>SS7 Signaling .....</b>                     | <b>105</b> |
| 11.1              | Introduction .....                             | 106        |
| 11.2              | MTP2 Layer .....                               | 107        |
| 11.2.1            | Create an MTP2 Configuration .....             | 108        |
| 11.2.2            | Create an MTP2 Link .....                      | 109        |
| 11.3              | MTP3 Layer .....                               | 112        |
| 11.3.1            | Create an MTP3 Configuration .....             | 113        |
| 11.3.2            | Create an MTP3 Network .....                   | 115        |
| 11.3.2.1          | Create an MTP3 Point Code .....                | 117        |
| 11.3.2.2          | Create an MTP3 Linkset .....                   | 119        |
| 11.3.2.3          | Create an MTP3 Route .....                     | 122        |
| 11.4              | ISUP .....                                     | 125        |
| 11.4.1            | Create an ISUP Stack .....                     | 126        |
| 11.4.2            | Create an ISUP Network .....                   | 128        |
| 11.4.3            | Create an ISUP User Part .....                 | 129        |
| 11.4.4            | Create an ISUP Interface .....                 | 131        |
| 11.5              | Activating the Configuration .....             | 135        |
| 11.6              | Verifying Status .....                         | 135        |
| 11.7              | Summary .....                                  | 135        |
| <b>Chapter 12</b> | <b>SIP Profiles .....</b>                      | <b>137</b> |
| 12.1              | SIP Profiles .....                             | 138        |
| 12.2              | Creating an Profile .....                      | 139        |
| 12.3              | Activating the Configuration .....             | 142        |
| 12.4              | Summary .....                                  | 142        |
| <b>Chapter 13</b> | <b>Network Access Points .....</b>             | <b>143</b> |
| 13.1              | Creating a NAP .....                           | 144        |
| 13.2              | Verifying Status .....                         | 148        |
| 13.3              | Summary .....                                  | 148        |
| <b>Chapter 14</b> | <b>Gateway Application .....</b>               | <b>149</b> |
| 14.1              | TMG3200 .....                                  | 150        |
| 14.1.1            | Creating a TMG3200 Gateway Configuration ..... | 151        |
| 14.2              | Creating Called Number Routes .....            | 154        |

|                   |                                    |            |
|-------------------|------------------------------------|------------|
| 14.3              | Summary .....                      | 157        |
| <b>Chapter 15</b> | <b>Status Menus .....</b>          | <b>159</b> |
| 15.1              | General Description .....          | 160        |
| 15.1.1            | Tmedia Status Menus .....          | 160        |
| 15.1.2            | Navigation .....                   | 162        |
| 15.1.3            | Status Screen Conventions .....    | 163        |
| 15.1.3.1          | Extended Status .....              | 164        |
| 15.1.3.2          | Refresh Status .....               | 165        |
| 15.1.3.3          | Reset Status .....                 | 166        |
| 15.2              | Status Menus Description .....     | 167        |
| 15.2.1            | System .....                       | 168        |
| 15.2.1.1          | System General View .....          | 168        |
| 15.2.2            | Adapters and IP Interfaces .....   | 169        |
| 15.2.2.1          | Adapters General View .....        | 169        |
| 15.2.2.2          | Adapters Detailed View .....       | 170        |
| 15.2.2.3          | IP Interfaces Detailed View .....  | 172        |
| 15.2.3            | Hosts .....                        | 173        |
| 15.2.3.1          | Host General View .....            | 173        |
| 15.2.3.2          | Host Detailed View .....           | 173        |
| 15.2.4            | Applications .....                 | 174        |
| 15.2.4.1          | Applications General View .....    | 174        |
| 15.2.4.2          | Applications Detailed View .....   | 175        |
| 15.2.5            | TDM Lines .....                    | 176        |
| 15.2.5.1          | TDM Lines General View .....       | 176        |
| 15.2.5.2          | TDM Lines Detailed View .....      | 177        |
| 15.2.6            | SS7 MTP2 .....                     | 179        |
| 15.2.6.1          | SS7 MTP2 General View .....        | 179        |
| 15.2.6.2          | SS7 MTP2 Detailed View .....       | 180        |
| 15.2.7            | SS7 MTP3 .....                     | 182        |
| 15.2.7.1          | SS7 MTP3 General View .....        | 182        |
| 15.2.7.2          | SS7 MTP3 Detailed View .....       | 183        |
| 15.2.8            | SS7 ISUP .....                     | 188        |
| 15.2.8.1          | SS7 ISUP General View .....        | 188        |
| 15.2.8.2          | SS7 ISUP Stack Detailed View ..... | 189        |
| 15.2.9            | ISDN .....                         | 193        |
| 15.2.9.1          | ISDN General View .....            | 193        |
| 15.2.9.2          | ISDN Detailed View .....           | 193        |
| 15.2.10           | SIP .....                          | 194        |
| 15.2.10.1         | SIP General View .....             | 194        |
| 15.2.10.2         | SIP Detailed View .....            | 195        |
| 15.2.11           | NAP .....                          | 197        |
| 15.2.11.1         | NAP General View .....             | 197        |
| 15.2.12           | CDR .....                          | 198        |



# Chapter 1      Introduction

This chapter presents the TelcoBridges Web Portal. The following topics are covered:

- TelcoBridges Web Portal
- Navigating the WebPortal
- Concepts and Conventions
- Configuring your Tmedia System

## 1.1 Tmedia Web Portal

The Tmedia Web Portal is a Web-Based OAM&P tool that enables the user to easily configure a Tmedia system and to monitor its performance. The Web Portal has been designed with an eye on the simplification of the configuration process with the use of intuitive web-based screens. The Web Portal is accessed from any computer using a standard web browser and is hosted by the Toolpack application server enabling the configuration of Tmedia units. Using the OAM&P, the developer defines the physical hardware and its interfaces, the signaling interfaces, and the classification of functions into logical Network Access Points (NAP) that are in turn configured with signaling types, such as: SIP, SS7, and ISDN. In addition, global parameters such as clocking signals are easily defined, regardless from which Tmedia unit the clocking signal originates. All configuration settings and changes are displayed in the Web Portal and safeguarded against data loss in a distributed database architecture on network machines. A sample view of the Web Portal is shown in figure 1.1 on page 2.

Powered by Telcobridges Version: 2.2.0

Global

- Status
- Users
- Logs
- Packages
- Systems
- Configurations

sut\_config\_0

- Hardware
  - TB000027
    - IP Interfaces
    - Tdm Interfaces
    - Line Interfaces
    - Bits Ports
- Signaling
  - ISDN
  - MTP2
- Hosts
- Applications
  - Configurations
  - Instances
- SS7
  - MTP3
  - ISUP
- SIP
- TMS Network
- Clocking
- Profiles
- NAP
- Logout

Gateway

- Configurations
- CDRs

status\_options

Refresh every: Don't refresh Now

Extended status

Adapters Tdm Lines SS7 Mtp2 SS7 Mtp3 SS7 Isup Isdn Sip Nap

Adapters

| name                  | value    |
|-----------------------|----------|
| Up cnt                | 1        |
| Disabled cnt          | 0        |
| Down cnt              | 0        |
| Up adapter list       | TB000027 |
| Disabled adapter list |          |
| Down adapter list     |          |

Ip Interfaces

| name     | value |
|----------|-------|
| Up cnt   | 2     |
| Down cnt | 0     |

| states                 | list       |
|------------------------|------------|
| Down ip interface list |            |
| Up ip interface list   | eth0, eth1 |

Figure 1.1 A Typical View of the Web Portal

## 1.2 Navigating the Web Portal

Effective use of the Web Portal requires a basic understanding of the physical elements of the tool, how to access its various components and knowing your current location in the Web Portal display. The following topics are covered:

- The Web Portal: Navigation and Information Panels
- Knowing Your Location
- Concepts and Conventions
- Configuring Your Tmedia System: Basic Flow

### 1.2.1 The Web Portal: Navigation and Information Panels

The Web Portal has been designed with a consistent streamlined approach for the presentation of Tmedia configuration data. Information related to the hierarchy of data is displayed in the left-hand navigation panel, while information related to a selected category is displayed in the information panel. See figure 1.2 on page 3. Selecting a category in the navigation panel causes related configuration and status information to be dynamically displayed. The navigation panel displays information in a tree-like structure enabling you to understand how configuration parameters are contained by others.

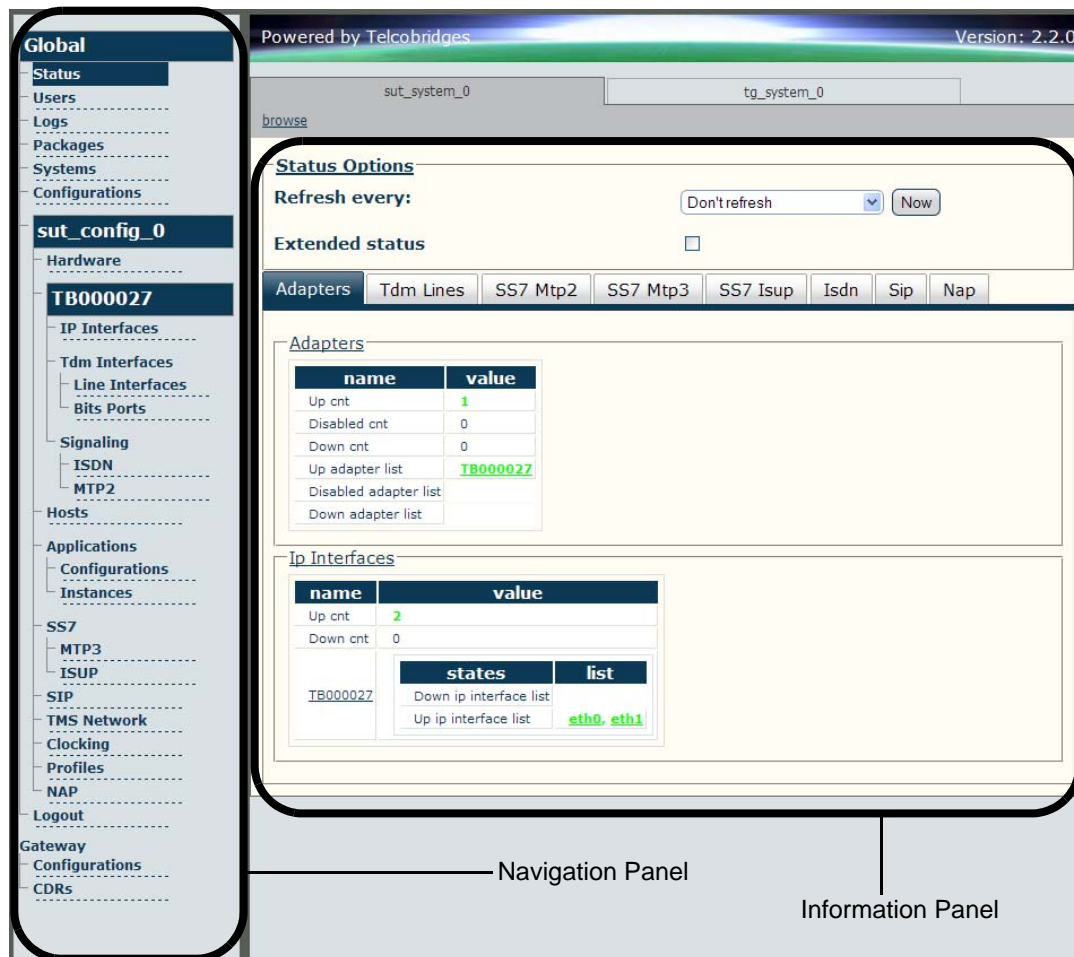


Figure 1.2 Navigation and Information Panels

## 1.2.2 Knowing Your Location

As you navigate the Web Portal, it is important that you understand how to determine your current location. The Web Portal has been designed to make this easy for you. When you navigate the Hierarchical panel, your current selection is always indicated by a graphical highlight. In addition, the system configuration that you are using and the specific Tmedia unit that is being configured is always displayed, as shown in figure 1.3.

Item 1 indicates that Status is selected  
 Item 2 indicates that a configuration named sut\_config\_0 is selected  
 Item 3 indicates that a Tmedia hardware device named TB000027 is selected  
 Item 4 displays information about the hardware adapter

Figure 1.3 Knowing Your Location

## 1.3 Concepts and Terms


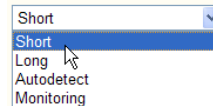
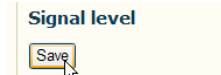

The Tmedia Web Portal and this guide use the following concepts:

- **System:** A system is defined as the complete solution that is designed for a network. If a system solution is comprised of 4 TMP6400's and a TMS1600, then the combination of these Tmedia units is termed a system.
- **Hardware:** Each Tmedia unit, whether it is a TMP6400, TMG3200, or TMS1600 is referred to as a hardware device or hardware adapter.
- **Line Interface:** The physical TDM module installed on the Tmedia unit is referred to as a line interface.

## 1.4 Typographic Conventions

This guide uses the following conventions, described in table 1.1 on page 5:

Table 1.1 Document Conventions

| Item             | Description   | Example  |
|------------------|---|--|
| Select           | Used to indicate categories selected from the Hierarchical panel  | <p>Select <b>Status</b> to access the Global Status view.</p>   |
| Select           | Used to indicate a choice from a drop-down list box.  | <p>Select Short from the <b>Length</b> drop down list.</p>   |
| Click            | Used to indicate a single action such as a button or a hyper link.                                      | <p>Click <b>Save</b> to save your changes.</p>  <p>Click <b>Edit</b> to modify the configuration.</p>  |
| <b>Bold text</b> | Used to indicate a value to enter or a graphical object to perform an action upon.                      | <p>Enter <b>0</b> for the line interface number.</p>   |
| Log on           | Other than the log on procedure, all other procedures in this guide assume that the user has logged on. |  |

## 1.5 Graphical Conventions

The tutorial procedures in this guide use the following graphical conventions:

**Navigation Panel launching point.** The first step of each procedure presents a view of the navigation panel and highlights the required link to access a specific information panel. For example:

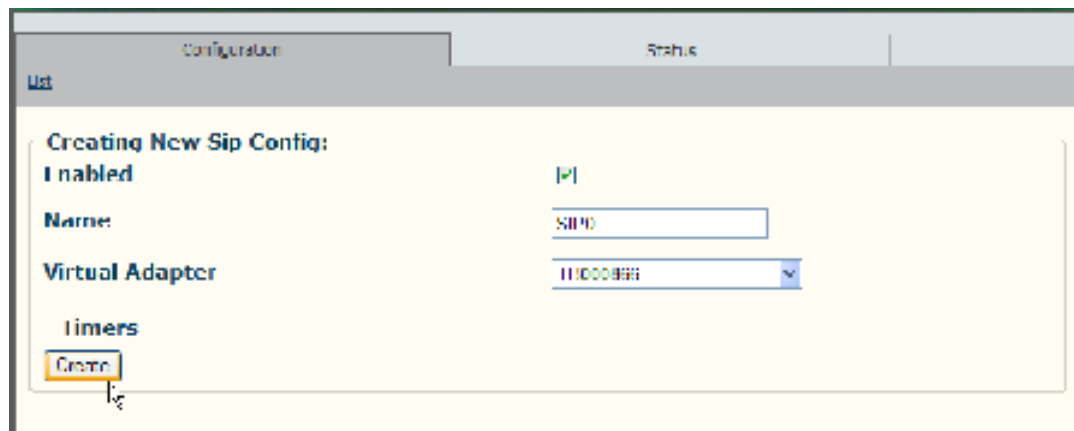
**To configure a SIP stack, do the following:**

1. Select **SIP** from the navigation panel.



**Information Panel.** All steps following the initial step of a procedure display graphics of the Web Portal by focusing specifically on the information panel. For example:

2. Enter a name for the SIP configuration
  - Enter a name for the SIP Configuration stack
  - Select the Tmedia unit that will host SIP signaling
  - Click **Create**, to save the changes



The screenshot shows a web interface with two tabs: 'Configuration' and 'Status'. The 'Configuration' tab is active. Below it is a 'List' button. The main content area is titled 'Creating New Sip Config:'. It contains a form with the following fields: 'Enabled' with a checked checkbox, 'Name' with a text input field containing 'SIP', and 'Virtual Adapter' with a dropdown menu showing '11000000'. Below these fields is a 'Timers' section with a 'Create' button. A mouse cursor is pointing at the 'Create' button.

## 1.6 Other Conventions

Most of the information panels of the Tmedia Web Portal provide you with configuration and status information. Other than the last chapter in this guide, all chapters are designed to show you how to configure your Tmedia system; therefore, they do not describe how to navigate and interpret system status. To learn about system status information, refer to Chapter 15.

## 1.7 Configuring Your Tmedia System

This document assumes that the Tmedia units are installed as described in their Quick Reference Guides and that communication has been established with the Tmedia control network. Furthermore, in the initial configuration of the Toolpack application server, the following will have been provided:

- The TMP6400 to which the Web Portal will first connect.
- The TMP6400 will have been pre-configured with its physical TDM interface.
- The serial number of the TMP6400 will have been entered into the configuration file.
- The application software for the TMP6400s will have been preinstalled on the Toolpack application server, as described in the TMP6400 Installation Guide.

---

**Note** The TMG3200 is shipped with the Tmedia Web Portal preinstalled, while the TMP6400 requires that the Toolpack OAM&P be installed as described in the TMP6400 Installation Guide.

For further information about the Tmedia products, refer to the Tmedia System Architecture Description, 9020-00042-1A.

---

**The following list is presented here as a general guideline to suggest the order of tasks that are to be conducted to configure a Tmedia system.**

1. Log In
2. Start up the TMP6400 Toolpack applications
3. Add Tmedia units
4. Configure a TMS Network (TMP6400 systems only)
5. Add line interfaces
6. Create line services
7. Configure BITS ports
8. Configure system clocking
9. Configure the ISDN signaling
10. Configure SIP signaling
11. Configure SS7 signaling
12. Configure profiles
13. Configure NAPs
14. Configure a gateway application



# Chapter 2      Log On and User Access Levels

This chapter provides a procedure for logging on to the Tmedia Web Portal and describes the concept of user access levels and their creation.

Topics contained in this chapter:

- Logging on
- User access levels
- Creating a user access level
- Logging out of the root access level
- Logging on with the newly created user access level

## 2.1 Logging On

Log on to the Web Portal is required to connect to the Toolpack application server to view and modify system parameters. To log on, a user name and a user password will need to have been defined.

---

**Note** The default user name and password is **root**.

---

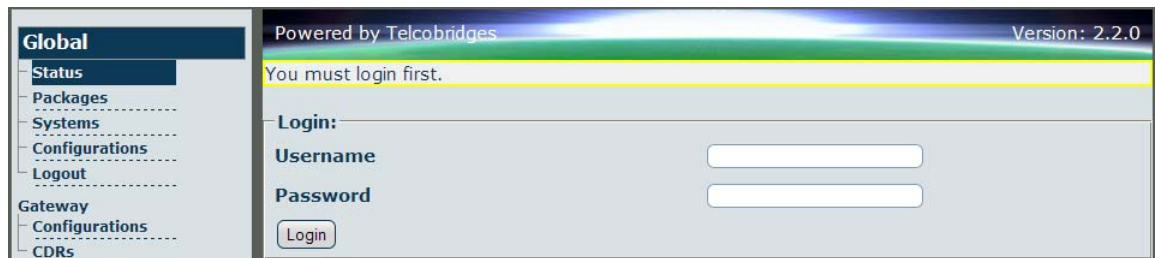
**To log on:**

1. The HTTP port is set to 12358 by default during the installation process; therefore, in order to access the web portal enter **HTTP://<server IP address>:12358**

The log on screen is displayed

2. Enter your user name and password

Click **Login**



The Tmedia Global System View is displayed

Global

Status

Users

Logs

Packages

Systems

Configurations

sut\_config\_0

Hardware

TB000027

IP Interfaces

Tdm Interfaces

Line Interfaces

Bits Ports

Signaling

ISDN

MTP2

Hosts

Applications

Configurations

Instances

SS7

MTP3

ISUP

SIP

TMS Network

Clocking

Profiles

NAP

Logout

Gateway

Configurations

CDRs

Powered by Telcobridges

Version: 2.2.0

sut\_system\_0

tg\_system\_0

browse

Status Options

Refresh every: Don't refresh Now

Extended status

Adapters Tdm Lines SS7 Mtp2 SS7 Mtp3 SS7 Isup Isdn Sip Nap

Adapters

| name                  | value    |
|-----------------------|----------|
| Up cnt                | 1        |
| Disabled cnt          | 0        |
| Down cnt              | 0        |
| Up adapter list       | TB000027 |
| Disabled adapter list |          |
| Down adapter list     |          |

Ip Interfaces

| name                   | value  |        |      |                        |  |                      |            |
|------------------------|--|--------|------|------------------------|--|----------------------|------------|
| Up cnt                 | 2  |        |      |                        |  |                      |            |
| Down cnt               | 0  |        |      |                        |  |                      |            |
| TB000027               | <table><thead><tr><th>states</th><th>list</th></tr></thead><tbody><tr><td>Down ip interface list</td><td></td></tr><tr><td>Up ip interface list</td><td>eth0, eth1</td></tr></tbody></table> | states | list | Down ip interface list |  | Up ip interface list | eth0, eth1 |
| states                 | list   |        |      |                        |  |                      |            |
| Down ip interface list |  |        |      |                        |  |                      |            |
| Up ip interface list   | eth0, eth1   |        |      |                        |  |                      |            |

## 2.2 User Access

The Tmedia portal is designed to provide varying degrees of write and read privileges to users. By default, the root user is given full read and write access. This is required so that the root user can function as the system administrator without any imposed restriction. Subsequent users can be created with the ability to read and write, or just to read. To each user, an integer value from 0 - 9 is assigned. A user with an access level of 0 has access to configurations created with levels 0 - 9. A user with an access level of 4, will have access to configurations created with user levels 4 - 9. Configurations created with user levels 0 -3 will be invisible to user levels 4-9. See figure 2.1 on page 12.



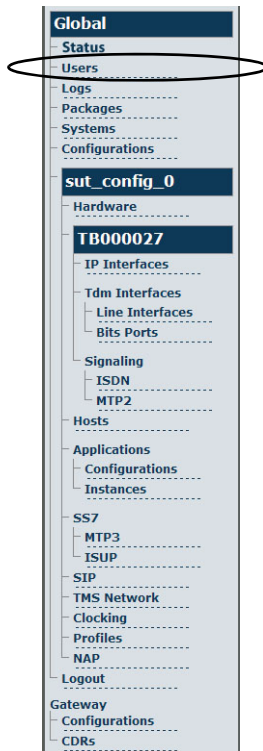
Figure 2.1 Conceptual View of User Access Level Hierarchy

## 2.2.1 Viewing the User List

It is possible to create an unlimited list of users, each with an assignment from 0-9. Any user can view the entire list of users, however only a root user with an access level of 0 can modify the access rights of other users.

**To view the list of users:**

1. Select **Users** from the Navigation panel



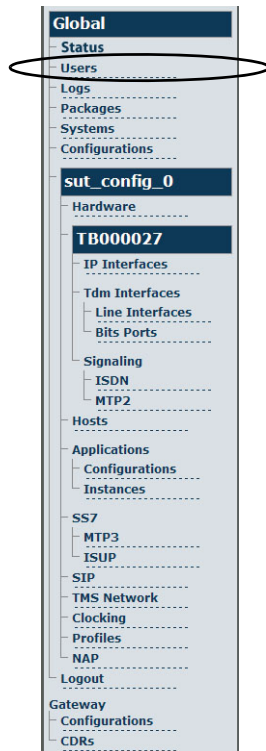
The list of users is displayed.

| Configuration                   |                      |                       |   |
|---------------------------------|----------------------|-----------------------|---|
| <a href="#">Create New User</a> |                      |                       |   |
| Listing Users                   |                      |                       |   |
| Username                        | Read Privilege Level | Write Privilege Level | Actions                                     |
| root                            | 0                    | 0                     | <a href="#">Edit</a> <a href="#">Delete</a> |
| 1                               |                      |                       |   |

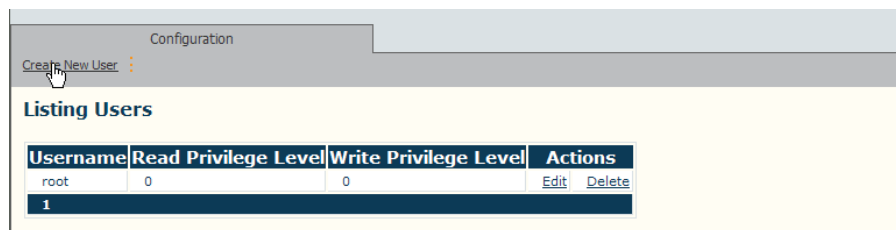
## 2.2.2 Creating a New User

To create a new user:

1. Select **Users** from the Navigation panel



2. Click **Create New User** in the information panel.



3. Enter a **User Name** and **Password**
4. Select a **Read Privilege Level**
5. Select a **Write Privilege Level**
6. Press **Create** to save your changes

The screenshot shows a web interface with a 'Configuration' tab. Under the 'List' sub-tab, there is a form titled 'Creating New User:'. The form contains four fields: 'Name' with the value 'Allan', 'Password' with masked characters '.....', 'Read privilege Level' with a dropdown menu showing '1', and 'Write privilege Level' with a dropdown menu showing '1'. A 'Create' button is located at the bottom left of the form, with a mouse cursor hovering over it.

The List User window is displayed with the newly added user.

User was successfully created.

The screenshot shows the 'Listing Users' section of the configuration window. It contains a table with the following data:

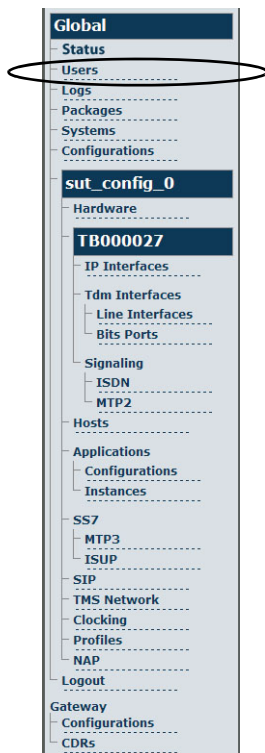
| Username | Read Privilege Level | Write Privilege Level | Actions                                     |
|----------|----------------------|-----------------------|---|
| root     | 0                    | 0                     | <a href="#">Edit</a> <a href="#">Delete</a> |
| Allan    | 1                    | 1                     | <a href="#">Edit</a> <a href="#">Delete</a> |

Below the table, there is a pagination bar showing '1' and a mouse cursor hovering over it.

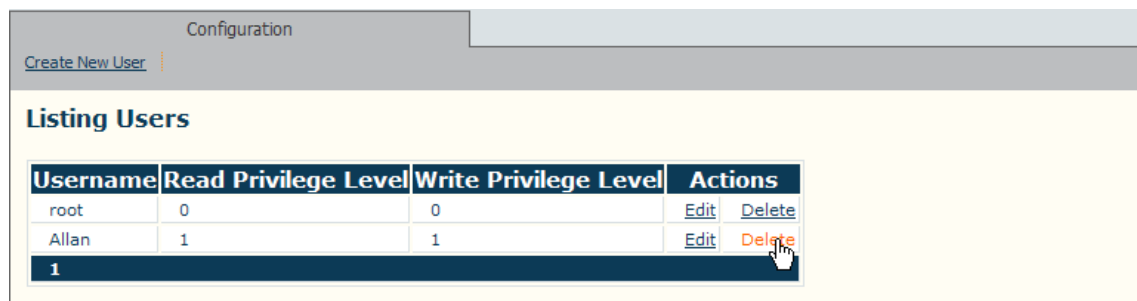
## 2.2.3 Deleting a User

To delete a user:

1. Select **Users** from the Navigation panel

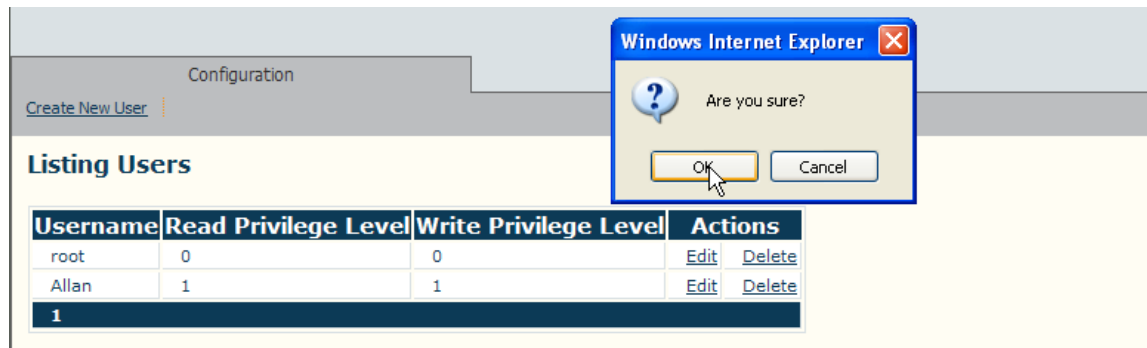


2. Click **Delete** in the information panel on the row of the user that you wish to delete.

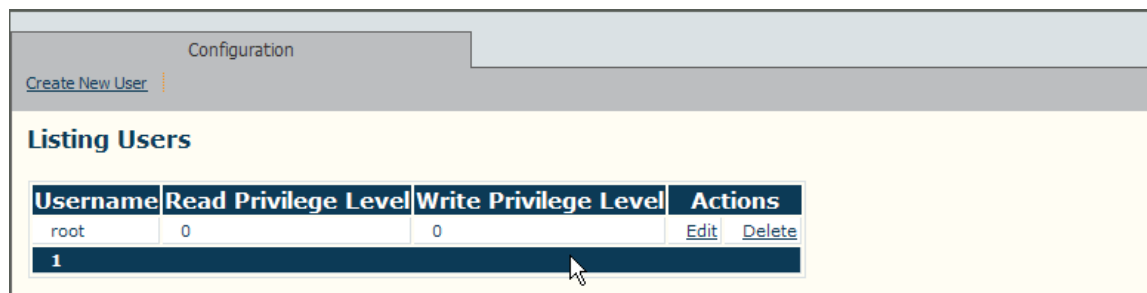




3. Click **OK** to confirm the deletion



The resulting User Screen is displayed.

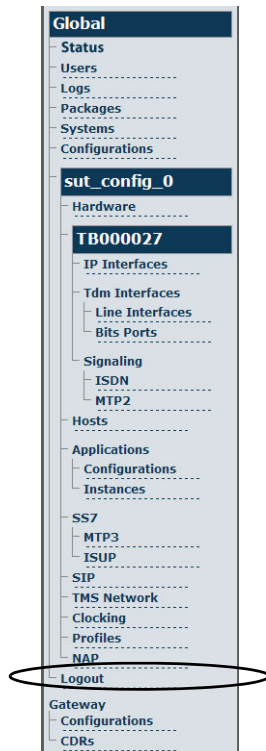


## 2.2.4 Logging Off

When you are finished working in the Web Portal, it is recommended that you log out from your session. If you do not log out, the session between the Web Browser on your PC and the Web Portal remains active.

### To log out from the Web Portal:

1. Select **Logout** from the navigation panel.



## 2.3 Summary

The chapter covered the following topics:

- Log on
- Log Off
- User Access
- Creating a user
- Deleting a user

# Chapter 3      Application Startup and Verification

This chapter provides the procedures for starting up an application on a Tmedia TMP6400 and verifying that the application is operational.

Topics contained in this chapter:

- Viewing the list of installed applications
- Starting an application
- Verifying that an Application is running properly

## 3.1      Prerequisites

In order to be able to load and start an application, it will need to have been installed on the Toolpack application server. In addition, at least one Tmedia unit must have been configured on the Toolpack application server so that you are able to connect to it.

---

|             |  |
|-------------|--|
| <b>Note</b> | The TMG3200 is preconfigured with all of its required applications at the factory. |
|-------------|--|

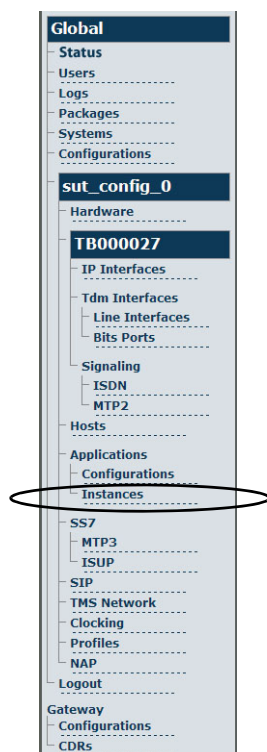
---

## 3.2 Viewing the List of Installed Applications

The Toolpack application server is designed to run a large variety of applications. Before you can run an application, you must first be able to view it from a list of applications.

To view the selection of applications:

1. Select **Instances** from the navigation panel.



The application listing is displayed in the information panel.

Configuration

Status

[Create New Application Instance](#)

Listing Application Instances

| Name               | Host Name                 | Target State | Target HA State | Application Config                 | Actions                                     |
|--------------------|---------------------------|--------------|-----------------|------------------------------------|---|
| tboam_app          | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">TBOAMAPP</a>           | <a href="#">Edit</a> <a href="#">Delete</a> |
| GATEWAY_0          | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">GATEWAY_0</a>          | <a href="#">Edit</a> <a href="#">Delete</a> |
| web_server_1       | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">web_server_1</a>       | <a href="#">Edit</a> <a href="#">Delete</a> |
| toolpack_sys_mgr_1 | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">toolpack sys mgr 1</a> | <a href="#">Edit</a> <a href="#">Delete</a> |
| toolpack_engine_1  | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">toolpack engine 1</a>  | <a href="#">Edit</a> <a href="#">Delete</a> |

1

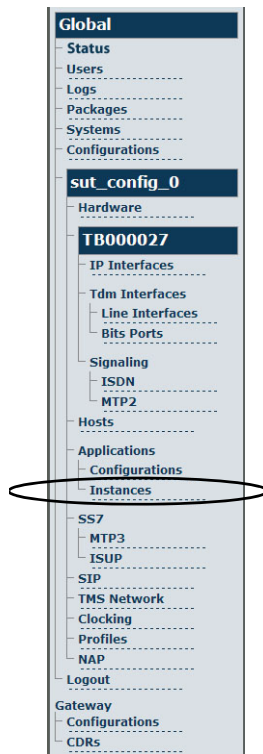
Applications are displayed in one of three states: Run (application is operating), management (application is installed but not in operation), Fault (application has an operation fault)

### 3.3 Starting an Application

When you first log on to the Web Portal, your system application will have been installed on the Toolpack application server, and it will be in a management state. This means that the application is not yet operating and controlling your system. In order to start an application, its state must be changed from Management to Run.

**To start an application:**

1. Select **Instances** from the navigation panel.



2. Select the application that you wish to run and click **Edit** in the information panel.

Configuration Status

[Create New Application Instance](#)

#### Listing Application Instances

| Name               | Host Name                 | Target State | Target HA State | Application Config                 | Actions                                     |
|--------------------|---------------------------|--------------|-----------------|------------------------------------|---|
| tboam_app          | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">TBOAMAPP</a>           | <a href="#">Edit</a> <a href="#">Delete</a> |
| GATEWAY_0          | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">GATEWAY_0</a>          | <a href="#">Edit</a> <a href="#">Delete</a> |
| web_server_1       | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">web_server_1</a>       | <a href="#">Edit</a> <a href="#">Delete</a> |
| toolpack_sys_mgr_1 | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">toolpack_sys_mgr_1</a> | <a href="#">Edit</a> <a href="#">Delete</a> |
| toolpack_engine_1  | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">toolpack_engine_1</a>  | <a href="#">Edit</a> <a href="#">Delete</a> |

1

The **Editing Application Instance** screen appears.

### 3. Set the Target State to **Run**

- Click **Save**

The screenshot shows a web portal interface with two tabs: 'Configuration' and 'Status'. The 'Configuration' tab is active. Below the tabs is a 'List' link. The main content area is titled 'Editing Application Instance:' and contains the following fields:

- Name:** A text input field containing 'toolpack\_sys\_mgr\_1'.
- Host:** A dropdown menu with 'xpvirtual' selected.
- Target State:** A dropdown menu with 'Run' selected.
- Target HA State:** A dropdown menu with 'Run' selected.
- Application Config:** A dropdown menu with 'Run' selected.

A mouse cursor is pointing at the 'Run' option in the 'Application Config' dropdown. At the bottom left of the form is a 'Save' button.

## 3.4 Verifying that an Application is Operating

When an application's target state is set to run, there are a number of crucial verifications that you should conduct in order to know that an application is running properly. These verifications are as follows:

- Verify the application's current path. It is important that once the application has been set to run, a path is displayed.
- Verify the TDM interface. If you are running a TDM application on your Tmedia unit then you can verify the TDM interface. Although, you most likely have not yet configured the TDM interface of the Tmedia unit, certain status LEDS will indicate that your application is operational.
- Verify the IP Interfaces. Your Tmedia unit is furnished with two IP interfaces for access to a VoIP network. Although you have not as of yet configured the interfaces, certain LED indications will be displayed. See figure 3.1 on page 23.

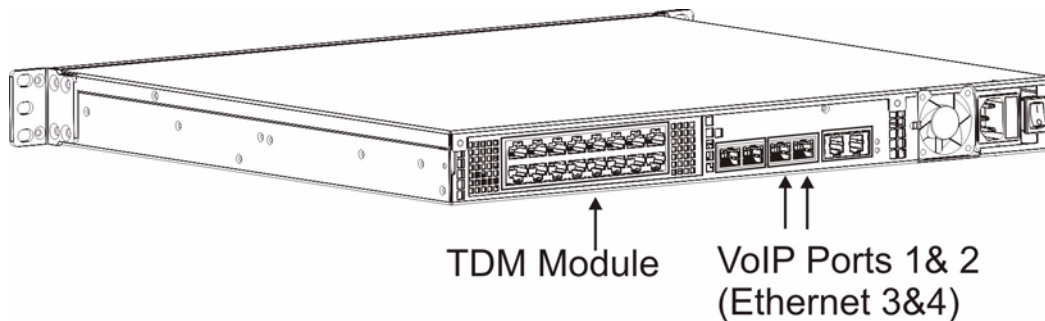


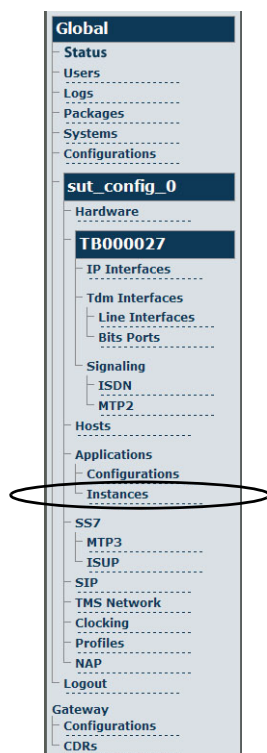
Figure 3.1 Tmedia Unit Rear View: TDM Module and VoIP Ports

### 3.4.1 Verifying the Application Path

One important indication of the normal operation of an application is when the application path is displayed in the hardware status window.

**To Verify that the application path is displayed:**

1. Select **Instances** from the navigation panel.



2. Click the Status tab, from the **Application Instances** window, to view the application path.

The screenshot shows the 'Listing Application Instances' window. At the top, there are two tabs: 'Configuration' and 'Status'. The 'Status' tab is selected, and a mouse cursor is pointing at it. Below the tabs, there is a link 'Create New Application Instance'. The main content area displays a table with the following data:

| Name               | Host Name                 | Target State | Target HA State | Application Config                 | Actions                                     |
|--------------------|---------------------------|--------------|-----------------|------------------------------------|---|
| tboam_app          | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">TBOAMAPP</a>           | <a href="#">Edit</a> <a href="#">Delete</a> |
| GATEWAY_0          | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">GATEWAY_0</a>          | <a href="#">Edit</a> <a href="#">Delete</a> |
| web_server_1       | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">web_server_1</a>       | <a href="#">Edit</a> <a href="#">Delete</a> |
| toolpack_sys_mgr_1 | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">toolpack_sys_mgr_1</a> | <a href="#">Edit</a> <a href="#">Delete</a> |
| toolpack_engine_1  | <a href="#">xpvirtual</a> | Run          | Primary         | <a href="#">toolpack_engine_1</a>  | <a href="#">Edit</a> <a href="#">Delete</a> |

At the bottom of the table, there is a blue bar with the number '1'.



## 3. Verify that the application path is displayed

- Verify that the target state is set to **Run**, the current state displays **Ready**, and the current HA state displays **Active**.

