



GoWide 18.4e

Technical Manual



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FCC Regulatory Notice

According to Federal Communications Commission (FCC) Rules regarding radio frequency emissions, the GoWide complies with FCC Part 15 for Class A computing devices. The following paragraph is required by the FCC.

This equipment generates, uses and can radiate radio frequency energy and if not used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be necessary to correct the interference.

Canadian D.O.C.

This product conforms with Canadian Class A Emissions Regulations.

Approvals

Safety: EN60950, UL 1950, C/UL to CSA 22.2 No.950

Emissions: FCC Part 15 Class A, EN55022/CISPR2 Class A

Immunity: EN55024

Network Attachment: FCC Part 68

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Contents

Section 1 General Information

Chapter 1 Introduction and General Information

Product Description	20
GoWide 18.4e Specifications	21
About this Manual	22
Topics Not Covered in this Manual	22

Section 2 Usage Information

Chapter 2 Using the CLI

Introduction	26
What is the CLI?	26
Starting a CLI Session	26
Logging in to the System Using the Default Login	26
Logging out of the System	27
Using CLI and Console Commands	27
Access Permissions to the CLI	28
CLI Command Groups	28
CLI Terminology	29
Attaching a transport to an interface	30
CLI Conventions	30
Add	30
Delete	31
Clear	31
Set	31
Show	31
Help with Completing CLI Commands	31

Tab-completing keywords	31
Command syntax options	32
Using the <i>source</i> CLI Command	32
Administering User Accounts	32
Adding New Users	33
Setting User Passwords	33
Changing User Settings	34
Controlling login Access	34
Controlling User Access	34
About the Console	35
Entering Console Commands from the CLI	35
Navigating the Console	35
Obtaining Help with Command Syntax	36

Chapter 3 Configuring the GoWide 18.4e

Overview	40
GoWide Factory Default Configuration	40
Default Configuration Details	40
Restoring the Factory Default Configuration	40
Configuration Diagram	41
Interface Port Configuration	42
SHDSL Port Configuration	42
Ethernet Port Configuration	43
IMA Configuration	45
Passthrough	45
IMA Grouping	46
Bridge Configuration	48
RFC 1483 Bridge	48
DHCP Configurations	51
DHCP Client	51
OAM Configurations	53
OAM Functions Implemented in the GoWide	53
Default OAM Interface	53
Loopback Testing	54
Loopback Procedure	55

Continuity Checking	56
Continuity Checking Procedure	57
Fault Monitoring	59
OAM Cells	59
Fault States	59
Messages Generated During GoWide Fault Monitoring	59
Non-Intrusive Fault Monitoring	60
Fault Monitoring Procedure	60
Syslog Configuration	61
Syslog Daemon	61
Syslog Message Format	61
Syslog Procedure	62
Sample Configurations	64
Aggregator	64
GoWide 18.4e "A" Configuration	64
GoWide 18.4e "B" Configuration	66
Concentrator	69
GoWide 18.4e Configuration	69
2.3 Mbps G.shdsl CPE Bridge Configurations	72
4.6 Mbps G.shdsl CPE Bridge Configuration	73
9.2 Mbps G.shdsl CPE Bridge Configuration	74
Restoring Factory Defaults	75

Chapter 4 Upgrading the GoWide Firmware

Firmware Upgrade Using FTP	78
Upgrading the Firmware Using BOOTP	80
Before Beginning the Procedure	80
Firmware Image File	80
BOOTP Server	80
Upgrading the GoWide	80

Section 3 CLI Command Reference

CLI Command Summary	84
-------------------------------	----

Chapter 5 Alarm Logger CLI Commands

Summary	96
Alarm Logger CLI Commands	96
al clearlog	97
al reset hlogsize	98
al reset severity	99
al set hlogsize	100
al set severity	101
al show	102
al show logsize	103
al show severity	104
al showoam	105

Chapter 6 Bridge CLI commands

Summary	108
Bridge CLI commands	108
bridge add interface	109
bridge attach	110
bridge clear interfaces	111
bridge delete interface	112
bridge detach interface	113
bridge list interfaces	114
bridge set filterage	115
bridge set interface filtertype	116
bridge set interface portfilter	117
bridge set spanning	119
bridge set spanning forwarddelay	120
bridge set spanning hellotime	121
bridge set spanning maxage	122
bridge set spanning priority	123
bridge show	124
bridge show interface	125

Chapter 7 Console Access CLI commands

Summary	128
Console Access CLI commands	128
console enable	129
console process	130
exit (Console Command)	131

Chapter 8 DHCP Client CLI commands

Summary	134
DHCP client CLI commands	134
DHCP client default settings	135
dhcpclient add interfaceconfig	137
dhcpclient clear interfaceconfigs	138
dhcpclient delete interfaceconfig	139
dhcpclient interfaceconfig add requested option	140
dhcpclient interfaceconfig add required option	141
dhcpclient interfaceconfig add sent option	142
dhcpclient interfaceconfig clear sent options	144
dhcpclient interfaceconfig clear requested options	145
dhcpclient interfaceconfig delete requested option	146
dhcpclient interfaceconfig delete sent option	148
dhcpclient interfaceconfig list requested options	149
dhcpclient interfaceconfig list sent options	151
dhcpclient list interfaceconfigs	153
dhcpclient set backoff	154
dhcpclient set interfaceconfig autoip enabled disabled	155
dhcpclient set interfaceconfig clientid	156
dhcpclient set interfaceconfig defaultroute enabled disabled	157
dhcpclient set interfaceconfig dhcpinform enabled disabled	158
dhcpclient set interfaceconfig dhcpserverpoolsize	159
dhcpclient set interfaceconfig dhcpserverinterface	160
dhcpclient set interfaceconfig givednstoclient enabled disabled	161
dhcpclient set interfaceconfig givednstorelay enabled disabled	162
dhcpclient set interfaceconfig interface	163
dhcpclient set interfaceconfig noclientid	164

dhcpclient set interfaceconfig requestedleasetime	165
dhcpclient set interfaceconfig server	166
dhcpclient set reboot	167
dhcpclient set retry	168
dhcpclient show	169
dhcpclient update	170

Chapter 9 DHCP Server CLI commands

Summary	172
DHCP server CLI commands	172
dhcpserver list options	173

Chapter 10 Ethernet CLI commands

Summary	176
Ethernet CLI commands	176
ethernet add transport	177
ethernet clear transports	178
ethernet delete transport	179
ethernet list ports	180
ethernet list transports	181
ethernet set transport port	182
ethernet show transport	183

Chapter 11 Hostaccesslist CLI commands

Summary	186
Hostaccesslist CLI commands	186
hostaccesslist add	187
hostaccesslist delete	188
hostaccesslist list	189

Chapter 12 IMA CLI commands

Summary	192
IMA CLI commands	192
ima add interface	193
ima attach	195
ima clear interfaces	196
ima delete interface	197
ima detach	198
ima diag	199
ima event show	200
ima fm interface	201
ima list interfaces	204
ima pm interface	205
ima show interface	209
ima version	211

Chapter 13 Port CLI commands

Summary	214
Port CLI commands	214
port list	215
port set	216
port show	224
port status	226

Chapter 14 PVCN CLI Commands

Summary	228
PVCN CLI Commands	228
pvcn atmstats	229
pvcn ccactivate ccdeactivate	230
pvcn ccstart ccstop	232
pvcn faultbegin faultend	234
pvcn lbsend	236
pvcn lbstats	238

pvcn oamadd	240
pvcn oamdelete	241
pvcn oaminfo	242
pvcn oamlist	243
pvcn oamset ccenable ccdisable ccenableauto	244
pvcn oamset faultenable faultdisable	246
pvcn oamset faultwatch faultunwatch	248
pvcn oamset lbenable lbdisable	250
pvcn oamset pmenable pmdisable pmenableauto	252
pvcn oamset segmset segmclr	254
pvcn pmactivate	256
pvcn pmdeactivate	258
pvcn pmstart	260
pvcn pmstats	262
pvcn pmstop	264
pvcn setglobal ccaccept	266
pvcn setglobal pmaccept	267

Chapter 15 RFC1483 CLI commands

Summary	270
RFC1483 CLI commands	270
rfc1483 add transport	271
rfc1483 clear transports	273
rfc1483 delete transport	274
rfc1483 list transports	275
rfc1483 set transport bt	276
rfc1483 set transport mbs	277
rfc1483 set transport mcr	278
rfc1483 set transport mode	279
rfc1483 set transport pcr	280
rfc1483 set transport port	281
rfc1483 set transport qosclass	282

rfc1483 set transport rxvci	284
rfc1483 set transport rxvpi	285
rfc1483 set transport scr	286
rfc1483 set transport txvci	287
rfc1483 set transport txvpi	288
rfc1483 set transport vci	289
rfc1483 set transport vpi	290
rfc1483 show transport	291

Chapter 16 SHDSL CLI Commands

Summary	294
SHDSL CLI Commands	294
shdsl activate	295
shdsl inventory	296
shdsl performance	297
shdsl resetcount	299
shdsl status	300

Chapter 17 Syslog CLI commands

Summary	304
Syslog CLI commands	304
syslog log	305
syslog reset host	306
syslog set host	307
syslog show host	308
syslog status	309
syslog version	310

Chapter 18 System CLI commands

Summary	312
System CLI commands	312
system add user	314

system add login	316
system config backup	318
system config clear	319
system config restore	320
system config save	321
system delete login	322
system delete user	323
system diagnostics	324
system info	327
system legal	328
system list errors	329
system list openfiles	330
system list users	331
system list logins	332
system log	333
system log enable disable	334
system log list	336
system restart	338
system set login access	339
system set login mayconfigure	340
system set login maydialin	341
system set user access	342
system set user mayconfigure	343
system set user maydialin	344
system set user password	345
system upgrade	346

