



Configuring the TSU Router Module to route IP over PPP to an ISP

Introduction

This Technical Support Note describes how to configure the ADTRAN TSU Router Module (p/n 1200350L1) for connection to an ISP using IP routing over a PPP connection. Figure 1 is a diagram of this application.

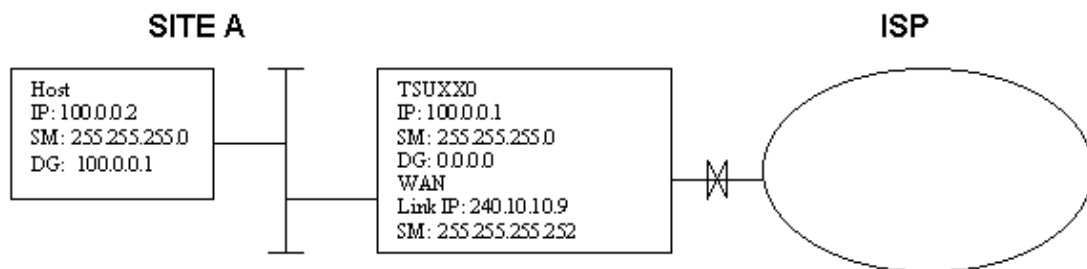


Figure 1

Before You Begin

This configuration will work with all firmware revision levels of the TSU Router Module except in *Numbered WAN Interfaces* applications. If it is a *Numbered WAN Interfaces* application, the revision level of the TSU Router Module must be at least d.00 or later.

Layer One

- Configure the TSU for the T1.
- Map the correct number of DS0s to the TSU Router Module. See kb article # 1663.

Configuring the TSU Router Module

To configure the TSU Router Module, it is necessary to establish a console session to the TSU Router Module using a VT-100 terminal. Terminal parameters are as follows:

Baud : 9600

Data Bits : 8

Parity : None
Stop Bit : 1
Flow Control : None

After a connection is established, a **LOGIN** prompt will be displayed. There is no default login or password. Press **ENTER** to open the main menu. **CTRL-R** refreshes the display.

1. **Configure the Layer Two Protocol:**

In the **Configuration** menu of the console session, go to **TSUXX0 Router/Configuration/WAN**. Select **PPP**. PPP is the layer two protocol for all TSU Router Module applications that are not using Frame Relay. (See Figure 2.)