Configuration

Status

Listing Hardware Status

Refresh every: 5 seconds

| Name               | Host Name                 | Application Config                 | Current path  | Target Update State | Current State | Current HA State |
|--------------------|---------------------------|------------------------------------|---|---------------------|---------------|------------------|
| tboam_app          | <a href="#">xpvirtual</a> | <a href="#">TBOAMAPP</a>           | @{(PKG_HOME)}/2.1.0/apps/tboamapp/debug/i586-win32/tboamapp.exe                         | Run                 | Ready         | Active           |
| GATEWAY_0          | <a href="#">xpvirtual</a> | <a href="#">GATEWAY_0</a>          | @{(PKG_HOME)}/2.1.0/apps/gateway/debug/i586-win32/gateway.exe                           | Run                 | Ready         | Active           |
| web_server_1       | <a href="#">xpvirtual</a> | <a href="#">web_server_1</a>       | @{(PKG_HOME)}/2.1.0/apps/tboamapp/debug/i586-win32/tboamappctrl.exe                     | Run                 | Ready         | Active           |
| toolpack_sys_mgr_1 | <a href="#">xpvirtual</a> | <a href="#">toolpack_sys_mgr_1</a> | @{(PKG_HOME)}/2.1.0/apps/toolpack_sys_manager/debug/i586-win32/toolpack_sys_manager.exe | Run                 | Ready         | Active           |
| toolpack_engine_1  | <a href="#">xpvirtual</a> | <a href="#">toolpack_engine_1</a>  | @{(PKG_HOME)}/2.1.0/apps/toolpack_engine/debug/i586-win32/toolpack_engine.exe           | Run                 | Ready         | Active           |

1

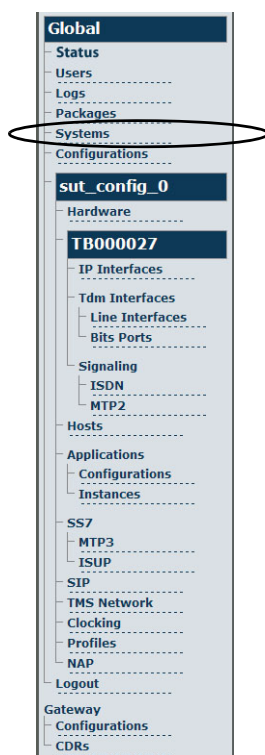
## 3.5 Activating the Configuration

Changes made to the configuration of the Tmedia units are stored on the OAM&P Configuration and Logging database. Configuration changes must be activated before they can be used by the system. This is done at the system level and accessed from the Navigation panel.

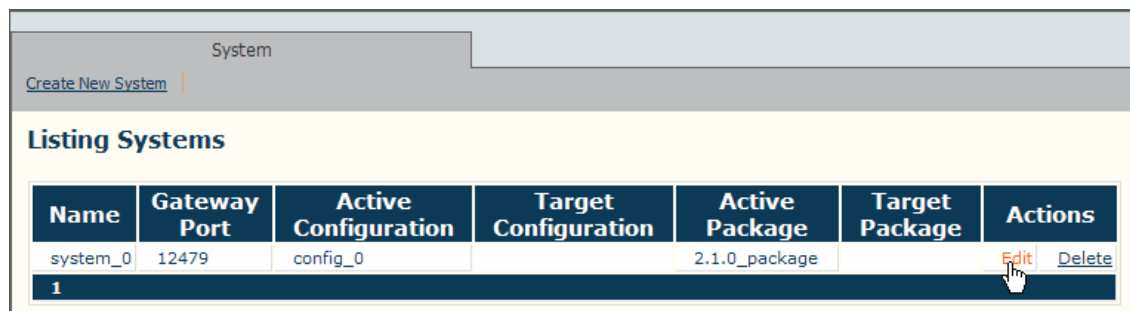
**Note** To activate a configuration, you must be the **Root** user or have a user access level of **1**.

**To activate a system configuration:**

1. Select **Systems** from the navigation panel.



2. Click Edit to access the System Configuration screen



3. Select the name of the system configuration that you wish to activate.

- Click **Activate**

The screenshot shows a web interface titled 'System' with a 'List' link. The main section is 'Editing Package:' with two input fields: 'Name' (system\_0) and 'Gateway Port' (12479), followed by a 'Save' button. Below this is a section for 'Activate configuration' with a 'Configuration' dropdown menu set to 'config\_0'. A message 'No validation requested.' is displayed. The 'Activate' button is highlighted with a yellow border and a mouse cursor. A 'Validate configuration' link is at the bottom.

A confirmation screen is displayed indicating the outcome of a successful activation

This screenshot shows the same 'Editing Package' form, but the 'Activate configuration' section now displays a confirmation message: 'Validation completed successfully.' followed by a list of successful operations: 'Application (GATEWAY\_0) reload successful', 'Load configuration successful', 'Application (toolpack\_sys\_mgr\_1) reload successful', 'Successfully reloaded configuration', 'Application (toolpack\_engine\_1) reload successful', 'Successfully reloaded configuration', 'Application (tboam\_app) reload successful', 'LoadConfig cfgId=1 success', 'ApplyBasicConfig success', and 'ApplyOAMConfig success'. The 'Activate' button is no longer highlighted.

## 3.6 Summary

This chapter covered the following topics:

- Selecting and activating a system application
- Verifying the operational status of a system application

# Chapter 4 Tmedia Units

This chapter provides procedures for adding a TMP6400 and a TMS1600 to your telecom platform application, or alternatively adding a TMG3200 to your media gateway application.

Topics covered in this chapter:

- Adding a TMP6400
- Switching between hardware configurations

## 4.1 Prerequisites

In order to create a hardware configuration for Tmedia units, they must first be registered with the Toolpack application server. Registration occurs automatically when Tmedia units are properly connected to the Toolpack application server network.

---

**Attention!** If the serial number of a physical Tmedia unit has not been registered with the Toolpack application server, you will not be able to follow the procedures in this chapter. Contact Telcobridges technical support.

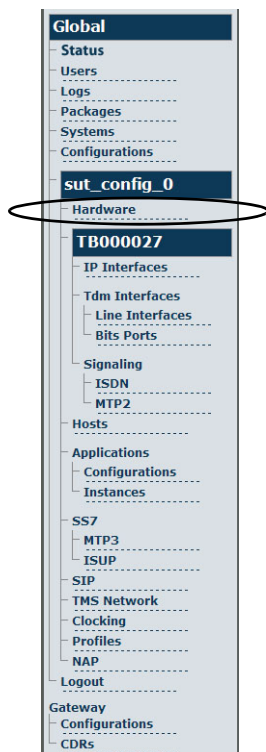
---

## 4.2 Listing Hardware

Prior to adding a Tmedia unit to the system configuration, it is important to verify the current hardware list so as to avoid duplicate configurations.

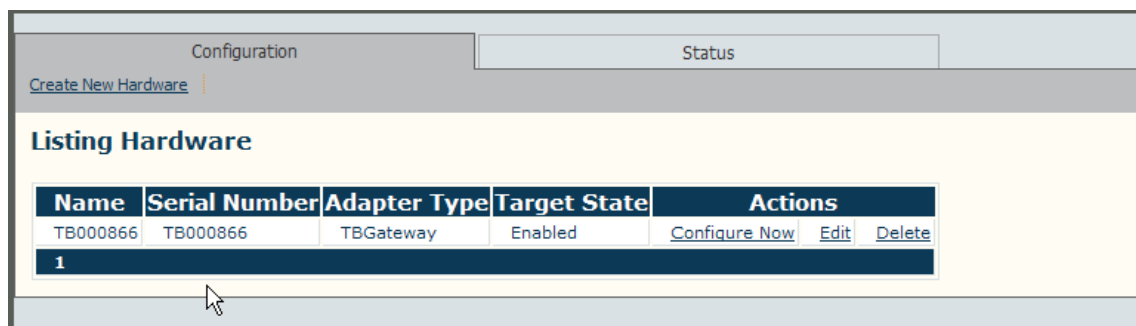
To view the hardware list:

1. Select **Hardware** from the navigation panel.



The hardware list is displayed

2. Verify the hardware list to assure that the hardware is not already installed.



## 4.3 TMP6400

The Tmedia TMP6400 series is a flexible telecom platform for developers building VoIP and TDM solutions, such as prepaid/postpaid switching, ringback tones, conferencing, IVR, voice mail, and unified communications.

When you receive a new system, at least one TMP6400 configuration will have been set in the Toolpack application server, by default. To add other TMP6400s, you must use the Tmedia Web Portal. A conceptual illustration is shown in figure 4.1.

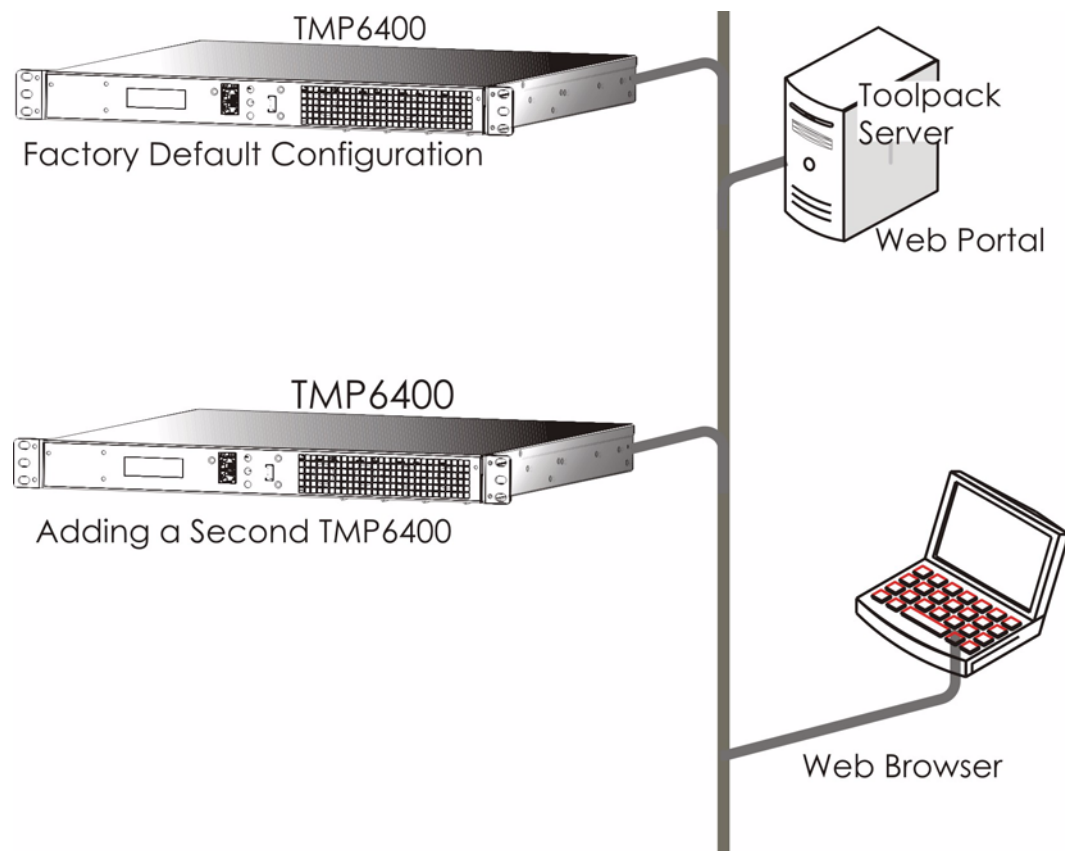


Figure 4.1 Adding a Second TMP6400

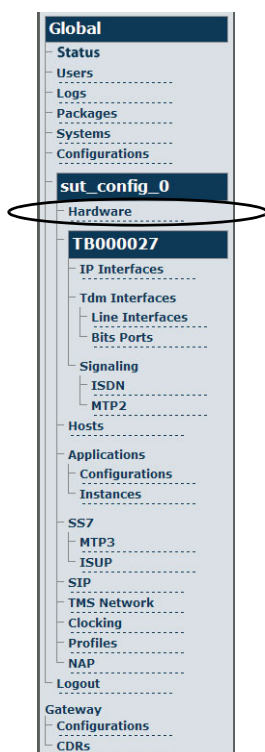
### 4.3.1 Adding a TMP6400

**Note** Tmedia units are automatically detected by the Toolpack OAM&P application from the application panel. If auto completion does not cause Tmedia unit names to appear, then this may signal a communication or configuration error.

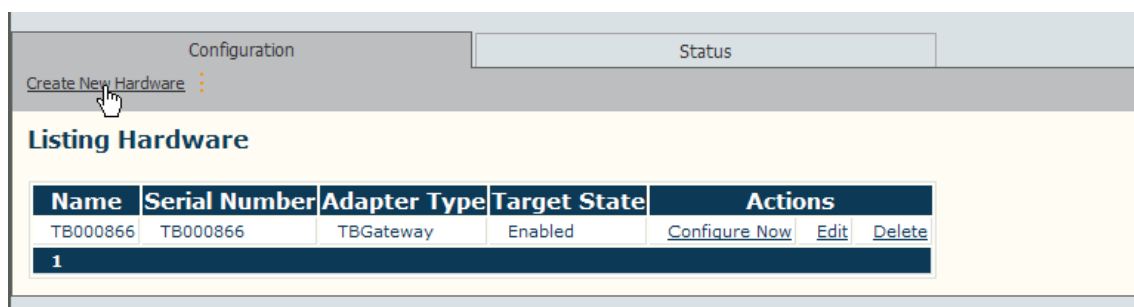
To add additional TMP6400s to the Tmedia system configuration, their serial numbers must be registered with the Toolpack application server.

**To add a TMP6400:**

1. Select **Hardware** from the navigation panel.



2. Click **Create New Hardware** from the information panel, to add a new TMP6400.



The **Create New Hardware** window is displayed.



3. Enter the serial number of the TMP6400. Typing in the Serial Number field will cause auto-completion of the field to occur.

Configuration | Status

List

**Creating New Hardware:**

Name: TB000534

Serial: TB

Adapter Type: TBGateway

Target State: Enabled

Create

4. Enter a name for the hardware device.
  - Select **TBGateway** from the Adapter Type field.
  - Select **Enabled** from the Target State field.
  - Click **Create** to store your settings.

Configuration | Status

List

**Creating New Hardware:**

Name: TB000534

Serial: TB000534

Adapter Type: TBGateway

Target State: Enabled

Create

The **List Hardware** window is displayed

- Verify that the newly added TMP6400 device appears in the **List Hardware** window.

Adapter was successfully created.

Configuration Status

[Create New Hardware](#)

### Listing Hardware

| Name     | Serial Number | Adapter Type | Target State | Actions   |
|----------|---------------|--------------|--------------|---|
| TB000866 | TB000866      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |
| TB000534 | TB000534      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |

1

Should you omit necessary information, the Web Portal will display an error message as shown in figure 4.2.

Adapter creation failed: Validation failed: Name can't be blank, Serial can't be blank

Configuration Status

[List](#)

### Creating New Hardware:

**Name**

can't be blank

**Serial**

can't be blank

**Adapter Type**

**Target State**

Figure 4.2 Adding Hardware Error Message

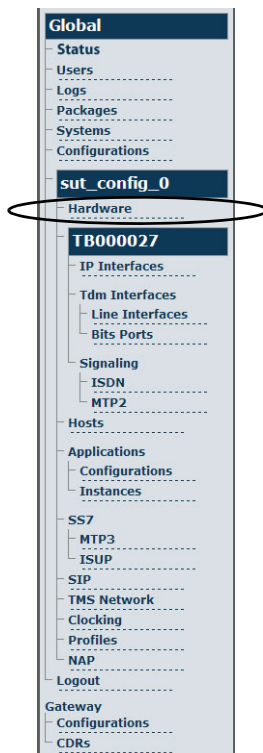
## 4.3.2 Switching between Tmedia Unit Hardware Configurations

Access to the Web Portal requires that at least one Tmedia unit is configured by default. This enables you to access the List Hardware window. As you add Tmedia units, they appear in the List Hardware window. In order to access the configuration of any Tmedia unit, you must switch to its configuration by clicking **Configure Now**. An indicator of the Tmedia unit that is currently being configured is its name is displayed beneath the hardware link on the Navigation panel.

In this example, the switch to view another Tmedia hardware configuration is made between TB000866 and TB000534.

**To switch to the configuration of another Tmedia unit:**

1. Select **Hardware** from the navigation panel.



2. Find the row for the Tmedia unit that you wish to configure.

Configuration

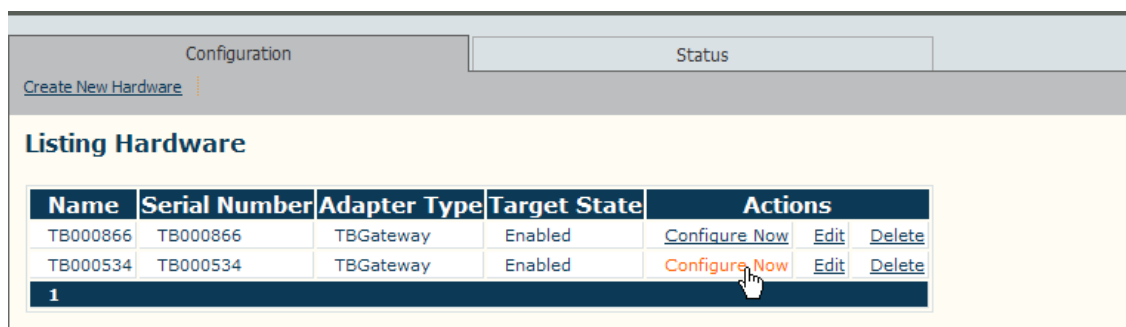
Status

[Create New Hardware](#)

## Listing Hardware

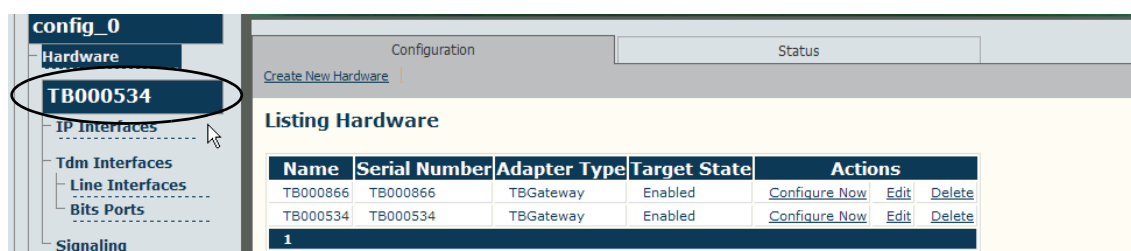
| Name     | Serial Number | Adapter Type | Target State | Actions                       |                      |                        |
|----------|---------------|--------------|--------------|-------------------------------|----------------------|------------------------|
| TB000866 | TB000866      | TBGateway    | Enabled      | <a href="#">Configure Now</a> | <a href="#">Edit</a> | <a href="#">Delete</a> |
| TB000534 | TB000534      | TBGateway    | Enabled      | <a href="#">Configure Now</a> | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 1        |               |              |              |                               |                      |                        |

3. Click **Configure Now** to switch the view to the configuration of the other Tmedia unit.



| Name     | Serial Number | Adapter Type | Target State | Actions   |
|----------|---------------|--------------|--------------|---|
| TB000866 | TB000866      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |
| TB000534 | TB000534      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |

The Tmedia unit configuration that you selected to switch to is displayed beneath the hardware link in the navigation panel.



| Name     | Serial Number | Adapter Type | Target State | Actions   |
|----------|---------------|--------------|--------------|---|
| TB000866 | TB000866      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |
| TB000534 | TB000534      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |

## 4.4 Verifying Status

To verify the status of the hardware adapter, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 4.5 Summary

This chapter covered the following topics:

- Listing Hardware
- Adding a Tmedia Unit
- Switching between Tmedia unit configurations

# Chapter 5      TMS Network

This chapter provides procedures describing the configuration of a TMS Network using the TMS1600 Switch

Topics contained in this chapter:

- TMS1600
- Adding a TMS1600 Switch to your Tmedia System
- Configuring a TMS Network

## 5.1 TMS1600

The Tmedia TMS1600 is a key scalability component that enables developers to build large-scale carrier grade VoIP and TDM solutions. The TMS1600 Switch provides the means by which a combination of TMP6400 units can be interconnected to create a 32,768 perfectly non-blocking system.

To add one or two TMS1600 Switches, your system must be comprised of three or more TMP6400s. In addition, the serial number of each TMS1600 must have been registered with the Toolpack application server. A conceptual illustration is shown in figure 5.1.

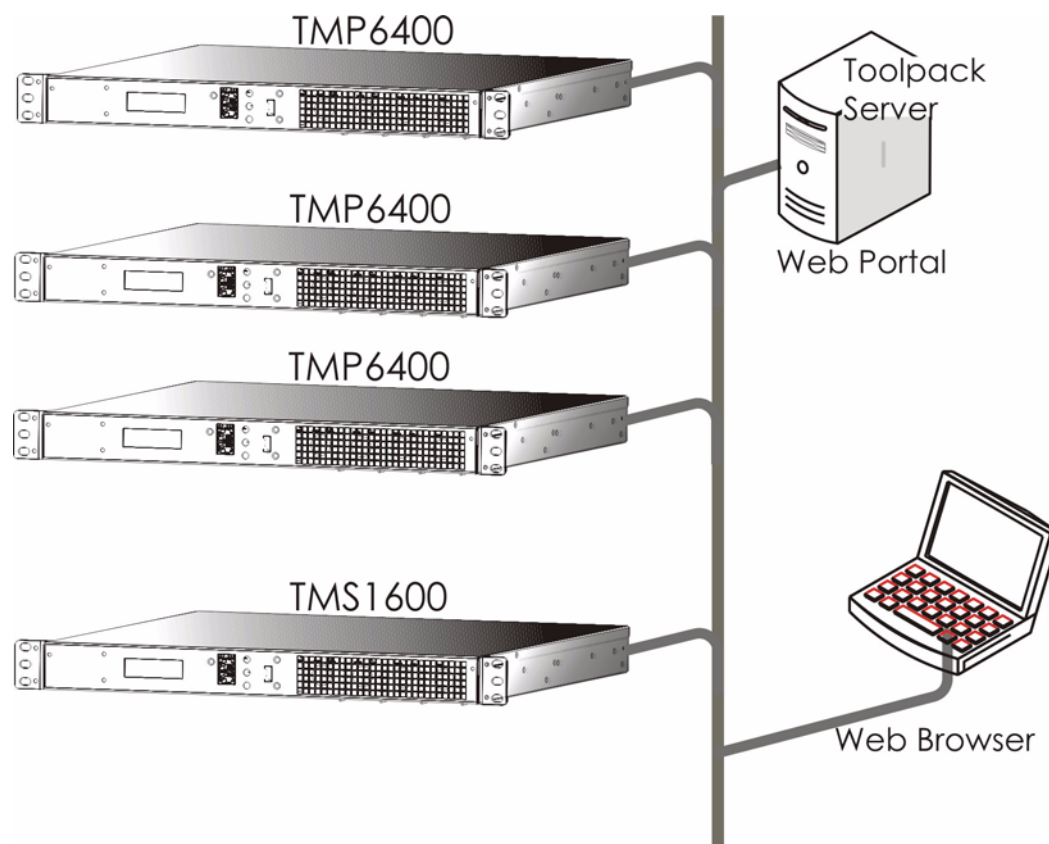


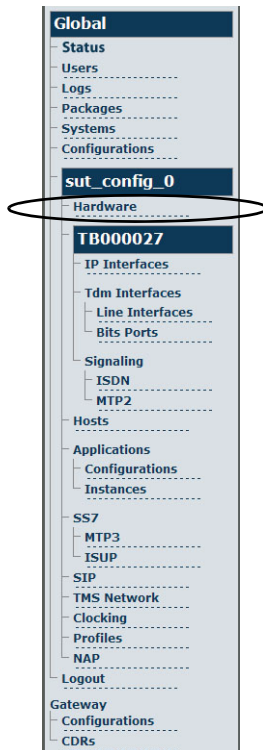
Figure 5.1 Adding a TMS1600 Switch

### 5.1.1 Adding a TMS1600

To add one or two TMS1600 Switches to the Tmedia system configuration their serial numbers will have been automatically registered with the Toolpack application server.

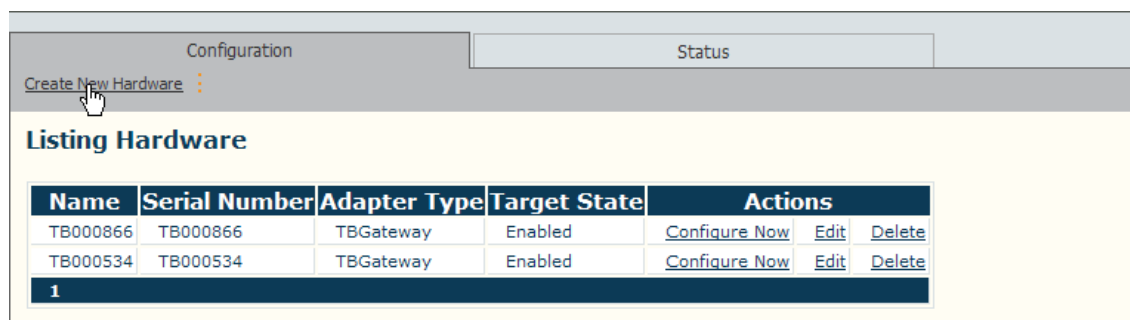
#### To add a TMS1600 Switch:

1. Select **Hardware** from the navigation panel.



The hardware list is displayed

2. Click **Create New Hardware** from the information panel, to add a new TMP6400.



The **Create New Hardware** window is displayed.

3. Enter the serial number of the TMS1600. Typing in the Serial Number field will auto complete the field as you enter.

**Creating New Hardware:**

Name: SWITCH\_00

Serial: TB000029

Adapter Type: TMS

Target State: TMS

Create

4. Enter a name for the hardware device.
  - Select **TMS** from the Adapter Type field.
  - Select **Enabled** from the Target State field.
  - Click **Create** to store your settings.
5. Verify that the newly added TMS1600 appears in the **List Hardware** window.

Adapter was successfully created.

**Listing Hardware**

| Name     | Serial Number | Adapter Type | Target State | Actions   |
|----------|---------------|--------------|--------------|---|
| TB000866 | TB000866      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |
| TB000534 | TB000534      | TBGateway    | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |
| TB000519 | TB000519      | TBSwitch     | Enabled      | <a href="#">Configure Now</a> <a href="#">Edit</a> <a href="#">Delete</a> |

1

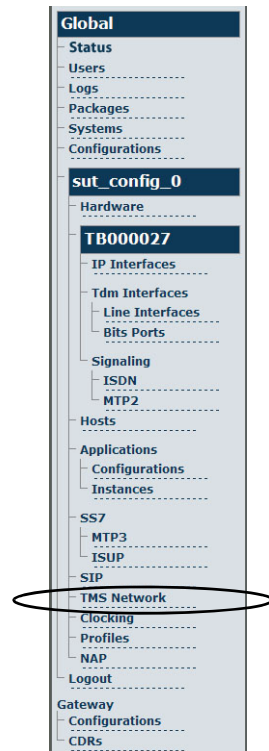


## 5.1.2 Configuring a TMS Network System

Two TMS1600 Switches can be configured to operate a TMS Network, thereby providing redundancy backup. One TMS1600 Switch is configured as the primary switch while the other is configured as the secondary or backup switch.

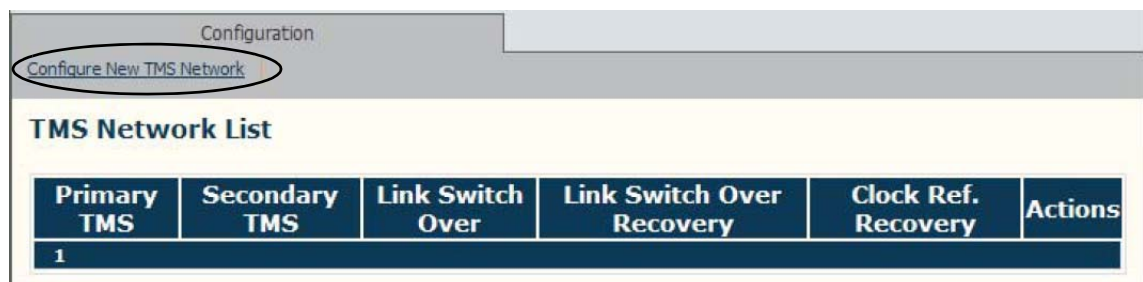
**To configure a TMS Network:**

1. Select **TMS Network** from the navigation panel.



The TMS network list is displayed

2. Click **Configure New TMS Network** to access the TMS Network configuration window.



3. Select the name of the primary switch from the **Primary Adapter** field. This switch will operate as the active or main switch.
  - Select the name of the secondary switch from the **Secondary Adapter** field. This switch will function as the backup switch.
  - Click **Create** to save the configuration.

The screenshot shows a web interface for creating a TMS Network. At the top, there is a 'Configuration' tab and a 'List' link. The main form is titled 'Creating TMS Network:'. It contains five fields: 'Primary adapter' with a dropdown menu showing 'TMS\_0', 'Secondary adapter' with a dropdown menu showing 'TMS\_1', 'Use Link Switch Over' with an unchecked checkbox, 'Use Link Switch Over Recovery' with an unchecked checkbox, and 'Use Clock Ref. Recovery' with an unchecked checkbox. A 'Create' button is located at the bottom left of the form.

- The **TMS Network was successfully created** message is displayed.

The screenshot shows a confirmation message 'TMS Network was successfully created.' at the top. Below it is the 'Configuration' tab. The main section is titled 'TMS Network List' and contains a table with the following data:

| Primary TMS | Secondary TMS | Link Switch Over | Link Switch Over Recovery | Clock Ref. Recovery | Actions                                     |
|-------------|---------------|------------------|---------------------------|---------------------|---|
| TMS_0       | TMS_1         | false            | false                     | false               | <a href="#">Edit</a> <a href="#">Delete</a> |
| 1           |               |                  |                           |                     |   |

## 5.2 Verifying Status

To verify the status of the TMS Network configuration, select **Status** from the Navigation panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 5.3 Summary

This chapter covered the following topics:

- Adding a Tmedia TMS1600
- Configuring a TMS Network

# Chapter 6      Line Interfaces

This chapter describes the process for adding line interfaces and configuring them with line services. Topics covered in this chapter:

- Adding a T1, E1, or J1 Line Interface
- Configuring a line service for the T1, E1, J1 line interface
- Adding a DS3 line interface
- Configuring a DS3 line service
- Creating an OC3 line interface
- Configuring an OC3 line service

## 6.1      Prerequisites

The procedures of the previous chapters must be completed. Furthermore, the Tmedia unit for which you will create a line interface must be installed with one of the various TDM module options.

## 6.2 The TDM Module Options

The Tmedia units are furnished with a variety of TDM modules configured with the following capacities:

- 16 RJ45F ports providing connection for 16 (T1/E1/J1) lines
- 4 SCSI ports providing connection for 64 (T1/E1/J1) lines
- 3 sets of dual BNC ports for connection to 3 DS3 lines
- 2 sets of electrical or optical ports for connection to two OC3/STM-1 lines (one line is for automatic protection switching).

Refer to figure 6.1 for a rear view layout of the four TDM options. Regardless of the option, each TDM module requires that it be added as a line interface to the configuration of the Tmedia unit; furthermore, line services are required in order to transport the payload and signaling for each port.

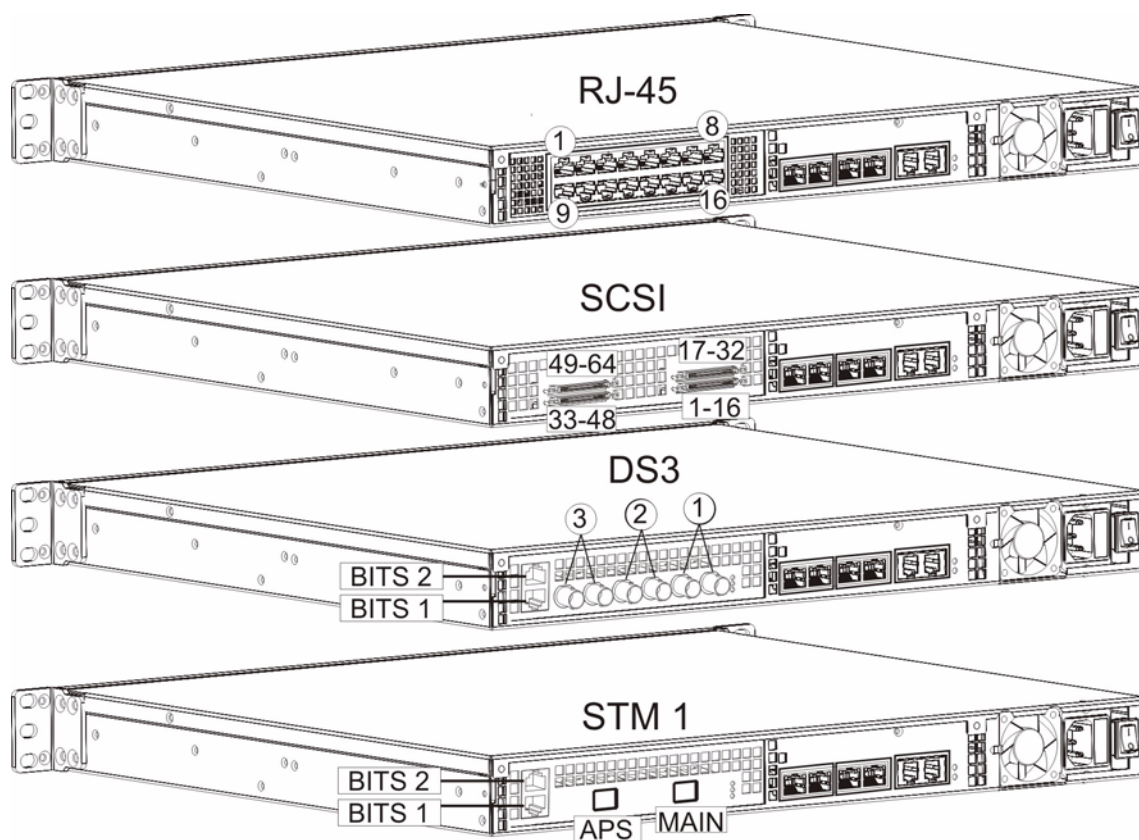


Figure 6.1 TDM Modules: Four Options

## 6.3 T1, E1, and J1

The Tmedia TDM hardware adapters for T1, E1, and J1 lines provide for up to as many as 64 lines. It is important that you verify the TDM module installed in your Tmedia unit. For each T1/E1/J1 line that the Tmedia unit will use, a line interface with a related line service is configured in a one-to-one relationship. The configuring of the line interface activates the hardware and the line service is configured to transport traffic and signaling payload. A conceptual image is shown in figure 6.2 on page 45

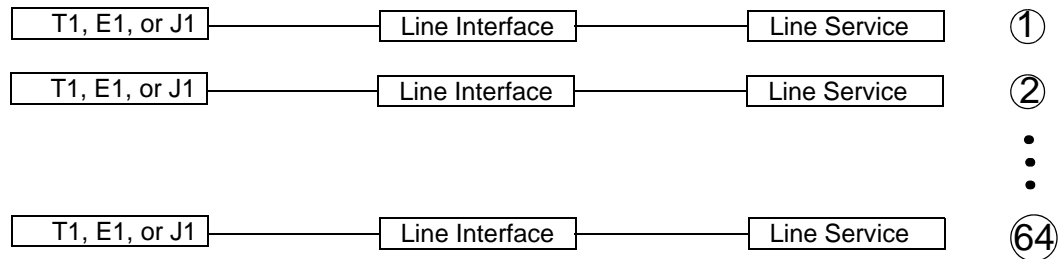


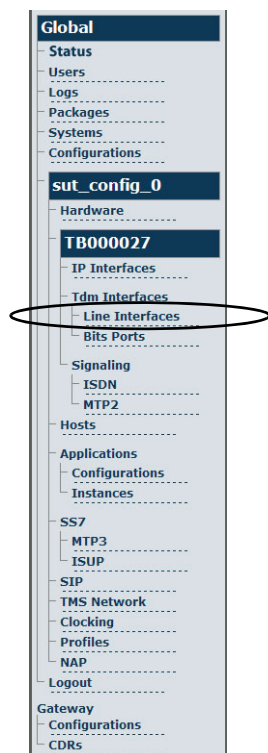
Figure 6.2 T1/E1/J1: Line Interface to Line Service Relationship

### 6.3.1 Adding a Line Interface

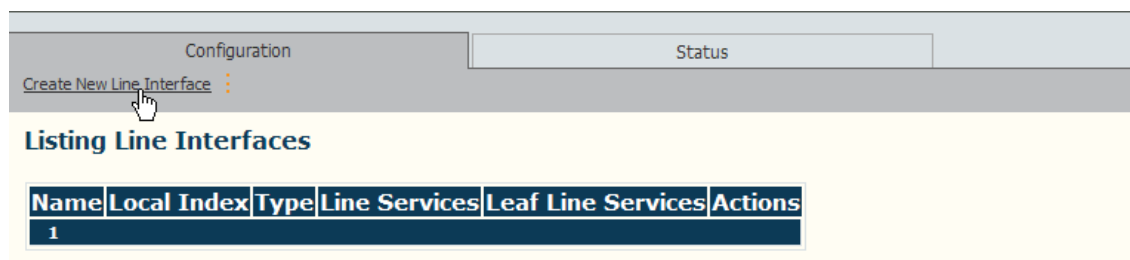
**Note** To add a line interface, the Tmedia unit must have a TDM module installed.

To add a line interface:

1. Select **Line Interfaces** from the navigation panel.



2. Click **Create New Line Interface** from the Information panel



## 3. To create a T1/E1/J1 line interface:

- Enter a name for the line interface, and set the Line Type
- The local indexes for trunks are zero-based values. This means that local index 0 is trunk 1 and local index 1 is trunk 2. Enter a local index number, assigning a different value to each T1/E1/J1 line interface.
- Enter a local index number, assigning a different index to each T1/E1/J1 line interface.
- Set the Line Length, Encoding and Signal Level
- Click **Create**

Configuration

List

**Creating New Line Interface:**

Name: 534\_LS\_32

Type: E1

Local index: 0

Length: Short

Encoding: HDB3

Signal level: 2

Create

The **Line Interface was successfully created message** is displayed.

Line interface was successfully created.

Configuration

List New child line service

**Editing E1 Line Interface:**

Name: 534\_LS\_32

Type: E1

Local index: 0

Length: Short

Encoding: HDB3

Signal level: 2

Save

4. To view a listing of the line interfaces click **List**.

Configuration States

List : New child line service

**Editing E1 Line Interface:**

**Name** 534\_LS\_32

**Type** E1

**Local index** 0

**Length** Short

**Encoding** HDB3

**Signal level** 2

Save

The Line Interface List is displayed.

Configuration Status

Create New Line Interface

**Listing Line Interfaces**

| Name      | Local Index | Type | Line Services | Leaf Line Services | Actions     |
|-----------|-------------|------|---------------|--------------------|-------------|
| 534_LS_32 | 0           | E1   |               |                    | Edit Delete |

1

#### 6.3.1.1 Verifying Status

To verify the status of the line interface, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

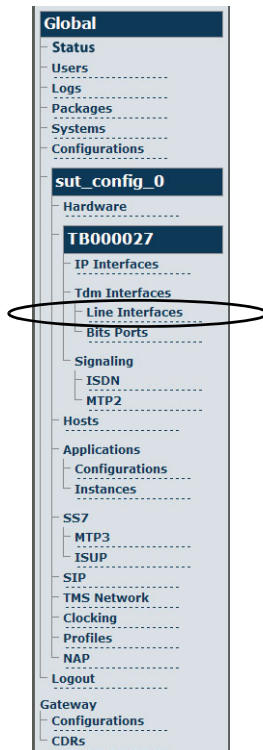


## 6.3.2 Configuring Line Services

Line services correspond to the payload content of physical lines, therefore in order to configure a Line Service for a line interface, the line interfaces should already have been configured.

**To create a line service:**

1. Select **Line Interfaces** from the navigation panel.



2. Click **New Child Line Service** from the Line Interface Information panel.

Configuration

States

[List](#) | [New child line service](#)

### Editing E1 Line Interface:

Name

534\_LS\_32

Type

E1

Local index

0

Length

Short

Encoding

HDB3

Signal level

2

Save

### Line Services:

| Name | Local Index | Line Services | Actions |
|------|-------------|---------------|---------|
|------|-------------|---------------|---------|

3. Enter a name for the line service and click **Create**

Configuration

534 LS\_32 >

**Creating New E1 Line Service:**

**Name** 534\_LS\_32

**Local index** 0

**Framing** AUTO

**Loop time** ☐

**Idle code** 0x55

Create

4. The resulting line service is displayed in the information panel.

Line service was successfully created.