Chapter 19 TCP/IP CLI commands

Summary	348
IP Tracing commands	348
TCP-IP CLI commands	348
ip add interface	350
ip add rarp	352
ip attachbridge	354
ip attachvirtual	355

ip attach	356
ip clear arpentries	358
ip clear interfaces	359
ip clear rarps	360
ip delete interface	361
ip detach interface	362
ip list arpentries	363
ip list connections	364
ip list interfaces	365
ip list rarps	366
ip ping	367
ip set interface ipaddress	368
ip set interface netmask	370
ip set interface mtu	371
ip set interface dhcp	372
ip set interface tcpmssclamp	373
ip set rarp destination	374
ip set rarp macAddress	376
ip show	378
ip show interface	379
ip show rarp	381

Chapter 20 TFTP CLI commands

Summary	384
TFTP CLI commands	384
TFTP Console commands	384

Chapter 21 Transports CLI commands

Summary	386
Transports CLI commands	386
transports clear	387
transports delete	388
transports list	389

transports show	390
---------------------------	-----

Chapter 22 User CLI commands

Summary	394
User CLI commands	394
user logout	395
user password	396
user change	397

Appendix A Console Commands

connect (TFTP Console Command)	400
get (TFTP Console Command)	401
put (TFTP Console Command)	402
trace (TFTP Console Command)	403
version (TFTP Console Command)	404
event ... (System Console Command)	405
. (history mechanism) (System Console Command)	406
version (System Console Command)	407

Section 1

General Information

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Introduction and General Information

This chapter provides information of general interest to users of the GoWide 18.4e.

Product Description

Symmetricon's GoWide family of products enable high performance broadband-over-copper voice and data services for businesses and telco providers. These products are based on the worldwide G.shdsl (ITU-T G991.2) standard which provides advantages such as unrivalled rate/reach, excellent tolerance to noise and bridged taps. These advantages enable Service Providers to provide increased end user satisfaction at low system cost. Symmetricon leverages the G.shdsl international standard for widespread interoperability with major DSLAM manufacturers.

The GoWide 18.4e is a fully configurable customer premise equipment (CPE) device. Release 1.0 can be set up to function as a Bridge device, utilizing Ethernet on the LAN side and RFC 1483 ATM via G.shdsl transport on the WAN side.

The unit includes a single 10/100BaseT auto-sensing Ethernet port on the LAN side, and eight G.shdsl ports on the WAN side. The WAN-side connections can be configured as eight individual G.shdsl links (2-wire mode), four individual G.shdsl links in 4-wire mode (4.6Mbps), an aggregated single link using IMA, or any mix of the above.

GoWide 18.4e Specifications

Refer to the current product data sheet, available from Symmetricom, for the latest specifications.

About this Manual

The *GoWide 18.4e Technical Manual* is intended for technical users of the GoWide 18.4e. The primary focus of this manual is on the usage of Command Line Interface (CLI) commands to perform configuration and maintenance tasks.

The information in this manual is generally grouped as follows:

- Chapter 1 provides general product information.
- Chapters 2 and 3 contain general information regarding the CLI, and procedures that explain how to modify GoWide settings using the CLI.
- Chapter 4 explains how to upgrade the unit's firmware.
- Chapters 5 through 22 comprise a reference section that includes entries for all of the CLI commands that are available. The chapters are arranged alphabetically according to the command groups they contain, and the individual command entries within each chapter are also arranged alphabetically.
- Appendix A contains reference entries for console commands for which no CLI replacement exists.

Topics Not Covered in this Manual

This manual does not contain information regarding installation, troubleshooting, servicing, and warranty. For information on those topics, refer to the *GoWide 18.4e User Manual*.

Section 2

Usage Information

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Using the CLI

Chapter 2

This chapter provides information about how to use the GoWide Command Line Interface (CLI).

Introduction

This chapter describes how to use the Command Line Interface (CLI) to configure the GoWide 18.4e.

For more information on all the CLI commands available and their options, refer to the individual CLI Command chapters in this manual (for example, the *IMA CLI Commands* chapter contains information on all of the IMA commands).

What is the CLI?

The CLI is the *Command Line Interface* for configuring and otherwise maintaining the GoWide 18.4e.

In normal operation, the GoWide 18.4e is configured and otherwise managed via SNMP using a combination of standard and proprietary MIBs, however, the unit can also be configured and maintained using CLI commands via a Telnet session to the unit's G.shdsl (WAN) interface.

Note: For information on the relationship between the CLI and *console commands*, see [Using CLI and Console Commands](#) on page 27. Some console commands are available for use if you have appropriate access permissions set. For details of access permissions, see [Access Permissions to the CLI](#) on page 28.

Starting a CLI Session

In normal operation, the CLI is accessed via a telnet session. There are many communications applications provided which can be used to start a Telnet CLI session with the GoWide. The most popular applications available for each platform are shown below:

- *Minicom*; available with most Linux distributions.
- *HyperTerminal*; available with most Windows distributions.

Refer to the documentation provided with each application for more information on how to set up a telnet session from your computer to the GoWide.

Logging in to the System Using the Default Login

The default user name and password, which is used to log into the GoWide for the first time, is **admin**.

To login to the system for the first time, at the *Login* prompt, enter the following user name and password:

```
Login: admin  
Password: admin
```

This is the only user ID which is set up on the system by default. An *admin* user has *super-user* level access, so you can create new user IDs and access permissions from this account.

To see the settings for the *admin* user enter:

```
system list users
```

The following information is returned:

Users:

ID	Name	May Conf.	May Dialin	Access Level	Comment
1	admin	ENABLED	disabled	superuser	Default admin user

For information on creating additional users and changing passwords, see [Administering User Accounts](#) on page 32.

Logging out of the System

To logout of the system, enter the command:

```
user logout
```

The system logs out the current user and displays the *Login:* prompt:

```
Logging out.
```

```
Login:
```

Using CLI and Console Commands

Note: CLI and console commands are **case-sensitive**. You *must* type command attributes exactly as they appear in the syntax sections of the command entries in this manual. If you do not use the same case-sensitive syntax, the commands fail and the CLI or console displays a syntax error message.

There are two *types* of commands available for use with the GoWide:

- *CLI commands* - the CLI commands *replace* the majority of console commands. For example, the console command:

```
ip version
```

is now the CLI command:

```
ip show
```

- *Console commands* - console commands, for the most part, have been replaced

by CLI commands. Users with appropriate access permissions (see [Access Permissions to the CLI](#) on page 28) can enter console mode from the CLI and use the console commands. For details of how to enter console mode, see [Entering Console Commands from the CLI](#) on page 35.

There are two types of console command, and different access permissions exist for each type of command:

- Usable commands - console commands which do not change or affect the system. Most of these commands are *read-only* commands which provide status information and do not configure any part of the GoWide.
- *Blacklisted commands* - using blacklisted console commands can lead to inconsistencies between the information model and the underlying system and should be **used with extreme caution**.

Details of which category each command belongs to can be found in the individual CLI Command chapters in this manual.

Access Permissions to the CLI

There are three access level options for CLI users:

- *default user* - can use CLI commands; cannot use usable console commands or blacklisted console commands.
- *engineer* - can use CLI commands and usable console commands; cannot use blacklisted console commands.
- *super user* - can use CLI commands, usable console commands and blacklisted console commands. Can also set up user login accounts, save backup configuration and restore factory settings.

CLI Command Groups

Each GoWide firmware module will have an associated group of commands available in the CLI for configuring the module. All commands in a group start with the same command string. For example, all TCP-IP configuration commands start with *ip*. The typical CLI command groups included in the GoWide 18.4e are as shown in Table A:

Table A. CLI Command Groups

CLI Group	Command string begins:	Used to:
Alarm Logger management	al	Configure and manage the alarm logger, and view the contents of the alarm logs
Bridge configuration	bridge	Add, configure and remove bridge interfaces
Console access	console	Access console commands

Table A. CLI Command Groups

CLI Group	Command string begins:	Used to:
DHCP client configuration	<code>dhcpclient</code>	Add, change and remove DHCP client interface declarations
DHCP server configuration	<code>dhcpserver</code>	Included for listing DHCP options
Ethernet configuration	<code>ethernet</code>	Create and remove Ethernet transports and provide statistics
Host Access List configuration	<code>hostaccesslist</code>	Add, view, and remove host access list entries
IP configuration	<code>ip</code>	Add, configure and remove IP interfaces
IMA configuration	<code>ip</code>	Configure Inverse Multiplexing over ATM
Port configuration	<code>port</code>	Configure and display port information
PVC manager	<code>pvc</code>	Display ATM statistics, and use various OAM features
RFC1483 configuration	<code>rfc1483</code>	Create, configure and remove RFC transports
G.shdsl administration	<code>shdsl</code>	Administer the G.shdsl ports, and display G.shdsl port information
Syslog configuration	<code>syslog</code>	Add and change the syslog protocol host address
System administration	<code>system</code>	Administer users, and perform other system administration functions
Transports configuration	<code>transports</code>	Display and delete existing transport configuration details
User commands	<code>user</code>	Allows existing users to logout, change passwords, and login as different users.