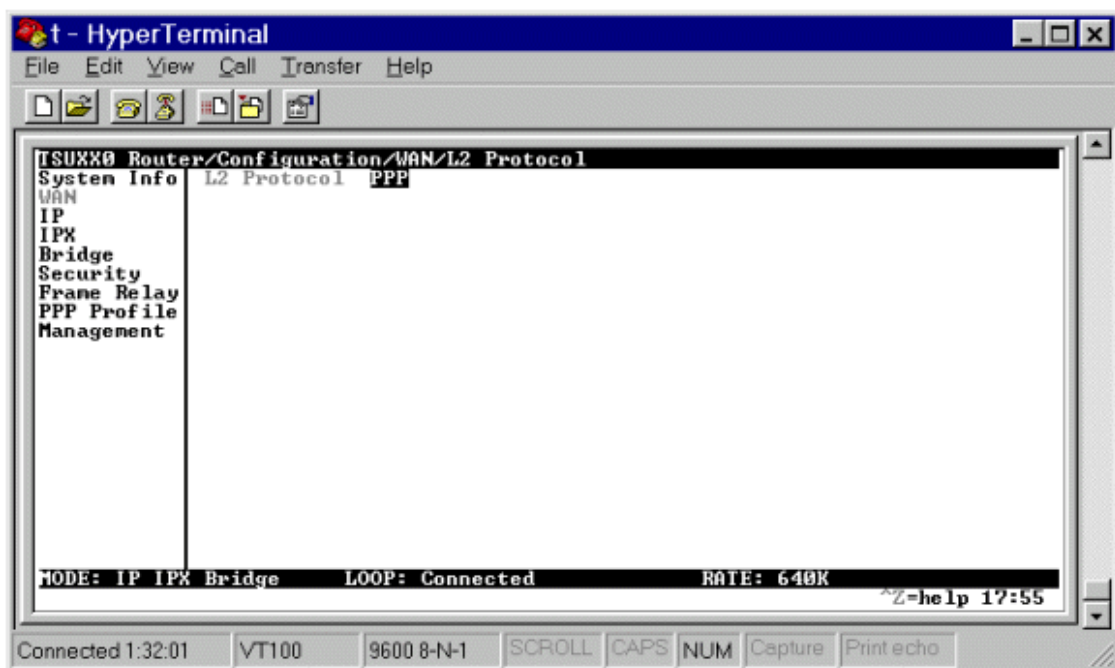


Figure 2

2. **Configure the Ethernet IP address information for the Router:**

In the **Configuration** menu of the console session, go to **TSUXX0 ROUTER/CONFIGURATION/IP**. Configure the **IP Address**, the **Subnet Mask**, and the **Default Gateway** of the Ethernet port on the router (see Figure 3). In our example in Figure 1, Site A would be set as follows:

IP Address : 100.0.0.1
Subnet Mask : 255.255.255.0
Default Gateway : 0.0.0.0

3.

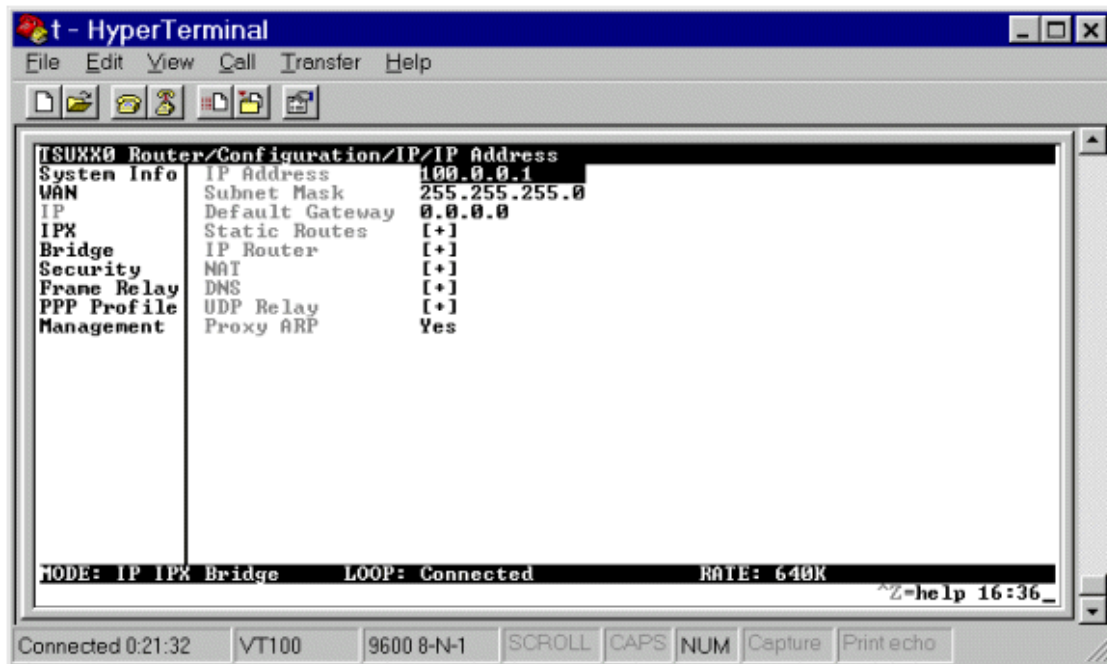


Figure 3

3. **Configure the router with a numbered WAN interface:**

In the **Configuration** menu of the console session, go to **TSUXX0 Router/Configuration/PPP Profile/IP/Route** (see Figure 4). Configure as follows:

IP/Net : 240.10.10.8

Netmask : 255.255.255.252

Link IP : 240.10.10.9

4.

IP/Net is the IP address of the WAN/PPP interface on the ISP's router. **Netmask** is the mask for the network that exists between the ISP's router and the ADTRAN TSU Router Module. **Link IP** is simply the IP address of the WAN/PPP interface of the TSU Router Module. The ISP will provide all three of these parameters.