Configuration States

List

**Editing E1 Line Interface:**

**Name** 534\_LS\_32

**Type** E1

**Local index** 0

**Length** Short

**Encoding** HDB3

**Signal level** 2

Save

**Line Services:**

| Name      | Local Index | Line Services | Actions     |
|-----------|-------------|---------------|-------------|
| 534_LS_32 | 0           |               | Edit Delete |

5. Repeat this procedure for each T1/E1/J1 line that you will use.

### 6.3.3 Activating the Configuration

Changes made to the configuration of the Tmedia units are stored in the OAM&P Configuration and Logging database. In order for changes to be used by the system, they must first be activated. This is done at the system level and accessed from the Navigation panel.

To activate the configuration changes, refer to Section 3.5 “Activating the Configuration” on page 26.

### 6.3.4 Verifying Status

To verify the status of a line service, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 6.4 DS3

The Tmedia TDM hardware adapter provides an interface of up to 3 DS3 lines. It is important that you verify the TDM module installed in your Tmedia unit. For each DS3 line that the Tmedia will use, a line interface with related line services are configured. The DS3 interface can be configured in a one-to-one relationship with DS3 line services; however, unlike a T1/E1/J1 interface, the DS3 line service can be configured to contain subordinate child line services carrying lower bandwidth payload. A conceptual image is shown in figure 6.3 on page 53

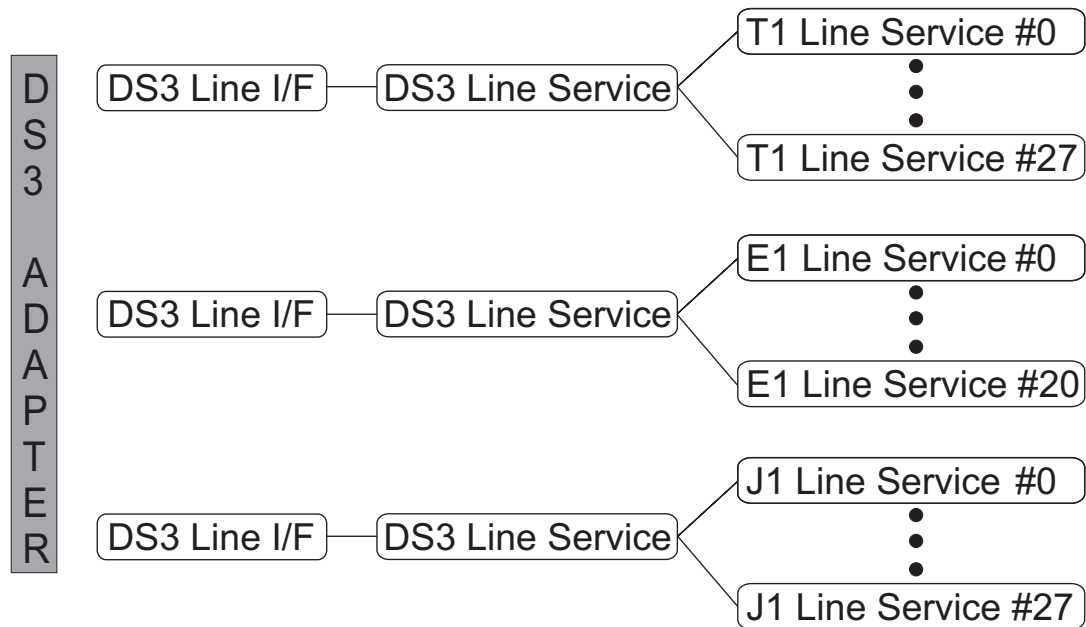


Figure 6.3 DS3: Line Interface to Line Service Relationship

## 6.4.1 Adding a Line Interface

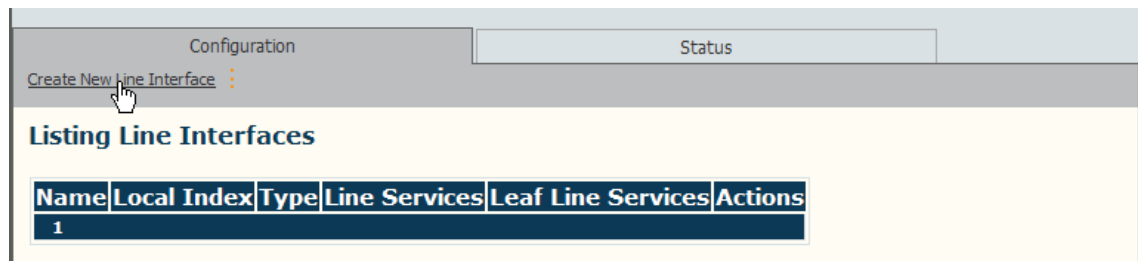
**Note** In order to add a line interface, the Tmedia unit must have a TDM module installed.

To add a line interface:

1. Select **Line Interfaces** from the navigation panel.



2. Click **Create New Line Interface** from the Information panel



3. To create a DS3 line interface:

- Enter a name for the line interface, and set the Line Type to DS3
- Local indexes are zero-based values. Local index 0 corresponds to DS3 trunk 1 and local index 2 corresponds to DS3 trunk 3. Enter a unique local index number for each DS3 line interface (0-2).
- Set the Line Length, Encoding, and Signal Level.
- Click **Create**.

The screenshot shows the 'Configuration' tab with a 'List' link. The main heading is 'Creating New Line Interface:'. Below this, there are six fields with labels on the left and input areas on the right: 'Name' with the value '1626\_LI\_0', 'Type' with a dropdown set to 'DS3', 'Local index' with a dropdown set to '0', 'Length' with a dropdown set to 'Short', 'Encoding' with a dropdown set to 'B3ZS', and 'Payload type' with a dropdown set to 'DS3'. At the bottom left of the form is a 'Create' button with a mouse cursor hovering over it.

The **Line interface was successfully created** message is displayed.

The screenshot shows the same configuration page, but now with a success message at the top: 'Line interface was successfully created.' in a yellow box. Below the message, the 'Configuration' tab is still active, but the 'List' link is now 'New child line service'. The main heading is 'Editing DS3 Line Interface:'. The form fields are identical to the previous screenshot: 'Name' (1626\_LI\_0), 'Type' (DS3), 'Local index' (0), 'Length' (Short), 'Encoding' (B3ZS), and 'Payload type' (DS3). At the bottom left is a 'Save' button with a mouse cursor hovering over it.

## 6.4.2 Configuring Line Services

**Note** To configure a line service, the line interfaces should already have been configured.

To create a DS3 line service:

1. Click Create **New Child Line Service** from the Line Interface Information panel.

Configuration States

List New child line service

**Editing DS3 Line Interface:**

Name 1626\_LI\_0

Type DS3

Local index 0

Length Short

Encoding B3ZS

Payload type DS3

Save

**Line Services:**

| Name | Local Index | Line Services | Actions |
|------|-------------|---------------|---------|
|------|-------------|---------------|---------|

2. Enter a name for the line service, select a local index of 0, select payload type and click **Create**.

Configuration

1626 LI 0 >

**Creating New DS3 Line Service:**

Name 1626\_LI\_0\_LS\_0

Local index 0

Framing M23

Loop time ☐

Payload type E1

AIS detection algorithm 1010

OOF detection algorithm 3 out of 8 Fbits or 3 of 4

Create

In this example a payload type of E1 is selected. This means that this line service will carry an E1 payload over the DS3 line interface.



**Note** Line services employing M23 framing will always have a local index of 0

3. The resulting line service is displayed in the information panel.

- Repeat this procedure for each line service that will be used to carry payload on the first DS3 line interface.

Line service was successfully created.

Configuration

States

List

**Editing DS3 Line Interface:**

**Name** 1626\_LI\_0

**Type** DS3

**Local index** 0

**Length** Short

**Encoding** B3ZS

**Payload type** DS3

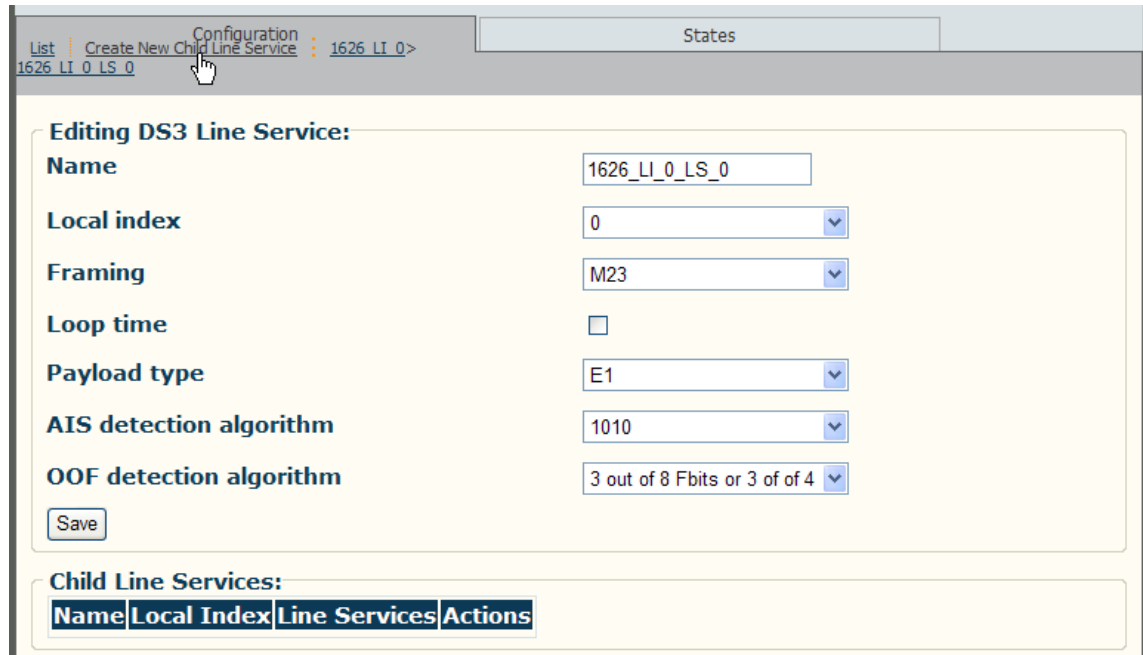
Save

**Line Services:**

| Name           | Local Index | Line Services | Actions                                     |
|----------------|-------------|---------------|---|
| 1626_LI_0_LS_0 | 0           |               | <a href="#">Edit</a> <a href="#">Delete</a> |

**Note** The previous procedure for the DS3 TDM module must be carried out for each DS3 line interface, referred to as local indexes 0-2, and for each required line service carrying payload inside these DS3 line interfaces.

4. Click **Create New Child Line Service** to create a child line service for the DS3 line service.
  - Enter a local index from 0-27 for T1/J1 lines and 0-20 for E1 lines.

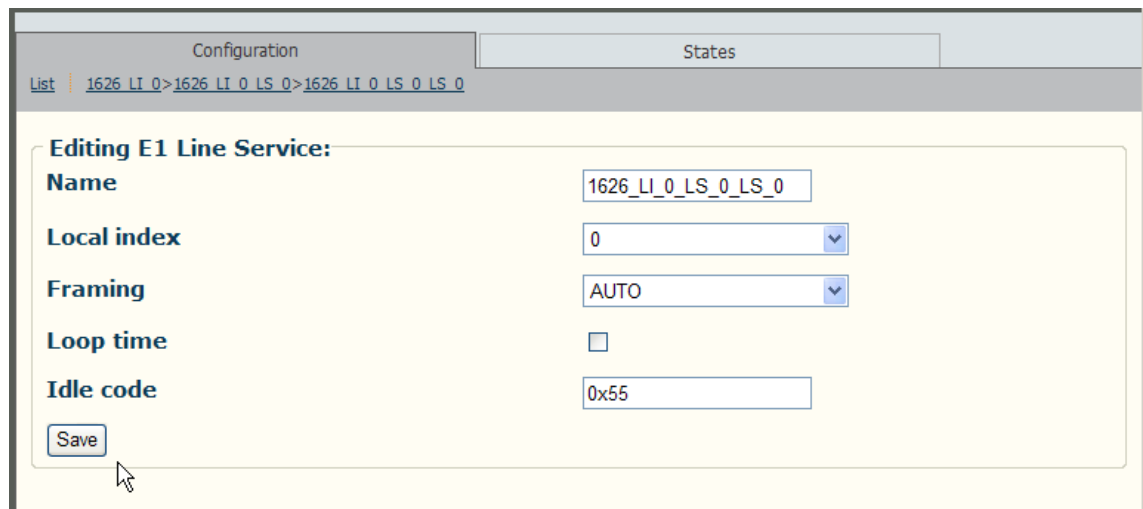


The screenshot shows the 'Configuration' tab with a breadcrumb trail: [List](#) > [Create New Child Line Service](#) > [1626 LI 0](#) >. The main form is titled 'Editing DS3 Line Service:' and contains the following fields:

- Name:** 1626\_LI\_0\_LS\_0
- Local index:** 0 (dropdown menu)
- Framing:** M23 (dropdown menu)
- Loop time:** ☐
- Payload type:** E1 (dropdown menu)
- AIS detection algorithm:** 1010 (dropdown menu)
- OOF detection algorithm:** 3 out of 8 Fbits or 3 of 4 (dropdown menu)

A 'Save' button is located at the bottom left of the form. Below the form is a section titled 'Child Line Services:' containing a table with the following headers: Name, Local Index, Line Services, and Actions.

5. Click **Save** to save the changes



The screenshot shows the 'Configuration' tab with a breadcrumb trail: [List](#) > [1626 LI 0](#) > [1626 LI 0 LS 0](#) > [1626 LI 0 LS 0 LS 0](#) >. The main form is titled 'Editing E1 Line Service:' and contains the following fields:

- Name:** 1626\_LI\_0\_LS\_0\_LS\_0
- Local index:** 0 (dropdown menu)
- Framing:** AUTO (dropdown menu)
- Loop time:** ☐
- Idle code:** 0x55

A 'Save' button is located at the bottom left of the form, with a mouse cursor hovering over it.

6. Click the **Status** tab, to view the line statuses.

**Listing Line Interface Status**

Refresh every:  ▼

- [1626 LI 0](#) Not available
  - [1626 LI 0 LS 0](#) Not available
    - [1626 LI 0 LS 0 LS 0](#)
- [1626 LI 2](#) Not available
  - [1626 LI 2 LS 0](#) Not available
    - [1626 LI 2 LS 0 LS 0](#)

| Failure | # |
|---------|---|
| AIS     | 0 |
| LOS     | 0 |
| OOF     | 0 |
| RAI     | 0 |
| TS16AIS | 0 |
| TS16LOS | 0 |
| TS16OOF | 0 |
| TS16RAI | 0 |

| Defect  | # |
|---------|---|
| AIS     | 0 |
| EXZD    | 0 |
| LOS     | 0 |
| OOF     | 0 |
| RRA     | 0 |
| TS16AIS | 0 |
| TS16LOS | 0 |
| TS16OOF | 0 |
| TS16RA  | 0 |
| XLO     | 0 |
| XLS     | 0 |

| Anomaly | # |
|---------|---|
| CEC     | 0 |
| CEC2    | 0 |
| CEC3    | 0 |
| CVC     | 0 |
| EBC     | 0 |

**Note** Selection of a child line service in the Line Interface Status window causes the status values to change reflecting the line service's current state.

### 6.4.3 Activating the Configuration

Each time that a configuration change is made it must be activated as described in Section 3.5 "Activating the Configuration" on page 26.

### 6.4.4 Verifying Status

To verify the status of a line interface, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 6.5 SONET/SDH

The Tmedia TDM hardware adapter provides an interface for up to two SONET or SDH lines; One for operating as the active link with the other operating in standby for switchover. It is important that you verify the TDM module installed in your Tmedia unit. In the case of a SONET interface, an OC3 line interface is configured to serve a selection of line services. In the case of an SDH interface, an STM1 Optical line interface with related line services are configured. A conceptual image is shown in figure 6.4 on page 60

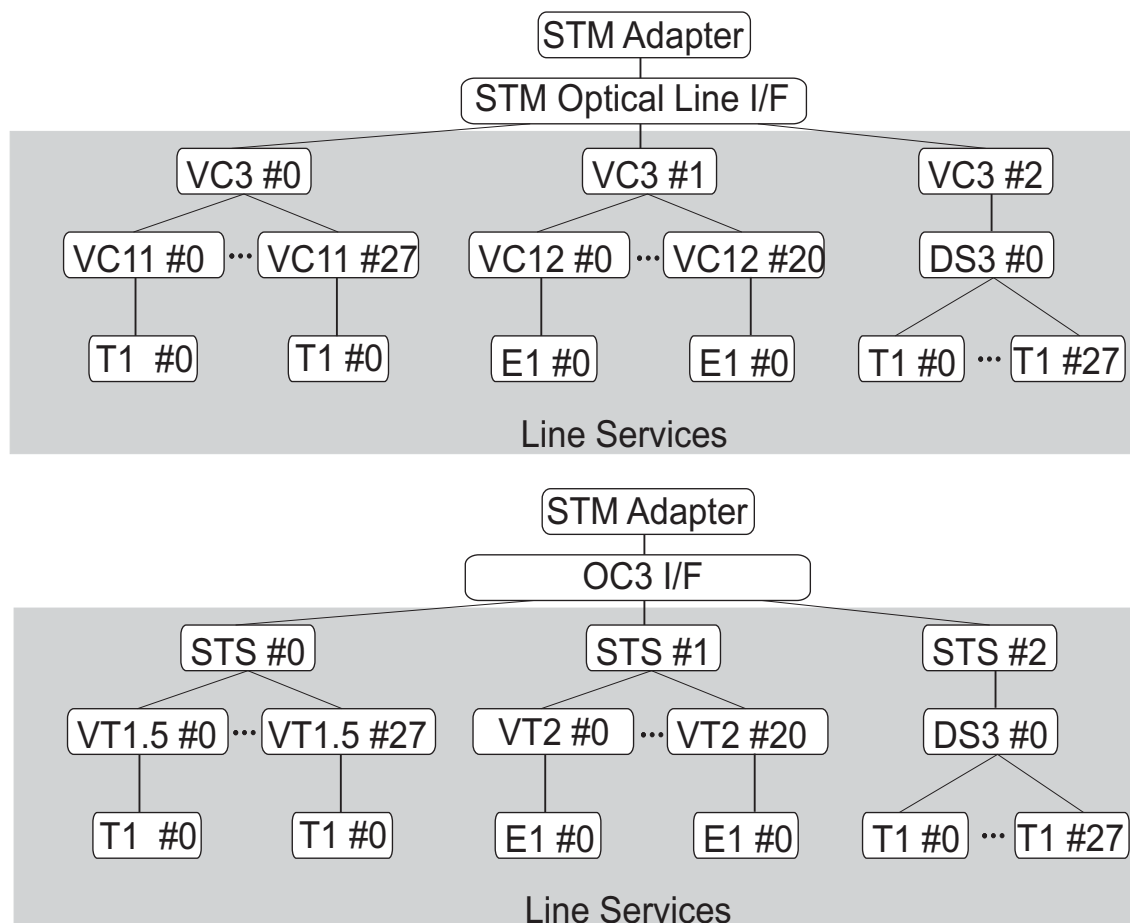


Figure 6.4 SONET and SDH: Line Interface to Line Service Relationship

**Note** The line interface to line service relationship shown in figure 6.4 on page 60 is not meant to be an exhaustive list of all the combinations of line service payloads and their child line services. For further information refer to *section 5.3 Sonet and SDH* in the *TB640 User Guide, 9000-00002-2H*.

## 6.5.1 Creating a Primary Line Interface

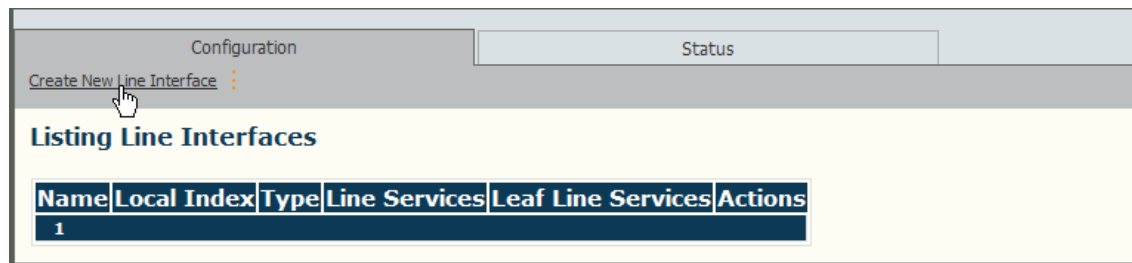
**Note** In order to create a line interface, the Tmedia unit must have a TDM module installed.

To add a line interface:

1. Select **Line Interfaces** from the navigation panel.



2. Click **Create New Line Interface** from the Information panel.



## 3. To create a Primary OC3 line interface:

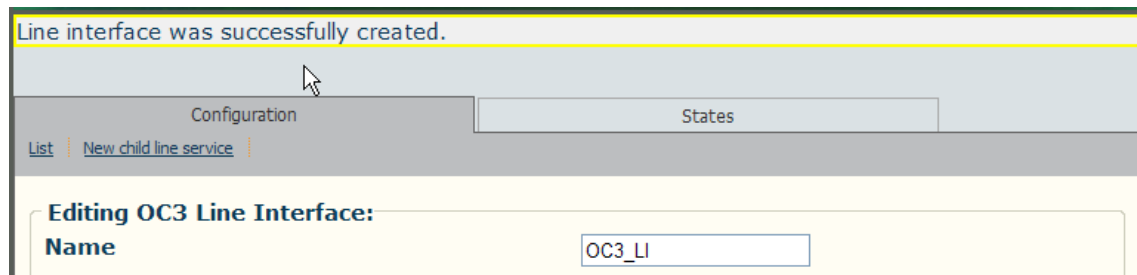
- Enter a name for the line interface, and set the Line Type to OC3
- Set the local index to 0 which corresponds with fibre number 1, and set TX State to Laser On
- Set the Channel to 1 for the primary interface
- Click **Create**

The screenshot shows the 'Configuration' tab in the TelcoBridges web portal. The 'List' link is visible on the left. The main content area is titled 'Creating New Line Interface:'. It contains several sections with configuration fields:

- Name:** OC3\_L2
- Type:** OC3
- Local index:** 1
- Payload type:** STS3
- Tx state:** Laser on
- Transmit Section Trace:**
  - Trace Length:** 0
  - Trace:** (empty text box)
- Expected Section Trace:**
  - Trace Length:** 0
  - Trace:** (empty text box)
- Sonet Sdh Aps:**
  - Channel:** Protection
  - Operation mode:** Unidirectional
  - Switching type:** Non revertive
  - WTR timeout(ms):** 5000
  - SF BER threshold level:** 1x10^-3
  - SD BER threshold level:** 1x10^-5

A 'Create' button is located at the bottom left of the form, with a mouse cursor pointing at it.

The **Line Interface was successfully created** message is displayed.



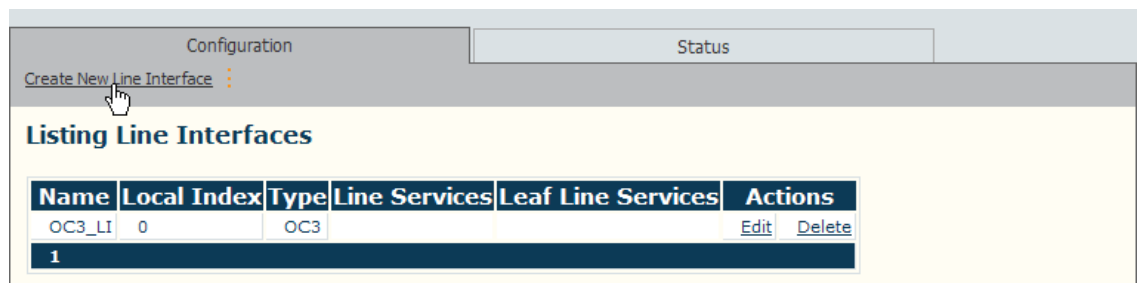
## 6.5.2 Create a Protection Line Interface

To create a protection line interface:

1. Select **Line Interfaces** from the navigation panel.



2. Click **Create New Line Interface**



## 3. To create a secondary or switchover OC3 line interface:

- Enter a name for the line interface, and set the Line Type to **OC3**
- Select the remaining local index, which corresponds to fibre number two and set TX State to **Laser On**
- Set the Channel to protection
- Click **Create**

Configuration

List

**Creating New Line Interface:**

**Name** OC3\_L2

**Type** OC3

**Local index** 1

**Payload type** STS3

**Tx state** Laser on

**Transmit Section Trace**

**Trace Length** 0

**Trace**

**Expected Section Trace**

**Trace Length** 0

**Trace**

**Sonet Sdh Aps**

**Channel** Protection

**Operation mode** Unidirectional

**Switching type** Non revertive

**WTR timeout(ms)** 5000

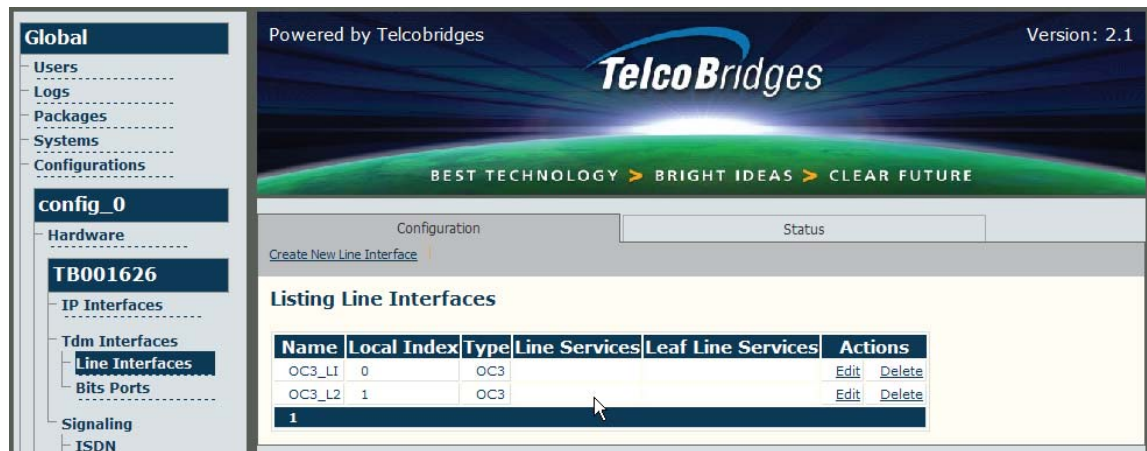
**SF BER threshold level**  $1 \times 10^{-3}$

**SD BER threshold level**  $1 \times 10^{-5}$

Create



4. Verify that the two newly added interfaces are listed.



The screenshot displays the TelcoBridges web interface. The left sidebar contains a navigation menu with the following items: Global, Users, Logs, Packages, Systems, Configurations, config\_0, Hardware, TB001626, IP Interfaces, Tdm Interfaces, Line Interfaces (highlighted), Bits Ports, Signaling, and ISDN. The main content area features a header with the TelcoBridges logo and the tagline 'BEST TECHNOLOGY > BRIGHT IDEAS > CLEAR FUTURE'. Below the header, there are tabs for 'Configuration' and 'Status'. A link 'Create New Line Interface' is visible. The 'Listing Line Interfaces' section contains a table with the following data:

| Name   | Local Index | Type | Line Services | Leaf Line Services | Actions                                     |
|--------|-------------|------|---------------|--------------------|---|
| OC3_L1 | 0           | OC3  |               |                    | <a href="#">Edit</a> <a href="#">Delete</a> |
| OC3_L2 | 1           | OC3  |               |                    | <a href="#">Edit</a> <a href="#">Delete</a> |

A blue bar with the number '1' is located below the table. A mouse cursor is pointing at the 'OC3\_L2' row.

### 6.5.3 Verify the Status of the OC3 Line Interface

1. Select Line Interface from the Navigation panel.
  - Click the Status tab to view the line interface status

Configuration

Status

[Create New Line Interface](#)

## Listing Line Interfaces

| Name   | Local Index | Type | Line Services | Leaf Line Services | Actions                                     |
|--------|-------------|------|---------------|--------------------|---|
| OC3_LI | 0           | OC3  |               |                    | <a href="#">Edit</a> <a href="#">Delete</a> |
| OC3_L2 | 1           | OC3  |               |                    | <a href="#">Edit</a> <a href="#">Delete</a> |
| 1      |             |      |               |                    |   |

2. Verify that alarms do not appear.

Configuration

Status

Listing Line Interface Status

Refresh every: 5 seconds

- OC3 LI LS LF AS . . . . . AD AP OF . .
- OC3 L2 . . . . .

| Failure           | # |
|-------------------|---|
| AIS               | 0 |
| APS_BER_SD        | 0 |
| APS_BER_SF        | 0 |
| APS_BYTE          | 0 |
| APS_CH_MISMATCH   | 0 |
| APS_FAR_END       | 0 |
| APS_MODE_MISMATCH | 0 |
| LOF               | 0 |
| LOS               | 1 |
| RFI               | 0 |
| TIM               | 0 |

| Defect     | # |
|------------|---|
| AIS        | 0 |
| APS_BER_SD | 0 |

**Note** In this example a LF (Loss of frame), and LS (Loss of Signal) alarm appear on the switchover link because it is not connected.

### 6.5.4 Verifying Status

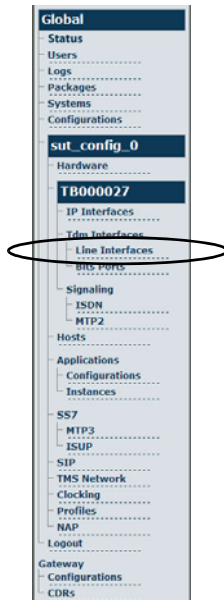
To verify the status of a line interface, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 6.5.5 Configuring Line Services

**Note** To configure line services, the line interfaces should already have been configured.

To create a line service for the OC3 Line interface:

1. Select **Line Interfaces** from the navigation panel.



2. Click Create **New Child Line Service** from the Line Interface Information panel.

A screenshot of a web application's configuration page. The page has a header with 'Configuration' and 'States' tabs. Below the header, there are two links: 'List' and 'New child line service'. The 'New child line service' link is highlighted with a red circle. The main content area is titled 'Editing OC3 Line Interface:' and contains five form fields: 'Name' (text input with value 'OC3\_LI'), 'Type' (dropdown menu with value 'OC3'), 'Local index' (text input with value '0'), 'Payload type' (dropdown menu with value 'STS3'), and 'Tx state' (dropdown menu with value 'Laser on').

3. Enter a name for the line service and as indicated in this example, select a local index of 0 followed by a payload type and click **Create**.

For an example of all available line services, refer to figure 6.4 on page 60

The screenshot shows a web interface for configuring a line service. At the top, there's a tab labeled 'Configuration' and a breadcrumb 'OC3 LI >'. Below this, a section titled 'Creating New STS1 Line Service:' contains several input fields: 'Name' with the value 'STS1\_', 'Local index' with a dropdown set to '0', and 'Payload type' with a dropdown set to 'VT15'. There are two expandable sections: 'Transmit Path Trace' and 'Expected Path Trace'. Each section has a 'Trace Length' dropdown set to '0' and a 'Trace' text input field. At the bottom left of the form is a 'Create' button, which is highlighted by a mouse cursor.

In this example a payload type of VT1.5 is selected. This means that this line service will carry a VT1.5 payload over the OC3 line interface. A subordinated child line service is still required.

4. The resulting line service is displayed at the bottom of the information panel.

The screenshot shows the configuration portal after a successful operation. A yellow banner at the top displays the message 'Line service was successfully created.' Below this, there are two tabs: 'Configuration' and 'States'. Under the 'Configuration' tab, there are links for 'List' and 'New child line service'. The main content area is titled 'Editing OC3 Line Interface:' and contains a 'Name' input field with the value 'OC3\_LI'.

- Click **Edit** to access the newly created line service in order to create a nested child line service.

Switching type: Non revertive

WTR timeout(ms): 5000

SF BER threshold level:  $1 \times 10^{-3}$

SD BER threshold level:  $1 \times 10^{-5}$

Save

Line Services:

| Name   | Local Index | Line Services | Actions                                     |
|--------|-------------|---------------|---|
| STS1_0 | 0           |               | <a href="#">Edit</a> <a href="#">Delete</a> |

- Click **Create New Child Line Service** to create a nested line service. In this example a nested child line service will carry T1 payload traffic for the parent line service carrying VT1.5 payload traffic, which in turn carries payload traffic for the OC3 line interface.

Configuration States

List | [Create New Child Line Service](#) | OC3 LI > STS1\_0

Editing STS1 Line Service:

Name: STS1\_0

Local index: 0

Payload type: VT15

## 6. Select a payload type.

- Click **Create**

Configuration

OC3 LI>STS1 0>

**Creating New VT15 Line Service:**

**Name**

**Local index**

**Payload type**

**Transmit Path Trace**

**Trace Length**

**Trace**

**Expected Path Trace**

**Trace Length**

**Trace**

**Create**

- Click **Create New Child Line Service**, to create a child line service for the VT1.5 line service.

List | Create New Child Line Service | Configuration | OC3 LI>STS1 0> | States

STS 1 0 VT1.5

**Editing VT15 Line Service:**

**Name**

**Local index**

**Payload type**

**Transmit Path Trace**

**Trace Length**

**Trace**

**Expected Path Trace**

**Trace Length**

**Trace**

**Save**

**Child Line Services:**

| Name | Local Index | Line Services | Actions |
|------|-------------|---------------|---------|
|------|-------------|---------------|---------|

- Press **Create** to save the changes

Configuration

OC3 LI>STS1\_0>STS\_1\_0\_VT1.5>

**Creating New T1 Line Service:**

**Name** STS\_1\_0\_VT1.5\_27\_T1

**Local index** 0

**Framing** ESF

**Loop time** ☐

**Idle code** 0x7f

**Create**

- The **Line Service was Successfully Created** message is displayed.

Line service was successfully created.

Configuration States

List | OC3 LI>STS1\_0>STS\_1\_0\_VT1.5

**Editing VT15 Line Service:**

**Name** STS\_1\_0\_VT1.5

**Local index** 27

**Payload type** T1

**Transmit Path Trace**

**Trace Length** 0

**Trace**

**Expected Path Trace**

**Trace Length** 0

**Trace**

**Save**

**Child Line Services:**

| Name                | Local Index | Line Services | Actions                                     |
|---------------------|-------------|---------------|---|
| STS_1_0_VT1.5_27_T1 | 0           |               | <a href="#">Edit</a> <a href="#">Delete</a> |

8. Click the **Status** tab to verify the status of the newly created line services.

Configuration

Status

Create New Line Interface

### Listing Line Interfaces

| Name   | Local Index | Type | Line Services | Leaf Line Services  | Actions                                     |
|--------|-------------|------|---------------|---------------------|---|
| OC3_LI | 0           | OC3  | STS1_0        | STS 1 0 VT1.5 27 T1 | <a href="#">Edit</a> <a href="#">Delete</a> |
| OC3_L2 | 1           | OC3  |               |                     | <a href="#">Edit</a> <a href="#">Delete</a> |

1

Configuration

Status

### Listing Line Interface Status

Refresh every: 5 seconds

- OC3 LI
  - STS1\_0
    - STS 1 0 VT1.5
      - STS 1 0 VT1.5 27 T1
- OC3 L2

| Failure           | # |
|-------------------|---|
| AIS               | 0 |
| APS_BER_SD        | 0 |
| APS_BER_SF        | 0 |
| APS_BYTE          | 0 |
| APS_CH_MISMATCH   | 0 |
| APS_FAR_END       | 0 |
| APS_MODE_MISMATCH | 0 |
| LOF               | 0 |
| LOS               | 1 |
| RFI               | 0 |
| TIM               | 0 |

**Note** The Line Interface Status listing is updated based upon the line service selected.



## 6.6 Activating the Configuration

Each time that a configuration change is made it must be activated as described in Section 3.5 “Activating the Configuration” on page 26.

## 6.7 Verifying Status

To verify the status of a line service, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 6.8 Summary

This chapter covered the following topics:

- Creating a variety line interfaces
- Configuring line services

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# Chapter 7

## BITS

This chapter provides procedures for creating one or more BITS (Building Integrated Timing Supply) ports as clocking sources for the synchronization of the Tmedia network.

Topics contained in this chapter:

- BITS ports
- Creating BITS ports as a clocking source

## 7.1 BITS Ports

BITS Ports are derived from DS3 and STM-1 TDM adapters of a TMP6400, as well as from a TMS1600. In order to use BITS as a clocking source, the BITS ports of a TDM module are assigned to a line service that will carry the BITS port signaling. BITS Ports are shown in, figure 7.1 on page 76.

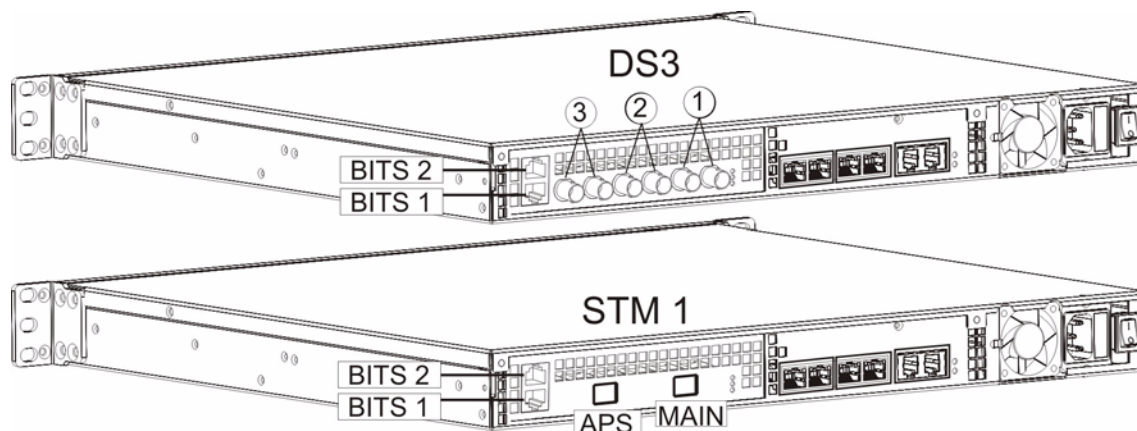
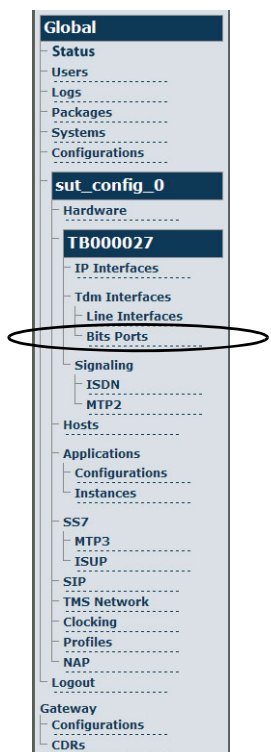


Figure 7.1 BITS Ports Location

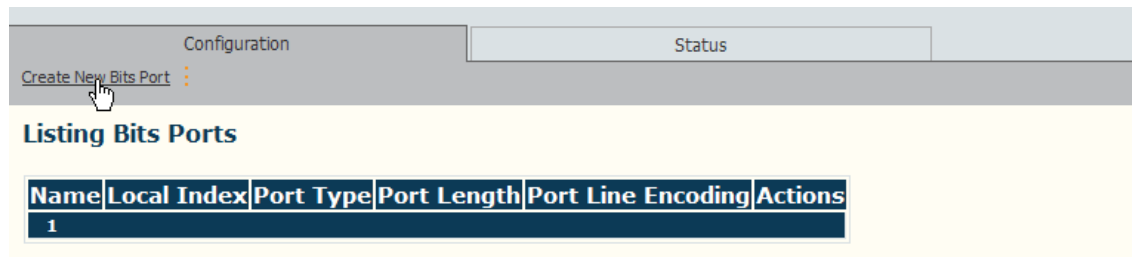
## 7.2 Creating BITS Ports as a Clocking Source

To Create a BITS Clocking Source:

1. Select **BITS Ports** from the navigation panel.

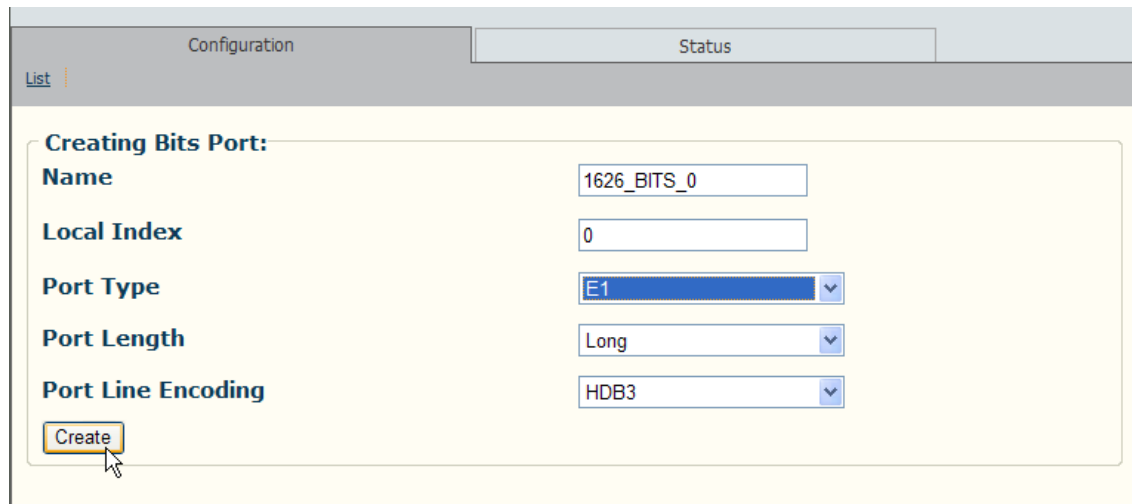


- Click **Create New BITS Port**, to access the BITS Ports configuration window.