CLI Terminology

In order to use the CLI commands, you need to understand the following CLI terms:

- **Transport:** A transport is a layer 2 session and everything below it. You can create a transport and attach it to the bridge so that data can be bridged via the attached transport. For an example, see [Attaching a transport to an interface](#) on page 30. The CLI supports the following transports:
 - RFC 1483
 - Ethernet
- **Interface:** bridges have interfaces. A single transport is attached to a bridge via an interface. For an example, see [Attaching a transport to an interface](#) on page 30.

- *Object*: an object is anything that you can create and manipulate as a single entity, for example, interfaces and transports.
- *List*: Objects are numbered entries in a list. For example, if you have created more than one bridge interface, the following command:

```
bridge list interfaces
```

produces a list of numbered interface objects. Object numbers are displayed in the first column under the heading ID. For example:

Bridge Interfaces:

ID	Name	Filter Type	Transport
1	brwan	All	llcbridged
2	brlan	All	ethernet

Attaching a transport to an interface

To attach a transport to a bridge, the following general steps must be performed in the order shown.

- Create a transport. In the following command, an Ethernet transport is created and named *eth2*, and the port name is specified (*ethernet*).

```
ethernet add transport eth2 ethernet
```

- Create an interface. In the following command, a bridge interface is created and called *myinterface*.

```
bridge add interface myinterface
```

- Attach the transport to the interface. In the following command, the *eth2* Ethernet transport is attached to the *myinterface* bridge interface.

```
ip attach myinterface eth2
```

CLI Conventions

The CLI uses standard, intuitive command names that can be used in different instances:

Add

Use this command to add and name objects (e.g., interfaces or transports).

The *add* command requires attributes to be specified as arguments in a certain order. For example, to create an Ethernet transport, you need to specify the transport name and system port:

```
ethernet add transport <name> <port>
```

Delete

The *delete* command deletes named objects or numbered objects (as displayed using the appropriate `list` command):

```
ethernet delete transport {<name>|<number>}
```

Clear

The *clear* command deletes ALL named entities that belong to an object, for example, the following command:

```
rfc1483 clear transports
```

deletes all RFC 1483 transports that have been created in the system.

Set

The *set* command changes a value or multiple values within the system, for example:

```
ip set interface {<name>|<number>} ipaddress <ipaddress>
```

Show

The *show* command lists current configuration and statistics for an object or module. For example, the command:

```
ip show interface ipbridge
```

Might give the following output:

```
IP Interface: ipbridge
      Ipaddr : 10.0.0.1
      Mask  : 255.255.255.0
      MTU   : 1500
      Dhcp  : false
      TCP MSS Clamp : false
      Accept V1 : false
      Send V1  : false
      Accept V2 : false
      Send V2  : false
      Send Multicast : false
```

Help with Completing CLI Commands

Tab-completing keywords

You can tab-complete unique keywords in CLI commands. For example, if you type the first few characters of a keyword in a command, then press the [Tab] key:

`ethernet add t[Tab]`

the keyword is automatically completed:

`ethernet add transport`

Note: The tab-completion facility works with fixed CLI keywords. It does not work with any CLI objects that you create or edit, such as transport names.

Command syntax options

If you type a command keyword and want to find out what the next syntax options are, type '[Spacebar]?'. For example:

`ethernet ?`

Displays a list of valid keywords that you can use after *ethernet*:

```
add
delete
set
show
list
clear
```

You can also enter:

`help`

This command will display some general help information about the CLI.

Using the *source* CLI Command

The *source* `<filename>` command allows you to run a list of predefined commands stored in an existing file. This saves you having to retype lengthy configurations when you want to use them again.

Before you can use this command, you need to create a file containing the command list and save it in your ISFS directory. Once you specify the *filename* in the *source* command, the file is located and the commands are executed. For example:

```
--> source //isfs/myconfigfile.txt
```

Administering User Accounts

As *admin* user you can administer user accounts. This section summarizes the CLI commands which can be used to administer user accounts.

Adding New Users

There are two types of users that you can add to the system:

- a user who can access the system via a dialin connection, for example, using PPP. To add a user, use the command:

```
system add user <name> ["comment"]
```

For example:

```
system add user fred "user with dialin access"
```

- a login user who can login to the system. To add a login user, use the command:

```
system add login <name> ["comment"]
```

For example:

```
system add login joe "user with login access"
```

To display information about the new users, use the command:

```
system list users
```

The following information is returned:

Users:

ID	Name	May Conf.	May Dialin	Access Level	Comment
1	joe	ENABLED	disabled	default	user with login access
2	fred	disabled	ENABLED	default	user with dialin access
3	admin	ENABLED	disabled	superuser	Default admin user

By default, new users are given a *default* access level as described in [Access Permissions to the CLI](#) on page 28.

Setting User Passwords

To change the password for the user you are currently logged in as, use the command:

```
user password
```

Enter the new password twice as prompted:

```
Enter new password: ***  
Again to verify: ***
```

Note that no check is made for any current password which may have been set for the user.

If you wish to change the password for another user, enter the command:

```
user change <name>
```

This command logs you into the system as another user. You can then use the *user password* command to change the password for this user. Note that changing to another user means that you lose **all** superuser privileges.

Note that only *superusers* can use the *user change* command.

Changing User Settings

To change any of the default settings for a user, use the following commands:

```
system set user <name> access {default|engineer|superuser}
system set user <name> maydialin {enabled|disabled}
system set user <name> mayconfigure {enabled|disabled}
```

For example, to change the security level for *fred*, enter:

```
system set user fred access engineer
```

Note that only *superusers* can use the *user change* command.

Controlling login Access

To set user access permissions for a user that has been added to the system using the *system add login* command, enter the command:

```
system set login <name> access {default|engineer|superuser}
```

Controlling User Access

To set user access permissions for a user that has been added to the system using the *system add user* command, enter the command:

```
system set user <name> access {default|engineer|superuser}
```

About the Console

Entering Console Commands from the CLI

You can only enter console commands from the CLI if you have the correct access permissions set. For more information on access permissions, see [Access Permissions to the CLI](#) on page 28.

To enter a single usable console command from the CLI, enter:

```
console process <console command>
```

For example:

```
console process event show
```

This command enables the display of background output on your console device.

To enter a series of console commands you can enter console mode. Enter the following CLI command:

```
console enable
```

You are now in console mode and can enter console commands.

To exit console mode and return to the CLI, enter:

```
exit
```

Note: You must type the *exit* command at the root level of the console to return to the CLI. To return to the root level, use the command *home*.

Navigating the Console

The console is structured in a hierarchical fashion. Entering a module name on the console *drops* you into the module. From this position, any commands which are then typed are assumed to be commands specific to the module you have entered.

To return to the top of the hierarchy, use the command *home*.

For example, entering:

```
0:20:2b:0:75:20>fm
```

drops you into the *fm* module. This is indicated by the change in the console prompt:

```
0:20:2b:0:75:20 fm>
```

All commands that are now issued from this prompt refer to commands supported by the *fm* module. For example, entering the *device* command:

0:20:2b:0:75:20 fm>**fsinfo**

produces information about the classes known to filesystem.

```
File system: isfs
Total bytes: 2095006
Used bytes: 2095006
Dynamic allocation: TRUE
File system is valid
```

To return to the top of the hierarchy, enter:

0:20:2b:0:75:20 fm>**home**

Entering the *fsinfo* command from this location produces an error, as shown below:

```
0:20:2b:0:75:20>fsinfo
console: Unknown command 'fsinfo' - try 'help'
```

If you know the commands supported by a module, you can call them directly, prefixed with the module name. For example:

0:20:2b:0:75:20>**fm fsinfo**

Obtaining Help with Command Syntax

The console provides you with tips and help information at various stages.

To find out the commands and modules available from the top of the hierarchy, type:

help

A list will be displayed showing the currently loaded modules and available commands.

To find out about the console commands provided by a particular module, type:

help

after the module name. This will display a list of all the commands available for the module along with their syntax. For example, typing:

fm help

displays all of the options which can be used with this command:

Commands are:

append	cat	cp	default
fsinfo	info	ls	md5
mv	rm	version	

'.' repeats the last command

Type "help all" or "help <command>" for more details

.....

You can also obtain help on the arguments required for a particular command. For example, to obtain help on the arguments required for the *ls* command, enter:

```
fm help ls
```

```
ls                [-l | -L] - list file system
```

You can also obtain help for all the commands. Enter the command:

```
fm help all
```

to display help information for all the commands in the *fm* module.

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Configuring the GoWide 18.4e

This chapter describes how to configure the GoWide using the CLI.

Chapter 3

Overview

The procedures in this chapter explain how to configure the GoWide 18.4e using the CLI.

GoWide Factory Default Configuration

The GoWide is factory configured to function as an RFC 1483 Bridge. The specifics of this factory default configuration are as follows:

- *LAN-Side Configuration* - a bridge interface, named “*brlan*,” is attached to an Ethernet transport named “*ethernet*.”
- *WAN-Side Configuration* - a bridge interface, named “*brwan*,” is attached to an RFC 1483 transport named “*llcbridged*.”

In addition, the GoWide contains a factory default IP interface with the name “*ipbridge*” which has an IP address of 10.0.0.1 and is attached to the bridge. The GoWide also contains a factory default passthrough interface with the name “*default*” which attaches IMA slot *ima-1* to G.shdsl port *dsl-1*.