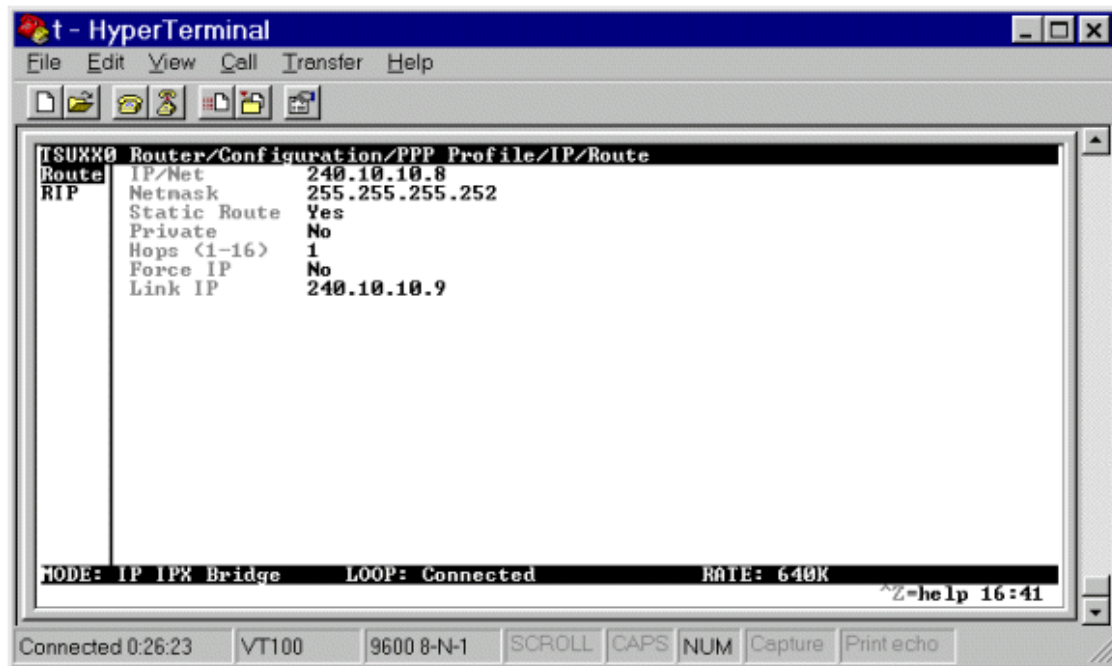


Figure 4

4. Configure the TSU Router Module to route IP:

- Set **TSUXX0 Router/Configuration/IP/IP Router/Mode** to **ON**.
- Set **TSUXX0 Router/Configuration/IPX/Mode** to **OFF**.
- Set **TSUXX0 Router/Configuration/Bridge/Mode** to **OFF**.

When the router is first powered on, the status bar in the lower section of the console session screen will display **MODE: IP IPX BRIDGE**. After completing the preceding steps, the only mode displayed will be **IP**.

5. Configure RIP on the TSU Router Module:

This option, located under **TSUXX0 Router/Configuration/IP/IP Router/RIP**, should be disabled unless there are other routers on the LAN using RIP. The options for RIP are shown in Figure 5. **Protocol** and **Method** must match on all routers if **Mode** is **On**.