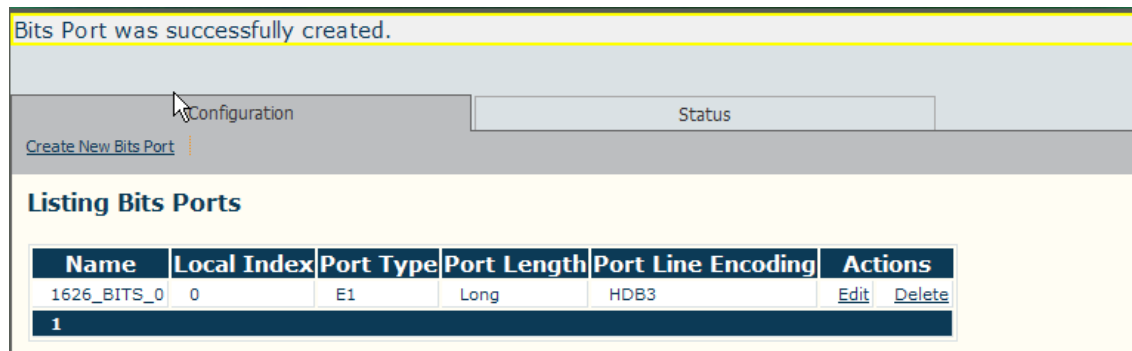


- Enter a name for the BITS port.

- Select a Local Index
- Select a Port Type (E1/T1/J1)
- Click **Create**



- The **BITS Port was successfully created** message is displayed.



## 7.3 Verifying Status

To verify the status of the BITS ports, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 7.4 Summary

This chapter covered BITS clocking and its configuration.

# Chapter 8      Clocking

This chapter describes the configuration of clocking reference sources for the Tmedia system. Topics covered in this chapter:

- Clocking options
- Verifying the current clock source
- Creating a new clock source
- Setting the clock source priority

## 8.1 Clocking Sources

The Tmedia system requires that all of its Tmedia units be in synchronization with each other. With an eye on flexibility, clocking sources can be configured to be generated from either internal clocking sources originating from any Tmedia unit or from more reliable clocking sources, such as a T1 line. In addition, multiple clocking sources can be configured in order to guarantee against the failure of any one clocking source causing system synchronization problems.

A conceptual illustration is provided in figure 8.1 on page 80.

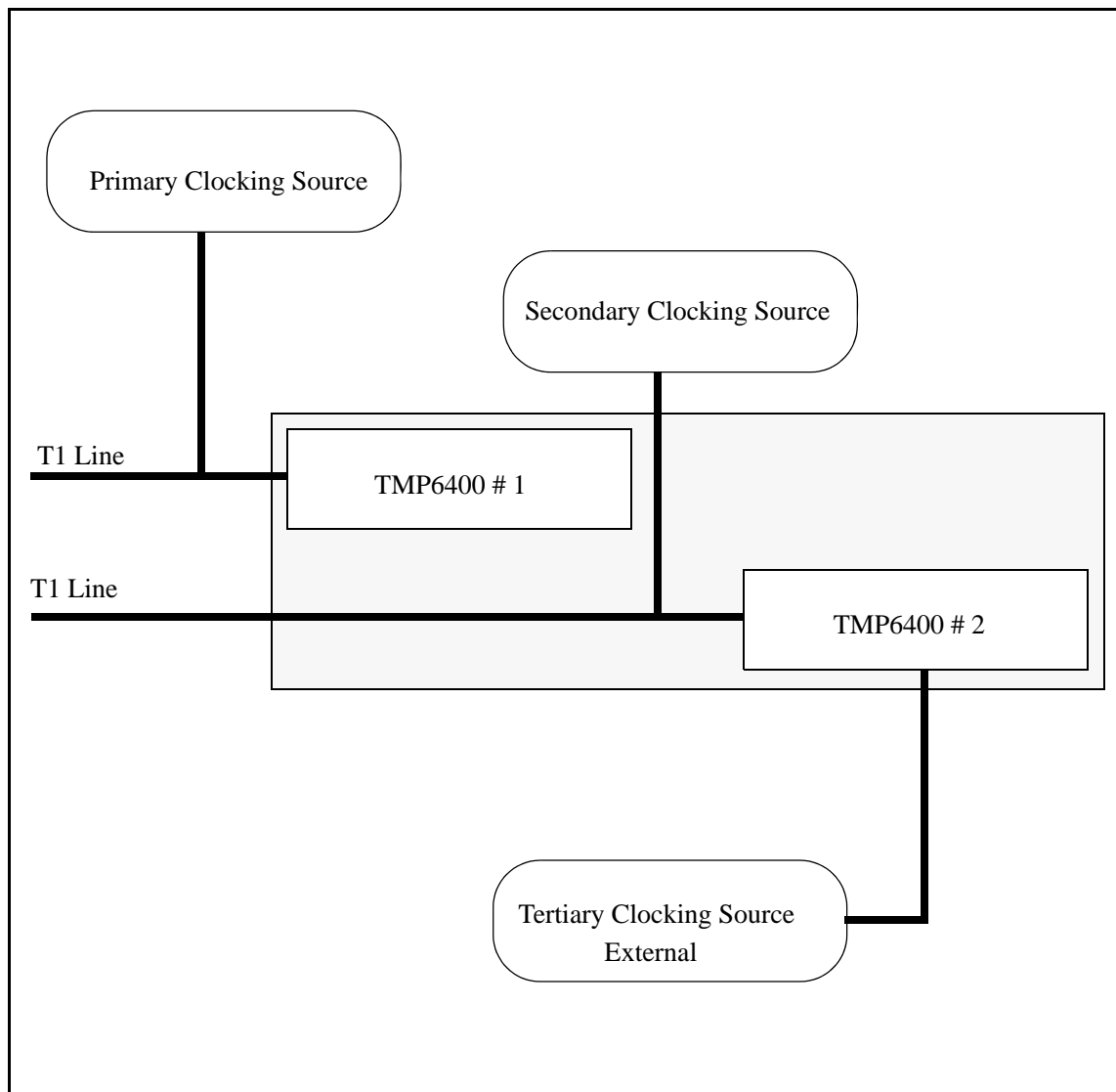


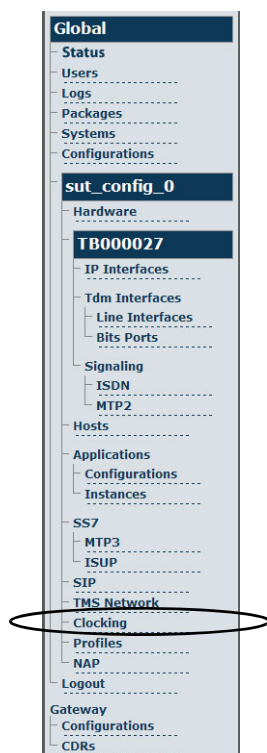
Figure 8.1 Primary, Secondary, and Tertiary Clocking Sources



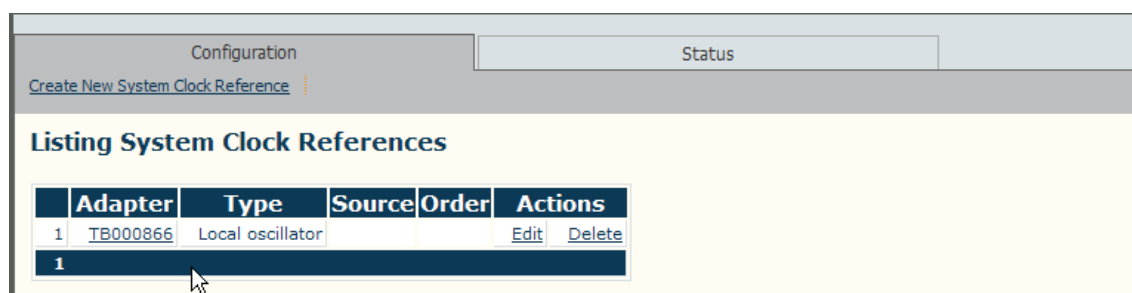
## 8.2 Verifying the Current Clocking Source

To verify the current clocking source:

1. Select **Clocking** from the navigation panel.



2. Verify the number and sources of clocking signals.

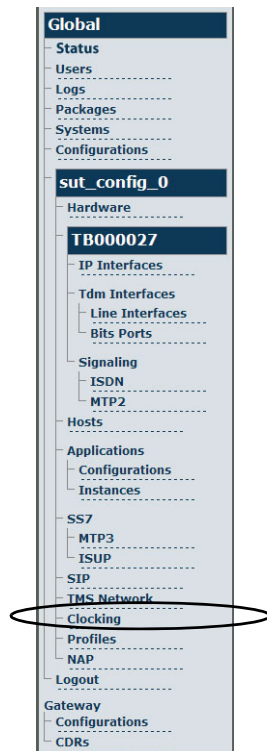


In this example, an internal clocking source is being used as the sole clocking source for the Tmedia system. It is originating from the Tmedia hardware adapter, named TB000866.

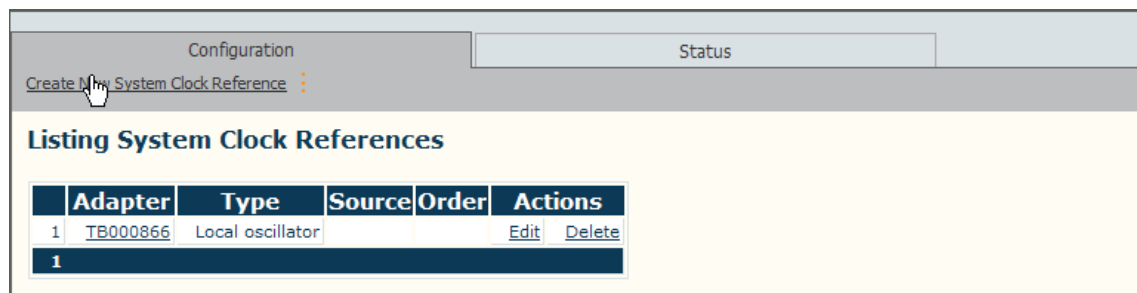
## 8.3 Creating a Clocking Source

To create a new clocking source:

1. Select **Clocking** from the navigation panel.



2. Click **Create New System Clock Reference**



3. Select a hardware adapter
  - Select a Clock Reference Type and Source
  - Click **Create**

Configuration Status

[List](#)

**Creating New Clock:**

**Adapter** TB001626

**Clock Ref Type** Bits port

**Clock Ref Source** 1626\_BITS\_0

[Create](#)

4. Once a new clock reference has been created:

- Set its priority in relation to other clocking sources.
- A single lined arrow moves the clocking source either one step closer to the top of the list or the bottom.
- A double lined arrow moves the clocking source either completely to the top or the bottom of the clocking source list.

SystemClock was successfully created.

Configuration Status

[Create New System Clock Reference](#)

**Listing System Clock References**

|   | Adapter                  | Type             | Source                              | Order   | Actions                                     |
|---|--------------------------|------------------|-------------------------------------|---------|---|
| 1 | <a href="#">TB000866</a> | Local oscillator |                                     | ↓ ↓     | <a href="#">Edit</a> <a href="#">Delete</a> |
| 2 | <a href="#">TB001626</a> | Trunk            | <a href="#">STS_1_0_VT1.5_27_T1</a> | ↑ ↓ ↑ ↓ | <a href="#">Edit</a> <a href="#">Delete</a> |
| 3 | <a href="#">TB001626</a> | Bits port        | <a href="#">1626_BITS_0</a>         | ↑ ↑     | <a href="#">Edit</a> <a href="#">Delete</a> |

1

Configuration Status

[Create New System Clock Reference](#)

**Listing System Clock References**

|   | Adapter                  | Type             | Source                              | Order   | Actions                                     |
|---|--------------------------|------------------|-------------------------------------|---------|---|
| 1 | <a href="#">TB001626</a> | Bits port        | <a href="#">1626_BITS_0</a>         | ↓ ↓     | <a href="#">Edit</a> <a href="#">Delete</a> |
| 2 | <a href="#">TB000866</a> | Local oscillator |                                     | ↑ ↓ ↑ ↓ | <a href="#">Edit</a> <a href="#">Delete</a> |
| 3 | <a href="#">TB001626</a> | Trunk            | <a href="#">STS_1_0_VT1.5_27_T1</a> | ↑ ↑     | <a href="#">Edit</a> <a href="#">Delete</a> |

1

Configuration

Status

[Create New System Clock Reference](#)

Listing System Clock References

|   | Adapter                  | Type             | Source                              | Order   | Actions              |                        |
|---|--------------------------|------------------|-------------------------------------|---------|----------------------|------------------------|
| 1 | <a href="#">TB001626</a> | Bits port        | <a href="#">1626 BITS 0</a>         | ↓ ↓     | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 2 | <a href="#">TB001626</a> | Trunk            | <a href="#">STS 1 0 VT1.5 27 T1</a> | ↑ ↓ ↑ ↓ | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 3 | <a href="#">TB000866</a> | Local oscillator |                                     | ↑ ↑     | <a href="#">Edit</a> | <a href="#">Delete</a> |
| 1 |                          |                  |                                     |         |                      |                        |

**Note** The clock source closest to the top is the highest priority and is selected as the first choice by the system manager as long as the clock source is a valid one.

## 8.4 Verifying Status

To verify the status of the system clocks, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 8.5 Summary

This chapter covered the following topics:

- Various clocking source options
- Configuring clocks
- Setting clocking priorities

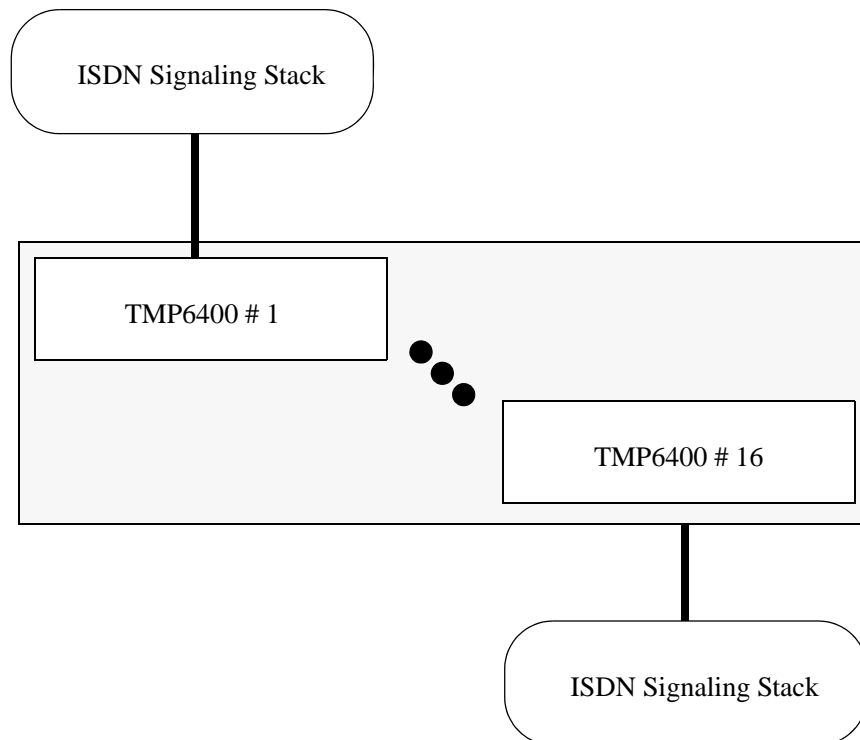
# Chapter 9      ISDN Signaling

This chapter describes the configuration of ISDN stacks on the trunks of Tmedia units.  
Topics covered in this chapter:

- ISDN stack
- Configuring an ISDN stack

## 9.1 ISDN

The Tmedia system can be configured to provide an ISDN signalling stack on the trunks of one or more Tmedia units to meet system configuration requirements. ISDN signaling stacks are signaling resources that are assigned to a specific line of the Tmedia unit. Based on the Q.931 switch variant that will be used by the system, a selection of ISDN variants are available. For each line service requiring ISDN signaling, an ISDN signaling stack is created with its own distinct signaling variant.



The trunks of each Tmedia unit can be configured to have their own ISDN Signaling stack

## 9.2 Prerequisites

Before ISDN signaling stacks can be created, the underlying trunk interfaces and line services must be configured.

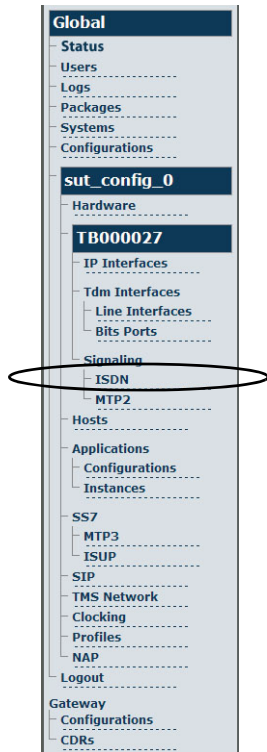
## 9.3 Configuring the ISDN Signaling Stack

**Note** This procedure is repeated for as many line services requiring ISDN signaling. Furthermore, ISDN signaling is configured separately for each Tmedia unit as needed.

Make certain that you have selected the Tmedia unit that you wish to configure with ISDN signaling.

**To configure an ISDN stack:**

1. Select **ISDN** from the navigation panel.



2. Click **Create New ISDN Stack**



3. Enter a name for the ISDN stack
  - Select the line service requiring the ISDN signaling
  - Select the variant
  - Click **Create**, to save the changes

Configuration | Status

[List](#)

**Creating New ISDN Stack:**

**Name**

**Line service**

**Variant**

**Side**

**Coding Standard**  <--

**Stack Location**  <--

[Timers](#)

[Advanced Params](#)

4. Verify that the message **ISDN stack was successfully created** is displayed.

ISDN stack was successfully created.

Configuration | Status

[Create New ISDN Stack](#)

**Listing ISDN Stacks**

| Name   | Variant | Side | Trunk               | Nap  | Actions                                     |
|--------|---------|------|---------------------|------|---|
| ISDN32 | 4ESS    | User | STS_1_0_VT1.5_27_T1 | None | <a href="#">Edit</a> <a href="#">Delete</a> |
| 1      |         |      |                     |      |   |

**Note** To use an ISDN signaling stack, it must be assigned to a Network Access Point (NAP), as described in Chapter 13.



## 9.4 Verifying Status

To verify the status of the ISDN stack, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 9.5 Summary

This chapter described the configuration of an ISDN signaling stack and explained how ISDN signaling and its variants are created and assigned on a case-by-case basis to the line services of a Tmedia unit.

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# Chapter 10 SIP Signaling

This chapter describes the configuration of a SIP signaling stack for a Tmedia system.  
Topics covered in this chapter:

- Creating a Session Initiation Protocol (SIP) signaling stack
- Creating transport servers
- Configuring DNS parameters
- Creating a Service Access Point (SAP)
- Assigning a transport server to a SAP
- Activating the configuration

## 10.1 SIP

SIP signaling stacks are configured for IP applications and for each Tmedia unit requiring SIP signaling.

Based upon your system requirements, you can configure a SIP stack to carry signaling traffic over multiple transport servers, which are IP endpoints comprised of: Protocol type (TCP/UDP), Port number, IP interface, IP address, IP name, and SAPs. SAPs are services access points derived from one or more transport servers. For example, signaling traffic to a proxy server can be transported over UDP, while another service can be transported over TCP. A distinct transport server (IP endpoint) is configured for each of these applications. In turn service access points are associated with one or more transport servers so that they can be easily and flexibly assigned to network access points (NAP). A conceptual illustration is provided in figure 10.1 on page 92.

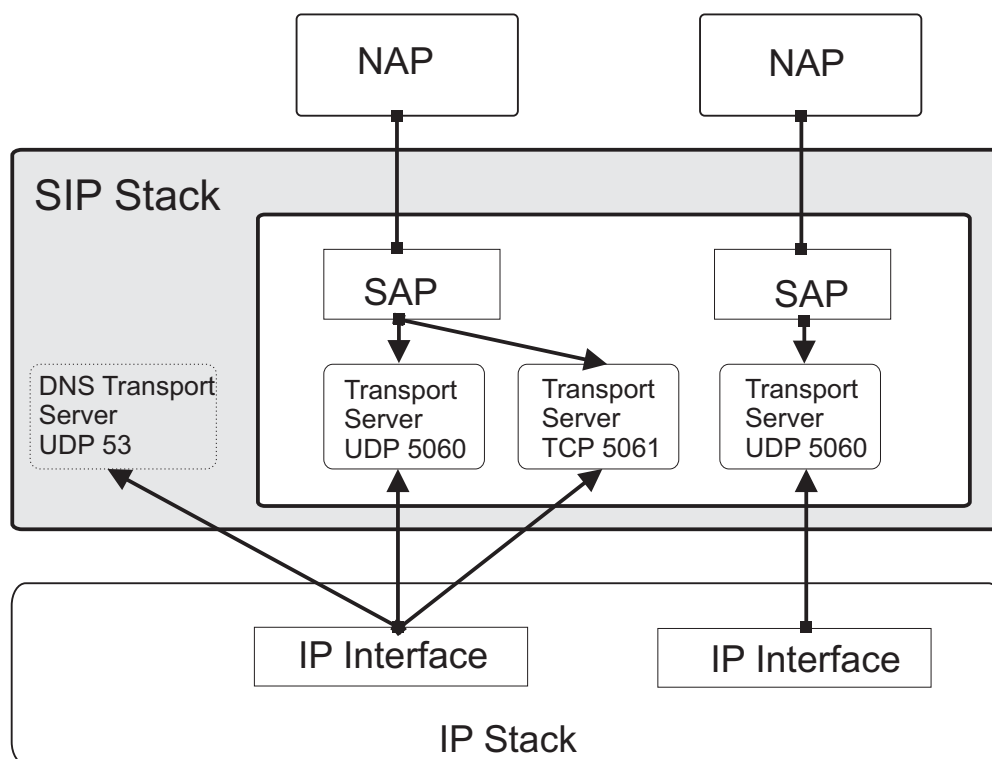
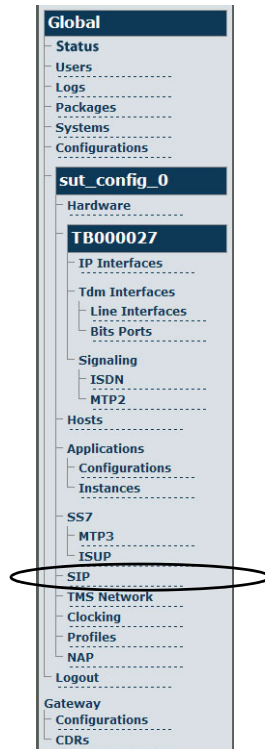


Figure 10.1 SIP Stack Conceptual Illustration

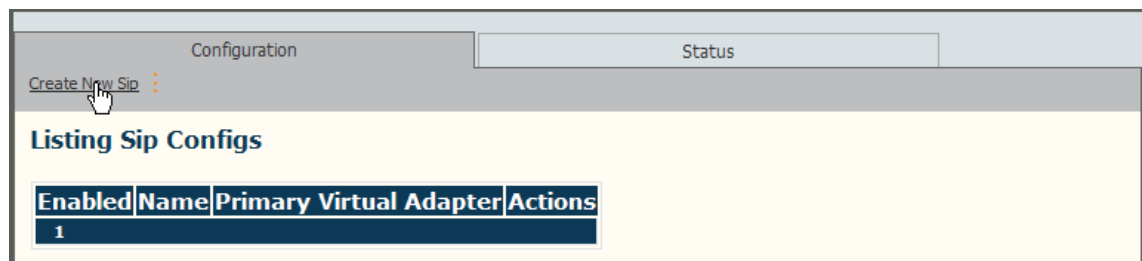
## 10.2 Creating an SIP Signaling Stack

To configure an SIP stack:

1. Select **SIP** from the navigation panel.



2. Click **Create New SIP** from the information panel.



3. Enter a name for the SIP configuration
  - Enter a name for the SIP Configuration stack
  - Select the Tmedia unit that will host SIP signaling
  - Click **Create**, to save the changes

Configuration | Status

List

**Creating New Sip Config:**

Enabled ☒

Name

Virtual Adapter

**Timers**

Create

4. Verify that the message **SipCfg was successfully created** is displayed.

SipCfg was successfully created.

Configuration | Status

**Editing Sip Config:**

Enabled ☒

Name

Virtual Adapter

## 10.3 Domain Name Server

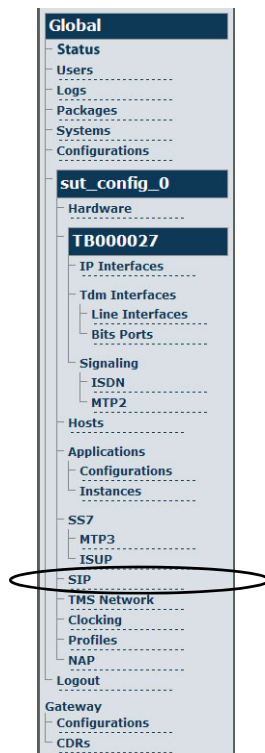
For the purposes of demonstration, this section illustrates the setup of a transport server for a Domain Name Server (DNS) application and the configuration of the DNS parameters.

### 10.3.1 Creating a Transport Server

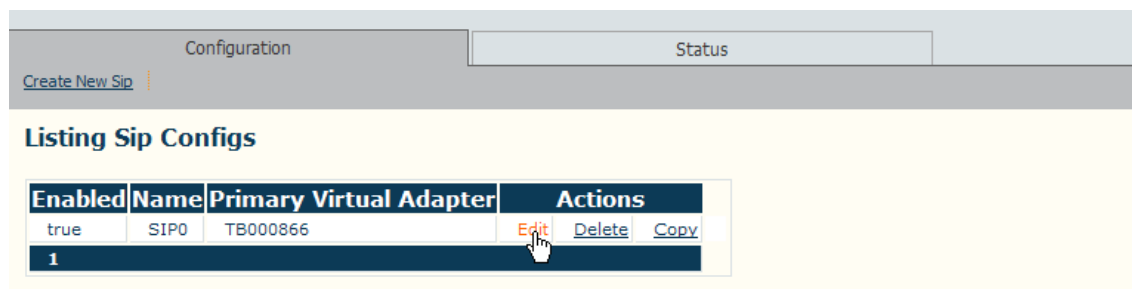
In order to employ SIP transport servers, the protocol that they will use to transport the SIP signaling traffic must be defined.

**To create a transport server:**

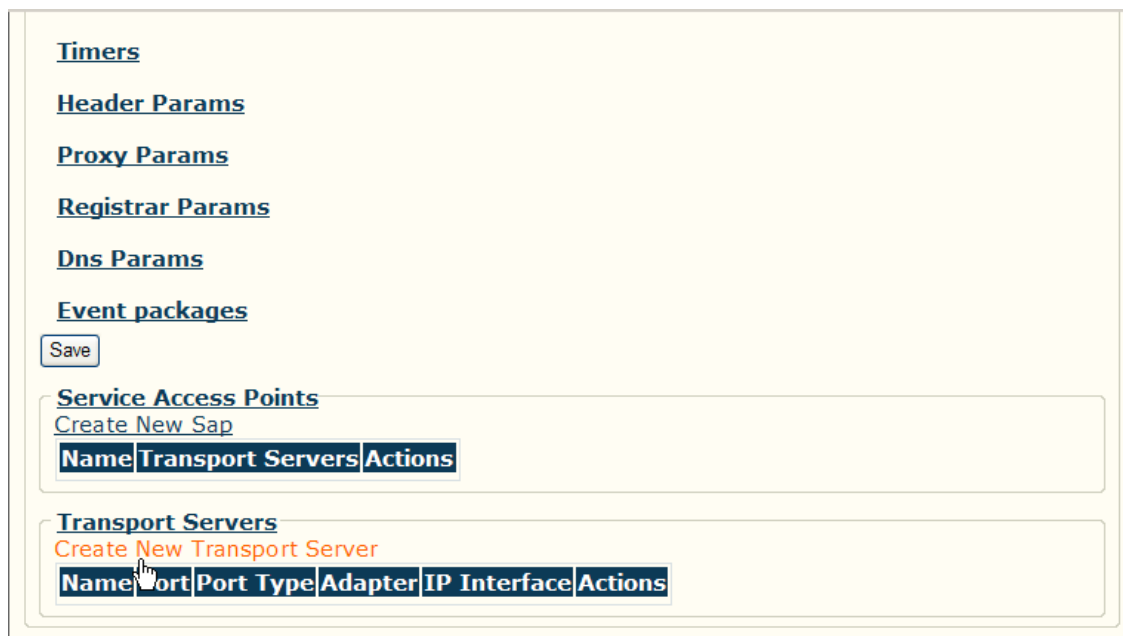
1. Select **SIP** from the navigation panel.



2. Select a SIP configuration and click **Edit**.



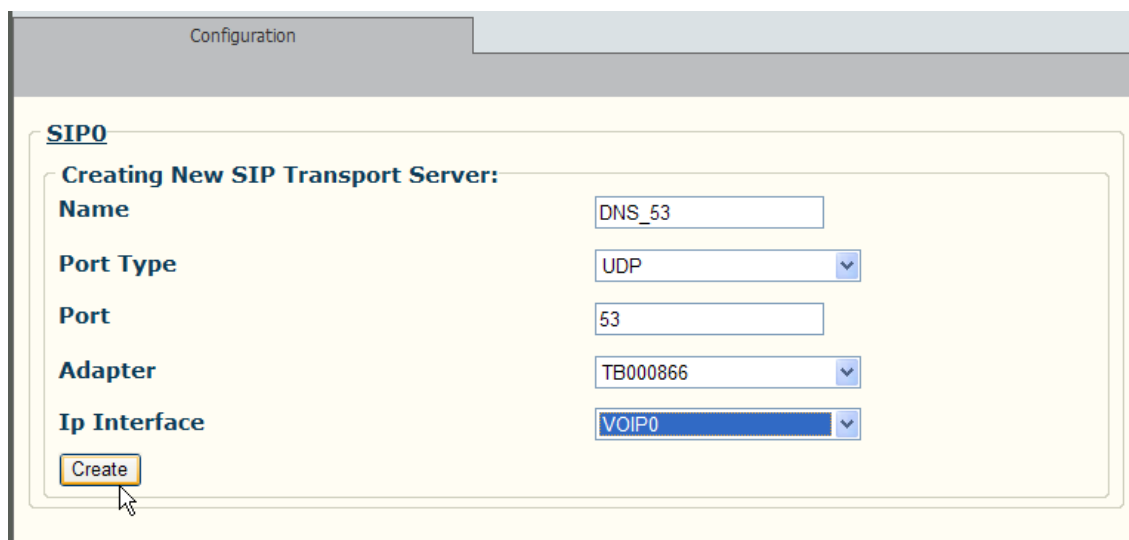
- Click **Create New Transport Server** from the SIP Configuration window.



The screenshot shows the SIP Configuration window with the following sections:

- [Timers](#)
- [Header Params](#)
- [Proxy Params](#)
- [Registrar Params](#)
- [Dns Params](#)
- [Event packages](#)
- 
- [Service Access Points](#)
  - [Create New Sap](#)
  - | Name | Transport Servers | Actions |
|------|-------------------|---------|
|------|-------------------|---------|
- [Transport Servers](#)
  - [Create New Transport Server](#)
  - | Name | Port | Port Type | Adapter | IP Interface | Actions |
|------|------|-----------|---------|--------------|---------|
|------|------|-----------|---------|--------------|---------|

- Enter a name for the transport server
  - Select a port type and number. This example uses UDP, port 53 for SIP traffic to the DNS server.
  - Click **Create** to save changes.



The screenshot shows the 'Creating New SIP Transport Server' form with the following fields:

- Name**: DNS\_53
- Port Type**: UDP (dropdown)
- Port**: 53
- Adapter**: TB000866 (dropdown)
- Ip Interface**: VOIP0 (dropdown)
-



5. Verify that the new transport server is listed in the transport servers list.

SIP transport server was successfully created.

Configuration      Status

**Editing Sip Config:**

Enabled ☒

Name

Virtual Adapter

[Timers](#)

[Header Params](#)

[Proxy Params](#)

[Registrar Params](#)

[Dns Params](#)

[Event packages](#)

[Service Access Points](#)

[Create New Sap](#)

| Name | Transport Servers | Actions |
|------|-------------------|---------|
|------|-------------------|---------|

[Transport Servers](#)

[Create New Transport Server](#)

| Name   | Port | Port Type | Adapter  | IP Interface | Actions                                     |
|--------|------|-----------|----------|--------------|---|
| DNS_53 | 53   | UDP       | TB000866 | VOIP0        | <a href="#">Edit</a> <a href="#">Delete</a> |

6. Click **Create New Transport Server**, to create a new transport server.

**Editing Sip Config:**  
**Enabled** ☒  
**Name**   
**Virtual Adapter**

[Timers](#)  
[Header Params](#)  
[Proxy Params](#)  
[Registrar Params](#)  
[Dns Params](#)  
[Event packages](#)

**[Service Access Points](#)**  
[Create New Sap](#)  

| Name | Transport Servers | Actions |
|------|-------------------|---------|
|      |                   |         |

**[Transport Servers](#)**  
[Create New Transport Server](#)  

| Name   | Port | Port Type | Adapter  | IP Interface | Actions   |
|--------|------|-----------|----------|--------------|---|
| DNS_53 | 53   | UDP       | TB000866 | VOIP0        | <input type="button" value="Edit"/> <input type="button" value="Delete"/> |

#### 7. Create an additional transport server

- Enter a name for the transport server
- Enter a port type and port number. In this case, select 5060 as the default SIP port.
- Click **Create** to save the configuration changes.

Configuration

**[SIP0](#)**  
**Creating New SIP Transport Server:**  
**Name**   
**Port Type**   
**Port**   
**Adapter**   
**Ip Interface**

8. Verify that the new SIP transport server appears in the Transport Servers list.

SIP transport server was successfully created.

Configuration      Status

**Editing Sip Config:**

**Enabled** ☒

**Name**

**Virtual Adapter**

[Timers](#)

[Header Params](#)

[Proxy Params](#)

[Registrar Params](#)

[Dns Params](#)

[Event packages](#)

**[Service Access Points](#)**

[Create New Sap](#)

| Name | Transport Servers | Actions |
|------|-------------------|---------|
|------|-------------------|---------|

**[Transport Servers](#)**

[Create New Transport Server](#)

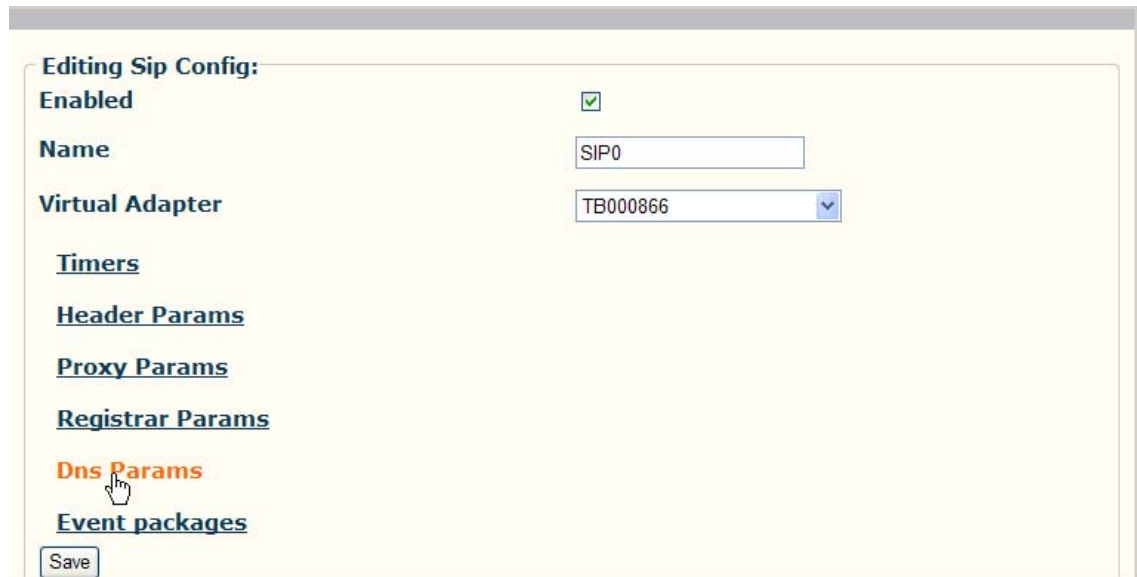
| Name   | Port | Port Type | Adapter  | IP Interface | Actions                                     |
|--------|------|-----------|----------|--------------|---|
| DNS_53 | 53   | UDP       | TB000866 | VOIP0        | <a href="#">Edit</a> <a href="#">Delete</a> |
| UDP    | 5060 | UDP       | TB000866 | VOIP0        | <a href="#">Edit</a> <a href="#">Delete</a> |

## 10.3.2 Configuring DNS Parameters

In order for the DNS server traffic to route to the DNS server, the IP port and transport server must be set.

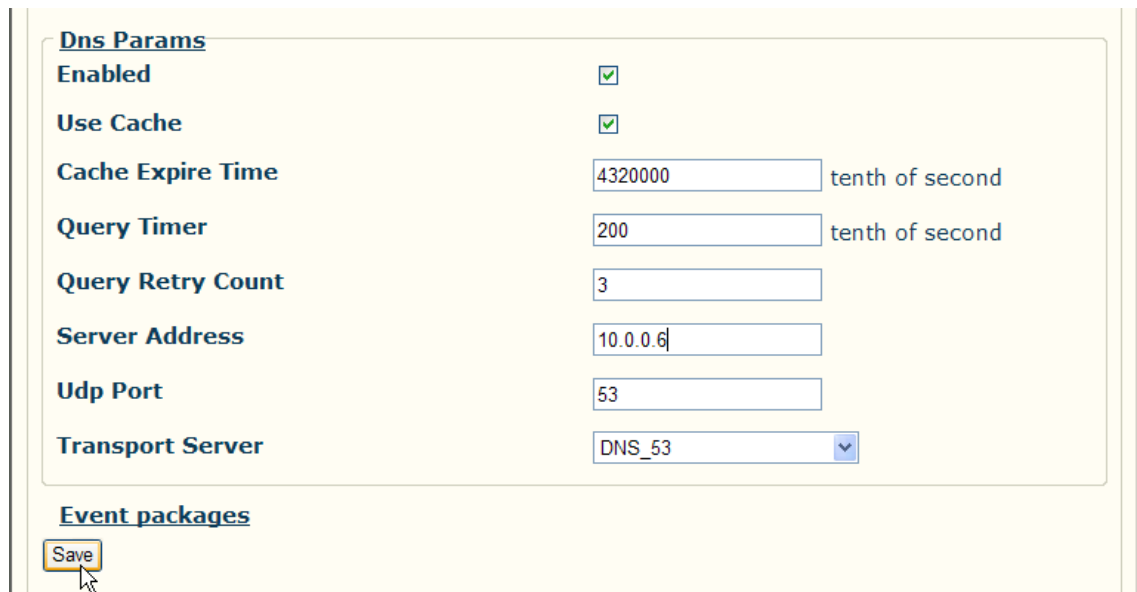
### To configure the DNS parameters

1. Click **DNS Params** in the SIP configuration window.



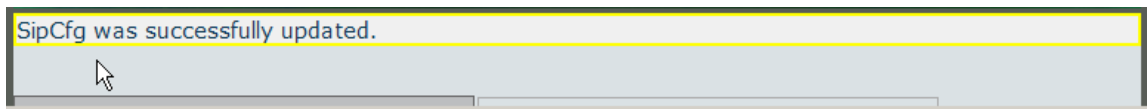
The screenshot shows the 'Editing Sip Config' window. On the left, a list of tabs includes 'Enabled', 'Name', 'Virtual Adapter', 'Timers', 'Header Params', 'Proxy Params', 'Registrar Params', 'Dns Params' (highlighted in orange with a mouse cursor), and 'Event packages'. On the right, the 'Enabled' checkbox is checked, 'Name' is 'SIP0', and 'Virtual Adapter' is 'TB000866'. A 'Save' button is at the bottom left.