Default Configuration Details

The following CLI commands can be used to obtain current details of the various default interfaces and transports:

- *Bridge Interface “brlan”* - `bridge list interfaces`
- *Bridge Interface “brwan”* - `bridge list interfaces`
- *IP Interface “ipbridge”* - `ip show interface ipbridge`
- *IMA interface “default”* - `ima show interface default`
- *Ethernet Transport “ethernet”* - `ethernet show transport ethernet`
- *RFC 1483 Transport “llcbridged”* - `rfc1483 show transport llcbridged`

Restoring the Factory Default Configuration

Restoration of the factory default configuration can be helpful if the unit needs many configuration changes to be reversed, the password is forgotten, or the unit will be installed in a new location. Restoring the factory defaults resets all configurations, including authorized users and passwords. For more information on restoring factory defaults, refer to the section entitled *Restoring Factory Defaults* in this chapter.

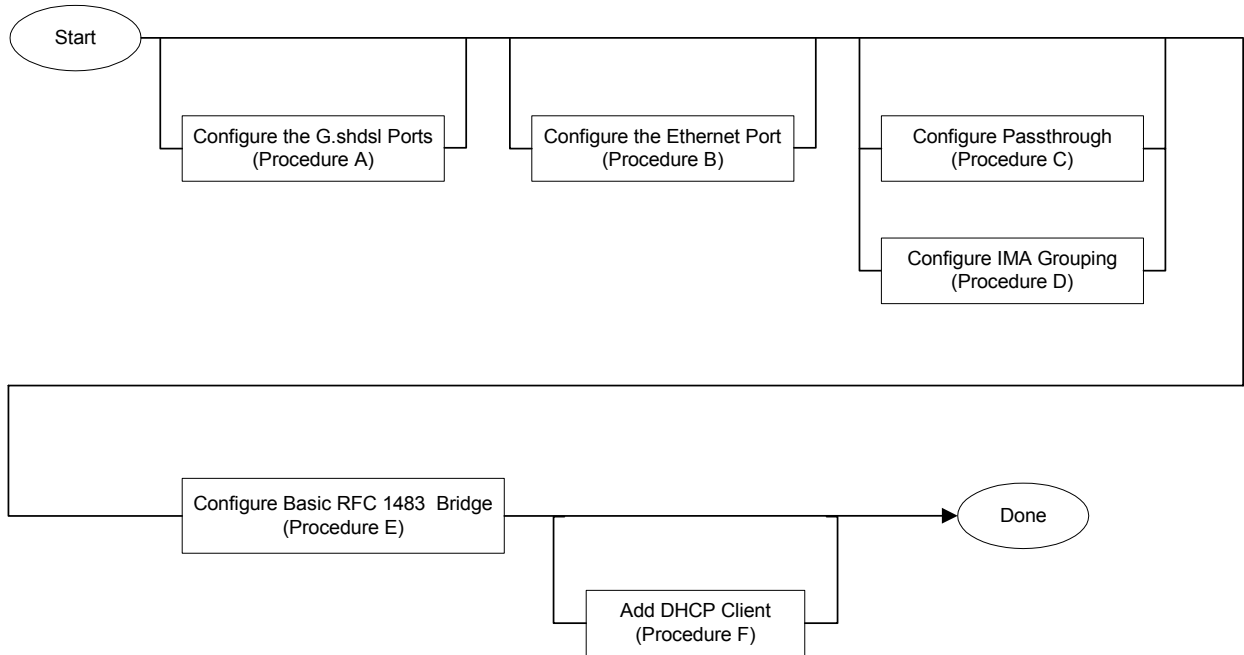
Configuration Diagram

Figure 1 shows the order in which the procedures in this chapter should be performed when configuring the GoWide 18.4e for operation as a bridge device.

Note: The OAM and Syslog procedures in this chapter are additional enhancement features that can be added to the unit's configuration at any time as needed.

Figure 1. GoWide 18.4e Configuration Diagram

Bridge Configuration



3

Interface Port Configuration

The GoWide contains a set of default attributes for the interface ports.

The default attributes do not always satisfy the network environment in which the unit is installed. In such cases, the port attributes might need to be altered in order for the unit to be successfully integrated into the network.

Note: The serial “Craft” port has no attributes that can be user modified.

Typically, interface port configuration is the first step in the overall process of configuring the GoWide. The following procedures explain how to modify the configurations of the interface ports.

SHDSL Port Configuration

In general, it should not be necessary to change the attributes of the SHDSL ports. Occasionally, expert users might desire to change the SHDSL port settings.

Note: If the IMA grouping functionality of the GoWide is to be used to combine SHDSL ports, then the configuration of each SHDSL port that comprises the IMA group must be considered. Refer to *IMA Grouping* in this chapter for more information.

Procedure A describes a process where some SHDSL port attributes are changed.

Procedure A. Configuring the SHDSL Port

Step	Procedure
1	<p>Enter the following CLI command to disable the specified SHDSL line. Doing so ends all traffic activity on the line.</p> <pre>shdsl activate disable dsl-1</pre> <p><code>dsl-1</code> is the SHDSL port being deactivated.</p> <p>When the command is issued, the message <code>Forced Line Deactivate!</code> will be displayed. Disabling the line is necessary because the SHDSL line attributes are used during handshaking, therefore, changing them once the lines are synched up has no effect.</p>
2	<p>Enter the following CLI commands to list the attributes that can be modified, and to list their current settings.</p> <pre>port dsl-1 set ? (lists the port attributes that can be modified) port dsl-1 status (lists attributes along with their current settings)</pre> <p><code>dsl-1</code> is the SHDSL port for which the attributes are being listed.</p> <p><i>Note:</i> Refer to port set on page 216 for descriptions of the attributes and their settable values.</p>

Procedure A. Configuring the SHDSL Port (Continued)

Step	Procedure
3	<p>Use the following CLI command as many times as is necessary to modify attributes of the specified SHDSL line. In the example in this step, the HTUType is changed to CPE.</p> <pre>port dsl-1 set HTUType cpe</pre> <p>dsl-1 is the SHDSL port for which the specified attribute is being modified. HTUType is the attribute is being modified. cpe is the new value of the attribute.</p> <p>Note: Refer to port set on page 216 for descriptions of the attributes and their settable values.</p>
4	<p>Enter the following CLI command to ensure that the SHDSL port attributes are now set appropriately for the network environment in which the unit is installed.</p> <pre>port dsl-1 status</pre> <p>dsl-1 is the SHDSL port for which the attributes are being listed.</p>
5	<p>Enter the following CLI command to re-enable the specified SHDSL line and begin handshaking on the line.</p> <pre>shdsl activate enable dsl-1</pre> <p>dsl-1 is the SHDSL port being re-activated.</p> <p>When the command is issued, the message Request Line-1 Activate! will be displayed. During handshaking, the SHDSL SYNC indicator on the unit's top panel will flash, and become steady once the handshake process has finished and the SHDSL line has synchronized with the remote site.</p>
6	<p>Enter the following CLI command to save the configuration.</p> <pre>system config save</pre>

End of Procedure

Ethernet Port Configuration

Procedure B explains how to change Ethernet port attributes.

Procedure B. Configuring the Ethernet Port

Step	Procedure
1	<p>Enter the following CLI commands to list the attributes that can be modified, and to list their current settings.</p> <pre>port ethernet set ? (lists the port attributes that can be modified) port ethernet status (lists attributes along with their current settings)</pre> <p>ethernet is the port for which the attributes are being listed.</p> <p>Note: Refer to port set on page 216 for descriptions of the attributes and their settable values.</p>
2	<p>Use the following CLI command as many times as is necessary to modify attributes of the Ethernet port. In the example in this step, the AutoNegotiation attribute is changed to false.</p> <pre>port ethernet set AutoNegotiation false</pre> <p>ethernet is the port for which the specified attribute is being modified. AutoNegotiation is the attribute is being modified. false is the new value of the attribute.</p> <p>Note: Refer to port set on page 216 for descriptions of the attributes and their settable values.</p>
3	<p>Enter the following CLI command to ensure that the Ethernet port attributes are now set appropriately for the network environment in which the unit is installed.</p> <pre>port ethernet status</pre> <p>ethernet is the port for which the attributes are being listed.</p>
4	<p>Enter the following CLI command to save the configuration.</p> <pre>system config save</pre>

End of Procedure

IMA Configuration

The GoWide 18.4e uses IMA (inverse multiplexing over ATM) as a means of transmitting an ATM stream at high speeds. During transmission, the unit's internal IMA module breaks the aggregate stream of ATM cells up and transmits it across multiple G.shdsl ports. Upon reception, the IMA module in the receiving unit reassembles the individual links back into the original ATM stream.

Internal to the GoWide 18.4e, an aggregate ATM stream enters or exits the IMA module via one of eight assigned *IMA slots*. IMA slots are assigned the numerical designators `ima-1` through `ima-8`. The IMA device can perform the following functions:

- A simple passthrough function, in which the ATM stream at a given IMA slot is passed directly through to a single G.shdsl port, and vice-versa, without using the unit's IMA functionality. In order to use this functionality, a *passthrough interface* is used.
- A grouping function, in which multiple G.shdsl ports are attached to a given IMA slot for increased bandwidth as explained above. In order to use this functionality, an *IMA group interface* is used

Note: The GoWide 18.4e factory configuration contains a default interface named *default*. This default interface attaches IMA slot `ima-1` to G.shdsl port `dsl-1`, and is a passthrough interface.

The remainder of this section explains how to configure the GoWide 18.4e for either passthrough or IMA group operation:

Passthrough

A passthrough interface does not make use of the unit's IMA functionality. Each passthrough interface that is created can only be attached to a single G.shdsl port.

Procedure C explains how to set up the GoWide for passthrough operation. In the example presented in Procedure C, a passthrough interface which attaches IMA slot `ima-2` to G.shdsl port `dsl-5` is set up.