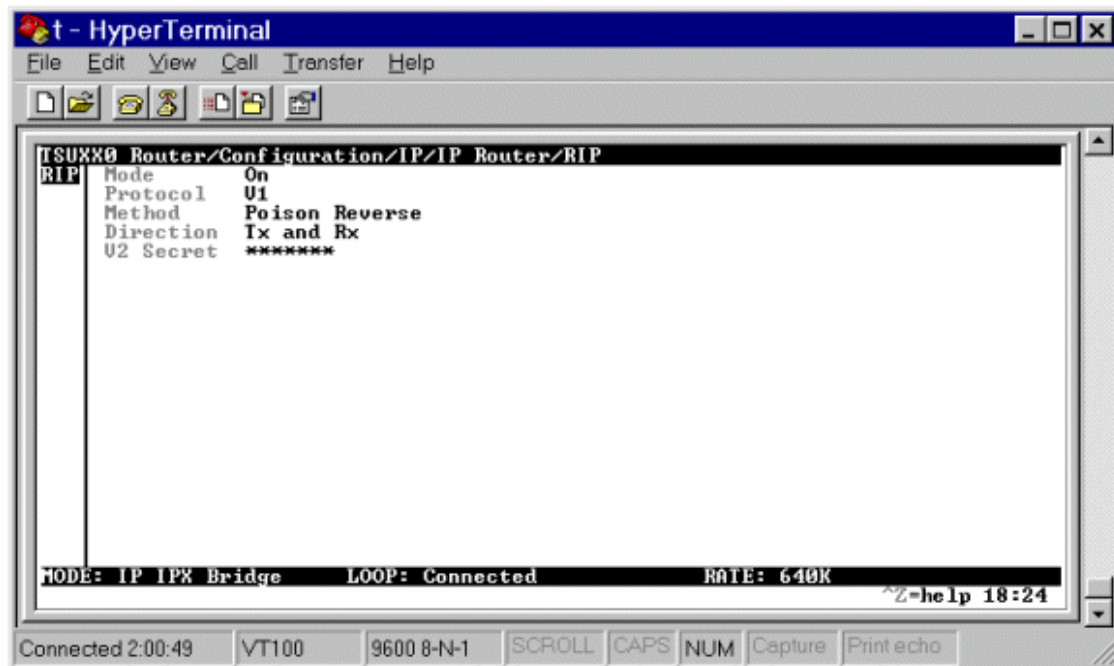


Figure 5

6. **Configure the WAN interface section of the TSU Router Module:**
 - Set **TSUXXX0 Router/Configuration/PPP Profile/IP/Mode** to **ON**, enabling IP routing on the WAN.
 - Set **TSUXXX0 Router/Configuration/PPP Profile/IPX/Mode** to **OFF**, disabling IPX routing on the WAN.
 - Set **TSUXXX0 Router/Configuration/PPP Profile/Bridge/Mode** to **OFF**, disabling Bridging for our router on the PPP link.
 - Set **TSUXXX0 Router/Configuration/PPP Profile/IP/RIP/Mode** to **OFF**, disabling RIP for the TSU Router Module on the PPP link.

7. **Resetting the TSU Router Module:**

Note: It is very important to reset the TSU Router Module. The new settings will not take affect unless the TSU Router Module is reset.

Go to **TSUXXX0 Router/Configuration/Terminal Mode** and press **ENTER**. At the prompt at the bottom of the screen type **reset** and type **ENTER**. Finish by confirming the reset with a **Y**.

Your ADTRAN TSU Router Module is now configured to route IP over PPP to an ISP. If you are having problems with your application, see kb article # 1609.

Summary

Below is a summary of the configuration paths for an IP over PPP to an ISP application.

WAN

TSUXX0 Router/Configuration/WAN

-Set to PPP

TSUXX0 Router/Configuration/PPP Profile/IP/Route

-Set the WAN IP Address (Link IP), WAN Subnet Mask, and WAN network address (IP/NET)

TSUXX0 Router/Configuration/PPP Profile/IP/Mode

-Set Mode to ON

TSUXX0 Router/Configuration/PPP Profile/IP/RIP/Mode

-Set Mode to OFF

TSUXX0 Router/Configuration/PPP Profile/IPX/Mode

-Set Mode to OFF

TSUXX0 Router/Configuration/PPP Profile/Bridge/Mode

-Set Mode to OFF

LAN

TSUXX0 Router/Configuration/IP

-Set Ethernet IP address, Ethernet Subnet Mask, and Ethernet Default Gateway

TSUXX0 Router/Configuration/IP/IP Router/Mode

-Set Mode to ON

TSUXX0 Router/Configuration/IPX/Mode

-Set Mode to OFF

TSUXX0 Router/Configuration/Bridge/Mode

-Set Mode to OFF

TSUXX0 Router/Configuration/IP/IP Router/RIP/Mode

-Set Mode to OFF unless specified to keep it ON

OTHER

TSUXX0 Router/Configuration/System Info/Firmware Revision

-This is the path to find the Software Revision of the TSU Router Module (should be Rev D or higher in numbered PPP situation).

TSUXX0 Router/Configuration/Terminal Mode

-Press **ENTER**; then type **reset**; confirm with **Y**.