2. Enter the IP address of the DNS
  - Select the transport server
  - Click **Save** to store your settings



The screenshot shows the 'Dns Params' configuration window. It includes the following fields and values: 'Enabled' (checked), 'Use Cache' (checked), 'Cache Expire Time' (4320000, with a note 'tenth of second'), 'Query Timer' (200, with a note 'tenth of second'), 'Query Retry Count' (3), 'Server Address' (10.0.0.6), 'Udp Port' (53), and 'Transport Server' (DNS\_53, selected from a dropdown). A 'Save' button is at the bottom left.

Verify that the **SipCfg was successfully updated** message is displayed.



## 10.4 Creating a SAP

The Service Access Point is used to bind the SIP stack with a transport server. Depending on the system configuration, multiple SAPs can be configured.

**To create a SAP:**

1. Click **Create New SAP** from the SIP configuration window.

**Editing Sip Config:**

**Enabled** ☒

**Name**

**Virtual Adapter**

[Timers](#)

[Header Params](#)

[Proxy Params](#)

[Registrar Params](#)

[Dns Params](#)

[Event packages](#)

**Service Access Points**

[Create New Sap](#)

| Name | Transport Servers | Actions |
|------|-------------------|---------|
|------|-------------------|---------|

2. Enter a name for the SAP

- Click **Create** to save the settings

**Configuration**

[List](#)

**SIP0**

**Creating New Service Access Point:**

**Name**

- Use the << key to select one or more transport servers for the newly created service access point

**SIP0**

**Editing SIP Service Access Point:**

**Name**

**Transport Servers:**

[Create New Transport Server](#)

**Current**

- Verify that the transport server has been added to the **Current** list

**SIP0**

**Editing SIP Service Access Point:**

**Name**

**Transport Servers:**

[Create New Transport Server](#)

**Current**

## 10.5 Activating the Configuration

Each time that a configuration change is made it must be activated as described in Section 3.5 “Activating the Configuration” on page 26.

## 10.6 Verifying Status

To verify the status of the SIP stack, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 10.7 Summary

This chapter presented the configuration of a SIP signaling stack, by describing the configuration of transport servers and service access points.

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# Chapter 11 SS7 Signaling

This chapter describes the configuration of an SS7 signaling stack for the Tmedia system. Topics covered in this chapter:

- MTP2
- MTP3
- ISUP

## 11.1 Introduction

The SS7 Signaling stack is used to control the signaling of calls in the network. SS7 signaling is configured once for the entire Tmedia system. Any one Tmedia unit is capable of running the entire SS7 signaling stack for all the Tmedia units in a system. High availability has been designed into the architecture of the Tmedia product such that the failure of an SS7 stack on one Tmedia unit will be taken over by the SS7 stack of another Tmedia unit.

The configuration of SS7 requires that the physical layer, through to the transport layer, and up to the application layer be configured. SS7 configuration involves configuring values for MTP2, MTP3, and ISUP.

A conceptual illustration of the SS7 protocol stack is shown in figure 11.1 on page 106.

### SS7 Protocol Stack

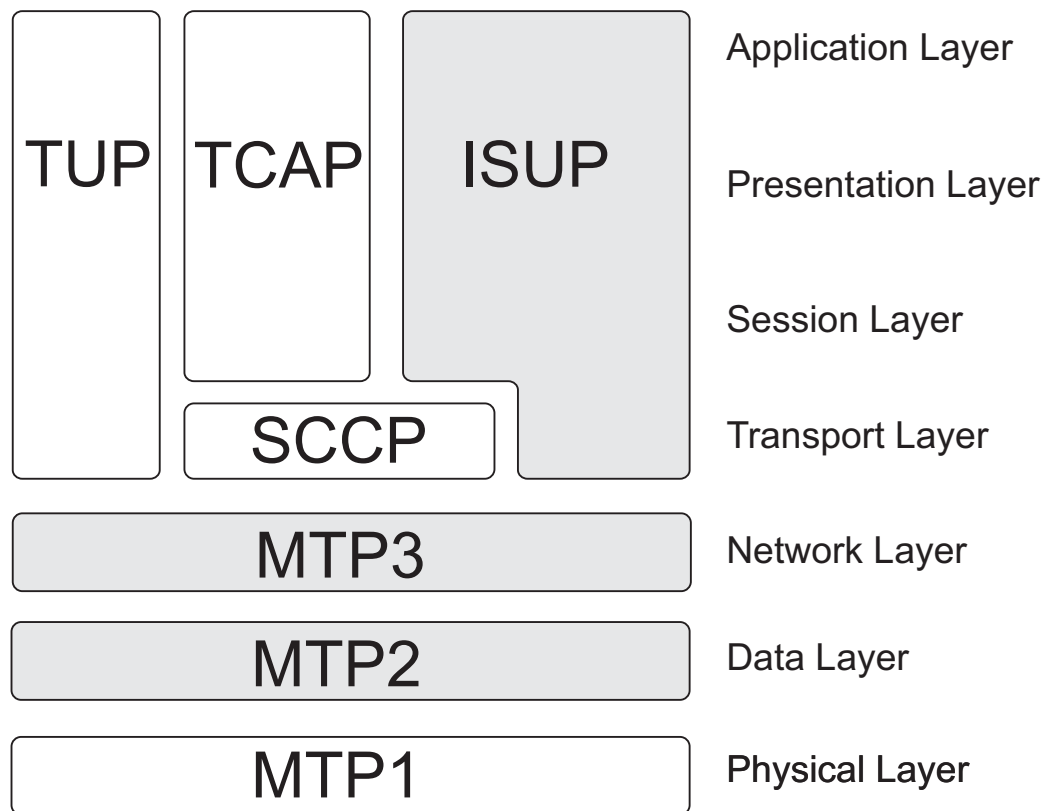


Figure 11.1 SS7 Protocol Stack

## 11.2 MTP2 Layer

The MTP2 layer in the SS7 protocol stack defines the functions and procedures of the signaling system for a reliable transfer of signaling messages over an SS7 signaling link. The MTP2 layer is a service provider to the MTP3 link layer, and at the same time it is a service user of the underlying trunk layer. The configuration of an MTP2 layer consists of the following:

- Creating an MTP2 configuration
- Creating an MTP2 Link

A conceptual illustration of the MTP2 layer is provided in, figure 11.2 on page 107.

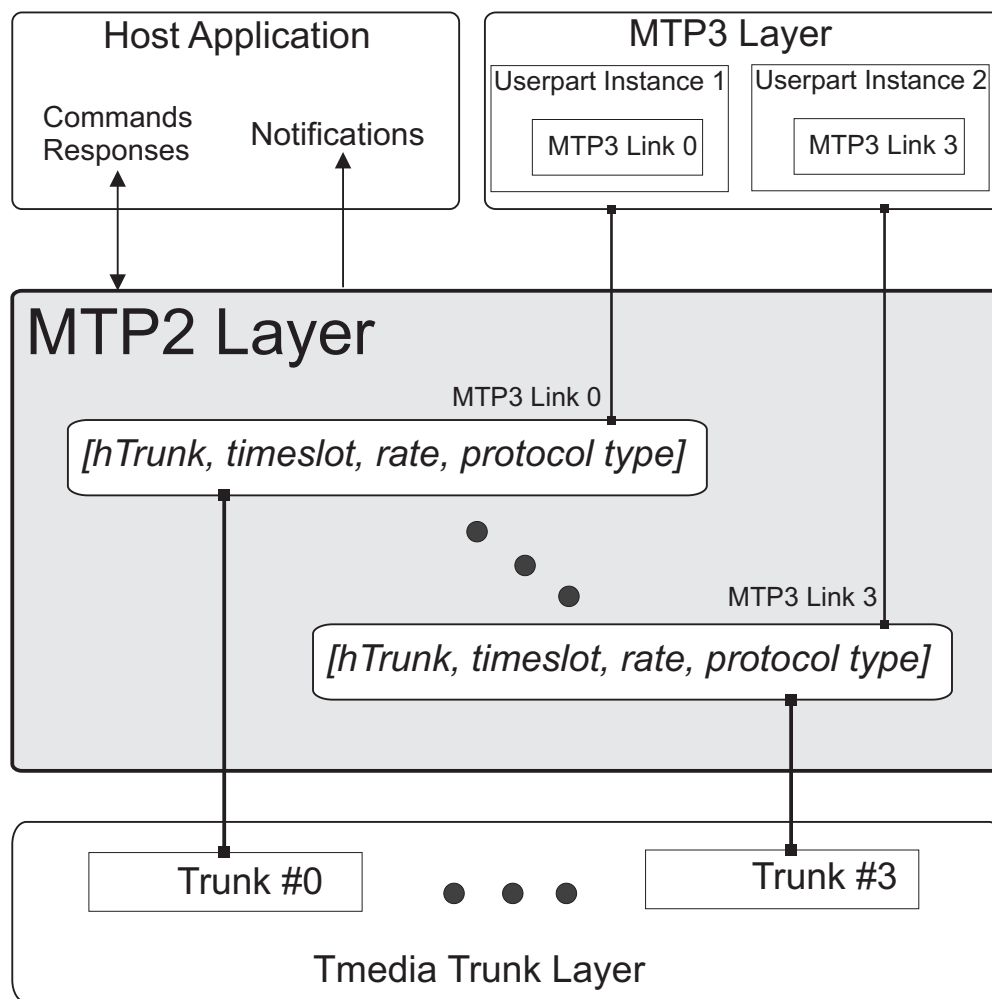
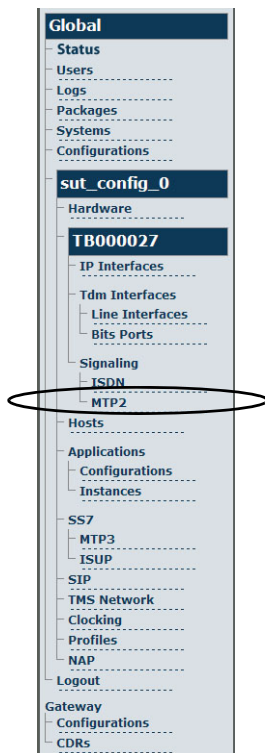


Figure 11.2 MTP2 Layer

## 11.2.1 Create an MTP2 Configuration

To create an MTP2 configuration:

1. Select **MTP2** from the navigation panel.



2. Enter a name for the MTP2 configuration, and click **Save** to store the configuration settings.

A screenshot of the 'Editing Mtp2 Config' form in the TelcoBridges web portal. The form has a header with 'Configuration' and 'Status' tabs. The main content area is titled 'Editing Mtp2 Config:'. It contains a 'Name\*' field with the value 'TB666\_MTP2\_0', an 'Enabled' checkbox that is checked, and a 'Save' button. Below the 'Save' button is a section titled 'Mtp2 Links:' with a link 'Create New Mtp2 Link'.

## 11.2.2 Create an MTP2 Link

The MTP2 link is used to link the MTP2 physical layer with a line service carrying SS7 signaling. Parameters such as the ones listed below are configured in the MTP2 link

- Mode of connection: Normal or HSL
- Line service
- Timeslot used
- Protocol Type
- Destination Point Code (DPC)
- Timeslot rate

---

**Note** The advanced parameters link provides you with access to many more parameters. For further information, refer to the TB640 SS7 User Guide, 9010-00030-1Z

---

1. Click **Create New Mtp2 Link**, to access the MTP2 link configuration window.

2. Enter a name for the MTP2 link

- List

Configuration

TB666 MTP2 0

Creating New Mtp2 Link:

Name\*

TB866\_MTP2\_0

Connection Mode

Normal

Line service

LS 0

Timeslots:

1

3

5

7

9

11

13

15

17

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Protocol Type

ITU92

DPC Length

14bits format=3.8.3

Timeslot Rate

64Kbps

Timers

Advanced params

Create

110

Configuration

[List](#)

**TB666 MTP2 0**

Creating New Mtp2 Link:

Name\*

TB666\_MTP2\_0

Connection Mode

Hsl

Line service

LS\_0

Timeslots:

All timeslots are used in HSL mode.

3. Click **Create** to save the settings

**Creating New Mtp2 Link:**

**Name\***

**Connection Mode**

**Line service**

**Timeslots:**

| 1                        | 3                        | 5                        | 7                        | 9                        | 11                       | 13                       | 15                       | 17                       | 19                       | 21                       | 23                       | 25                       | 27                       | 29                       | 31                       |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Protocol Type**

**DPC Length**

**Timeslot Rate**

**Timers**

**Advanced params**

4. Verify that the MTP2 link is listed in the MTP2 Links listing.

Configuration

Status

Editing Mtp2 Config:

Name\*

TB666\_MTP2\_0

Enabled

☒

Save

Mtp2 Links:

Create New Mtp2 Link

| Name         | Line Service | Timeslot Rate | Protocol Type | DPC Length             | Connection Mode | Mtp3 Link | Actions                                     |
|--------------|--------------|---------------|---------------|------------------------|-----------------|-----------|---|
| TB666_MTP2_0 | LS_0         | 64Kbps        | ITU92         | 14bits<br>format=3.8.3 | Normal          | None      | <a href="#">Edit</a> <a href="#">Delete</a> |

## 11.3 MTP3 Layer

The MTP3 layer provides message routing between signaling points in an SS7 network. This layer routes traffic away from failed links and signaling points and controls traffic when congestion occurs. The MTP3 layer contains a Userpart that represents a specific protocol variant. The configuration of the MTP3 layers consists of the following:

- Creating an MTP3 Configuration
- Creating an MTP3 Network, consisting of MTP3 point codes, MTP3 linksets, and MTP3 routes

A conceptual illustration of the MTP3 layer is provided in figure 11.3 on page 112.

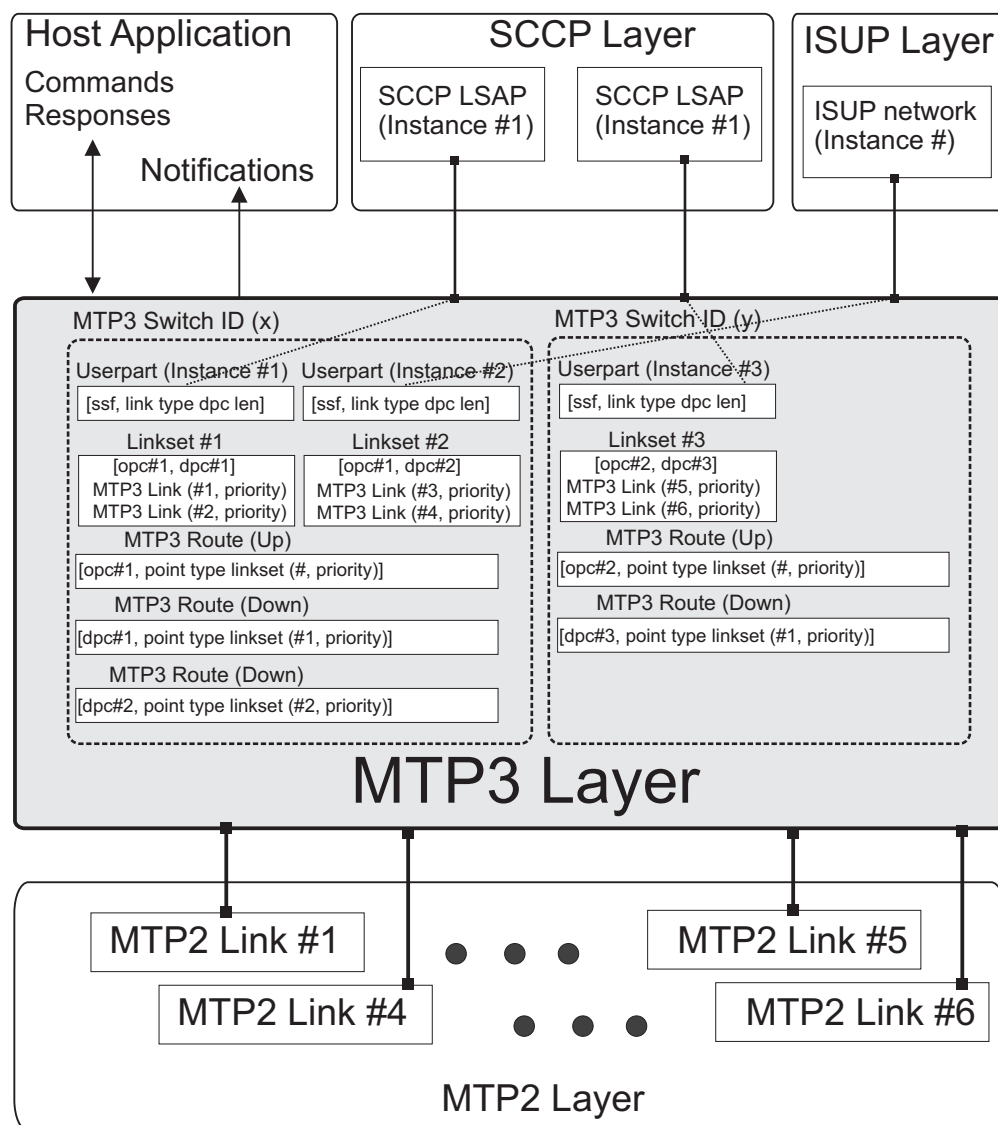


Figure 11.3 MTP3 Protocol Layer

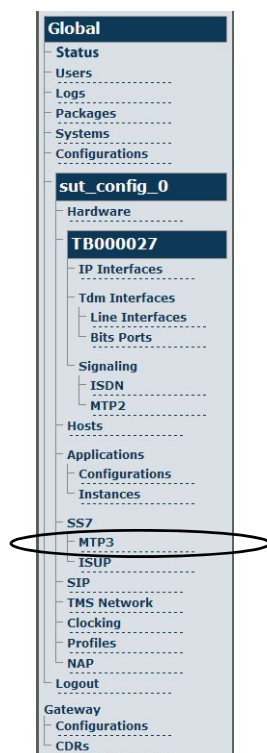


### 11.3.1 Create an MTP3 Configuration

The creation of an MTP3 configuration is done once to serve the entire Tmedia system. It allows for access configuration to the MTP3 network.

#### To Create an MTP3 Configuration:

1. Select **MTP3** from the navigation panel.



2. Provide a name for the MTP3 configuration
  - Click **Create** to save the settings

Configuration Status

List

**Creating New Mtp3 Config:**

Enabled ☒

Name

Signaling Point Type

Ssf Validation ☒

Restart Procedure

Transfer Restricted required ☐

Timers

Create

3. Verify that the **MTP3Cfg was successfully created** message appears.

Mtp3Cfg was successfully created.

Configuration Status

Editing Mtp3 Config:

## 11.3.2 Create an MTP3 Network

AN MTP3 network is created to define its point codes, link sets and routes.

**To create an MTP3 network:**

1. Click **Create New MTP3 Network**.

The screenshot shows the 'Configuration' tab of the MTP3 interface. The 'Editing Mtp3 Config' section includes the following fields:

- Enabled:** ☒
- Name:** MTP3
- Signaling Point Type:** SP
- Ssf Validation:** ☒
- Restart Procedure:** None
- Transfer Restricted required:** ☐

Below these fields is a 'Timers' section with a 'Save' button. At the bottom, the 'Mtp3 Networks:' section contains a link 'Create New Mtp3 Network' and a table with the following headers:

| Name | Sub Service Field | Link type | Ss7 Dpc Length | Routes | Linksets | Actions |
|------|-------------------|-----------|----------------|--------|----------|---------|
|------|-------------------|-----------|----------------|--------|----------|---------|

2. Enter a name for the network and select the SS7 DPC length.

- Click **Create** to store the settings

The screenshot shows the 'Configuration' tab of the MTP3 interface. The 'Creating New Mtp3 Network:' section includes the following fields:

- Name:** Verizon
- Sub Service Field:** National
- Link type:** ITU
- Ss7 Dpc Length:** 14bits format=3.8.3

At the bottom of this section is a 'Create' button.

3. Verify that the **Mtp3Network was successfully created** message appears.

Mtp3PointCode was successfully created.

Configuration

**MTP3**

**Editing Mtp3 Network:**

|                          |  |
|--------------------------|--|
| <b>Name</b>              | <input type="text" value="Verizon"/>             |
| <b>Sub Service Field</b> | <input type="text" value="National"/>            |
| <b>Link type</b>         | <input type="text" value="ITU"/>                 |
| <b>Ss7 Dpc Length</b>    | <input type="text" value="14bits format=3.8.3"/> |

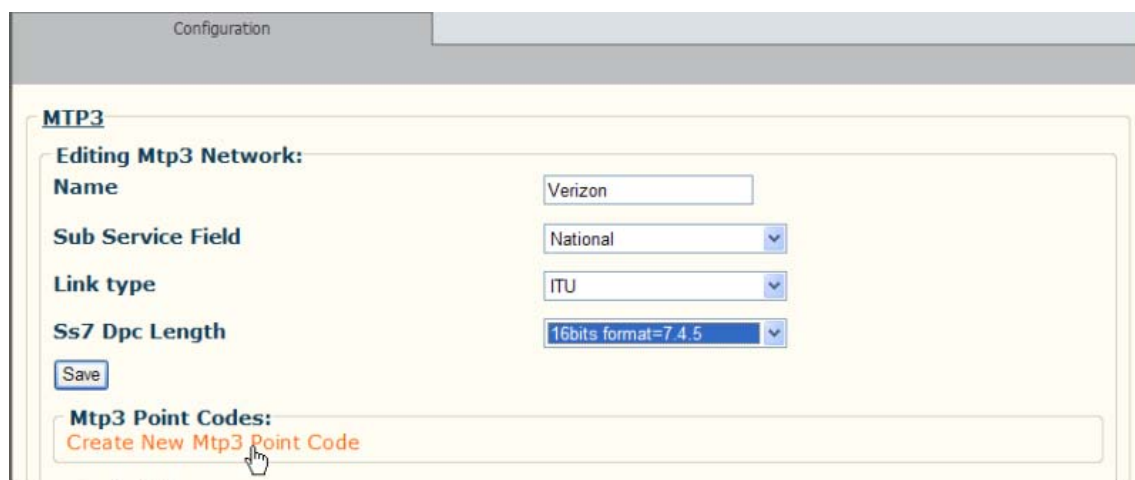
### 11.3.2.1 Create an MTP3 Point Code

Point codes are used to define the Tmedia network, the adjacent network and the target network so that calls are properly routed from one network to the next.

**Note** A minimum of two point codes need to be defined for the self and destination point codes.

To create an MTP3 point code:

1. Click **Create New MTP3 Point Code**



Configuration

**MTP3**

**Editing Mtp3 Network:**

Name: Verizon

Sub Service Field: National

Link type: ITU

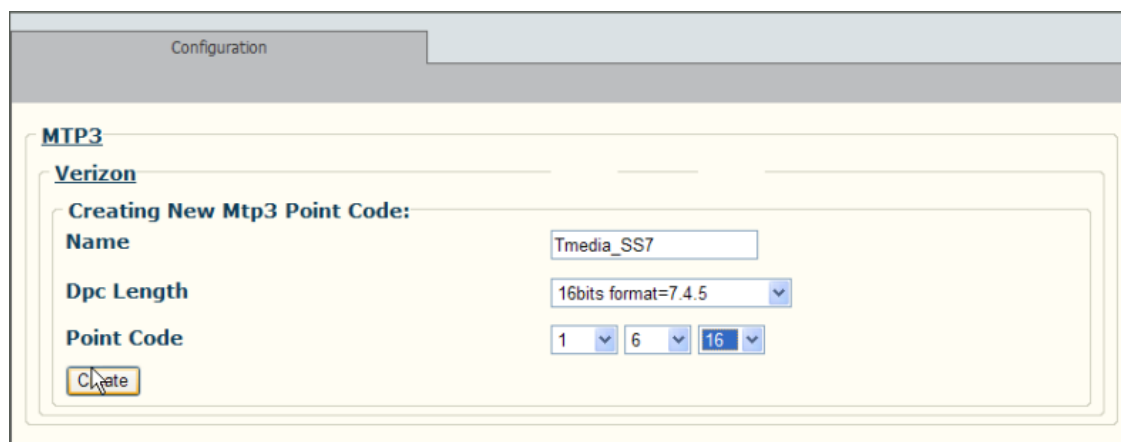
Ss7 Dpc Length: 16bits format=7.4.5

Save

**Mtp3 Point Codes:**

Create New Mtp3 Point Code

2. Provide a name for the point code. Click **Create** to save the point code.



Configuration

**MTP3**

**Verizon**

**Creating New Mtp3 Point Code:**

Name: Tmedia\_SS7

Dpc Length: 16bits format=7.4.5

Point Code: 1 6 16

Create

3. Verify that the **MTP3 Point Code was successfully created** message appears.
  - In this example, one point code was created representing the Tmedia SS7 node, referred to as the Self Point Code, one for the adjacent SS7 node (or equipment), and one for a distant target SS7 node in the SS7 network.

Mtp3PointCode was successfully created.

Configuration

### MTP3

**Editing Mtp3 Network:**

**Name**

**Sub Service Field**

**Link type**

**Ss7 Dpc Length**

**Mtp3 Point Codes:**  
[Create New Mtp3 Point Code](#)

| Name        | Dpc Length          | Point Code | Actions              |                        |
|-------------|---------------------|------------|----------------------|------------------------|
| Tmedia_SS7  | 16bits format=7.4.5 | 1.6.16     | <a href="#">Edit</a> | <a href="#">Delete</a> |
| Verizon_STP | 16bits format=7.4.5 | 14.8.16    | <a href="#">Edit</a> | <a href="#">Delete</a> |
| Target_SYS  | 16bits format=7.4.5 | 24.15.17   | <a href="#">Edit</a> | <a href="#">Delete</a> |

### 11.3.2.2 Create an MTP3 Linkset

The linksets are used to define the pair of point codes used in a set. One linkset could be the links between a point code identifying the Tmedia SS7 node and a point code identifying the adjacent SS7 equipment.

**To create an MTP3 Linkset:**

1. Click **Create New MTP3 Linkset**

The screenshot shows a web-based configuration interface for MTP3. At the top, there's a 'Configuration' tab. Below it, the 'MTP3' section is active. Under 'Editing Mtp3 Network:', there are four fields: 'Name' (text input with 'Verizon'), 'Sub Service Field' (dropdown menu with 'National'), 'Link type' (dropdown menu with 'ITU'), and 'Ss7 Dpc Length' (dropdown menu with '14bits format=3.8.3'). A 'Save' button is below these fields. The next section is 'Mtp3 Point Codes:', which includes a link 'Create New Mtp3 Point Code' and a table of existing point codes. The table has columns: Name, Dpc Length, Point Code, and Actions. The actions column contains 'Edit' and 'Delete' links for each row. Below the table is the 'Mtp3 Linksets:' section, which contains a link 'Create New Mtp3 Linkset' that is being clicked by a mouse cursor.

| Name        | Dpc Length          | Point Code | Actions                                     |
|-------------|---------------------|------------|---|
| Tmedia_SS7  | 16bits format=7.4.5 | 1.6.16     | <a href="#">Edit</a> <a href="#">Delete</a> |
| Verizon_STP | 16bits format=7.4.5 | 14.8.16    | <a href="#">Edit</a> <a href="#">Delete</a> |
| Target_SYS  | 16bits format=7.4.5 | 24.15.17   | <a href="#">Edit</a> <a href="#">Delete</a> |

2. Provide a name for the linkset.
  - Select an origin point code and an adjacent point code
  - Click **Create** to save the linkset

The screenshot shows the 'Configuration' tab in the Tmedia Web Portal. Under the 'MTP3' section, the 'Verizon' link is selected. The form is titled 'Creating New Mtp3 Linkset:'. It contains three fields: 'Name' with the value 'LinkSet\_A', 'Origin Point Code' with a dropdown menu showing 'Tmedia\_SS7', and 'Adjacent Point Code' with a dropdown menu showing 'Verizon\_STP'. A 'Create' button is located at the bottom left of the form, with a mouse cursor hovering over it.

3. Verify that the **MTP3 Linkset was successfully created** message appears.

The screenshot shows the same 'Configuration' tab. At the top, a yellow banner displays the message 'Mtp3Linkset was successfully created.' Below this, the 'MTP3' section is still visible, but the form is now titled 'Editing Mtp3 Linkset:'. The fields are the same as in the previous screenshot: 'Name' is 'LinkSet\_A', 'Origin Point Code' is 'Tmedia\_SS7', and 'Adjacent Point Code' is 'Verizon\_STP'. A mouse cursor is visible near the top of the form.



4. Click **Create New MTP3 Link** to create an additional links

Mtp3Linkset was successfully created.

Configuration

**MTP3**

**Verizon**

**Editing Mtp3 Linkset:**

**Name** LinkSet\_A

**Origin Point Code** Tmedia\_SS7

**Adjacent Point Code** Verizon\_STP

**Mtp3 Links:**

[Create New Mtp3 Link](#)

5. Verify that the MTP3 link appears in the MTP3 linkset

**MTP3**

**Editing Mtp3 Network:**

**Name** Verizon

**Sub Service Field** National

**Link type** ITU

**Ss7 Dpc Length** 14bits format=3 8.3

**Mtp3 Point Codes:**

[Create New Mtp3 Point Code](#)

| Name        | Dpc Length          | Point Code | Actions                                     |
|-------------|---------------------|------------|---|
| Tmedia_SS7  | 16bits format=7.4.5 | 1.6.16     | <a href="#">Edit</a> <a href="#">Delete</a> |
| Verizon_STP | 16bits format=7.4.5 | 14.8.16    | <a href="#">Edit</a> <a href="#">Delete</a> |
| Target_SYS  | 16bits format=7.4.5 | 24.15.17   | <a href="#">Edit</a> <a href="#">Delete</a> |

**Mtp3 Linksets:**

[Create New Mtp3 Linkset](#)

| Name      | Origin Point Code | Adjacent Point Code | Active Links | Routes | Links                                       | Actions |
|-----------|-------------------|---------------------|--------------|--------|---|---------|
| LinkSet_A | Tmedia_SS7        | Verizon_STP         | 0            | 0      | <a href="#">Edit</a> <a href="#">Delete</a> |         |

### 11.3.2.3 Create an MTP3 Route

The MTP3 routes are built to route traffic from previously created point codes using linksets.

**To create an MTP3 Route:**

1. Click **Create New MTP3 Route**

**MTP3**

**Editing Mtp3 Network:**

**Name**

Verizon

**Sub Service Field**

National

**Link type**

ITU

**Ss7 Dpc Length**

14bits format=3.8.3

Save

**Mtp3 Point Codes:**[Create New Mtp3 Point Code](#)

| Name        | Dpc Length          | Point Code | Actions                                     |
|-------------|---------------------|------------|---|
| Tmedia_SS7  | 16bits format=7.4.5 | 1.6.16     | <a href="#">Edit</a> <a href="#">Delete</a> |
| Verizon_STP | 16bits format=7.4.5 | 14.8.16    | <a href="#">Edit</a> <a href="#">Delete</a> |
| Target_SYS  | 16bits format=7.4.5 | 24.15.17   | <a href="#">Edit</a> <a href="#">Delete</a> |

**Mtp3 Linksets:**[Create New Mtp3 Linkset](#)

| Name      | Origin Point Code | Adjacent Point Code | Active Links | Routes | Links                                       | Actions |
|-----------|-------------------|---------------------|--------------|--------|---|---------|
| LinkSet_A | Tmedia_SS7        | Verizon_STP         | 0            | 0      | <a href="#">Edit</a> <a href="#">Delete</a> |         |

**Mtp3 Routes:**[Create New Mtp3 Route](#)

2. Provide a name that indicates this is your self route.
  - Select OPC for an origin point code. (DPC is for a route leading away from you).
  - Select a point code and click **Create** to create the MTP3 Route

The screenshot shows the 'Configuration' tab in a software interface. Under the 'MTP3' section, there is a sub-section for 'Verizon'. The main heading is 'Creating New Mtp3 Route:'. Below this, there are several fields and a checkbox:

- Name:** Self\_Route
- Route Type:** OPC (dropdown menu)
- Point Code:** Tmedia\_SS7 (dropdown menu)
- Restart Procedure:** None (dropdown menu)
- Point Type:** SP (dropdown menu)
- Sls Range:** ITU (dropdown menu)
- Route To Adjacent:** ☐

Below these fields are two links: 'Advance Parameters' and 'Timers'. At the bottom left of the form is a 'Create' button with a mouse cursor hovering over it.

3. Using the << key to associate a linkset with the route.

The screenshot shows the same 'MTP3' configuration interface, but now it is in 'Editing Mtp3 Route' mode. The fields are the same as in the previous screenshot, but the 'Create' button has been replaced by a 'Save' button. Below the 'Timers' link, there is a new section titled 'Route<->Linkset:'. This section contains a table with three columns: 'Linkset', 'Priority', and 'Actions'. A mouse cursor is hovering over a double-left arrow button (two '<' symbols) located between the 'Actions' column and a dropdown menu. The dropdown menu is currently showing 'LinkSet\_A'.

4. Verify that the linkset is assigned to the route.

Mtp3Route was successfully created.

Configuration

**MTP3**

**Verizon**

**Editing Mtp3 Route:**

**Name** Self\_Route

**Route Type** OPC

**Point Code** Tmedia\_SS7

**Restart Procedure** None

**Point Type** SP

**Sls Range** ITU

**Route To Adjacent** ☐

[Advance Parameters](#)

[Timers](#)

**Route<->Linkset:**

| Linkset   | Priority   | Actions  |
|-----------|------------|--|
| LinkSet_A | Priority 0 | <input type="button" value="↓"/> <input type="button" value="Remove"/> |

**Note** This procedure for the MTP3 Route is repeated to define the routes to the adjacent and target point codes.

In addition, when configuring the adjacent route, make certain that the **Route To Adjacent** box is checked.

## 11.4 ISUP

ISUP is the highest layer in the Tmedia SS7 signaling stack and is responsible for the handling of calls. Its configuration consists of the following:

- Creating an ISUP stack
- Creating an ISUP network
- Creating an ISUP User Part
- Creating an ISUP Interface

A conceptual illustration of the ISUP protocol layer is shown in figure 11.4 on page 125.

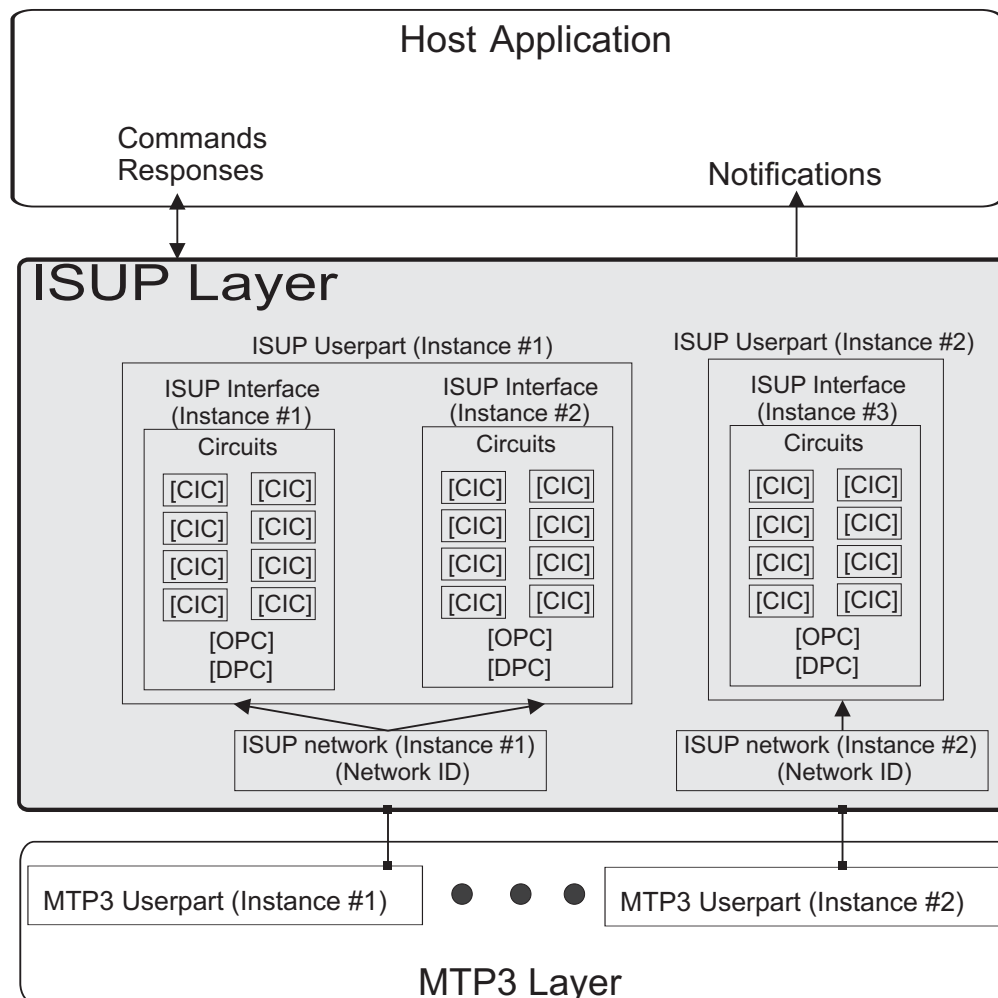
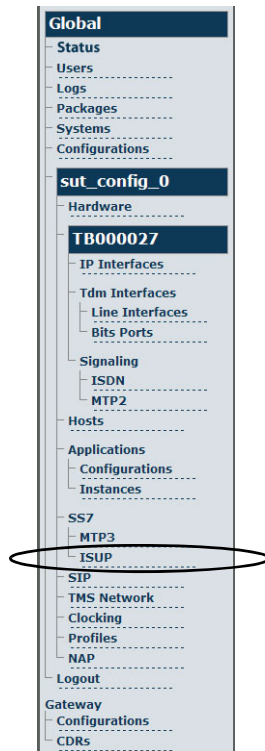


Figure 11.4 ISUP Protocol Layer

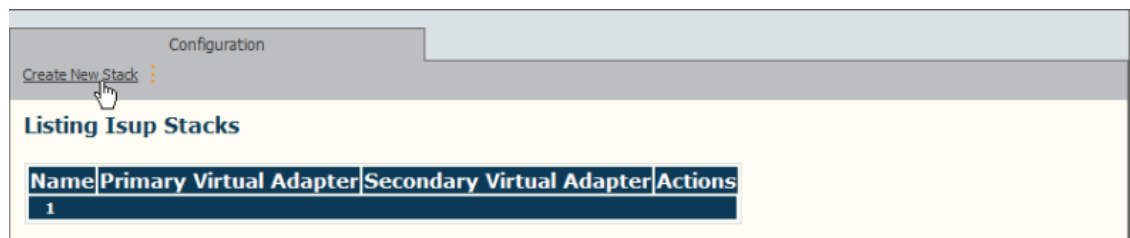
## 11.4.1 Create an ISUP Stack

To create an ISUP stack:

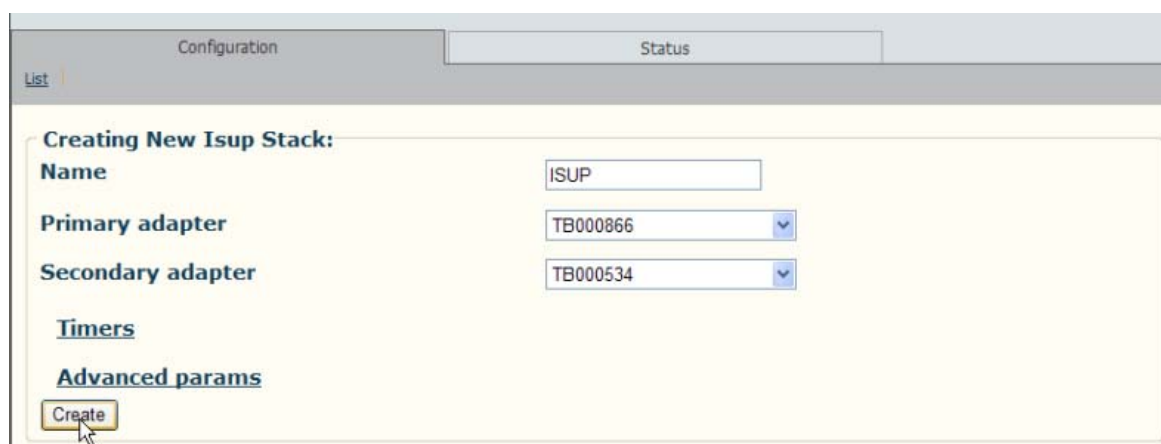
1. Select **ISUP** from the navigation panel.