Procedure C. Passthrough Setup

Step	Action
1	<p>Enter the following CLI command to add a passthrough interface.</p> <pre>ima add interface imaif1 ima-2 passthrough</pre> <p>imaif1 is the name used to identify the interface. ima-2 is the IMA slot used for the interface. passthrough specifies the interface as a passthrough interface.</p>
2	<p>Enter the following CLI command to attach the interface to a G.shdsl port.</p> <pre>ima attach imaif1 dsl-5</pre> <p>dsl-5 is the G.shdsl port that the interface is attached to.</p>
3	<p>Enter the following CLI command to save the configuration.</p> <pre>system config save</pre>

End of Procedure

IMA Grouping

In order to use the unit's IMA functionality, an IMA group interface must be created. An IMA group interface allows multiple G.shdsl ports to be attached to it, and it is over the attached G.shdsl ports that the aggregate ATM stream is distributed during transmission.

Procedure D explains how to set up the GoWide for IMA grouping operation. In the example presented in Procedure D, an IMA group interface which attaches IMA slot ima-4 to G.shdsl ports dsl-6, dsl-7, and dsl-8 is set up.

Procedure D. IMA Grouping Setup

Step	Action
1	<p data-bbox="289 317 1039 348">Enter the following CLI command to add an IMA group interface.</p> <pre data-bbox="337 390 967 422">ima add interface imaif2 ima-4 group</pre> <p data-bbox="289 457 1008 489">imaif2 is the name used to identify the IMA group interface. ima-4 is the IMA slot used for the interface. group specifies the interface as an IMA group interface.</p>
2	<p data-bbox="289 583 1300 615">Enter the following CLI commands to attach the interface to a the desired G.shdsl ports.</p> <pre data-bbox="337 657 740 751">ima attach imaif2 dsl-6 ima attach imaif2 dsl-7 ima attach imaif2 dsl-8</pre> <p data-bbox="289 793 1382 825">dsl-6, dsl-7, and dsl-8 are the G.shdsl ports that the IMA group interface is attached to.</p>
3	<p data-bbox="289 850 976 882">Enter the following CLI command to save the configuration.</p> <pre data-bbox="289 919 602 951">system config save</pre>

End of Procedure

Bridge Configuration

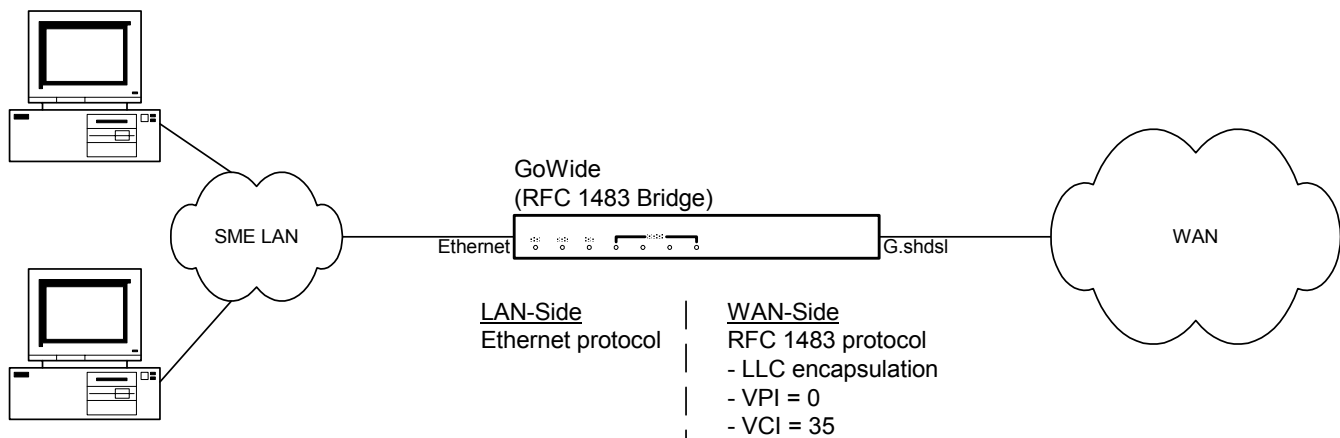
The GoWide configuration in this section bridges between Ethernet and an ATM protocol. This configuration is bridging at Layer 2.

Note: When the CLI is used to configure the GoWide in bridge configuration, the GoWide does not need to be configured with an IP address.

RFC 1483 Bridge

When the GoWide is configured as explained in Procedure E, it acts as a layer 2 bridge between Ethernet and the RFC 1483 ATM protocol. On the WAN side, RFC 1483-encapsulated frames run over an ATM circuit. In this configuration, SME equipment on the LAN side of the bridge can communicate with remote equipment via the WAN interface as if they were all connected directly by Ethernet. The example configuration detailed in Procedure E is shown in Figure 2.

Figure 2. GoWide Configured as RFC 1483 Bridge



Procedure E explains how to set up the GoWide as an RFC 1483 bridge.

Procedure E. Basic RFC 1483 Bridge Setup

Step	Action
1	Enter the following CLI commands to clear any existing bridge interfaces and transports. bridge clear interfaces transports clear

Procedure E. Basic RFC 1483 Bridge Setup (Continued)

Step	Action
2	<p>Enter the following CLI commands to add a LAN-side Ethernet device to the bridge.</p> <pre>ethernet add transport eth1 ethernet bridge add interface bridge1 bridge attach bridge1 eth1</pre> <p>eth1 is the name used to identify the transport. bridge1 is the name used to identify the interface.</p>
3	<p>Enter the following CLI commands to add a WAN-side RFC 1483 device to the bridge.</p> <pre>rfc1483 add transport my1483 ima-4 0 35 llc bridged bridge add interface bridge2 bridge attach bridge2 my1483</pre> <p>my1483 is the name used to identify the transport. ima-4 is the IMA slot, or input to the IMA device, used to transport ATM data. In the GoWide, IMA slots are given the name "ima-X," where X corresponds to the IMA slot number. 0 is the virtual path identifier for the ATM circuit. 35 is the virtual channel identifier for the ATM circuit. llc is the encapsulation method used. bridge2 is the name used to identify the interface.</p>
4	<p>Add additional WAN-side devices to the bridge, as is necessary.</p> <p>Note: The total number of devices that can be added to a bridge is three.</p>



.....

Procedure E. Basic RFC 1483 Bridge Setup (Continued)

Step	Action
5	<p>Enter the following CLI commands to set the quality of service (QoS) parameters for the WAN-side RFC 1483 device added in Step 3.</p> <p><i>Note:</i> Only certain combinations of the following commands are relevant, depending on the QoS class chosen with the <code>rfc1483 set transport qosclass</code> command. For more information on the relevant combinations of QoS options, refer to the entries for the commands listed below, in the "RFC 1483 CLI Commands" chapter of this manual.</p> <pre>rfc1483 set transport my1483 qosclass vbr rfc1483 set transport my1483 bt 20 rfc1483 set transport my1483 mbs 50 rfc1483 set transport my1483 mcr 0 rfc1483 set transport my1483 pcr 5000 rfc1483 set transport my1483 scr 2000</pre> <p><code>my1483</code> is the name assigned to the RFC 1483 transport added in Step 3. <code>vbr</code> is the quality of service class for the transport. 20 is the burst tolerance that the transport uses to transport data over ATM. 50 is the maximum burst size for the transport. 0 is the minimum cell rate for the transport. 5000 is the peak cell rate for the transport. 2000 is the sustainable cell rate for the transport.</p>
6	<p>Enter the following CLI command to save the configuration.</p> <pre>system config save</pre>

End of Procedure

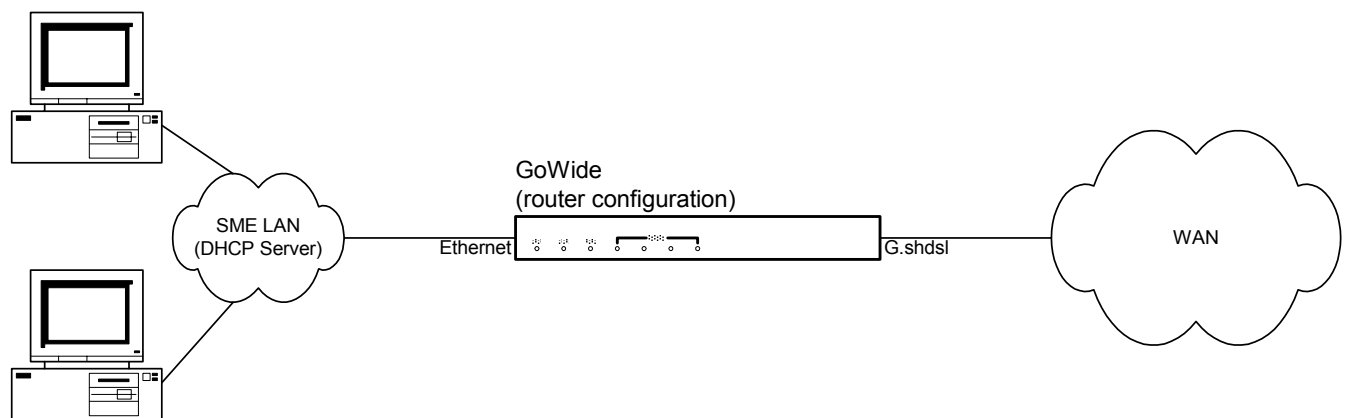
DHCP Configurations

Dynamic Host Configuration Protocol (DHCP) provides a means of configuring IP interfaces. In the GoWide 18.4e, the Ethernet interface can be configured as a DHCP client, so that its IP address can be configured via DHCP.

