

Trinity Feature: DSL Configuration

Reference Guide Appendix

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Appendix **DSL Configuration**

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Overview

This chapter describes how to configure DSL settings. Some models with the Trinity platform offer a G.SHDSL port on the back of the device. Each DSL interface is capped with a PPP interface that is routed or bridged out an Ethernet interface or another WAN service. In this way, the device is a DSL Access Multiplexer or DSLAM.

Note The menu, commands, and features for your model may vary slightly from what is shown in this manual. Some models may not include all of the features mentioned. Refer to the model's *User Manual*, available online at **www.patton.com/manuals**, to see which features are available.

Configuration Overview

When the unit boots, it creates Data Channels for each DSL interface (i.e. dsl0, dsl1, ..., dsl23). Data Channels are automatically available to bind to PPP interfaces. See the PPP Configuration chapter in the *TrinityAE Administrator's Reference Guide* (available online at **www.patton.com/manuals/Trinity-arg.pdf**) for details on how to configure PPP.

The unit allows each DSL interface to be configured independently with the following settings: bandwidth, terminal type, annex, and link state. G.SHDSL defines bandwidth (speed) in terms of 64kbps increments called timeslots. There is a minimum of 3 (192kbps) and a max of 36 (2.3Mbps). It also defines two annexes which are the frequency spectrum used to transmit data. The spectrum for Annex A relates directly to the spectrum used for T1 and Annex B relates directly to E1. The final configuration value is link state, which can be up or down. When the link is up, the DSL interface will attempt to establish a DSL connection regardless of whether it is physically connected or not. When the link is down, the DSL will not attempt to establish nor will it respond to attempts to establish a DSL connection.

When linking, the unit will always attempt to use G.Handshake to negotiate line speed; this cannot be disabled. In CO mode, the configured bandwidth is the max possible bandwidth, but it could negotiate a lower value if the signal to noise ratio is to high. In CPE mode, the configured bandwidth is ignored.

To configure DSL through the WMI, see the section "Web Management Interface (WMI)" on page 5.

To configure DSL through the CLI, see the section "Command Line Interface (CLI)" on page 7.

Web Management Interface (WMI)

To access the G.SHDSL Management page, click on **Interface Configuration > DSL** from the main menu on the left of the screen.

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- Patton Home Page						0	CHL		tue			54	ve		_
- Fundin Home Fuge							I.SHL	SL Sla	lus						
- Home	Construction of the														
- 2	Status														
+ System	Dort	Con	figuration						Sta	tus			E	rors	
Interface Configuration	Desc	ription Link	Terminal	Annex	Speed	Link	Speed	Link Time	Noise	Far End Atten.	Links	Attempts	Genera	al RX	ΤХ
 IP Interface 	<u>0</u>	Up	central	В	192	Training	-		-	-	0.00		-		-
= VLAN	1	Down	central	A	192	Down		-		÷.	393			•	-
- Bridge Group	2	Down	central	A	192	Down	•	-	-		1.00	•			
= bluge croup	3	Down	central	A	192	Down		-			10.00			-	-
= <u>DSL</u>	4	Down	central	A	192	Down	•				1.00			1 5	
PPP	5	Down	central	A	192	Down		-		• •	10.002			•	-
PPTP Client	<u>6</u>	Down	central	A	192	Down					1.75	•			. 7.
- PPTP Server	Z	Down	central	A	192	Down	•			1 1	2002	•	-		-
	8	Down	central	A	192	Down		-		•	1.00	•			- 7
= ARP	9	Down	central	A	192	Down	•		•	•	202				
 DHCP Server 	<u>10</u>	Down	central	A	192	Down	•	-	•	-	1.00	•	•		-
= NAT	11	Down	central	A	192	Down			-		100				
- Deutles Configuration	12	Down	central	A	192	Down		-	-	•			7	-	-
+ Routing Configuration	13	Down	central	A	192	Down					100	•			
Traffic Management	14	Down	central	A	192	Down		-	-	-		•	7.	-	-
+ Support	10	Down	central	A .	192	Down	-	-	-	R.				-	
	17	Down	central	A	192	Down									
	18	Down	central	A	102	Down									
	19	Down	central		192	Down									
Patton Electropice Company	20	Down	central	A	192	Down									
© 2005-2010	21	Down	central	A	192	Down		-							-
Terms & Conditions	22	Down	central	A	192	Down	-	-	-	-	-	-	-		
	23	Down	central	A	192	Down		-			10-10				
							10								-
	Expand Erro	ors													

Figure 1. G.SHDSL Management main page

Configure DSL Ports

To configure a DSL port:

1. Click on the port number in the **G.SHDSL Status** table. The **G.SHDSL Port Management** page displays.

	G.SHDSL 1 Management
	<< Prev Status Next >>
Port Configuration	
Enable: 🗹	
Terminal Type: Central	
Speed: 192 kbps (3 ts)	
Annex: B	
Description:	
Update	

Figure 2. G.SHDSL Port Configuration

- 2. Select the **Enable** checkbox to begin training the link.
- 3. From the Terminal Type drop-down menu, set the DSL as CO (Central) or CPE (Remote).
- 4. Select the desired speed value (including timeslots) from the **Speed** drop-down menu.