2. Click **Create New Stack**



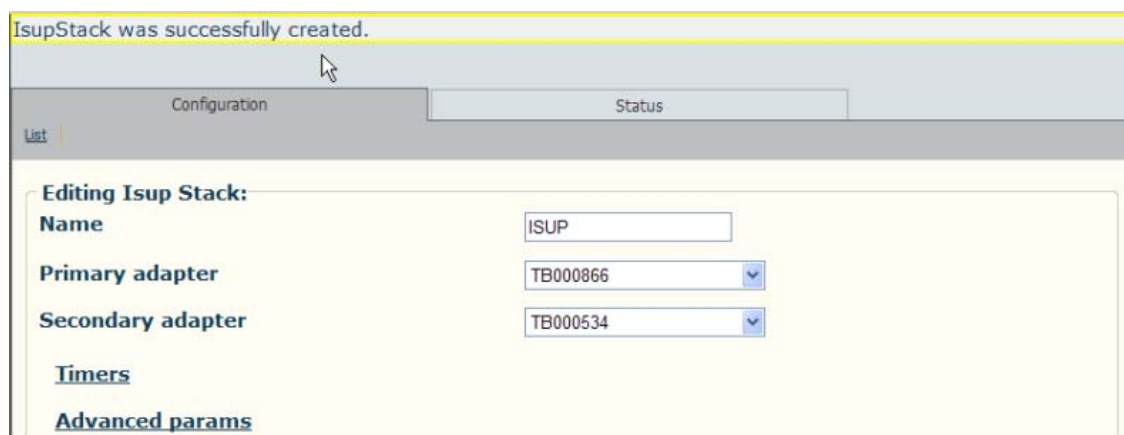
3. Provide a name for the ISUP stack
  - Select one Tmedia unit as the primary to run the ISUP stack for the Tmedia network.
  - Select another Tmedia unit as the secondary unit to run the ISUP stack
  - Click **Create** to save the ISUP stack



The screenshot shows a web interface for creating a new ISUP stack. At the top, there are two tabs: 'Configuration' and 'Status'. Below the tabs, there is a 'List' link. The main form is titled 'Creating New Isup Stack:'. It contains the following fields:

- Name:** A text input field containing 'ISUP'.
- Primary adapter:** A dropdown menu showing 'TB000866'.
- Secondary adapter:** A dropdown menu showing 'TB000534'.
- Timers:** A link to expand the timers section.
- Advanced params:** A link to expand the advanced parameters section.
- Create:** A button to save the configuration, with a mouse cursor hovering over it.

4. Verify that the **ISUP Stack was successfully created** message appears.



The screenshot shows the same web interface as the previous one, but now it is titled 'Editing Isup Stack:'. A yellow banner at the top of the form area displays the message 'IsupStack was successfully created.' with a mouse cursor pointing at it. The form fields are identical to the previous screenshot:

- Name:** 'ISUP'
- Primary adapter:** 'TB000866'
- Secondary adapter:** 'TB000534'
- Timers:** Link
- Advanced params:** Link

## 11.4.2 Create an ISUP Network

Based upon your system configuration, one or more ISUP networks are created. Repeat this section for as many networks as you require.

### To create an ISUP network

1. Click **Create New ISUP Network**

Configuration | Status

List

**Editing Isup Stack:**

Name: ISUP

Primary adapter: TB000866

Secondary adapter: TB000534

[Timers](#)

[Advanced params](#)

**Editing Networks:**

[Create New Isup Network](#)

| Name | Mtp3 Network | Actions |
|------|--------------|---------|
|------|--------------|---------|

2. Provide a name for the network.
  - Select an MTP3 network
  - Click **Create** to save the changes

Configuration | Status

[ISUP](#)

**Creating New Isup Network:**

Name: ISUP\_Verizon

Mtp3 Network: Verizon



IsupNetwork was successfully created.

Configuration Status

List

**Editing Isup Stack:**

Name ISUP

Primary adapter TB000866

Secondary adapter TB000534

[Timers](#)

[Advanced params](#)

Save

**Editing Networks:**

[Create New Isup Network](#)

| Name         | Mtp3 Network | Actions                                     |
|--------------|--------------|---|
| ISUP_Verizon | Verizon      | <a href="#">Edit</a> <a href="#">Delete</a> |

### 11.4.3 Create an ISUP User Part

The Userpart is the container for the multiple ISUP interfaces. One Userpart is required for each protocol variant.

**To create an ISUP Userpart:**

1. Click **Create New ISUP User Part** to access the ISUP configuration window.

Configuration Status

List

**Editing Isup Stack:**

Name ISUP

Primary adapter TB000866

Secondary adapter TB000534

[Timers](#)

[Advanced params](#)

Save

**Editing Networks:**

[Create New Isup Network](#)

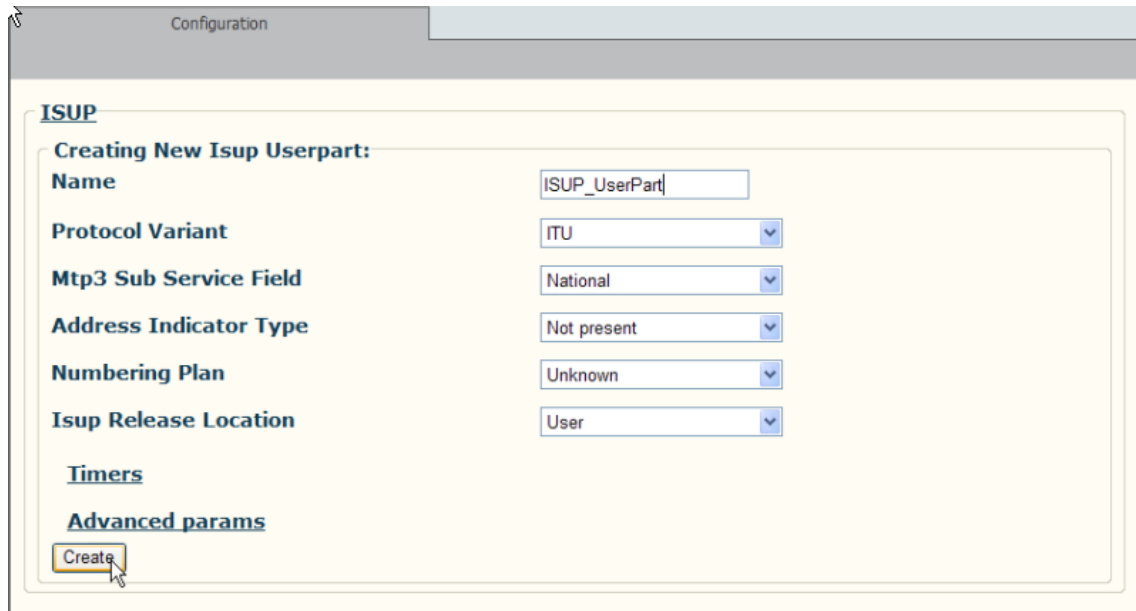
| Name         | Mtp3 Network | Actions                                     |
|--------------|--------------|---|
| ISUP_Verizon | Verizon      | <a href="#">Edit</a> <a href="#">Delete</a> |
| Bell         | Bell         | <a href="#">Edit</a> <a href="#">Delete</a> |

**Editing Userparts:**

[Create New Isup Userpart](#)

| Name | Protocol Variant | Subservice Field | Address Indicator | Station Id | Release Location | Actions |
|------|------------------|------------------|-------------------|------------|------------------|---------|
|------|------------------|------------------|-------------------|------------|------------------|---------|

2. Enter a name for the ISUP user part.
  - Select a protocol variant
  - Click **Create** to save the changes

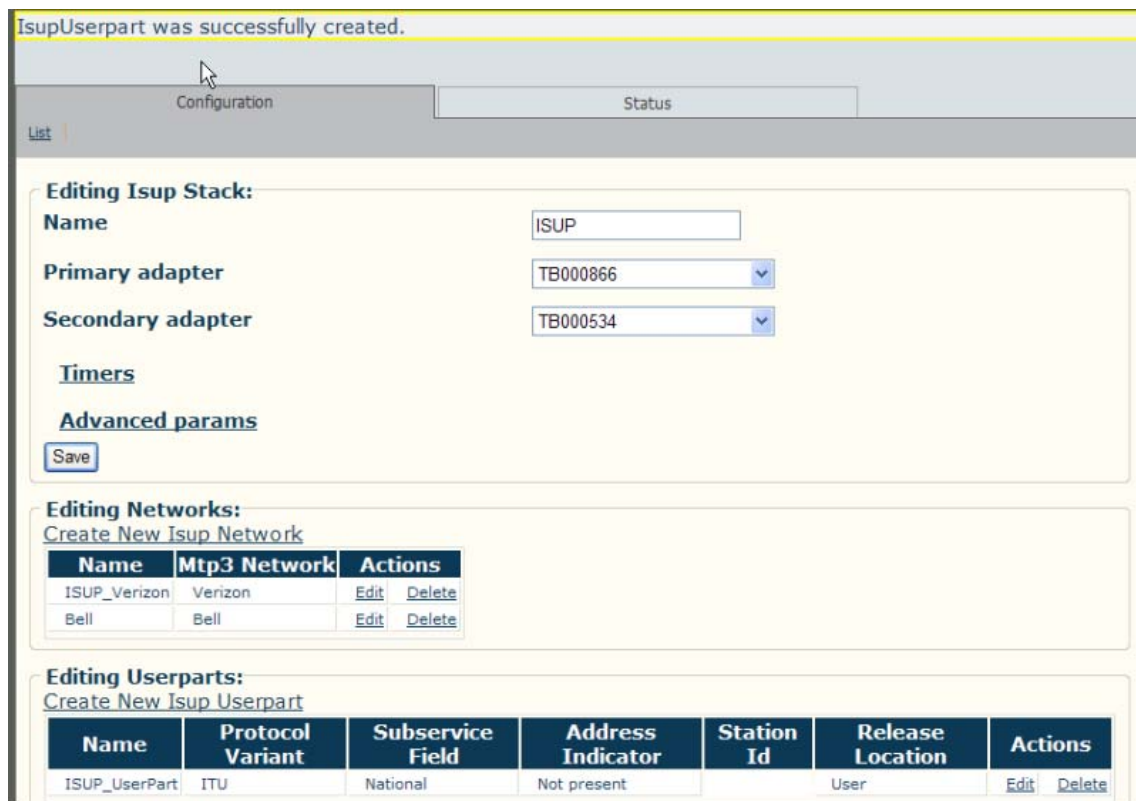


The screenshot shows the 'Configuration' tab with the 'ISUP' section selected. The 'Creating New Isup Userpart' form is displayed with the following fields and values:

| Field                  | Value         |
|------------------------|---------------|
| Name                   | ISUP_UserPart |
| Protocol Variant       | ITU           |
| Mtp3 Sub Service Field | National      |
| Address Indicator Type | Not present   |
| Numbering Plan         | Unknown       |
| Isup Release Location  | User          |

Below the form, there are links for 'Timers' and 'Advanced params', and a 'Create' button.

3. Verify that the **ISUP Userpart was successfully created** message appears.



The screenshot shows the 'Configuration' tab with the 'ISUP' section selected. A yellow message bar at the top states: 'IsupUserpart was successfully created.'

The 'Editing Isup Stack' form is displayed with the following fields and values:

| Field             | Value    |
|-------------------|----------|
| Name              | ISUP     |
| Primary adapter   | TB000866 |
| Secondary adapter | TB000534 |

Below the form, there are links for 'Timers' and 'Advanced params', and a 'Save' button.

The 'Editing Networks' section shows a table with the following data:

| Name         | Mtp3 Network | Actions                                     |
|--------------|--------------|---|
| ISUP_Verizon | Verizon      | <a href="#">Edit</a> <a href="#">Delete</a> |
| Bell         | Bell         | <a href="#">Edit</a> <a href="#">Delete</a> |

The 'Editing Userparts' section shows a table with the following data:

| Name          | Protocol Variant | Subservice Field | Address Indicator | Station Id | Release Location | Actions                                     |
|---------------|------------------|------------------|-------------------|------------|------------------|---|
| ISUP_UserPart | ITU              | National         | Not present       |            | User             | <a href="#">Edit</a> <a href="#">Delete</a> |

## 11.4.4 Create an ISUP Interface

The ISUP interface contains the CICs within the ISUP Userpart. One interface is created for each similar grouping of CICs within one Userpart protocol variant.

**To create an ISUP interface:**

1. Click **Create New ISUP Interface**.

The screenshot displays the 'Configuration' tab of the SS7 Signaling management interface. The 'Editing Isup Stack' section contains fields for 'Name' (ISUP), 'Primary adapter' (TB000866), and 'Secondary adapter' (TB000534). Below these are links for 'Timers' and 'Advanced params', and a 'Save' button. The 'Editing Networks' section includes a link to 'Create New Isup Network' and a table of existing networks.

| Name         | Mtp3 Network | Actions                                     |
|--------------|--------------|---|
| ISUP_Verizon | Verizon      | <a href="#">Edit</a> <a href="#">Delete</a> |
| Bell         | Bell         | <a href="#">Edit</a> <a href="#">Delete</a> |

The 'Editing Userparts' section features a link to 'Create New Isup Userpart' and a table of existing userparts.

| Name          | Protocol Variant | Subservice Field | Address Indicator | Station Id | Release Location | Actions                                     |
|---------------|------------------|------------------|-------------------|------------|------------------|---|
| ISUP_UserPart | ITU              | National         | Not present       |            | User             | <a href="#">Edit</a> <a href="#">Delete</a> |

The 'Editing Interfaces' section includes a link to 'Create New Isup Interface' and a table of existing interfaces.

| Name | Userpart | Network | Trunk Type | OPC | DPC | Actions |
|------|----------|---------|------------|-----|-----|---------|
|------|----------|---------|------------|-----|-----|---------|

2. Provide a name for the ISUP Interface.
  - Select a previously created ISUP Userpart
  - Select a previously created network
  - Select the originating and destination points codes
  - Click **Create** to save the changes

The screenshot shows the 'Configuration' tab of the TelcoBridges web portal. Under the 'ISUP' section, the 'Creating New Isup Interface:' form is displayed. The form contains the following fields and values:

| Field      | Value                   |
|------------|-------------------------|
| Name       | Tmedia_Target_Interface |
| Userpart   | ISUP_UserPart           |
| Network    | ISUP_Verizon            |
| Trunk Type | E1                      |
| OPC        | Tmedia_SS7              |
| DPC        | Target_SYS              |

Below the form, there are links for 'Timers' and 'Advanced param', and a 'Create' button which is being clicked by a mouse cursor.

3. Verify that the **ISUP Interface was successfully created** message appears.

The screenshot shows the 'Configuration' tab of the TelcoBridges web portal. A yellow banner at the top displays the message: 'IsupInterface was successfully created.' Below this, the 'ISUP' section shows the 'Editing Isup Interface:' form. The form contains the following fields and values:

| Field      | Value                   |
|------------|-------------------------|
| Name       | Tmedia_Target_Interface |
| Userpart   | ISUP_UserPart           |
| Network    | ISUP_Verizon            |
| Trunk Type | E1                      |
| OPC        | Tmedia_SS7              |
| DPC        | Target_SYS              |

Below the form, there are links for 'Timers' and 'Advanced param'.

4. Click **Create New ISUP CIC Group** to access the CIC configuration window.

Configuration

**ISUP**

Editing Isup Interface:

Name: Tmedia\_Target\_Interface

Userpart: ISUP\_UserPart

Network: ISUP\_Verizon

Trunk Type: E1

OPC: Tmedia\_SS7

DPC: Target\_SYS

[Timers](#)

[Advanced param](#)

[Save](#)

[Create New Isup Cic Group](#)

Editing Cic Groups:

| Name | First CIC | Circuits In Group | Actions |
|------|-----------|-------------------|---------|
|------|-----------|-------------------|---------|

5. Provide a name for the CIC Group
- Indicate the number of the first CIC in the group.
  - Select the line service and indicate the timeslots that are to be use by this CIC group
  - Press **Create** to save the changes

**ISUP**

[Tmedia Target Interface](#)

Creating New Isup Cic Group:

Name: CICGRP\_E1\_LS\_0

First CIC: 1

Line service: LS\_0

Timeslots:

|                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1                                   | 3                                   | 5                                   | 7                                   | 9                                   | 11                                  | 13                                  | 15                                  | 17                                  | 19                                  | 21                                  | 23                                  | 25                                  | 27                                  | 29                                  | 31                                  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

[Select all](#)

Call Control: Bothway

[Timers](#)

[Advanced params](#)

[Create](#)

6. Verify that the **ISUP CIC Group was successfully created** message appears.

IsupCicGroup was successfully created.

Configuration

**ISUP**

**Editing Isup Interface:**

**Name** Tmedia\_Target\_Interface

**Userpart** ISUP\_UserPart

**Network** ISUP\_Verizon

**Trunk Type** E1

**OPC** Tmedia\_SS7

**DPC** Target\_SYS

**Timers**

**Advanced param**

[Create New Isup Cic Group](#)

**Editing Cic Groups:**

| Name           | First CIC | Circuits In Group | Actions                                     |
|----------------|-----------|-------------------|---|
| CICGRP_E1_LS_0 | 1         | 31                | <a href="#">Edit</a> <a href="#">Delete</a> |

A second CIC Group is shown, added to the CIC group listing.

Configuration

**ISUP**

**Editing Isup Interface:**

**Name** Tmedia\_Target\_Interface

**Userpart** ISUP\_UserPart

**Network** ISUP\_Verizon

**Trunk Type** E1

**OPC** Tmedia\_SS7

**DPC** Target\_SYS

**Timers**

**Advanced param**

[Create New Isup Cic Group](#)

**Editing Cic Groups:**

| Name           | First CIC | Circuits In Group | Actions                                     |
|----------------|-----------|-------------------|---|
| CICGRP_E1_LS_0 | 1         | 31                | <a href="#">Edit</a> <a href="#">Delete</a> |
| CICGRP_E1_LS_1 | 32        | 31                | <a href="#">Edit</a> <a href="#">Delete</a> |

## 11.5 Activating the Configuration

Each time that a configuration change is made it must be activated as described in Section 3.5 “Activating the Configuration” on page 26.

## 11.6 Verifying Status

To verify the status of the SS7 Signaling stack, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 11.7 Summary

This chapter covered the following SS7 configuration topics:

- Configuration of the MTP2 stack
- Configuration of the MTP3 stack
- Configuration of the ISUP stack

---

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---



## Chapter 12 SIP Profiles

This chapter describes the creation of a system resource profile that is applied to Session Initiated Protocol (SIP) stacks and used by one or more Network Access Points (NAPs). Topics covered in this chapter.

- Creating a SIP profile
- Assigning a SIP profile to a NAP

## 12.1 SIP Profiles

SIP profiles are designed to enable the customizing of multiple properties of a SIP stack into a system profile that may be assigned to multiple NAPS. The creation of SIP profiles simplifies the configuration of NAPs and allows for a profile to be reused by multiple NAPs.

A conceptual illustration of SIP profile reuse is shown in figure 12.1 on page 138.

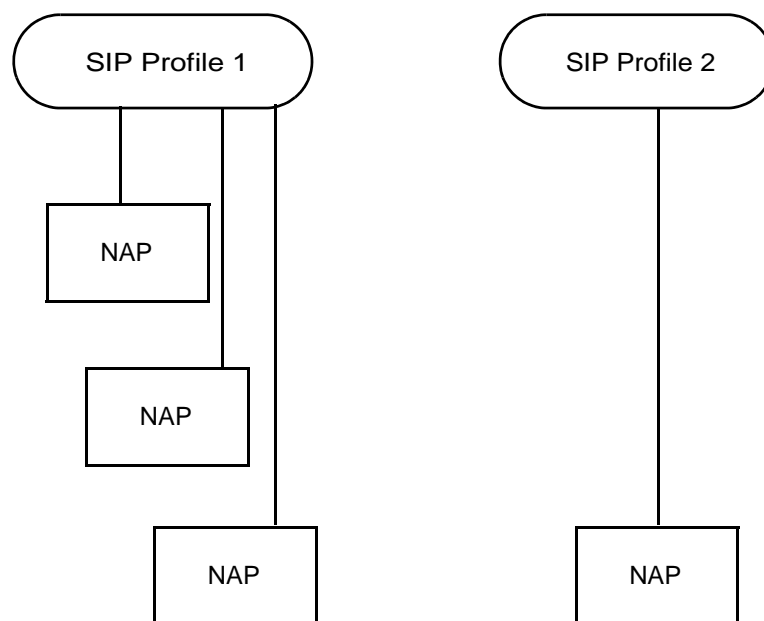
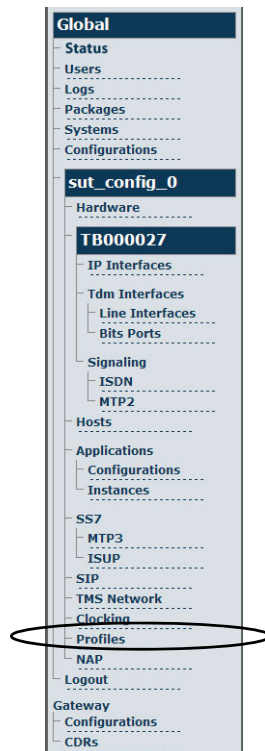


Figure 12.1 SIP Profile Assignment Conceptual Illustration

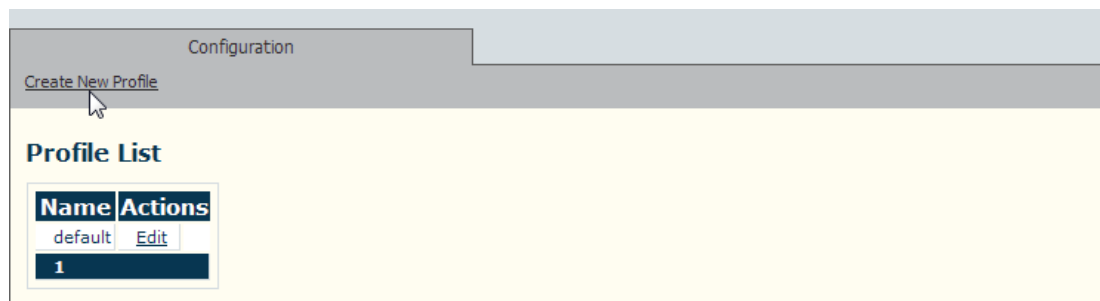
## 12.2 Creating an Profile

To configure an system Profile:

1. Select **Profiles** from the navigation panel.



2. Click **Create New Profile** from the information panel.



3. Enter a name for the profile. In this example PROXY\_1 is entered.
  - Select an SDP generation option. The SDP description appears in the Profile SDP window.
  - Click **Create**, to save the changes

Configuration

List

**Creating New Profile:**

**Name**

**SIP Profile Params**

**Use SIP strict routing** ☒

**SDP generation options**

Do not generate session level connection  
Use \n, not \r\n (OBSOLETE)  
Generate SDP for parameters even if it is the default val

**Profile SDP Description**

```
m=audio 0 RTP/AVP 0 8 4 96 97 18 13
a=rtpmap:96 iLBC/8000
a=rtpmap:97 iLBC/8000
a=fmtp:97 mode=20
```

Create

4. Select one or more DTMF relay schemes.
  - Use the << key to add one or more schemes
  - Click **Save**

**Dtmf Relay Scheme**

Current <<

Relay DTMF according to RFC2833  
Relay DTMF using SIP INFO messages  
Relay DTMF in band

Save

5. Select one or more DTMF relay schemes.
  - Use the up and down arrow keys to set the preferred order of the DTMF relaying scheme.
  - Click **Save**

**Dtmf Relay Scheme**

| Current                            |                        |
|------------------------------------|------------------------|
| Relay DTMF according to RFC2833    | <a href="#">Remove</a> |
| Relay DTMF using SIP INFO messages | <a href="#">Remove</a> |
| Relay DTMF in band                 | <a href="#">Remove</a> |

[Save](#)

**Note** Once a profile has been created, it can be assigned to one or more NAPs. See figure 12.2 on page 141.

Configuration Status

[List](#)

**Editing NAP:**

**Name**

**Default Profile**

**SIP Specific Params**

**Proxy address**

**Proxy port**

**Registration Params**

**Register to Proxy?** ☒

**Address to register**

**Authentication Params**

**Realm**

**User**

**Password**

**Allowed VOIP Interfaces:**

**Current**

If none selected, any available interface will be used.

**SIP Service Access Points:**

**Current**

[SAP\\_1](#) [Remove](#)

[Save](#)

Figure 12.2 Assigning a Profile to a NAP

## 12.3 Activating the Configuration

Each time that a configuration change is made it must be activated as described in Section 3.5 “Activating the Configuration” on page 26.

## 12.4 Summary

This chapter presented system profiles and described how they are configured and assigned to NAPs.

# Chapter 13   Network Access Points

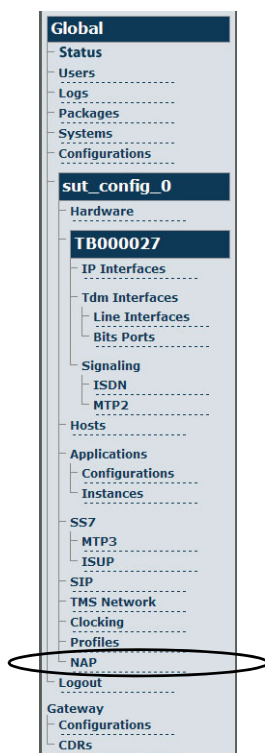
This chapter provides the procedure for creating one or more Network Access Points.

## 13.1 Creating a NAP

The Network Access Point (NAP) allows for SAPs, ISDN stacks, and SS7 ISUP interfaces to be associated as a combined resource for one type of access. A NAP is used to represent a collection of voice endpoints, for example: a group of SS7 CICs, ISDN controlled timeslots, SIP outgoing proxy to a specific provider, and more. SAPs are, later in the configuration process, used to define how calls are routed out of the Tmedia system. In the example that follows, a NAP is set for an ISP and another NAP is set for circuit switched voice.

### To create a Network Access Point

1. Select **NAP** from the navigation panel.

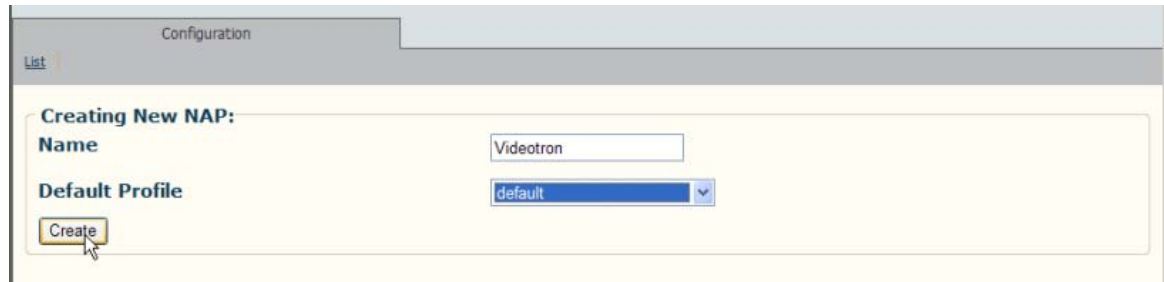


2. Click **Create New NAP**, to access the NAP configuration window.



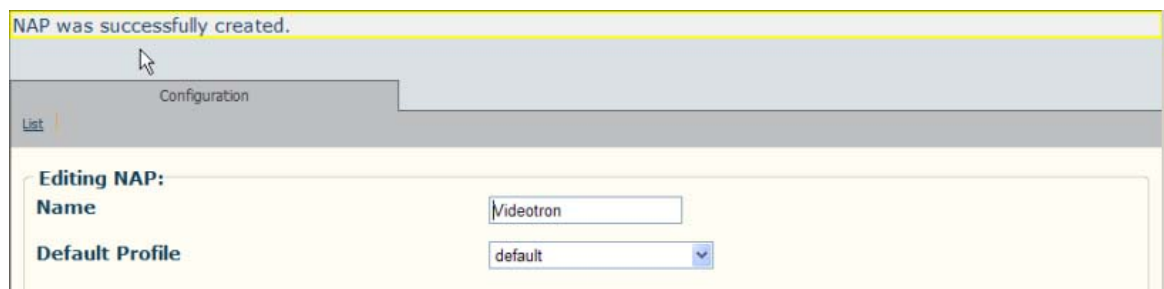


3. Provide a name for the NAP
  - Click **Create** to initialize the NAP



The screenshot shows a web-based configuration interface. At the top, there is a tab labeled 'Configuration' and a link labeled 'List'. Below this, a section titled 'Creating New NAP:' contains two input fields: 'Name' with the value 'Videotron' and 'Default Profile' with a dropdown menu showing 'default'. A 'Create' button is located below these fields, and a mouse cursor is pointing at it.

4. Verify that the NAP was successfully created message appears.



The screenshot shows the same configuration interface as before, but with a yellow banner at the top displaying the message 'NAP was successfully created.' A mouse cursor is pointing at the banner. Below the banner, the 'Configuration' tab and 'List' link are still visible. The section now is titled 'Editing NAP:' and contains the same 'Name' and 'Default Profile' fields, both with the same values as in the previous screenshot.

- Use the << key to associate either a SAP, ISDN stack, or ISUP interface with the NAP

Configuration

List

**Editing NAP:**

Name: Videotron

Default Profile: default

**SIP Service Access Points:**

Current << SAP1

**Isdn Stacks:**

Current << ISDN32

**Isup Interfaces:**

Current << CICGRP\_E1\_LS\_0  
CICGRP\_E1\_LS\_1

- Click **Save** to store the changes

Configuration

List

**Editing NAP:**

Name: Videotron

Default Profile: default

SIP Authentication realm:

SIP Authentication user:

SIP Authentication password:

SIP Proxy address: 10.0.0.212

SIP Proxy port: 5060

**Allowed VOIP Interfaces:**

Current << TB000866.VOIP0  
TB000866.voip1

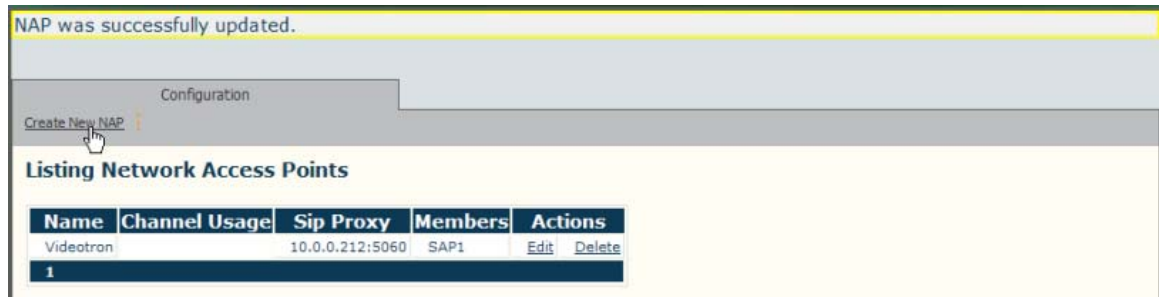
If none selected, any available interface will be used.

**SIP Service Access Points:**

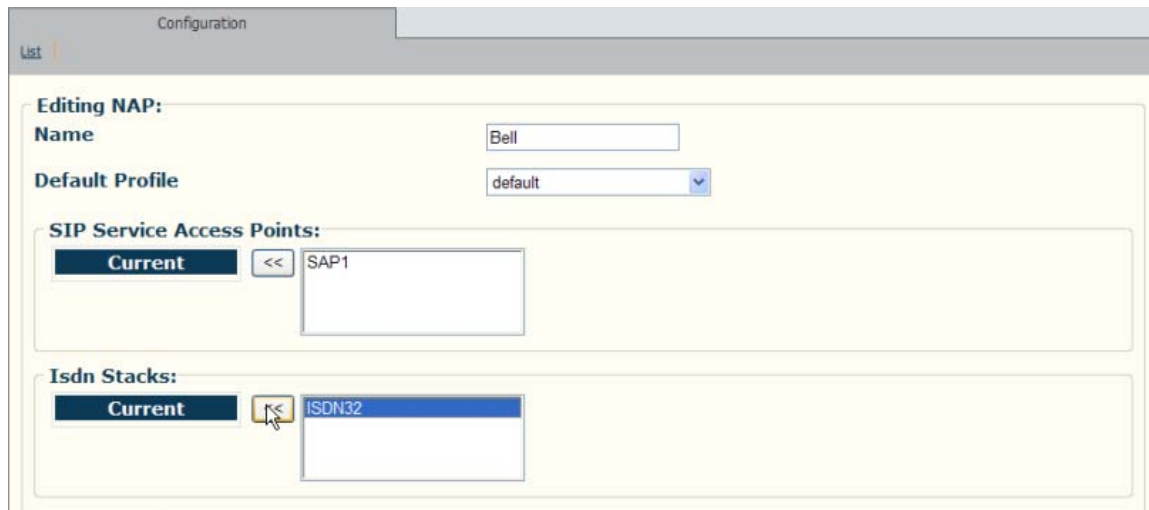
Current << SAP1 Remove

Save

7. Verify that the newly created NAP is listed in the NAP list.
  - Click **Create New NAP**, to add an additional NAP to the NAP list



8. Enter name for the new NAP
  - Use the << key to associate either a SAP, ISDN stack, or ISUP interface with the NAP. In this example ISDN signaling stack is selected for a circuit-switched service.



9. Click **Save** to store the settings

Configuration

List

**Editing NAP:**

**Name**

**Default Profile**

**Channel Usage**

**Isdn Stacks:**

**Current** <<

ISDN32 Remove

Save

10. Verify that the newly created NAPs appear in the NAP listing

NAP was successfully updated.

Configuration

Create New NAP

**Listing Network Access Points**

| Name      | Channel Usage   | Sip Proxy       | Members | Actions     |
|-----------|-----------------|-----------------|---------|-------------|
| Videotron |                 | 10.0.0.212:5060 | SAP1    | Edit Delete |
| Bell      | Lowest timeslot |                 | ISDN32  | Edit Delete |

1

## 13.2 Verifying Status

To verify the status of the NAP configuration, either select **Status** from the Navigation panel or select the **Status** tab in the Information panel. To learn about the Tmedia Status menus, refer to Chapter 15.

## 13.3 Summary

This chapter provided a description of NAPs and procedures for their configuration.

# Chapter 14 Gateway Application

This chapter provides the procedure for configuring a gateway application on the Tmedia TMG3200.

Topics contained in this chapter:

- TMG3200
- Creating a Tmedia Gateway Configuration
- Configuring Called Number Routes

---

**Note** Although the gateway application is preinstalled on the TMG3200, it is also available for the TMP6400.

---

## 14.1 TMG3200

The Tmedia TMG3200 series is a media gateway platform enabling developers to create, in addition to TDM solutions, innovative VoIP solutions. The TMG3200 integrates an on-board application-ready Linux Host to run custom media gateway applications.

A TMG3200 is a stand-alone system, therefore it does not operate with other TMP6400s or TMS1600s in the same network. A conceptual illustration is shown in figure 14.1.

---

**Note** In order to facilitate the system configuration, the serial number of the TMG3200 is preregistered with the on-board Toolpack application server, at the factory.

---



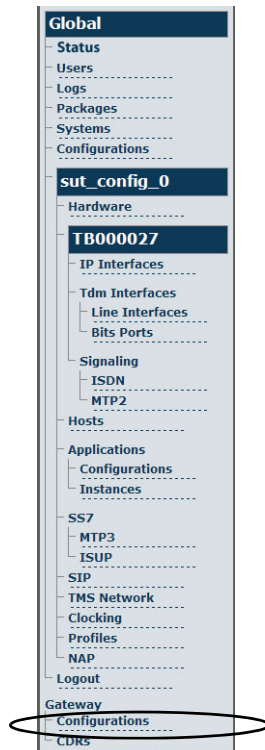
Figure 14.1 Adding a TMG3200 Media Gateway

### 14.1.1 Creating a TMG3200 Gateway Configuration

To create a gateway configuration, the serial number of the gateway must be preregistered at the factory. In addition, the gateway application must be preinstalled on the TMG3200, at the factory.

**To create a TMG3200 Gateway configuration:**

1. Select **Configurations** from the navigation panel.



2. Click **Edit** from the information panel, to access the TMG3200 Gateway configuration window.



3. Verify that the following fields are filled:
  - The name of the TMG3200 is entered in the **Name** field.
  - The path of the Bin file appears in the **Bin Path** field.
  - The name of the system configuration appears in the **Configuration** field.
  - The mode of the gateway application is set to **Normal** in the **Application Mode** field.
  - The name of the TMG3200 is entered in the **Name** field.
  - Click **Save** to store the configuration.

The screenshot displays the 'Configuration' page in the Tmedia Web Portal. The main heading is 'Editing Configuration:'. The form contains the following fields and options:

- Name:** GATEWAY\_0
- Application Type:** User specific (dropdown)
- Bin Path:** \${PKG\_HOME}/\${CURRENT\_PKG}/apps/gateway/debug/i586-v
- Working Path:** (empty text box)
- Command-line arguments:** (empty text box)
- Configuration:** config\_0 (dropdown)
- CMC Params:** (section header)
- Application Mode:** Normal (dropdown)
- Use ringback tone behavior:** ☐
- Use voice mail behavior:** ☐
- Use fax relay behavior:** ☒
- Use follow me behavior:** ☐
- Use CDR behavior:** ☒
- Use profile manager behavior:** ☐
- Advanced:** (section header)
- Save:** (button with a mouse cursor pointing to it)



4. Verify that the **Gateway configuration was successfully updated** message is displayed.

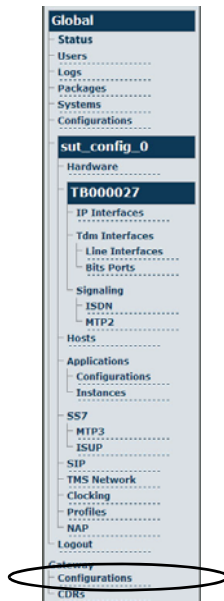


## 14.2 Creating Called Number Routes

To facilitate the routing of calls from and to NAPs, or between NAPs, routing rules are defined.

**To create a called number route:**

1. Select **Configurations** from the navigation panel.



2. Click **Edit** to access the routing gateway configuration



- Click Create New Route, to access the gateway configuration window.

Configuration

List

Editing Configuration:

Name: GATEWAY\_0

Application Type: User specific

Bin Path: \${PKG\_HOME}/\${CURRENT\_PKG}/apps/gateway/debug/i586-v

Working Path:

Command-line arguments:

Configuration: config\_0

CMC Params

Application Mode: Normal

Use ringback tone behavior: ☐

Use voice mail behavior: ☐

Use fax relay behavior: ☒

Use follow me behavior: ☐

Use CDR behavior: ☒

Use profile manager behavior: ☐

Advanced

Save

Editing Routes:

Create New Route

| Calling Number Mask | Called Number Mask | Source NAP | Destination NAP | Actions |
|---------------------|--------------------|------------|-----------------|---------|
|---------------------|--------------------|------------|-----------------|---------|

- Enter the called number mask.

In this example, a caller dialling 911 will get routed to the Bell NAP.

- Click **Create** to save the routing rule

Configuration

List

GATEWAY\_0

Creating New Route:

Called number mask: 911

Calling number mask:

Source NAP:

Destination NAP: Bell

Advanced Params

Create

5. Verify that the newly create routing rule appears in the Route listing.

- Click **Create New Route** to add another routing rule

Use voice mail behavior ☐

Use fax relay behavior ☒

Use follow me behavior ☐

Use CDR behavior ☒

Use profile manager behavior ☐

**Advanced**

Save

Editing Routes:

[Create New Route](#)

| Calling Number Mask | Called Number Mask | Source NAP | Destination NAP | Actions                                     |
|---------------------|--------------------|------------|-----------------|---|
| 911                 |                    |            | Bell            | <a href="#">Edit</a> <a href="#">Delete</a> |

6. Enter a value for the called number mask and assign it to a NAP.

In this example a call starting with area code originating on the Videotron NAP is routed to the Bell NAP.

- Click **Create** to save this routing rule.