DHCP Client

When the Ethernet interface has been configured as a DHCP client, it can automatically accept configuration from a DHCP server on the network. The example configuration detailed in Procedure F is shown in Figure 3.

Figure 3. DHCP Client Configuration



Procedure F explains how to set up a DHCP client on the Ethernet interface.

Procedure F. DHCP Client Setup

Step	Action
1	<p>Enter the following CLI commands to configure the Ethernet interface to obtain its address configuration from DHCP.</p> <pre>ip set interface ip1 0.0.0.0 ip set interface ip1 dhcp enabled</pre> <p>ip1 is the name of the existing IP interface. To display the names of existing interfaces, use the <i>ip list interfaces</i> command.</p> <p>0.0.0.0 unconfigures the IP address of the interface.</p>

.....

Procedure F. DHCP Client Setup (Continued)

Step	Action
2	<p data-bbox="217 300 1256 331">Enter the following CLI commands to set the interface up for operation as a DHCP Client.</p> <pre data-bbox="266 369 980 470">dhcpclient clear interfaceconfigs dhcpclient add interfaceconfig mydec1 ip1 dhcpclient update</pre> <p data-bbox="217 508 932 571">mydec1 is the name that identifies the DHCP client interface. ip1 is the name of the existing IP interface.</p>
3	<p data-bbox="217 596 899 627">Enter the following CLI command to save the configuration.</p> <pre data-bbox="217 665 532 697">system config save</pre>
<p data-bbox="688 720 873 751"><i>End of Procedure</i></p>	

OAM Configurations

The GoWide provides several functions that can be used to operate and maintain the ATM-layer aspects of the WAN-side connections to the unit. These functions, referred to as *Operation and Maintenance (OAM) functions*, produce information that can be used by maintenance personnel for maintaining the Quality of Service (QoS) level of the ATM link, as well as for link troubleshooting purposes.

OAM functions are implemented through the establishment of *OAM flows*, which are flows of information transferred through the WAN-side network connection by means of specialized ATM cells, referred to as OAM cells. Depending on the function, OAM flows can be unidirectional or bidirectional. They follow the same physical route as user-data cells, constituting an in-band maintenance flow. GoWide implements the following ATM layer OAM flows:

- *F4* - Virtual path (VP)-level OAM flows.
- *F5* - Virtual channel (VC)-level OAM flows.

These flows can be set up on an entire virtual connection, referred to as an *end-to-end (etoe) flow* or only parts of a virtual connection, referred to as a *segment (segm) flow*.

OAM Functions Implemented in the GoWide

The following OAM functions are implemented in the GoWide:

- *Loopback Testing* - An OAM loopback cell is inserted at a point along a virtual connection and looped back at a specified downstream point in the connection. Statistics and messaging can be viewed to ascertain the general status of the connection.
- *Continuity Checking* - A periodic flow of OAM continuity checking (CC) cells is established on a virtual path or virtual channel connection for continuity monitoring purposes.
- *Fault Monitoring* - Virtual path or virtual channel connections are monitored for conditions that indicate an interruption of the connection's cell transfer capability.

Note: Loopback testing, continuity checking, and fault monitoring functions conform to International Telecommunication Union recommendation ITU-T I.610 entitled *B-ISDN Operation and Maintenance Principles and Functions*.

Default OAM Interface

Before a GoWide can participate in OAM testing, appropriate OAM flows must be enabled in the unit. To facilitate OAM testing, GoWides contain a default OAM interface named *default*. This default OAM interface has F4 and F5, segment and end-to-end OAM flows enabled for loopback testing, continuity checking, and fault monitoring on any virtual path and channel. The location loopback identifier (LLID)

is set to 16 octets of all '1's (ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff) on all pertinent default OAM flows.

The default OAM interface allows OAM testing to be carried out with minimal pre-test setup. The following shows the configuration of the default OAM interface:

Oam Info:

Name	Port	Vpi	Vci	Settings
default	ima-1	any	any	cc, lb, fault, pm

	F4-ETOE	F4-SEGM	F5-ETOE	F5-SEGM
loopback	y	y	y	y
cc	y	y	y	y
cc auto	n	n	n	n
fault	y	y	y	y
fault non-intrusive	n	n	n	n
segment sinkpoint	n	y	n	y
pm	y	y	y	y
pmauto	n	n	n	n

```
f4 segm llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
f4 etoe llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
f5 segm llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
f5 etoe llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
```

Notes:

1. The default OAM interface setup shown above can be viewed by issuing the CLI command `pvcn oaminfo default`.
2. “pm” and “pmauto” in the above *oaminfo* report denote performance monitoring OAM functionality. This functionality is currently not supported by Symmetricom.
3. The default OAM interface can be modified and deleted like any other OAM interface, however, this is not recommended.

The remainder of this section explains the various OAM functions in greater detail, and provides sample CLI procedures:

Loopback Testing

Loopback is an ATM layer OAM function that can be used for pre-service connectivity verification, on-demand connectivity monitoring, and fault localization.

Loopback functionality is implemented through the insertion of loopback (LB) cells at a point along a virtual path or virtual channel connection, which are looped back at a downstream point, which can be the connection endpoint or a segment sink-point.

Messages generated during the loopback operation can be captured and displayed locally on the GoWide console by enabling the display of console event messages. The following messages might be shown:

- `OAM_LOOPBACK_RETURN` - The outbound loopback cell has been returned.

- *OAM_LOOPBACK_LOST* - The outbound loopback cell was not returned within the time-out interval, which is five seconds.

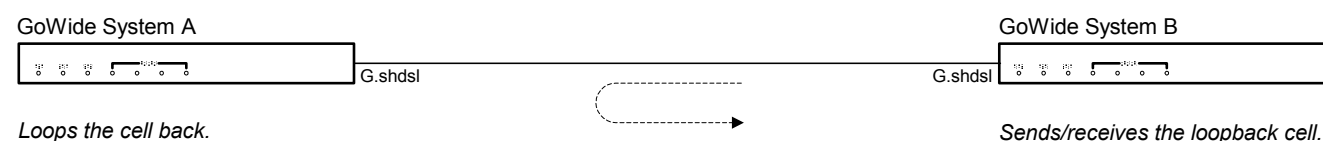
In addition, loopback statistics can be displayed by the loopback node if loopback has been enabled on that node.

Loopback Procedure

Procedure G explains how to perform loopback testing using the GoWide.

Note: For demonstration purposes, two GoWides are connected back-to-back via G.shdsl link in the following procedure, as shown in Figure 4. This configuration contains a single passthrough interface at IMA slot *ima-1* attached to G.shdsl port *dsl-1* (refer to the paragraph entitled *IMA Configuration* for more information on configuring IMA).

Figure 4. Loopback Testing Demonstration Setup



System B is the GoWide which is the sender/receiver of the loopback cell, and *System A* is the GoWide which loops the cell back. In practice, the node represented by *System B* would likely be non-GoWide equipment at the central office side of the link.

Procedure G. Loopback Testing

Step	Action
1	<p>Enter the following CLI commands on GoWide Systems A and B to set up passthrough interfaces from IMA slot <i>ima-1</i> to G.shdsl port <i>dsl-1</i>.</p> <pre>ima add interface imaif1 ima-1 passthrough ima attach imaif1 dsl-1</pre>
2	<p>Enter the following CLI commands on GoWide System A to ensure that it is set up as the customer premises (CPE) side of the G.shdsl link, and ensure that the loopback is enabled on all flows.</p> <pre>port dsl-1 set HTUType cpe pvcm oaminfo default</pre> <p>If loopback is enabled on all flows, the line of the <i>oaminfo</i> report that begins with "loopback" will have "y" across all four columns. Note that this is the factory setting of the <i>default</i> OAM interface. If the setup is not correct, enter the command <code>pvcm oamset default lbenable both both</code> to set it.</p>

Procedure G. Loopback Testing (Continued)

Step	Action
3	<p>Enter the following CLI commands on GoWide system B to ensure that it is set up as the central office (CO) side of the G.shdsl link, and ensure that loopback is enabled on all flows.</p> <pre>port dsl-1 set HTUType co pvcm oaminfo default</pre> <p>If loopback is enabled on all flows, the line of the <i>oaminfo</i> report that begins with "loopback" will have "y" across all four columns.</p>
4	<p>Enter the following CLI command on GoWide system B to enable the display of console event messages.</p> <pre>console process event show</pre>
5	<p>Enter the following CLI command on GoWide system B to send out a loopback cell.</p> <pre>pvcm lbsend ima-1 0 35 f5 etoe</pre> <p>The above command sends an F5, end-to-end loopback cell on IMA slot ima-1 via a virtual connection identified by VPI of 0 and VCI of 35. During the loopback operation, the system sends a loopback status message to the console display.</p> <p><i>Note:</i> The above "lbsend" command sends out a loopback cell containing the default loopback location identifier (LLID), which is 16 octets of all '1's (ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff), since no LLID is specified on the command line. Cells containing this default LLID will always be looped back, regardless of the LLID setting at the remote node. The following represents the general coding structure of the LLID field:</p> <ul style="list-style-type: none">• All '1's - The endpoint, which is the segment endpoint for segment loopback or the connection endpoint for end-to-end loopback.• All '0's - All connection points for which the LLID option is enabled. This includes the segment endpoint. It is only applicable to segment loopback cells.• '6A'H - Does not represent any specific connection point and thus no loopback is performed.• <i>Other values</i> - The specific connection point where loopback is to occur.
6	<p>Enter the following CLI command on GoWide system A to display the loopback statistics for the OAM flow.</p> <pre>pvcm lbstats ima-1 any any f5 etoe</pre>

End of Procedure

Continuity Checking

Continuity checking is an ATM layer OAM function that can be used for continuously monitoring the continuity of a connection.