- 5. Select **A** or **B** from the **Annex** drop-down menu.
- **6.** Enter a **Description** for the port (optional).
- 7. Click Update.

Note A DSL port cannot be configured while it is bound to a PPP interface.

Manage DSL Ports and PPP Interfaces

To manage DSL ports and PPP interfaces, click on **PPP** in the main navigation menu on the left side of the screen. Then, select the PPP interface to manage. DSL ports display as PPP devices.

	Point to Point Protocol - ppp1					
	PPP Interface Configuration PPP Authentication Configuration					
Select Devices Enabled Multilink (MLPPP) Bind Device Description Encapsulation if dsl0 DSL Interface dsl1 Interface dsl2 DSL Interface dsl3 DSL Interface dsl4 DSL Interface dsl4 DSL Interface dsl4 DSL Interface dsl4 DSL Interface	LCP MTU: 1540 MRU: 1540 BCP MAC: 02:a0:ba:4a:4d:01 Management-Inline: ✓ IEEE-802-Tagged-Frame: Allowed					
dsl6 DSL Interface dsl7 DSL Interface dsl8 DSL Interface dsl9 DSL Interface dsl9 DSL Interface	Local IP: 192.168.254.2 Peer IP: 192.168.254.3 Accept					

Figure 3. DSL Ports and PPP

To bind a DSL port to a PPP interface:

- 1. On the PPP interface page, select the Enabled checkbox in the Select Devices section.
- 2. If you want to bind multiple ports, select the Multilink (MLPPP) checkbox.
- **3.** Select the **Bind** checkbox for the desired DSL port(s).
- 4. Click **Update** to enable your changes.

To unbind a DSL port from a PPP interface:

- 1. On the PPP interface page, deselect the Enabled checkbox in the Select Devices section.
- 2. Deselect the **Bind** checkbox for the desired DSL port(s).
- **3.** Click **Update** to enable your changes.
 - **Note** For more detailed information on PPP, refer to the *PPP Configuration* chapter in the *TrinityAE Administrator's Reference Guide* (available online at www.patton.com/manuals/Trinity-arg.pdf).

Command Line Interface (CLI)

	Step	Explanation
1	Trinity#configure	Enter configure mode.
2	Trinity[config]#interface dsl <number></number>	Enter the configuration mode for dsl number, where number is between 0 and 23.
3	Trinity[dsl-0]# set {annex {a b} timeslot <number> type {central remote}}</number>	Sets various attributes of the DSL.
	set annex {a b}	Sets the annex to A or B.
	set timeslot <number></number>	Sets the number of timeslots to use. Valid values are 3-36.
	<pre>set type {central remote}</pre>	Sets the DSL to CO (central) or CPE (remote).
4	Trinity[dsl-0]# [no] shutdown	Enables or Disables a DSL interface.

Table	1	DSL -	CII	Commands
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Viewing Statistical Information

The following statistical information is available for each DSL. The information can be acquired via the **show** interface dsl [<number>] command or via the **show** command while configuring the DSL interface.

Note Statistics are only accurate when the DSL is linked.

- DSL link state as configured vs. DSL link state in reality
- Number of links vs. Number of attempts to link
- Noise on the line in 0.5dB increments
- Far End Attenuation in 0.5dB increments
- Link up-time
- Terminal type as configured (CO or CPE)
- Speed/timeslots as negotiated
- Speed/timeslots as configured (only shown if different from negotiated value)
- Annex as configured (A or B)
- General Errors
 - Loss Of Signal errors
 - Cyclic Redundancy Check errors
 - Digital Phased Locked Loop errors

- Rx Errors
 - Full buffer errors
 - Empty buffer errors
 - Buffer Slip errors
- Tx Errors
 - Full buffer errors
 - Empty buffer errors
 - Buffer Slip errors
 - Number of Stuff Bits injected

DSL Configuration Example

Trinity[dsl-4]# show DSL 4 is up, link is up 4 links in 10 attempts 20.0dB noise, 0.0dB far end atten. Link active for 5 seconds Terminal type is central (CO) Speed is 1024kbps (16 timeslots) configured as 2304kbps (36 timeslots) Annex is A General Errors 5 LOS, 4 CRC, 0 DPLL Rx Errors 1 full, 0 empty 0 slip Tx Errors 0 full, 0 empty 0 slip, 0 stuff bits