Configuration

List

**GATEWAY\_0**

Creating New Route:

Called number mask

Calling number mask

Source NAP

Destination NAP

**Advanced Params**

Create

**Note** The mask fields are designed to accept RegEx (regular expressions) syntax. In the example, shown above, the called number mask is using regular expressions to say that a called number starting with 450 and followed by seven digits, each ranging from 0-9, is to be routed to the Bell NAP.

7. Verify that the routing rules appear in the Routes listing

Use fax relay behavior ☒

Use follow me behavior ☐

Use CDR behavior ☒

Use profile manager behavior ☐

**Advanced**

[Editing Routes:](#)  
[Create New Route](#)

| Calling Number Mask | Called Number Mask | Source NAP | Destination NAP | Actions              |                        |
|---------------------|--------------------|------------|-----------------|----------------------|------------------------|
|                     | 911                |            | Bell            | <a href="#">Edit</a> | <a href="#">Delete</a> |
|                     | 450[0-9]{7}        | Videotron  | Bell            | <a href="#">Edit</a> | <a href="#">Delete</a> |

[Editing Accounts:](#)

## 14.3 Summary

This chapter described the configuration of a gateway application. Procedures were provided for the configuration of a TMG3200 and called number routes.

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---

# Chapter 15    Status Menus

This chapter provides a description of the Tmedia Web Portal status menus. The global status and detailed status views are described.

Topics contained in this chapter:

- Tmedia Status Windows
- Navigation
- Status Window Conventions
- Global Status View
- Detailed Status View

## 15.1 General Description

A general description of the status menus is provided in the follow sections:

- Section 15.1.1 “Tmedia Status Menus” on page 160
- Section 15.1.2 “Navigation” on page 162
- Section 15.1.3 “Status Screen Conventions” on page 163

### 15.1.1 Tmedia Status Menus

The Tmedia Web Portal provides you with an overall display of system status from a global status view. This global view of system status is displayed after initial log on so that you are provided with timely access to the current state of health of your Tmedia system. A typical view is shown in figure 15.1 on page 160. To simplify the access to system status, information is grouped into logical categories accessible by status tabs. The most critical information is displayed under each status tab, however more information about status can be seen by extending status views to provide you with highly detailed information. For further information about extended views, refer to Section 15.1.3.1 “Extended Status” on page 164.

Global

- Status
- Users
- Logs
- Packages
- Systems
- Configurations

config\_1

- Hardware
- TB00449
  - IP Interfaces
  - Tdm Interfaces
    - Line Interfaces
    - Bits Ports
  - Signaling
    - ISDN
    - MTP2
  - Hosts
  - Applications
    - Configurations
    - Instances
  - SS7
    - MTP3
    - ISUP
  - SIP
  - TMS Network
  - Clocking
  - Profiles
  - NAP
  - Logout
- Gateway
  - Configurations
  - CDRs

Powered by Telcobridges Version: 2.2.11

system\_1

browse

Status Options

Refresh every: Don't refresh Now

Extended status

System Adapters Hosts Applications Tdm Lines SS7 Mtp2 SS7 Mtp3 SS7 Isup Isdn Sip Nap

System system\_1 up and running for 245005 seconds (since January 07 2009, 17:20:42)

System

| name                 | value    |
|----------------------|----------|
| Target configuration | ---      |
| Active configuration | config_1 |
| Target package       | ---      |
| Active package       | 2.2.11   |
| Updated component    | none     |

Figure 15.1 Tmedia Main Status Screen



Status information is integrated into the design of practically every window, such that no matter which screen you access, status is always readily available. Most information windows provide you with configuration and status tabs. See figure 15.2 and figure 15.3 on page 161. Selecting a status tab provides you with varying degrees of information about a specific item, with an initial summary view followed by more detailed views. All initial views are geared to provide you with the more critical pieces of information first. Should you require detailed information, you can easily navigate to view highly detailed listings. For further information about navigating to detailed views, refer to Section 15.1.2 “Navigation” on page 162.

Hardware Status - TB000027

**Status Options**

Refresh every: Don't refresh [v] Now

Extended status ☐

Hardware Sensors Licensed features

| Name                    | Value                |
|-------------------------|----------------------|
| Name                    | tb000027             |
| Oam target state        | Enabled [v]          |
| Current profile         | default              |
| Rom build name          | RELEASE_V0_97_0_RC14 |
| Type                    | TB640                |
| Oam target update state | Enabled [v]          |
| License days left       | 4294967295           |
| Rom firmware version    | 6357006              |
| Oam current state       | Ready                |
| Configuration state     | Ready                |
| Firmware version        | 33622019             |
| Serial number           | TB000027             |
| Build name              | RELEASE_V2_1_8_RC3   |

Figure 15.2 Hardware Adapter Status Screen

Listing MTP2 Link Status

**Status Options**

Refresh every: Don't refresh [v] Now

| Name        | Up | Aligned | In service duration | Local busy duration | Failure cnt |
|-------------|----|---------|---------------------|---------------------|-------------|
| MTP2_LINK_6 | No | No      | 0                   | 0                   | 0           |
| MTP2_LINK_7 | No | No      | 0                   | 0                   | 0           |
| MTP2_LINK_0 | No | No      | 0                   | 0                   | 0           |
| MTP2_LINK_1 | No | No      | 0                   | 0                   | 0           |
| MTP2_LINK_2 | No | No      | 0                   | 0                   | 0           |
| MTP2_LINK_3 | No | No      | 0                   | 0                   | 0           |
| MTP2_LINK_4 | No | No      | 0                   | 0                   | 0           |
| MTP2_LINK_5 | No | No      | 0                   | 0                   | 0           |

Figure 15.3 MTP2 Status Screen

## 15.1.2 Navigation

System status is simplified from initial log on. The Tmedia Web Portal displays a global status view, which enables you to navigate to detailed views. For example, in figure 15.4, the global status view displays general status for a hardware adapter TB000027 and its IP interfaces. Selecting the **eth0 IP link** enables navigation to the detailed status screen for this IP link. See figure 15.5 on page 162. This navigation feature is available in most screens. As long as a hyperlink is displayed in the global status view, selecting it will allow you to navigate to detailed views.

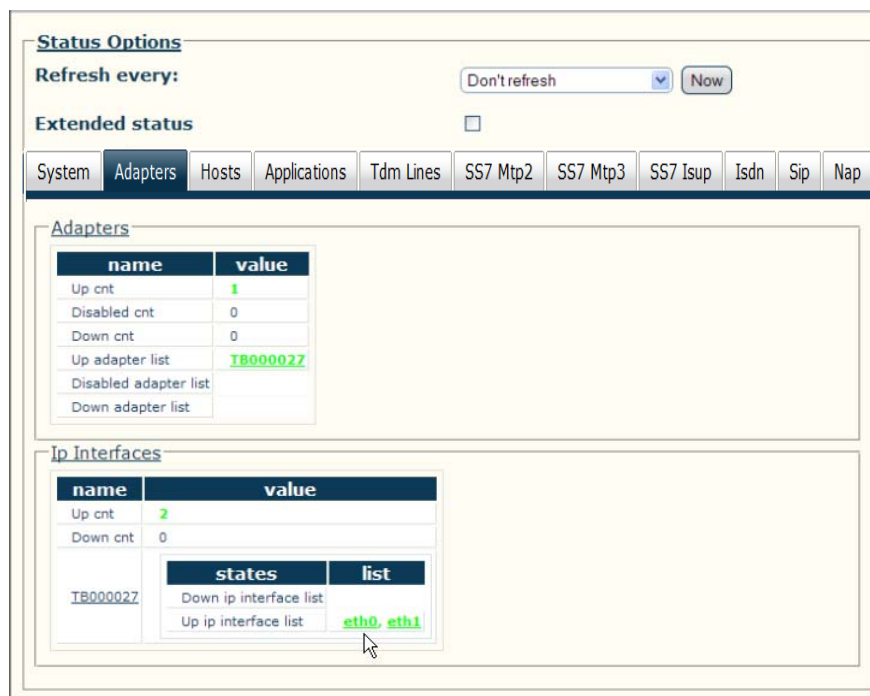


Figure 15.4 Global Status View: Navigating to a Detailed View

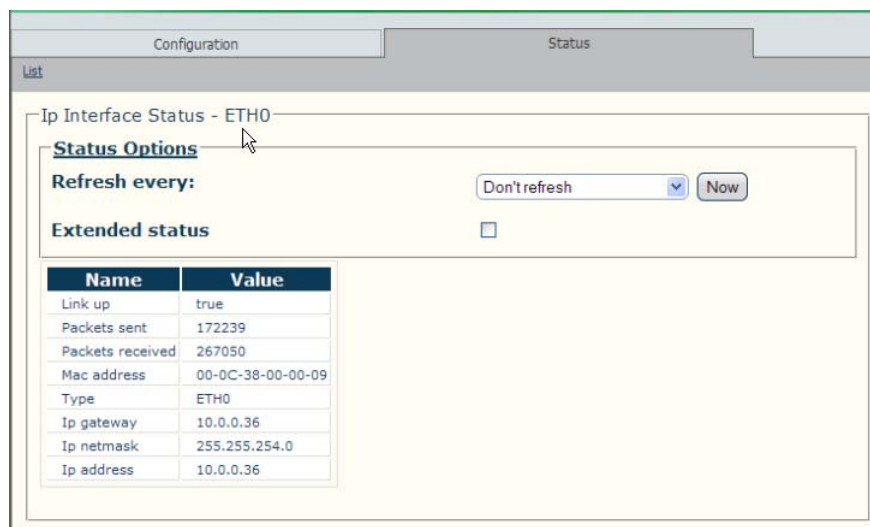


Figure 15.5 Detailed View: ETH0 IP Interface

**Note** Alternatively, you can navigate to detailed status views by first selecting a link from the Navigation panel and then selecting the status tab in the information window.

---

### 15.1.3 Status Screen Conventions

Most of the status screens are designed by default to provide the most relevant information in the general view. This general view may be extended to provide more information. In addition, status information can either be displayed once upon accessing a status screen or it can be refreshed on demand, or on a periodic basis. The choice is up to the user and this feature is common to every status screen. Another feature common to most screens is the ability to reset the values of displayed counters. This feature is key in enabling the user to verify whether certain conditions persist.

The usage of these common features is discussed in:

- Section 15.1.3.1 “Extended Status” on page 164
- Section 15.1.3.2 “Refresh Status” on page 165
- Section 15.1.3.3 “Reset Status” on page 166

### 15.1.3.1 Extended Status

To display extended status, do the following:

1. From a status screen, check the **Extended status** check box.

The extended view is displayed.

The screenshot shows the 'Status Options' section of the TelcoBridges web portal. The 'Refresh every:' dropdown is set to 'Don't refresh' with a 'Now' button next to it. The 'Extended status' checkbox is checked and circled. Below this is a navigation bar with tabs: System, Adapters, Hosts, Applications, Tdm Lines, SS7 Mtp2, SS7 Mtp3, SS7 Isup, Isdn, Sip, and Nap. The 'Adapters' tab is selected, displaying a table of adapter statistics. Below the table is the 'Ip Interfaces' section, which shows a table of interface statistics for the selected adapter (TB000027).

**Status Options**

Refresh every: Don't refresh

Extended status ☒

System Adapters Hosts Applications Tdm Lines SS7 Mtp2 SS7 Mtp3 SS7 Isup Isdn Sip Nap

**Adapters**

| name                  | value    |
|-----------------------|----------|
| Up cnt                | 1        |
| Disabled cnt          | 0        |
| Down cnt              | 0        |
| Up adapter list       | TB000027 |
| Disabled adapter list |          |
| Down adapter list     |          |

**Ip Interfaces**

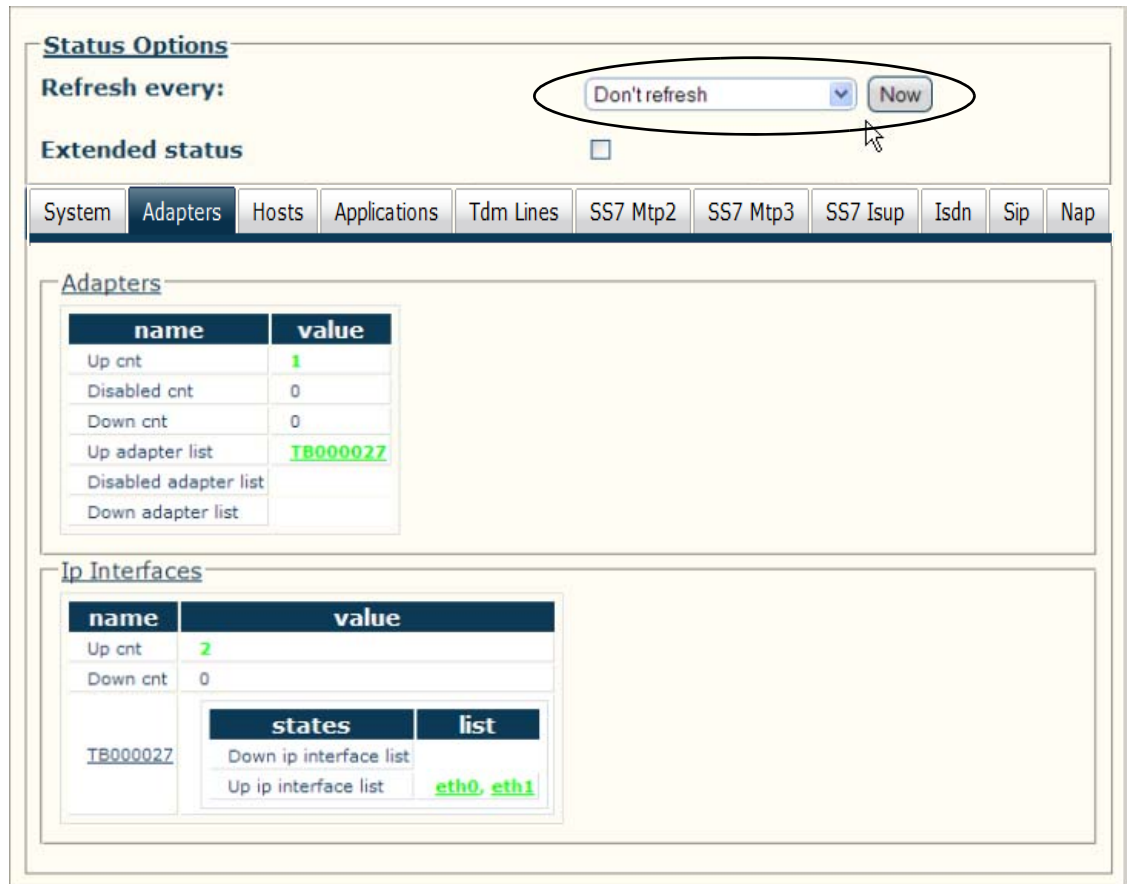
| name                   | value   |        |      |                        |  |                      |            |
|------------------------|---|--------|------|------------------------|--|----------------------|------------|
| Up cnt                 | 2   |        |      |                        |  |                      |            |
| Down cnt               | 0   |        |      |                        |  |                      |            |
| TB000027               | <table border="1"><thead><tr><th>states</th><th>list</th></tr></thead><tbody><tr><td>Down ip interface list</td><td></td></tr><tr><td>Up ip interface list</td><td>eth0, eth1</td></tr></tbody></table> | states | list | Down ip interface list |  | Up ip interface list | eth0, eth1 |
| states                 | list  |        |      |                        |  |                      |            |
| Down ip interface list |   |        |      |                        |  |                      |            |
| Up ip interface list   | eth0, eth1  |        |      |                        |  |                      |            |

### 15.1.3.2 Refresh Status

To refresh the current status display, do the following:

1. From a status screen, either click the **Now** button or select a refresh interval.

An update of status is displayed.



**Status Options**

Refresh every: Don't refresh Now

Extended status ☐

System Adapters Hosts Applications Tdm Lines SS7 Mtp2 SS7 Mtp3 SS7 Isup Isdn Sip Nap

**Adapters**

| name                  | value    |
|-----------------------|----------|
| Up cnt                | 1        |
| Disabled cnt          | 0        |
| Down cnt              | 0        |
| Up adapter list       | 1B000027 |
| Disabled adapter list |          |
| Down adapter list     |          |

**Ip Interfaces**

| name     | value |
|----------|-------|
| Up cnt   | 2     |
| Down cnt | 0     |

| states                 | list       |
|------------------------|------------|
| Down ip interface list |            |
| Up ip interface list   | eth0, eth1 |

### 15.1.3.3 Reset Status

To reset the counters of a current screen, do the following:

1. Select the **Reset status** check box.
2. Click **Now**.

MTP3 Stack Status - MTP3\_CFG\_0

**Status Options**

**Refresh every:** Don't refresh

**Extended status** ☐

**Reset status** ☐

| Name                         | Value |
|------------------------------|-------|
| Msu drop for routing err cnt | 0     |
| Tx tra msg cnt               | 0     |
| Tx trw msg cnt               | 0     |
| Rx tra msg cnt               | 0     |
| Rx trw msg cnt               | 0     |
| Tx unavailable msg cnt       | 0     |
| Rx unavailable msg cnt       | 0     |

Figure 15.6 MTP3 Stack Status

## 15.2 Status Menus Description

The Tmedia Web Portal global and detailed system status views are described in the following sections:

- System. See Section 15.2.1 “System” on page 168
- Adapters. See Section 15.2.2 “Adapters and IP Interfaces” on page 169
- Hosts. See Section 15.2.3 “Hosts” on page 173
- Applications. See Section 15.2.4 “Applications” on page 174
- TDM Lines. See Section 15.2.5 “TDM Lines” on page 176
- SS7 MTP2. See Section 15.2.6 “SS7 MTP2” on page 179
- SS7 MTP3. See Section 15.2.7 “SS7 MTP3” on page 182
- SS7 ISUP. See Section 15.2.8 “SS7 ISUP” on page 188
- ISDN. See Section 15.2.9 “ISDN” on page 193
- SIP. See Section 15.2.10 “SIP” on page 194
- NAP. See Section 15.2.11 “NAP” on page 197

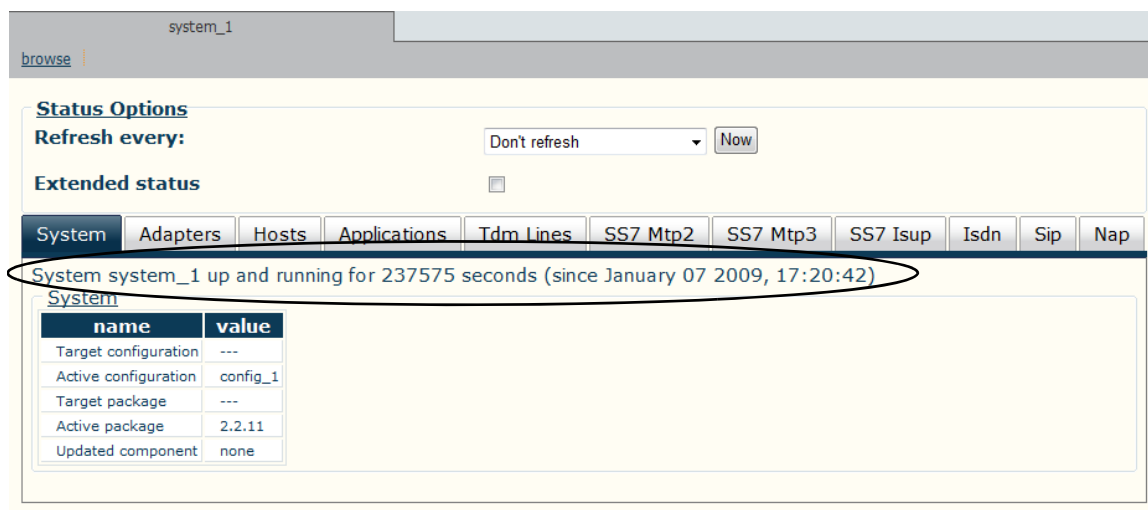
## 15.2.1 System

General status information about the system is accessible from the **System** tab of the Global Status view.

For further information about the System status view, refer to Section 15.2.1.1 “System General View” on page 168.

### 15.2.1.1 System General View

The **System** general view, shown in figure 15.7 on page 168, provides the name of the system and indicates the period of time that it has been in operation. In addition, it provides the system name and software version number in use.



The screenshot shows the 'System' tab selected in the 'system\_1' view. The status message is circled in red.

System system\_1 up and running for 237575 seconds (since January 07 2009, 17:20:42)

| name                 | value    |
|----------------------|----------|
| Target configuration | ---      |
| Active configuration | config_1 |
| Target package       | ---      |
| Active package       | 2.2.11   |
| Updated component    | none     |

Figure 15.7 System General View



## 15.2.2 Adapters and IP Interfaces

General and detailed status information about the Tmedia units, also referred to as adapters, is accessible from the Adapters tab of the Global Status view.

For further information about Adapters status views, refer to:

- Section 15.2.2.1 “Adapters General View” on page 169.
- Section 15.2.2.2 “Adapters Detailed View” on page 170.
- Section 15.2.2.3 “IP Interfaces Detailed View” on page 172.

### 15.2.2.1 Adapters General View

The general view of the **Adapters** status screen provides information about the Tmedia units in a system. From this view you can know the status of Tmedia units by seeing if they are up, down, or disabled. In addition, similar information can be known about the IP interfaces of the Tmedia units. Selecting a Tmedia unit link will cause its detailed view to be displayed. The same is true for the IP interface links.

**Status Options**

Refresh every: Don't refresh Now

Extended status ☐

System Adapters Hosts Applications Tdm Lines SS7 Mtp2 SS7 Mtp3 SS7 Isup Isdn Sip Nap

**Adapters**

| name                  | value                    |
|-----------------------|--------------------------|
| Up cnt                | 1                        |
| Disabled cnt          | 0                        |
| Down cnt              | 0                        |
| Up adapter list       | <a href="#">TB000027</a> |
| Disabled adapter list |                          |
| Down adapter list     |                          |

Link to hardware adapter detailed view

**Ip Interfaces**

| name                     | value  |        |      |                        |  |                      |   |
|--------------------------|--|--------|------|------------------------|--|----------------------|---|
| Up cnt                   | 2  |        |      |                        |  |                      |   |
| Down cnt                 | 0  |        |      |                        |  |                      |   |
| <a href="#">TB000027</a> | <table border="1"> <thead> <tr> <th>states</th> <th>list</th> </tr> </thead> <tbody> <tr> <td>Down ip interface list</td> <td></td> </tr> <tr> <td>Up ip interface list</td> <td><a href="#">eth0</a>, <a href="#">eth1</a></td> </tr> </tbody> </table> | states | list | Down ip interface list |  | Up ip interface list | <a href="#">eth0</a> , <a href="#">eth1</a> |
| states                   | list   |        |      |                        |  |                      |   |
| Down ip interface list   |  |        |      |                        |  |                      |   |
| Up ip interface list     | <a href="#">eth0</a> , <a href="#">eth1</a>  |        |      |                        |  |                      |   |

Link to IP interface detailed view

Figure 15.8 Adapters General View

### 15.2.2.2 Adapters Detailed View

The Adapters detailed view groups status information about a specific adapter under three tabs, as follows:

- Hardware
- Sensors
- Licensed Features

To learn more about the configuration of Tmedia units, refer to Chapter 4.

#### Hardware

The Hardware status screen displays detailed information about the Tmedia unit, such as the software version, the firmware version, and the configuration state. From this view, the OAM target state can be modified from enabled to disabled.

Hardware Status - TB000027

**Status Options**

Refresh every:

Extended status ☐

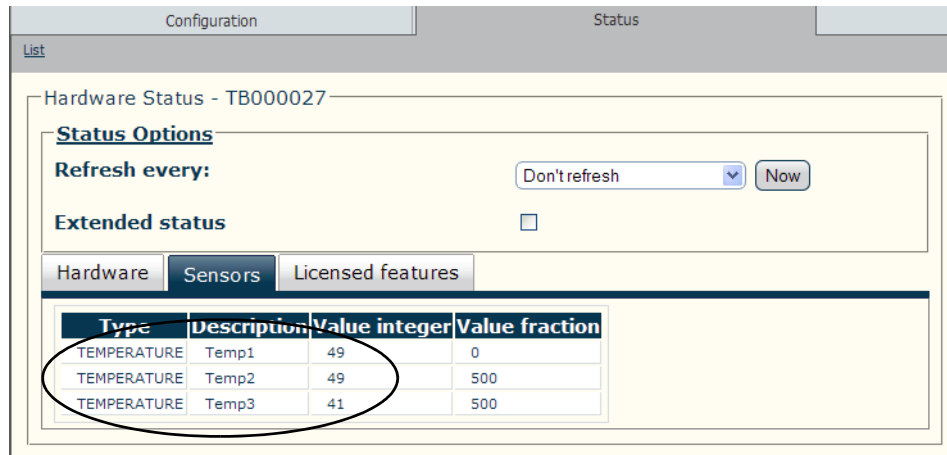
**Hardware** | Sensors | Licensed features

| Name                    | Value                                  |
|-------------------------|--|
| Name                    | tb000027                               |
| Oam target state        | <input type="button" value="Enabled"/> |
| Current profile         | default                                |
| Rom build name          | RELEASE_V0_97_0_RC14                   |
| Type                    | TB640                                  |
| Oam target update state | <input type="button" value="Enabled"/> |
| License days left       | 4294967295                             |
| Rom firmware version    | 6357006                                |
| Oam current state       | Ready                                  |
| Configuration state     | Ready                                  |
| Firmware version        | 33622019                               |
| Serial number           | TB000027                               |
| Build name              | RELEASE_V2_1_8_RC3                     |

Figure 15.9 Hardware Detailed View

## Sensors

The Sensors status screen displays detailed information about the temperature of various sensors located inside the Tmedia unit chassis.



The screenshot shows the 'Status' tab of a web interface. Under 'Hardware Status - TB000027', there are 'Status Options' including a 'Refresh every:' dropdown set to 'Don't refresh' and a 'Now' button. An 'Extended status' checkbox is also present. Below these are three tabs: 'Hardware', 'Sensors' (which is selected), and 'Licensed features'. The 'Sensors' tab displays a table with four columns: 'Type', 'Description', 'Value integer', and 'Value fraction'. Three rows of temperature data are shown, with the first row circled.

| Type        | Description | Value integer | Value fraction |
|-------------|-------------|---------------|----------------|
| TEMPERATURE | Temp1       | 49            | 0              |
| TEMPERATURE | Temp2       | 49            | 500            |
| TEMPERATURE | Temp3       | 41            | 500            |

Figure 15.10 Sensors Detailed View

## Licensed Features

The Licensed Feature status screen displays detailed information about licensed features. A zero in the **Licensed feature cnt** column means that the Tmedia unit does not have access to the feature. A value of 1 or more indicates the quantity purchased. A number in the **Maximum feature cnt** column indicates the maximum amount of a licensed feature that can be purchased.

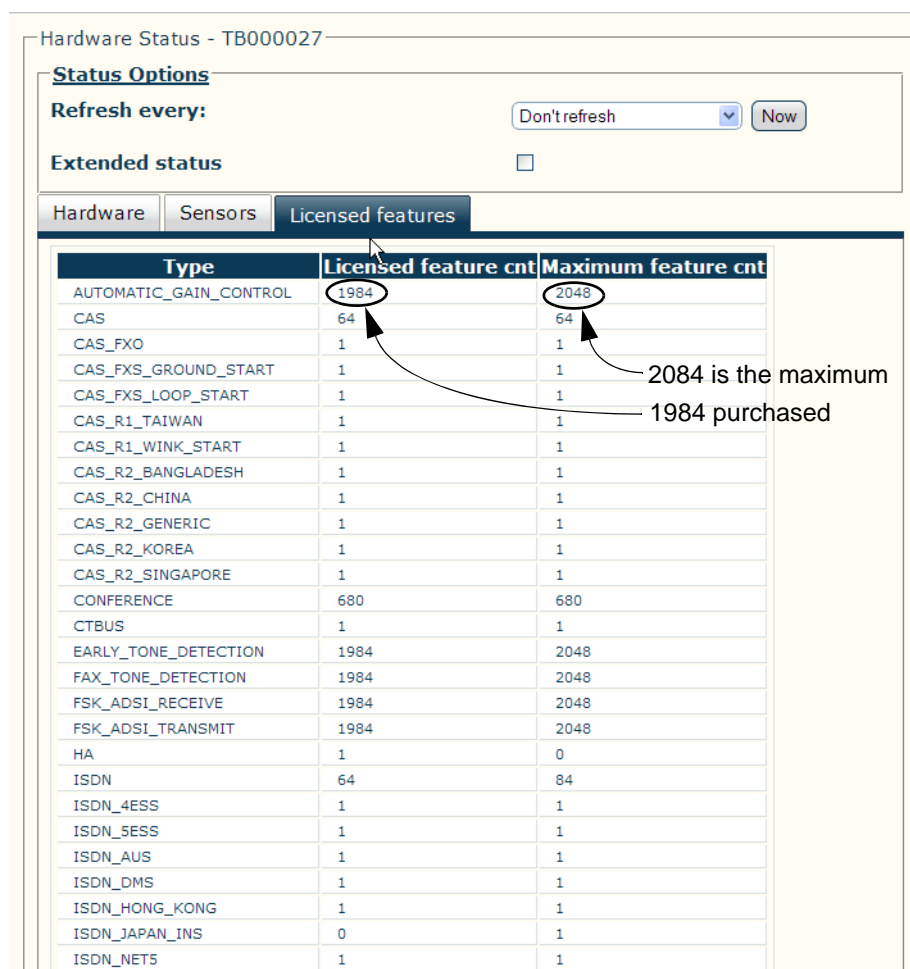


Figure 15.11 Licensed Features Detailed View

### 15.2.2.3 IP Interfaces Detailed View

The IP Interfaces status screen displays detailed information about a specific IP interface. This view displays the state of the link, its activity, and configuration settings.

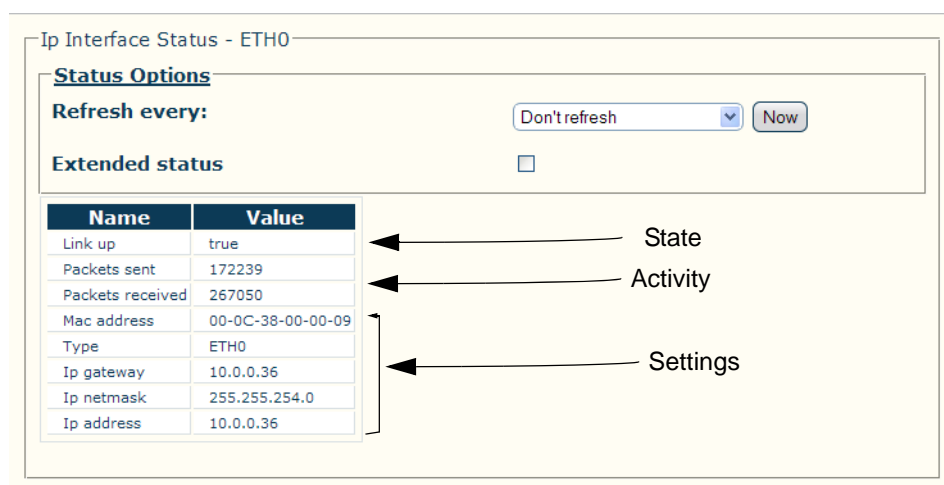


Figure 15.12 IP Interfaces Detailed View

## 15.2.3 Hosts

General and detailed status information about the host machine running system applications is accessible from the **Host** tab of the Global Status view.

For further information about Host status views, refer to:

- Section 15.2.3.1 “Host General View” on page 173.
- Section 15.2.3.2 “Host Detailed View” on page 173.

### 15.2.3.1 Host General View

The **Host** general view, shown in figure 15.13 on page 173, lists the one or more hosts that are being used to run the applications of a Tmedia system. In addition, this view indicates if the host is in a ready state and provides links to a detailed status view for each host.

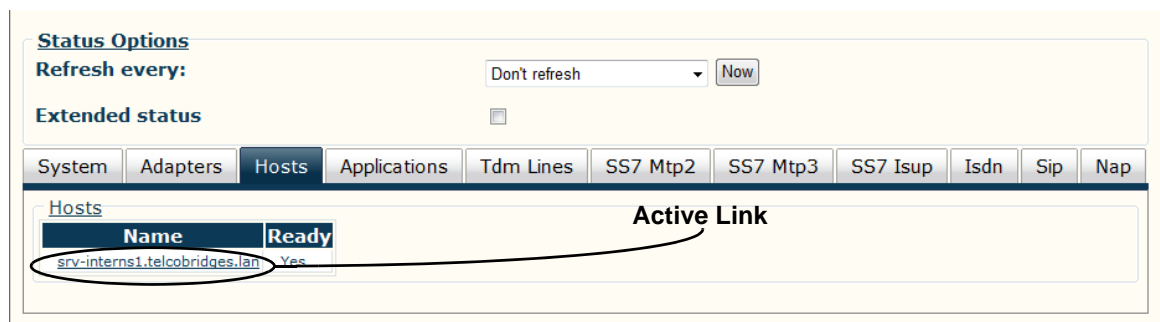


Figure 15.13 Host General View

### 15.2.3.2 Host Detailed View

The Host status screen, shown in figure 15.14 on page 173, provides the name of the host and its ready status.

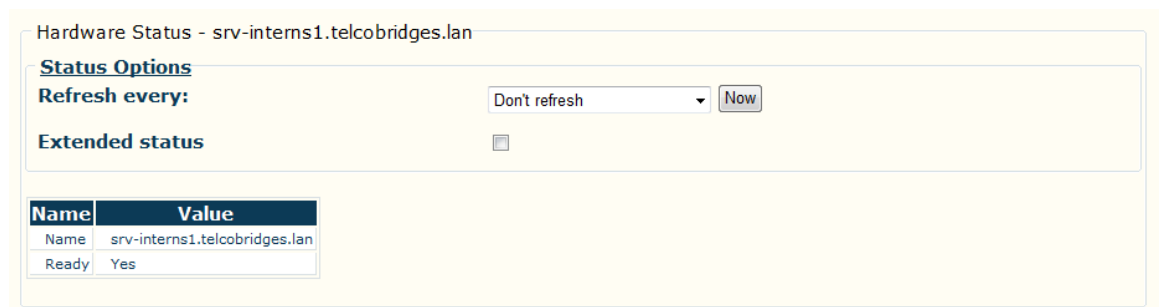


Figure 15.14 Host Detailed View

## 15.2.4 Applications

General and detailed status information about the applications that are run by one or more host machines is accessible from the **Applications** tab of the Global Status view.

For further information about Applications status views, refer to:

- Section 15.2.4.1 “Applications General View” on page 174.
- Section 15.2.4.2 “Applications Detailed View” on page 175.

### 15.2.4.1 Applications General View

The **Applications** general view, shown in figure 15.15 on page 174, lists the applications, their host machines and their current and targeted states as follows:

- Oam current state. The current operating state of the application.
- Oam target state. The desired state of the application. Activated from the detailed status view.
- Oam ha current state. If redundant applications exist, then this indicates its current high availability (ha) state. This is usually active if their is only one.
- Oam ha target state. If redundant applications exists, the state of primary or secondary is assigned.

| Host                          | Name                               | Oam target state | Oam target update state | Oam current state | Oam ha target state | Oam ha current state |
|-------------------------------|------------------------------------|------------------|-------------------------|-------------------|---------------------|----------------------|
| srv-interns1.telcobridges.lan | <a href="#">web_server_1</a>       | Run              | Run                     | Ready             | Primary             | Active               |
| srv-interns1.telcobridges.lan | <a href="#">stream_server_1</a>    | Dont_run         | Run                     | Not running       | Primary             | Active               |
| srv-interns1.telcobridges.lan | <a href="#">toolpack_sys_mgr_1</a> | Run              | Run                     | Ready             | Primary             | Active               |
| srv-interns1.telcobridges.lan | <a href="#">gateway_0</a>          | Run              | Run                     | Ready             | Primary             | Active               |
| srv-interns1.telcobridges.lan | <a href="#">listen_TB000449</a>    | Dont_run         | Run                     | Not running       | Primary             | Active               |
| srv-interns1.telcobridges.lan | <a href="#">toolpack_engine_1</a>  | Run              | Run                     | Ready             | Primary             | Active               |
| srv-interns1.telcobridges.lan | <a href="#">tboam_app</a>          | Run              | Run                     | Ready             | Primary             | Active               |
| srv-interns1.telcobridges.lan | <a href="#">listen_TB001234</a>    | Dont_run         | Run                     | Not running       | Primary             | Active               |

Figure 15.15 Applications General View

### 15.2.4.2 Applications Detailed View

The Applications detailed status screen, shown in figure 15.16 on page 175, lists the states of the application, its name, the host machine and the location of the application on the host.

From this detailed view, the Oam and Oam ha target states may be changed.

**To modify the Oam target state or the Oam ha target state of an application:**

1. Select a state from the **Oam target state** or **Oam ha target state** combo boxes.
2. Click **Apply States** to change the states.

Hardware Status - web\_server\_1

**Status Options**

Refresh every:

Extended status ☐

| Name                    | Value  |
|-------------------------|--|
| Oam target state        | Run  |
| Name                    | web_server_1   |
| Oam ha current state    | Active   |
| Current bin path        | @{PKG_HOME}/2.2.11/apps/tboamapp/release/i586-linux/tboamappctrl |
| Oam target update state | Run  |
| Oam current state       | Ready  |
| Host                    | srv-interns1.telcobridges.lan                                    |
| Oam ha target state     | Primary  |

Figure 15.16 Application Detailed View

## 15.2.5 TDM Lines

General and detailed status information about the TDM lines, also referred to as Adapters is accessible from the **TDM Lines** tab of the Global Status view.

For further information about TDM Lines status views, refer to:

- Section 15.2.5.1 “TDM Lines General View” on page 176.
- Section 15.2.5.2 “TDM Lines Detailed View” on page 177.

To learn more about TDM line interfaces and line services, refer to Chapter 6.

### 15.2.5.1 TDM Lines General View

The **TDM Lines** general view provides information about the physical line interfaces of a TDM module and the line services that they carry. From this view you can know the status of line interfaces and line services by seeing if they are up, down, defective, or in an alarmed state. Selecting an active link will display the detailed view for line interfaces and line services.

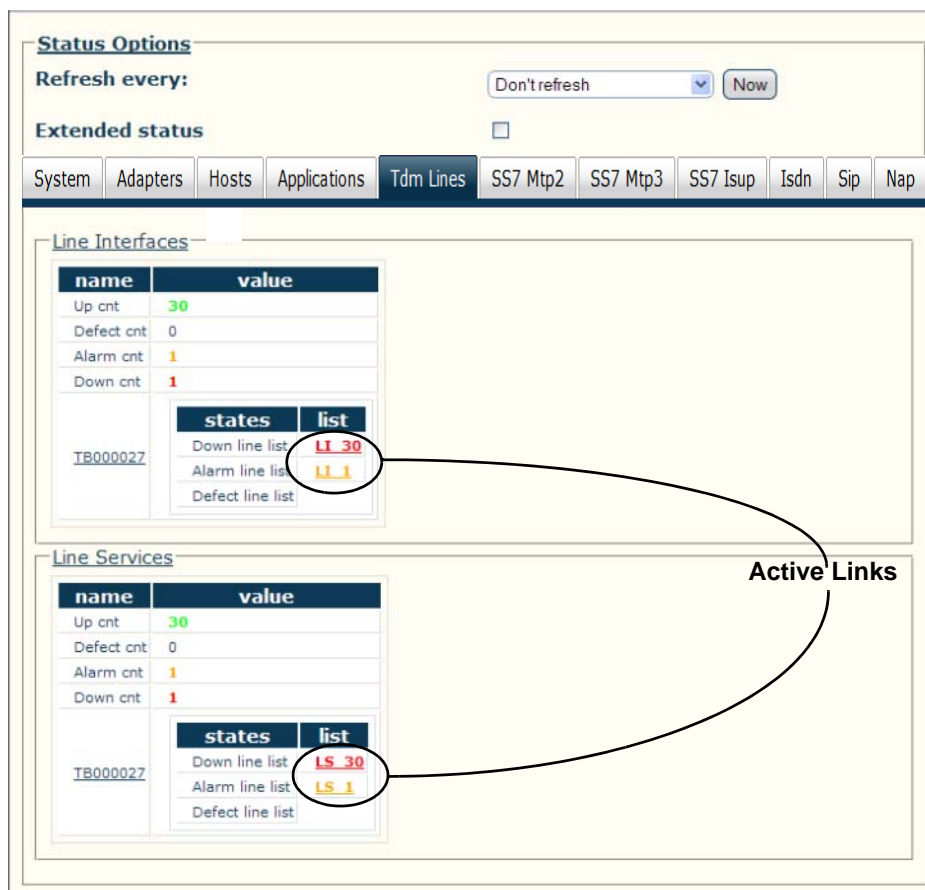


Figure 15.17 TDM Lines General View



### 15.2.5.2 TDM Lines Detailed View

The TDM Lines detailed view groups status information into two screens, as follows:

- Line Interface Listing
- Line Service Detailed Status

#### Line Interface Listing

The Line Interface listing, shown in figure 15.18, displays an expanded listing of each line interface and its associated line service and status. Selecting a line service from this screen displays its detailed information.