Continuity checking functionality is implemented through the establishment of a periodic flow of continuity check (CC) cells along a virtual path or virtual channel connection. These CC cells are sent at a nominal rate of one cell per second, independent of the flow of user cells.

Once the flow of CC cells has been established, if an end-to-end or segment end-point on which fault monitoring has been enabled does not receive a user cell or CC cell within a time interval of 3.5 seconds ± 0.5 seconds, it declares an alarm indication signal (AIS) state (see *Fault Monitoring* in this chapter for information on GoWide fault monitoring functionality).

Continuity checking must be enabled on an OAM flow before the flow of CC cells can be activated/deactivated on that flow.

The enable operation is done locally on the nodes that will participate in the flow of CC cells. The enable operation sets up the nodes to accept activation/deactivation requests remotely from other nodes that are participating in the continuity checking operation, such as a node on which fault monitoring is enabled. In the GoWide, activation/deactivation requests are sent in the form of special activation/deactivation OAM cells.

During activation/deactivation operations, the local system generates messages, which can be captured and displayed on the GoWide console by enabling the display of console event messages. The following messages might be shown:

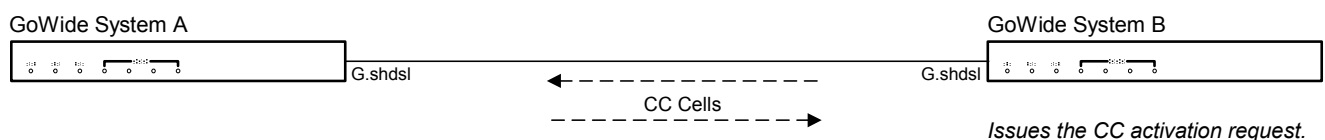
- *OAM_CC_ACCEPT* - The continuity check activation or deactivation request was accepted by the remote system.
- *OAM_CC_REJECT* - The continuity check activation request was either rejected by the remote system, in which case the sub-message *Activation was denied* is returned, or the request timed out, in which case the sub-message *Activation was timed out* is returned.

Continuity Checking Procedure

Procedure H explains how to enable and activate the flow of CC cells on GoWides.

Note: For demonstration purposes, two GoWides are connected back-to-back via G.shdsl link in the following procedure, as shown in Figure 5. This configuration contains a single passthrough interface at IMA slot *ima-1* attached to G.shdsl port *dsl-1* (refer to the paragraph entitled *IMA Configuration* for more information on configuring IMA).

Figure 5. Continuity Checking Demonstration Setup



Procedure H. Continuity Checking Activation

Step	Action
1	<p>Enter the following CLI commands on GoWide Systems A and B to set up passthrough interfaces from IMA slot ima-1 to G.shdsl port dsl-1.</p> <pre>ima add interface imaif1 ima-1 passthrough ima attach imaif1 dsl-1</pre>
2	<p>Enter the following CLI commands on GoWide system A to ensure that it is set up as the customer premises (CPE) side of the G.shdsl link, and ensure that the acceptance of continuity checking activation requests is enabled on all flows.</p> <pre>port dsl-1 set HTUType cpe pvcm setglobal ccaccept on pvcm oaminfo default</pre> <p>If acceptance of continuity checking activation requests is enabled on all flows, the line of the <i>oaminfo</i> report that begins with "cc" will have "y" across all four columns. Note that this is the factory setting of the <i>default</i> OAM interface. If the setup is not correct, enter the command <code>pvcm oamset default ccenable both both</code> to set it.</p>
3	<p>Enter the following CLI commands on GoWide system B to ensure that it is set up as the central office (CO) side of the G.shdsl link, and ensure that it is enabled for continuity checking activation on all flows.</p> <pre>port dsl-1 set HTUType co pvcm oaminfo default</pre> <p>If continuity checking activation is enabled on all flows, the line of the <i>oaminfo</i> report that begins with "cc" will have "y" across all four columns.</p>
4	<p>Enter the following CLI command on GoWide system B to enable the display of console event messages.</p> <pre>console process event show</pre>
5	<p>Enter the following CLI command on GoWide system B to activate the flow of CC cells in both directions.</p> <pre>pvcm ccactivate ima-1 0 35 f5 etoe both</pre> <p>The above command activates an F5, end-to-end flow of CC cells in both directions on IMA slot ima-1 via a virtual connection identified by VPI of 0 and VCI of 35. When system B receives a confirmation from system A that it has accepted the activation request, system B sends a message to the console display.</p>
6	<p>Enter the following CLI command on GoWide system B, as desired, to deactivate the flow of CC cells.</p> <pre>pvcm ccdeactivate ima-1 0 35 f5 etoe both</pre>

End of Procedure

Fault Monitoring

Fault monitoring is an ATM layer OAM function that can be used for monitoring virtual path and virtual channel connections for conditions that indicate an interruption of the connection's cell transfer capability. Fault monitoring functionality is implemented through the use of specialized *OAM cells*, and the declaration/release of *fault states*.

OAM Cells

End-to-end or segment nodes in a connection that have been enabled for fault monitoring (hereafter referred to as *enabled nodes*) indicate fault conditions to other nodes in the connection through generation of the following types of OAM cells:

- *AIS Cells* - AIS cells are generated in the forward direction at a nominal rate of one cell per second when an enabled node detects a connection defect. Connection defects can variously include the receipt of transmission path defect indications from the physical layer, detection of loss of Cell Delineation (LCD), and detection of a Loss of Continuity (LOC). AIS cell generation ceases as soon as monitored defects are removed.
- *RDI Cells* - RDI cells are generated in the backward direction at a nominal rate of one cell per second when the enabled node has declared an AIS fault state and the state persists (see *Fault States*, below). RDI cell generation ceases as soon as the node releases the AIS fault state.

Fault States

Enabled nodes indicate fault conditions through the declaration of the following fault states:

- *Alarm Indication Signal (AIS) Fault State* - An enabled node declares an AIS fault state as soon as it detects a transmission or connection defect, or receives an AIS cell. The node releases the AIS fault state when it receives either a user cell or CC cell. If the continuity checking function is not activated, the node releases the AIS fault state after it has received no AIS cells within a time interval of 2.5 seconds ± 0.5 seconds.
- *Remote Defect Indication (RDI) Fault State* - An enabled node declares an RDI fault state as soon as it receives an RDI cell. The node releases the RDI fault state after it has received no RDI cells within a time interval of 2.5 seconds ± 0.5 seconds.

Messages Generated During GoWide Fault Monitoring

Messages generated by GoWides during fault monitoring can be captured and displayed locally on the GoWide console by enabling the display of console event messages. The following messages might be shown:

- *OAM_FAULT AISDEC* | *OAM_FAULT RDIDEC* - GoWide fault monitoring has declared an AIS | RDI fault state. The reason why the AIS | RDI state was declared is provided as part of the message in the form of an integer value,

which can be interpreted as follows:

- 1 - A physical-level problem was detected.
 - 2 - An AIS | RDI cell was received.
 - 3 - The AIS | RDI state was declared as the result of continuity checking.
 - 4 - The AIS | RDI state was induced by a management layer operation, as when a `pvcn faultbegin` CLI command is entered.
- `OAM_FAULT AISCLR` | `OAM_FAULT RDICLR` - GoWide fault monitoring has released an AIS | RDI fault state.

Non-Intrusive Fault Monitoring

Non-intrusive fault monitoring of end-to-end or segment OAM flows can be enabled on intermediate nodes along a virtual connection. Non-intrusive monitoring consists of detecting and processing the content of OAM fault monitoring cells passing the intermediate node without modifying the characteristics of the aggregated flow being monitored.

Fault Monitoring Procedure

Procedure I explains how to enable fault monitoring on GoWides.

Note: For fault management demonstration purposes, two GoWides can be connected back-to-back via G.shdsl link as shown in Figure 5, above, and configured as in Procedure H. That configuration contains a single passthrough interface at IMA slot `ima-1` attached to G.shdsl port `dsl-1`.

Procedure I. Fault Monitoring Setup

Step	Action
1	<p>Enter the following CLI command on the GoWide (System B if the setup in Procedure H is being used) to ensure that fault monitoring is enabled on the unit.</p> <pre>pvcn oamset default faultenable f5 etoe</pre> <p>The above command enables F5, end-to-end fault monitoring on the <i>default</i> OAM interface. Note that the factory setting of the <i>default</i> OAM interface has fault monitoring enabled on all flows.</p>
2	<p>Enter the following CLI command on the GoWide, as desired, to disable fault monitoring on the flow.</p> <pre>pvcn oamset default faultdisable f5 etoe</pre>

End of Procedure

Syslog Configuration

GoWides provide a feature that allows them to send alarm log, background event log, and error log messages to a remote host running a *Syslog daemon*. This allows log messages from multiple GoWides to be monitored from a central location.

Syslog Daemon

A Syslog daemon is software that runs on a system, known as a *syslog server*, which collects UDP messages from devices that have been configured to send syslog protocol messages. The general content of syslog messages can be varied, but GoWides issue UDP syslog messages which include alarm log, background event log, and error log messages.

Unix and Linux systems typically have a built-in syslog service, and several Syslog daemons are available for Windows-based systems.

In order for the Syslog daemon to receive a given syslog message, the daemon must be running on the syslog server before the message occurs, and the destination IP address of the syslog server must be set in the GoWide.