**Listing Line Interface Status**

Status Options

Refresh every:

- [LI 0](#)
  - [LS 0](#)
- [LI 1](#) RAI RFA
  - [LS 1](#) RAI RFA
- [LI 2](#)
  - [LS 2](#)
- [LI 3](#)
  - [LS 3](#)
- [LI 4](#)
  - [LS 4](#)
- [LI 5](#)
  - [LS 5](#)
- [LI 6](#)
  - [LS 6](#)
- [LI 7](#)
  - [LS 7](#)
- [LI 8](#)
  - [LS 8](#)
- [LI 9](#)
  - [LS 9](#)
- [LI 10](#)
  - [LS 10](#)
- [LI 11](#)
  - [LS 11](#)
- [LI 12](#)
  - [LS 12](#)
- [LI 13](#)
  - [LS 13](#)

Link to line service detailed view

Figure 15.18 Line Interface Listing

## Line Service Detailed Status

The Line Service Detailed Status screen, shown in figure 15.19 on page 178, enables you to view the state of a line service and to set a loopback on the line service for testing purposes. Configuring a local loopback allows the line service to be verified without having to access an outside line.

### To activate a local loopback:

1. Set Loopback to **LOCAL**
2. Click **Apply States**

The screenshot shows the 'Line Service Status - LS\_0' configuration screen. It features a 'Status Options' section with a 'Refresh every:' dropdown set to 'Don't refresh' and a 'Now' button. Below this are checkboxes for 'Extended status' and 'Reset status'. A table displays the current configuration for the line service, with columns for 'Name' and 'Value'. The table shows 'Type' as 'TBCAF\_LINE\_TYPE\_TRUNK', 'Loopback' as 'LOCAL', 'State list' as a table with 'Name' and 'Value' headers, 'Ais state' as 'OFF', and 'State' as 'LINE\_STATE\_UP'. An 'Apply states' button is located at the bottom of the table.

| Name       | Value  |      |       |
|------------|--|------|-------|
| Type       | TBCAF_LINE_TYPE_TRUNK  |      |       |
| Loopback   | LOCAL  |      |       |
| State list | <table border="1"><thead><tr><th>Name</th><th>Value</th></tr></thead><tbody></tbody></table> | Name | Value |
| Name       | Value  |      |       |
| Ais state  | OFF  |      |       |
| State      | LINE_STATE_UP  |      |       |

Apply states

Figure 15.19 Line Service Detailed Status Screen

## 15.2.6 SS7 MTP2

General and detailed status information about the SS7 MTP2 stack is accessible from the **SS7 MTP2** tab of the Global Status view.

For further information about SS7 MTP2 status views, refer to:

- Section 15.2.6.1 “SS7 MTP2 General View” on page 179.
- Section 15.2.6.2 “SS7 MTP2 Detailed View” on page 180.

To learn more about SS7 signalling, refer to Chapter 11.

### 15.2.6.1 SS7 MTP2 General View

The **SS7 MTP2** general view provides information about the health of the MTP2 links. From this view you can know the status of MTP2 links by seeing if they are up or down. Selecting an active link will display the detailed view for line interfaces and line services.

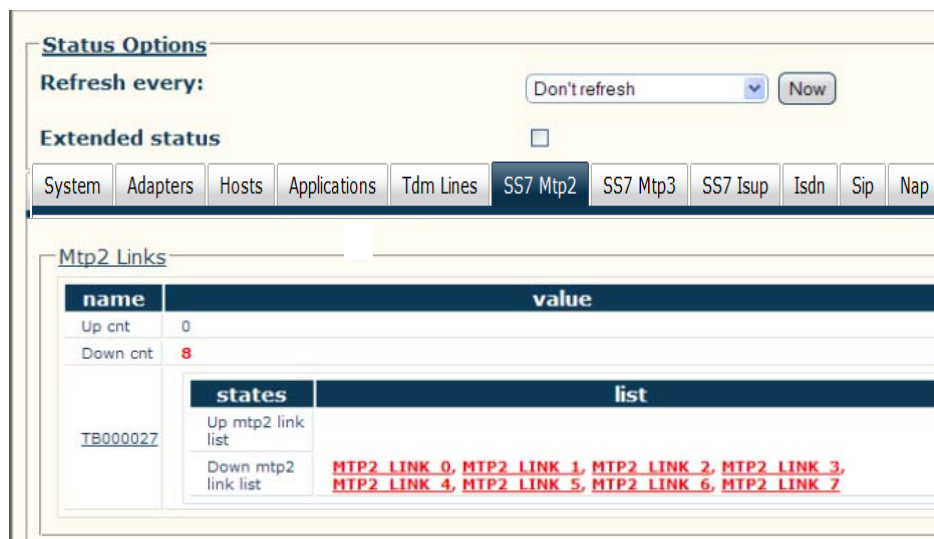


Figure 15.20 SS7 MTP2 General View

### 15.2.6.2 SS7 MTP2 Detailed View

The SS7 MTP2 detailed view groups status information into two screens, as follows:

- MTP2 Link Listing
- MTP2 Link Detailed Status

#### MTP2 Link Listing

The MTP2 Link listing, shown in figure 15.21, displays an expanded listing of each MTP2 link. In addition to indicating whether a link is up or down, this listing provides supplemental information. Selecting an MTP2 link from this listing displays its detailed information.

**Listing MTP2 Link Status**

Status Options

Refresh every:

| Name                        | Up | Aligned | In service duration | Local busy duration | Failure cnt |
|-----------------------------|----|---------|---------------------|---------------------|-------------|
| <a href="#">MTP2_LINK_6</a> | No | No      | 0                   | 0                   | 0           |
| <a href="#">MTP2_LINK_7</a> | No | No      | 0                   | 0                   | 0           |
| <a href="#">MTP2_LINK_0</a> | No | No      | 0                   | 0                   | 0           |
| <a href="#">MTP2_LINK_1</a> | No | No      | 0                   | 0                   | 0           |
| <a href="#">MTP2_LINK_2</a> | No | No      | 0                   | 0                   | 0           |
| <a href="#">MTP2_LINK_3</a> | No | No      | 0                   | 0                   | 0           |
| <a href="#">MTP2_LINK_4</a> | No | No      | 0                   | 0                   | 0           |
| <a href="#">MTP2_LINK_5</a> | No | No      | 0                   | 0                   | 0           |

Links to detailed view

Figure 15.21 MTP2 Link Listing

## MTP2 Link Detailed Status

The MTP2 Link detailed status screen, shown in figure 15.22 on page 181, enables you to view the state of an MTP2 link and to modify the datalink state value for testing purposes.

### To modify the datalink state of an MTP2 link:

1. Select a value from the **Datalink state** combo box.
2. Click **Apply States** to change the state.

### To reset the counters of this screen, do the following:

1. Select the **Reset status** check box.
2. Click **Now**.

**MTP2\_CFG\_0**

Mtp2 Link Status - MTP2\_LINK\_6

**Status Options**

**Refresh every:** Don't refresh

**Extended status** ☐

**Reset status** ☐

| Name                    | Value                                    |
|-------------------------|--|
| Datalink state          | Enabled <input type="button" value="v"/> |
| Remote congested        | No                                       |
| Remote processor outage | No                                       |
| Dropped frame cnt       | 0  |

Mtp2 statistic struct

| Name                 | Value |
|----------------------|-------|
| Tx peak bandwidth    | 0     |
| Local busy duration  | 0     |
| In service duration  | 0     |
| Rx current bandwidth | 0     |
| Tx current bandwidth | 0     |
| Failure cnt          | 0     |
| Rx peak bandwidth    | 0     |

Aligned No

Flow control No

Up No

Mtp2 hdlc statistic struct

| Name                  | Value |
|-----------------------|-------|
| Frames from stack cnt | 0     |
| Frames to stack cnt   | 0     |

Figure 15.22 MTP2 Link Detailed Status

## 15.2.7 SS7 MTP3

General and detailed status information about the SS7 MTP3 stack is accessible from the **SS7 MTP3** tab of the Global Status view.

For further information about SS7 MTP3 status views, refer to:

- Section 15.2.7.1 “SS7 MTP3 General View” on page 182.
- Section 15.2.7.2 “SS7 MTP3 Detailed View” on page 183.

To learn more about SS7 signalling, refer to Chapter 11.

### 15.2.7.1 SS7 MTP3 General View

The **SS7 MTP3** general view, shown in figure 15.23 on page 182, provides information about the health of the MTP3 links. From this view you can know the status of MTP3 links by seeing if they are up or down. This general view provides links to other detailed status screens for the MTP3 configuration, its links, linksets, and routes.

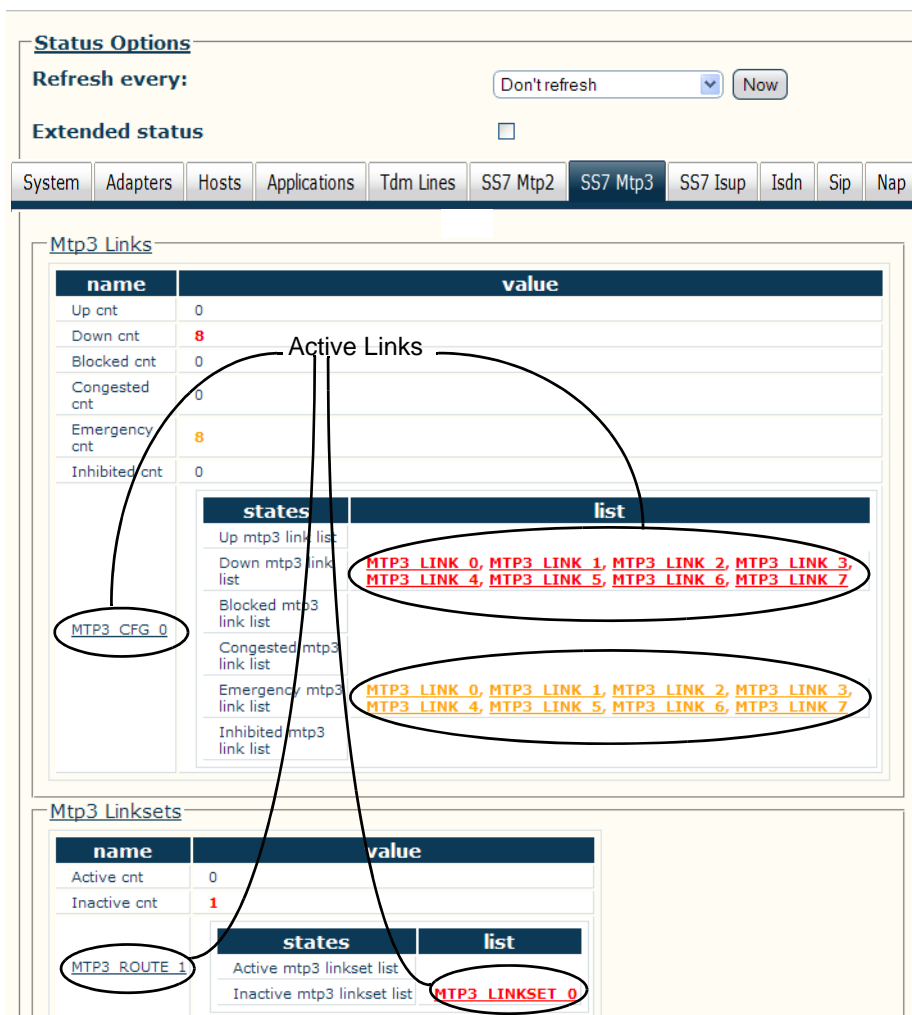


Figure 15.23 SS7 MTP3 General View

### 15.2.7.2 SS7 MTP3 Detailed View

The SS7 MTP3 detailed view groups status information into four screens, as follows:

- MTP3 Stack Status
- MTP3 Network Status
- MTP3 Linkset
- MTP3 Link

#### MTP3 Stack Status

The MTP3 Stack Status, shown in figure 15.24, displays counters for a variety of status messages that in turn are used to indicate the current health of the MTP3 stack. This status screen is accessed from the MTP3 CFG 0 link of the General view, shown in figure 15.23 on page 182. Counters may be reset from this screen to determine if a problem persists.

**To reset the counters of this screen, do the following:**

1. Select the **Reset status** check box.
2. Click **Now**.

MTP3 Stack Status - MTP3\_CFG\_0

**Status Options**

**Refresh every:** Don't refresh

**Extended status** ☐

**Reset status** ☐

| Name                         | Value |
|------------------------------|-------|
| Msu drop for routing err cnt | 0     |
| Tx tra msg cnt               | 0     |
| Tx trw msg cnt               | 0     |
| Rx tra msg cnt               | 0     |
| Rx trw msg cnt               | 0     |
| Tx unavailable msg cnt       | 0     |
| Rx unavailable msg cnt       | 0     |

Counters

Figure 15.24 MTP3 Stack Status

## MTP3 Network Status

The MTP3 Network status screen groups status information about the MTP3 network under two tabs, as follows:

- Linksets Tab
- Routes Tab

The **Linksets** tab of the MTP3 Network status screen, shown in figure 15.25 on page 184, lists the linksets and their status. Selecting an MTP3 linkset link displays its detailed information.

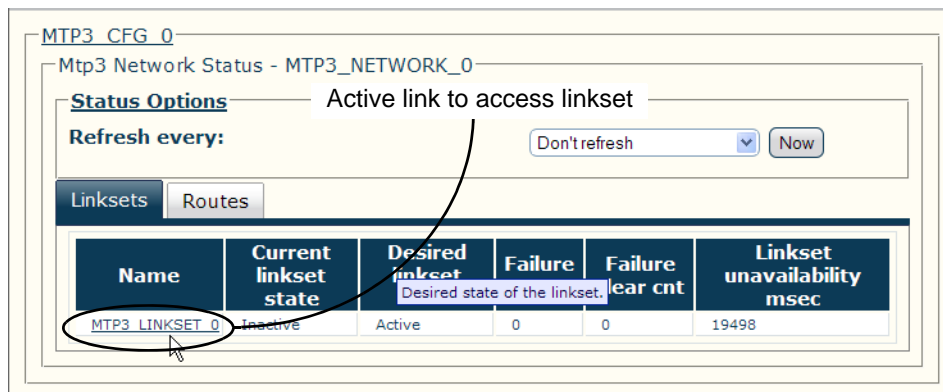


Figure 15.25 MTP3 Network Status: Linksets Tab

The **Routes** tab of the MTP3 Network status screen, shown in figure 15.26 on page 184, lists the configured routes of the MTP3 network and provides information about a route's availability. Selecting an MTP3 route link displays its detailed information.

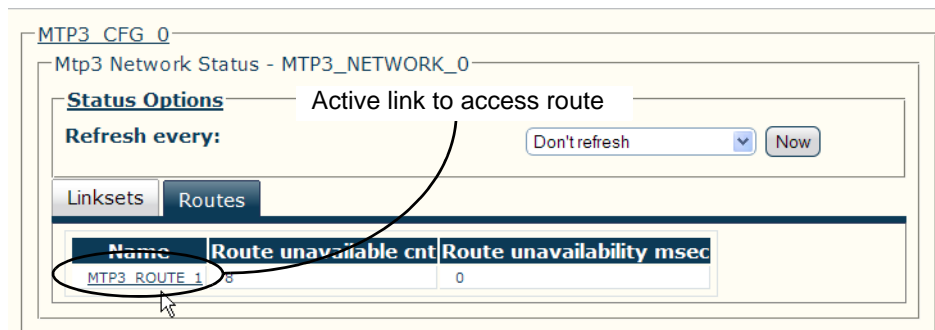


Figure 15.26 MTP3 Network Status: Routes Tab



## MTP3 Linkset Status

The **Linksets** status screen, accessible from a linkset link shown in figure 15.25 on page 184, groups status information under two tabs as follows:

- Linksets
- Links

The **Linkset** tab of the MTP3 Network status screen, shown in figure 15.27 on page 185, displays the detailed information of one MTP3 linkset, such as linkset state, configured values, and counters. From this screen the desired linkset state may be set to Active or Inactive, and counters may be reset.

**To reset the counters of this screen, do the following:**

1. Select the **Reset status** check box.
2. Click **Now**.

**To modify the Desired Linkset state, do the following:**

1. Select a linkset state
2. Click **Apply States**

MTP3\_CFG\_0

MTP3\_NETWORK\_0

MTP3 Linkset Status - MTP3\_LINKSET\_0

**Status Options**

Refresh every: Don't refresh [v] Now

Extended status ☐

Reset status ☐

Linkset Links

| Name                        | Value      |
|-----------------------------|------------|
| Transmit prohibit state     | Off        |
| Failure clear cnt           | 0          |
| Desired linkset state       | Active [v] |
| Linkset unavailability msec | 21077      |
| Mtp3 slave                  | No         |
| Transmit restricted state   | Off        |
| Failure cnt                 | 0          |
| Current linkset state       | Inactive   |

Apply states

Figure 15.27 MTP3 Linkset Status: Linkset Tab

The **Links** tab of the MTP3 Network status screen, shown in figure 15.28 on page 186, displays a listing of the MTP3 links that are used by a specific MTP3 Linkset. In the listing, the status of each link is displayed as well as a link congestion timer. Accessing a particular MTP3 Link displays its detailed information.

MTP3\_CFG\_0

MTP3\_NETWORK\_0

MTP3\_Linkset Status - MTP3\_LINKSET\_0

**Status Options**

Refresh every: Don't refresh Now

Extended status ☐

Reset status ☐

Linkset Links

| Name                        | Link state | Link congested msec |
|-----------------------------|------------|---------------------|
| <a href="#">MTP3_LINK_0</a> | Down       | 0                   |
| <a href="#">MTP3_LINK_1</a> | Down       | 0                   |
| <a href="#">MTP3_LINK_2</a> | Down       | 0                   |
| <a href="#">MTP3_LINK_3</a> | Down       | 0                   |
| <a href="#">MTP3_LINK_4</a> | Down       | 0                   |
| <a href="#">MTP3_LINK_5</a> | Down       | 0                   |
| <a href="#">MTP3_LINK_6</a> | Down       | 0                   |
| <a href="#">MTP3_LINK_7</a> | Down       | 0                   |

Links to detailed views

Figure 15.28 MTP3 Linkset Status: Links Tab

## MTP3 Link Status

The MTP3 Link status screen, shown in figure 15.29 on page 187, displays the detailed information about one MTP3 link, such as the link state, configured values, and counters. Hovering over fields causes help bubbles to display. For example, in figure 15.29, an information bubble is displayed for a counter of the number of invalid Protocol Data Units (PDUs) received.

**To reset the counters of this screen, do the following:**

1. Select the **Reset status** check box.
2. Click **Now**.

**To modify the Desired Locally Inhibited state, do the following:**

1. Select a value
2. Click **Apply States**

MTP3\_CFG\_0

MTP3\_NETWORK\_0

MTP3\_LINKSET\_0

Editing MTP3 Link Status - MTP3\_LINK\_0:

**Status Options**

**Refresh every:** Don't refresh

**Extended status** ☐

**Reset status** ☐

| Name                            | Value |
|---------------------------------|-------|
| Congested                       | No    |
| Link congested msec             | 0     |
| Number of invalid PDU received. | 0     |
| Current locally inhibit state   | No    |
| Rx invalid pdu cnt              | 0     |
| Emergency indication            | Yes   |
| Remotely blocked                | No    |
| Locally blocked                 | No    |
| Link state                      | Down  |
| Desired locally inhibit state   | No    |
| Remotely inhibited              | No    |

Figure 15.29 MTP3 Link Status

## 15.2.8 SS7 ISUP

General and detailed status information about the SS7 ISUP stack is accessible from the **SS7 ISUP** tab of the Global Status view.

For further information about SS7 ISUP status views, refer to:

- Section 15.2.8.1 “SS7 ISUP General View” on page 188.
- Section 15.2.8.2 “SS7 ISUP Stack Detailed View” on page 189.

To learn more about SS7 signalling, refer to Chapter 11. Section 11.4 “ISUP” on page 125 provides information about ISUP configuration.

### 15.2.8.1 SS7 ISUP General View

The **SS7 ISUP** general view, shown in figure 15.30 on page 188, lists the ISUP stacks and indicates which are active, in standby, or out of service (Oos). In addition, the SS7 ISUP general view lists the ISUP interfaces and indicates which are available, congested, or unavailable. This general view provides links to detailed status views of the ISUP stacks and networks.

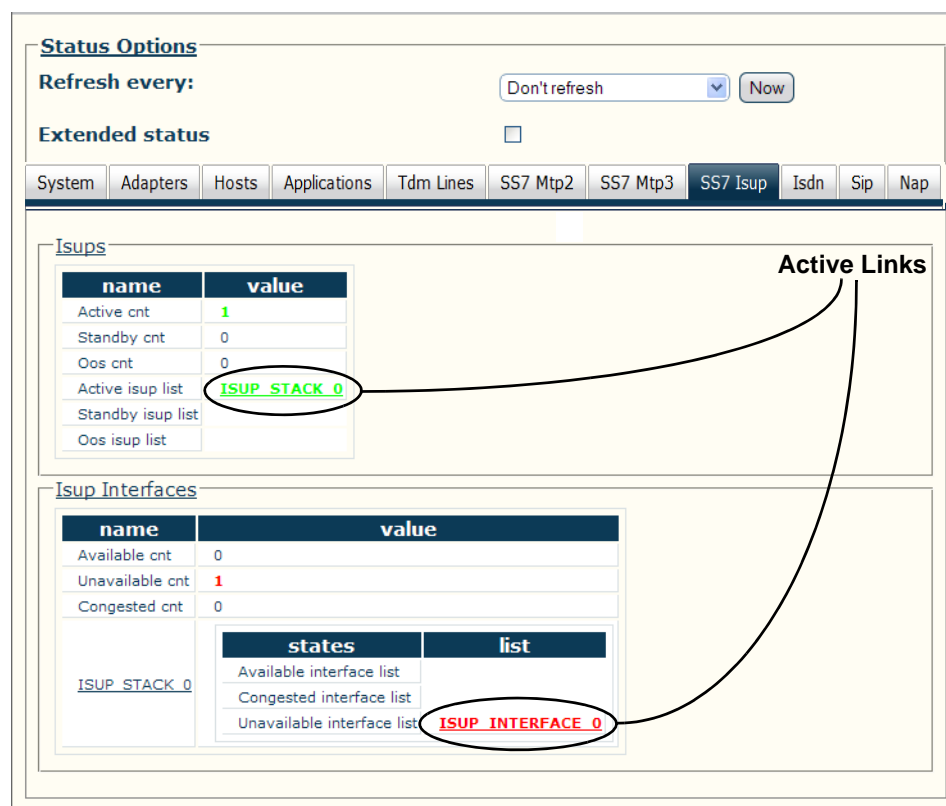


Figure 15.30 SS7 ISUP General View

### 15.2.8.2 SS7 ISUP Stack Detailed View

The SS7 ISUP detailed view groups status information into four main screens, as follows:

- SS7 ISUP Stacks Listing
- SS7 ISUP Stack Status
- SS7 ISUP Interface Status
- Circuit Group Status

#### ISUP Stacks Listing

The ISUP Stacks listing, shown in figure 15.31, displays an expanded listing of each ISUP stack. It indicates the state of the ISUP stack on a primary or secondary Tmedia unit. Selecting an ISUP stack link from this listing displays its detailed information.

| Name                         | Primary adapter | Primary state | Secondary adapter | Secondary state |
|------------------------------|-----------------|---------------|-------------------|-----------------|
| <a href="#">ISUP_STACK_0</a> | TB000027        | Active        | NONE              | Invalid         |

Figure 15.31 ISUP Stack Listing

#### ISUP Stack Status

The ISUP Stack status screen groups status information about the ISUP Stack under two tabs, as follows:

- Stack Tab
- Interfaces Tab

The **Stack** tab of the ISUP Stack status screen, shown in figure 15.32 on page 189, provides the name of the primary and optionally secondary Tmedia unit that hosts the ISUP stack and the status.

| Name              | Value    |
|-------------------|----------|
| Primary state     | Active   |
| Secondary state   | Invalid  |
| Primary adapter   | TB000027 |
| Secondary adapter | NONE     |

Figure 15.32 ISUP Stack Status: Stack Tab

The **Interfaces** tab of the ISUP Stack status screen, shown in figure 15.33 on page 190, lists the configured ISUP interfaces of the ISUP stack and provides the states of each network as well as their transmit and receive message counters. Selecting an ISUP Interface link displays its detailed information.

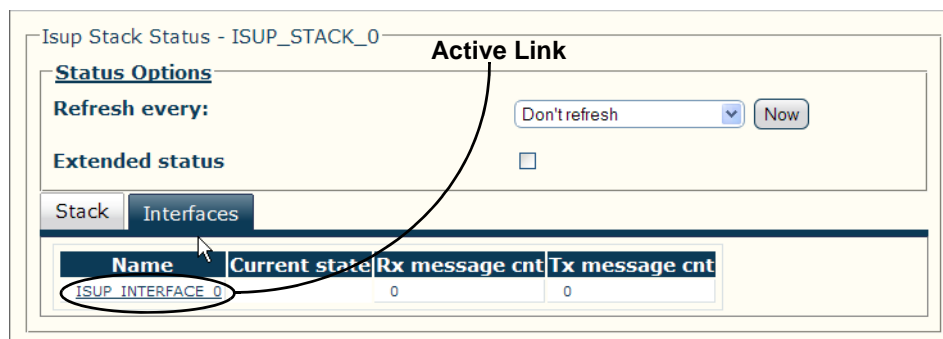


Figure 15.33 ISUP Stack Status: Interfaces Tab

## ISUP Interface Status

The ISUP Interface status screen groups status information about the interface under two tabs, as follows:

- Interface Tab
- Circuit Groups Tab

The **Interface** tab of the MTP3 Network status screen, shown in figure 15.34 on page 190, provides transmit and receive message counters for a specific ISUP interface.

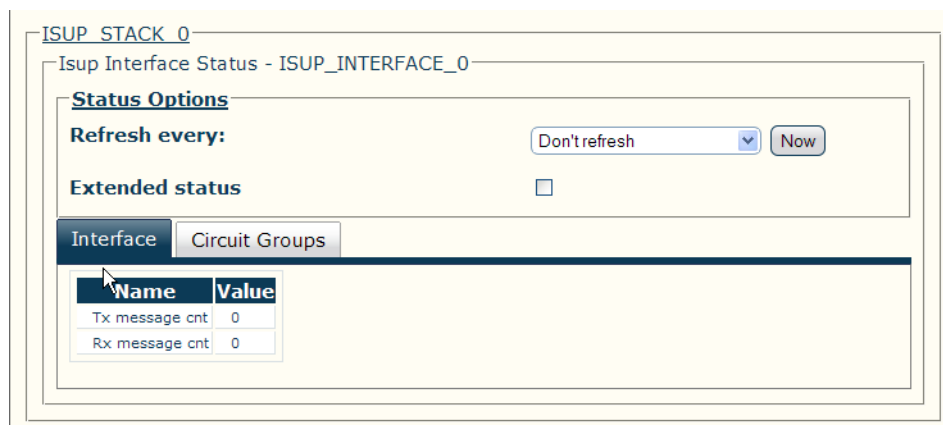


Figure 15.34 ISUP Interface Status: Interface Tab

The **Circuit Groups** tab of the ISUP Stack status screen, shown in figure 15.35 on page 191, lists the configured circuits groups for a specific ISUP interface. In addition, this screen provides status and counters for each circuit group. Selecting a circuit group link displays its detailed information.

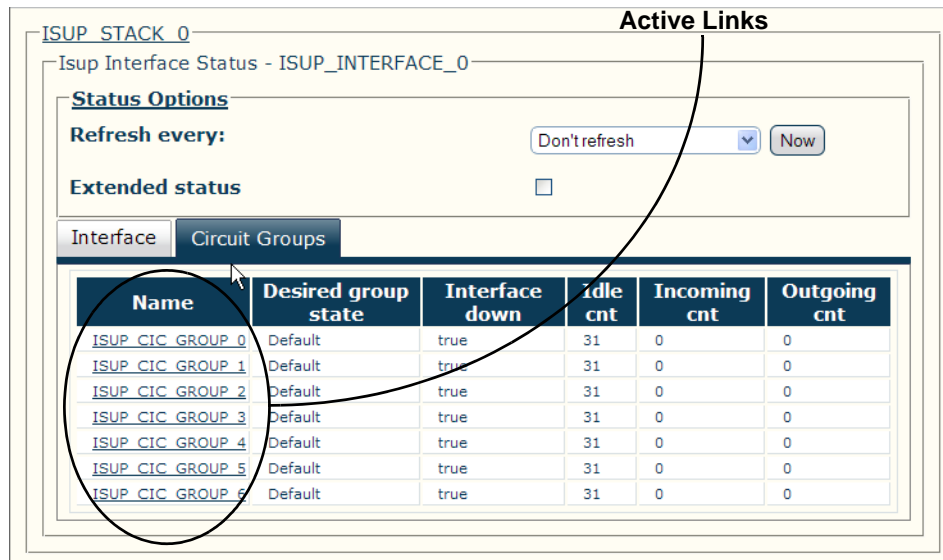


Figure 15.35 ISUP Interface Status: Circuit Groups Tab

### Circuit Group Status

The Circuit Group status screen, shown in figure 15.36 on page 192, displays detailed information for one circuit group, such as status counters and configured values. From this screen, the desired group state may be set to Unblocked, Blocked, or Default

**To modify the desired group state, do the following:**

1. Select a value
2. Click **Apply States**

ISUP STACK 0

ISUP INTERFACE 0

Editing Isup Circuit Group Status - ISUP\_CIC\_GROUP\_0:

**Status Options**

Refresh every: Don't refresh

Extended status ☐

| Name                    | Value                                    |
|-------------------------|--|
| Remotely hw blocked cnt | 0  |
| Locally hw blocked cnt  | 0  |
| Outgoing cnt            | 0  |
| Toggle group reset      | No <input type="button" value="v"/>      |
| Suspended cnt           | 0  |
| Incoming cnt            | 0  |
| Desired group state     | Blocked <input type="button" value="v"/> |
| Locally blocked cnt     | Blocked                                  |
| Idle cnt                | Default                                  |
| Interface down          | true                                     |
| Remotely blocked cnt    | 0  |

Figure 15.36 Circuit Group Status



## 15.2.9 ISDN

General and detailed status information about the ISDN stack is accessible from the **ISDN** tab of the Global Status view.

For further information about ISDN status views, refer to:

- Section 15.2.9.1 “ISDN General View” on page 193.
- Section 15.2.9.2 “ISDN Detailed View” on page 193.

To learn more about ISDN signalling, refer to Chapter 9.

### 15.2.9.1 ISDN General View

The **ISDN** general view, shown in figure 15.37 on page 193, lists the ISDN stacks and indicates which are Up or Down. This general view provides links to a detailed status view for the ISDN stacks on a specific Tmedia unit.

Figure 15.37 ISDN General View

### 15.2.9.2 ISDN Detailed View

The ISDN Stack status screen, shown in figure 15.38 on page 193, lists the configured ISDN stacks of a Tmedia unit and indicates if the D channel is up.

Figure 15.38 ISDN Detailed View

## 15.2.10 SIP

General and detailed status information about the SIP stack is accessible from the **SIP** tab of the Global Status view.

For further information about SIP stack status views, refer to:

- Section 15.2.10.1 “SIP General View” on page 194.
- Section 15.2.10.2 “SIP Detailed View” on page 195.

To learn more about SIP signalling, refer to Chapter 10.

### 15.2.10.1 SIP General View

The **SIP** general view, shown in figure 15.39 on page 194, provides a listing of the SIP stacks and the Tmedia units on which they reside as well as SIP decode/encode failure counters. Selecting a SIP stack link from this view displays its detailed information.

| Sip Stacks            |              |                     |                     |
|-----------------------|--------------|---------------------|---------------------|
| Name                  | Adapter name | Sip decode fail cnt | Sip encode fail cnt |
| <a href="#">SIP_1</a> | TB000027     | 0                   | 0                   |

Figure 15.39 SIP General View

### 15.2.10.2 SIP Detailed View

The SIP detailed view groups status information into two screens, as follows:

- SIP Stack Configuration Status
- SIP SAP Detailed Status

#### SIP Configuration Status

The **Stack** tab of the SIP Configuration status screen, shown in figure 15.40 on page 195, displays the detailed status counters of one SIP stack. Furthermore, the counters may be reset from this screen.

**To reset the counters of this screen, do the following:**

1. Select the **Reset status** check box.
2. Click **Now**.

Sip Configuration Status - SIP\_1

**Status Options**

Refresh every: Don't refresh [v] Now

Extended status ☐

Reset status ☐

**Stack** Sip Saps

| Name                 | Value  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
|----------------------|--|------|-------|--------------------|---|---------------------|---|----------------------|---|---------------------|---|-----------------|---|---------------------|---|-----------------|---|---------------------|---|
| Name                 | SIP_1  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Request out cnt      | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| General stat struct  | <table border="1"> <thead> <tr> <th>Name</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Retransmit req cnt</td> <td>0</td> </tr> <tr> <td>Unsupported uri cnt</td> <td>0</td> </tr> <tr> <td>Register timeout cnt</td> <td>0</td> </tr> <tr> <td>Trans timeout cnt</td> <td>0</td> </tr> </tbody> </table>  | Name | Value | Retransmit req cnt | 0 | Unsupported uri cnt | 0 | Register timeout cnt | 0 | Trans timeout cnt   | 0 |                 |   |                     |   |                 |   |                     |   |
| Name                 | Value  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Retransmit req cnt   | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Unsupported uri cnt  | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Register timeout cnt | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Trans timeout cnt    | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Response out cnt     | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Adapter name         | TB000027   |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Response in cnt      | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Error stat struct    | <table border="1"> <thead> <tr> <th>Name</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Invalid req cnt</td> <td>0</td> </tr> <tr> <td>Unkwn user cnt</td> <td>0</td> </tr> <tr> <td>Usr unavail cnt</td> <td>0</td> </tr> <tr> <td>Sip encode fail cnt</td> <td>0</td> </tr> <tr> <td>Invalid rsp cnt</td> <td>0</td> </tr> <tr> <td>Sdp decode fail cnt</td> <td>0</td> </tr> <tr> <td>Missing hdr cnt</td> <td>0</td> </tr> <tr> <td>Sip decode fail cnt</td> <td>0</td> </tr> </tbody> </table> | Name | Value | Invalid req cnt    | 0 | Unkwn user cnt      | 0 | Usr unavail cnt      | 0 | Sip encode fail cnt | 0 | Invalid rsp cnt | 0 | Sdp decode fail cnt | 0 | Missing hdr cnt | 0 | Sip decode fail cnt | 0 |
| Name                 | Value  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Invalid req cnt      | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Unkwn user cnt       | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Usr unavail cnt      | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Sip encode fail cnt  | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Invalid rsp cnt      | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Sdp decode fail cnt  | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Missing hdr cnt      | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Sip decode fail cnt  | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |
| Request in cnt       | 0  |      |       |                    |   |                     |   |                      |   |                     |   |                 |   |                     |   |                 |   |                     |   |

Figure 15.40 SIP Configuration Status: Stack Tab

The **SIP SAPs** tab of the SIP Configuration status screen, shown in figure 15.41 on page 196, lists the configured SAPs of one SIP stack, and call transmit and receive counters. Selecting a SAP link from this screen displays its detailed view. Furthermore, the counters may be reset from this screen.

**To reset the counters of this screen, do the following:**

1. Select the **Reset status** check box.
2. Click **Now**.

Sip Configuration Status - SIP\_1

**Status Options**

Refresh every: Don't refresh [v] Now

Extended status ☐

Reset status ☒

Stack Sip Saps

| Name  | Calls tx cnt | Calls rx cnt |
|-------|--------------|--------------|
| SAP_1 | 0            | 0            |

Figure 15.41 SIP Configuration Status: SIP SAPs Tab

## SIP SAP Status

The **SIP SAP** status screen, shown in figure 15.42 on page 196, displays the call transmit and receive counters. The counters may be reset from this screen.

**To reset the counters of this screen, do the following:**

1. Select the **Reset status** check box.
2. Click **Now**.

SIP\_1

Editing Sip Sap Status - SAP\_1:

**Status Options**

Refresh every: Don't refresh [v] Now

Extended status ☐

Reset status ☒

| Name         | Value |
|--------------|-------|
| Calls tx cnt | 0     |
| Calls rx cnt | 0     |

Figure 15.42 SIP SAP Status

## 15.2.11 NAP

General and detailed status information about the Network Access Points (NAPs) are accessible from the **NAP** tab of the Global Status view.

For further information about NAP status views, refer to:

- Section 15.2.11.1 “NAP General View” on page 197.

To learn more about NAP configuration, refer to Chapter 11.

### 15.2.11.1 NAP General View

The **NAP** general view, shown in figure 15.43 on page 197, provides a listing of the configured NAPs. In addition, the number of assigned circuits, idle circuits, and the incoming/outgoing call counters are indicated for each NAP.

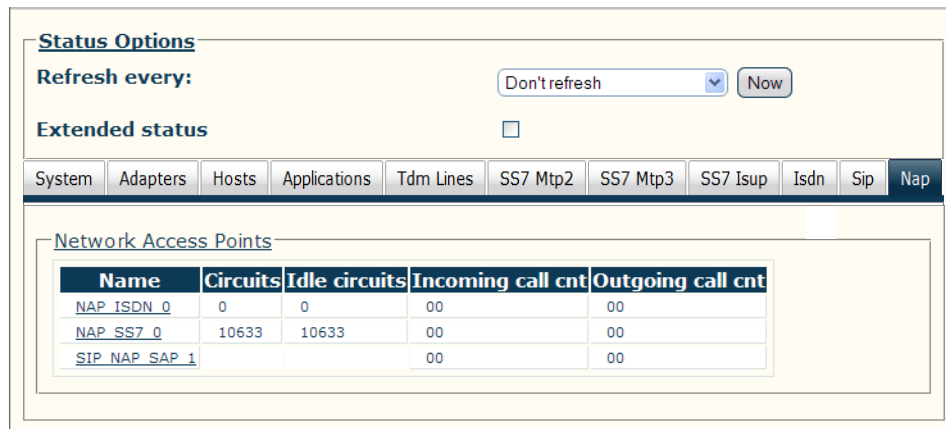


Figure 15.43 NAP General View

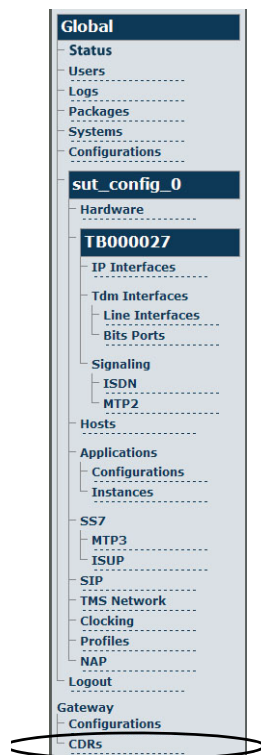
## 15.2.12 CDR

Call Detail Records (CDRs) are generated by the system and list the calling activity. CDRs indicate the incoming and outgoing NAPs used for a call, and call duration.

**Note** To generate CDRs, the **Use CDR Behavior** check box must be selected in the gateway configuration menu. See Chapter 14.

To view the CDRs:

1. Select **CDRs** from the navigation panel.



The CDR list is displayed

| CDR List        |            |          |          |               |            |                               |                               |
|-----------------|------------|----------|----------|---------------|------------|-------------------------------|-------------------------------|
| Refresh Options |            |          |          |               |            |                               |                               |
| Refresh every:  |            |          |          | Don't refresh | Now        |                               |                               |
| Application     | Account id | Incoming |          | Outgoing      |            | Start time                    | End time                      |
|                 |            | NAP      | Calling  | NAP           | Called     |                               |                               |
| gateway_0       |            | 5551212  | BELL_SIP | 1112345       | NAP_ISDN_0 | Tue, 07 Oct 2008 13:12:11 GMT | Tue, 07 Oct 2008 13:12:11 GMT |
| gateway_0       |            | 5551212  | BELL_SIP | 1112345       | NAP_ISDN_0 | Tue, 07 Oct 2008 13:12:11 GMT | Tue, 07 Oct 2008 13:12:12 GMT |
| gateway_0       |            | 5551212  | BELL_SIP | 1112345       | NAP_ISDN_0 | Tue, 07 Oct 2008 13:12:11 GMT | Tue, 07 Oct 2008 13:12:12 GMT |