Notes:

1. Refer to the documentation for the Syslog daemon or service (`syslogd`) you are using for applicable installation, configuration, and usage information.
2. The Syslog feature is not supported on GoWides that are configured in bridged mode. In general, syslog is supported if the syslog host can be pinged from the GoWide.
3. General details of the syslog protocol can be found in RFC 3164, entitled *The BSD syslog Protocol*.

Syslog Message Format

GoWides send UDP syslog protocol messages which contain the following fields, as indicated in RFC 3164:

- The facility and severity of the message.
- The IP address of the GoWide originating the message.

Note: GoWide syslog messages do not contain a local timestamp. The timestamp displayed by a Syslog daemon is the time when the daemon receives the message.

- The name of the GoWide process that originated the message, and the text of the message itself.

Note: If the message originates from the GoWide console module, no process name is sent.

How syslog messages are displayed depends on the Syslog daemon being used. Figure 6 shows a typical display of GoWide syslog messages by the Linux syslogd daemon:

Figure 6. Syslog Display

```
Nov 11 16:30:40 192.168.170.121 im:CC global auto accept is on already
Nov 11 16:30:45 192.168.170.121 im:PM global auto accept is on already
Nov 11 16:30:51 192.168.170.121 im:Invalid argument:failed to set the SNTP host to
Nov 11 16:30:57 192.168.170.121 im:Permission denied:Attribute 'MAC' is readonly
Nov 11 16:31:06 192.168.170.121 dhcprelay: Reset request acknowledged. Reset imminent.
Nov 11 16:31:12 192.168.170.121 dhcprelay: DHCP Relay has no nominated DHCP Servers in list. Sleeping.
Nov 11 16:31:18 192.168.170.121 dhcprelay: Reset request acknowledged. Reset imminent.
Nov 11 16:31:24 192.168.170.121 dhcprelay: DHCP Relay has no nominated DHCP Servers in list. Sleeping.
Nov 11 16:31:30 192.168.170.121 dhcpserver: Reset request acknowledged. Reset imminent.
Nov 11 16:31:36 192.168.170.121 dhcpserver: No IP address lease pools defined in configuration - sleeping.
Nov 11 16:31:42 192.168.170.121 dhcpclient: Reset request acknowledged. Reset imminent.
Nov 11 16:31:48 192.168.170.121 dhcpclient: No usable DHCP client IP interfaces - sleeping.
Nov 11 16:31:54 192.168.170.121 getMacAddress: failed to find interface 'ipbridge'
Nov 11 16:32:00 192.168.170.121 Web Server failed to find interface 'ipbridge'
Nov 11 16:32:06 192.168.170.121 ewsDocumentInstallArchive: adding to installed archive (this may be ok if this is
Nov 11 16:32:12 192.168.170.121 SHDSL HTU-CO Line-1: Line Status -- Disconnect
Nov 11 16:32:18 192.168.170.121 SHDSL HTU-CO Line-1: Line Status -- Activating
Nov 11 16:32:24 192.168.170.121 al: #1 LOL active on mod-SHDSL link-1 at 01/01/70 00:00:09
Nov 11 16:32:30 192.168.170.121 SHDSL HTU-CO Line-1: Op Status --
Nov 11 16:32:36 192.168.170.121 Handshake
Nov 11 16:32:42 192.168.170.121 (10)
Nov 11 16:32:48 192.168.170.121 SHDSL HTU-CO Line-1: Op Status --
```

Syslog Procedure

Before a Syslog daemon can receive and display syslog messages, it must be installed and running on a syslog server, and the destination IP address of the syslog server must be set in the GoWide.

Procedure J explains how to set the destination IP address of the syslog server in a GoWide.

Procedure J. GoWide Syslog Setup

Step	Action
I	Ensure that the Syslog daemon is installed, configured, and running on a system that is reachable via an Ethernet connection from the GoWides that will be sending syslog messages. Refer to the documentation for the Syslog daemon or service (syslogd) you are using for applicable daemon installation, configuration, and usage information.

.....

Procedure J. GoWide Syslog Setup (Continued)

Step	Action
2	<p data-bbox="289 296 1498 363">Enter the following CLI command on the GoWide to set the IP address of the syslog server to which the system will send syslog messages.</p> <pre data-bbox="337 401 776 432">syslog set host 10.8.45.8</pre> <p data-bbox="289 470 1117 501">10.8.45.8 is the IP address of the server running the Syslog daemon.</p>
3	<p data-bbox="289 527 974 558">Enter the following CLI command to save the configuration.</p> <pre data-bbox="289 596 605 627">system config save</pre>
<p data-bbox="760 648 948 680"><i>End of Procedure</i></p>	

Sample Configurations

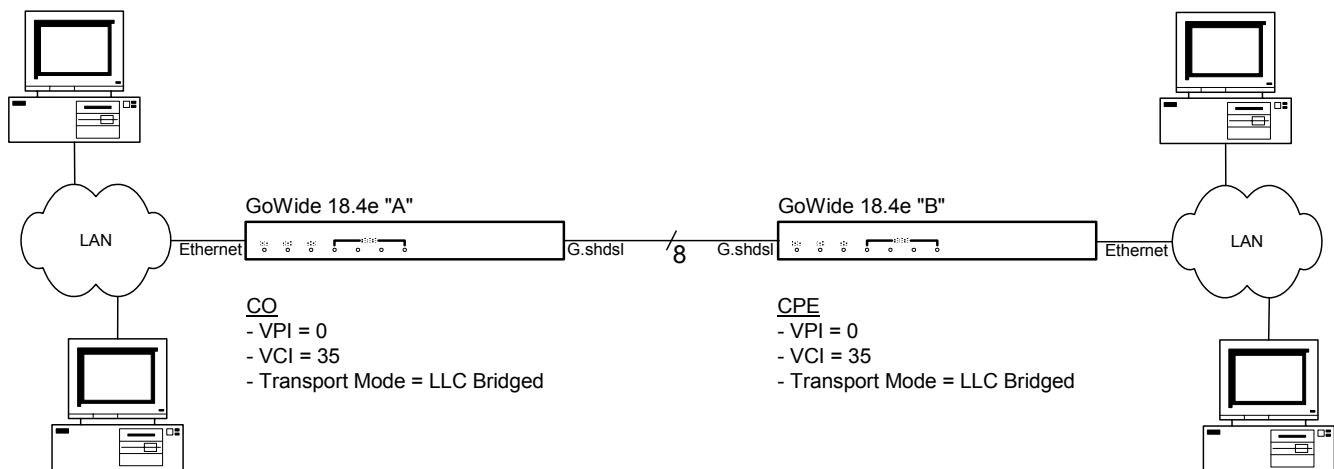
This section contains two sample configurations that show how to set up the GoWide 18.4e to function as an ATM Aggregator and an ATM Concentrator.

Aggregator

The sample configuration shown in Figure 7 shows two GoWide 18.4e units configured as the two sides of an ATM Aggregator link. The instructions that follow Figure 7 explain how to set up the hardware shown in the figure.

As the first step, connect the hardware as shown in Figure 7 using the cabling specified in the GoWide 18.4e User Manual. When connecting the G.shdsl ports, ensure that like ports are connected (port SHDSL 1 on one unit is connected to port SHDSL1 on the other unit, etc.). After connecting the hardware, follow the steps in the paragraphs that follow to configure the hardware.

Figure 7. Sample Aggregator Configuration



GoWide 18.4e "A" Configuration

The following describes how to set up the GoWide 18.4e "A" unit to function as the Central Office (CO) side of the ATM Aggregator link shown in Figure 7 using CLI commands.

- Disable all G.shdsl lines. This is necessary so that the port attribute changes that will be made to the ports will take effect when the G.shdsl lines are re-enabled.

```
shdsl activate disable dsl-1
shdsl activate disable dsl-2
shdsl activate disable dsl-3
shdsl activate disable dsl-4
shdsl activate disable dsl-5
shdsl activate disable dsl-6
```



```
shdsl activate disable dsl-7
shdsl activate disable dsl-8
```

- Set the G.shdsl lines for Central Office (CO) functionality by changing the HDSL Terminating Unit type (HTUType) attribute to `co`.

```
port dsl-1 set HTUType co
port dsl-2 set HTUType co
port dsl-3 set HTUType co
port dsl-4 set HTUType co
port dsl-5 set HTUType co
port dsl-6 set HTUType co
port dsl-7 set HTUType co
port dsl-8 set HTUType co
```

- Set the G.shdsl line probing to fixed mode.

```
port dsl-1 set RateMode fixed
port dsl-2 set RateMode fixed
port dsl-3 set RateMode fixed
port dsl-4 set RateMode fixed
port dsl-5 set RateMode fixed
port dsl-6 set RateMode fixed
port dsl-7 set RateMode fixed
port dsl-8 set RateMode fixed
```

- Set the G.shdsl payload rate to 2312 K.

```
port dsl-1 set PayloadRate 2312
port dsl-2 set PayloadRate 2312
port dsl-3 set PayloadRate 2312
port dsl-4 set PayloadRate 2312
port dsl-5 set PayloadRate 2312
port dsl-6 set PayloadRate 2312
port dsl-7 set PayloadRate 2312
port dsl-8 set PayloadRate 2312
```

- Re-enable all G.shdsl lines to cause the port attribute changes to take effect.

```
shdsl activate enable dsl-1
shdsl activate enable dsl-2
shdsl activate enable dsl-3
shdsl activate enable dsl-4
shdsl activate enable dsl-5
shdsl activate enable dsl-6
shdsl activate enable dsl-7
shdsl activate enable dsl-8
```

- Configure a single IMA group interface to include all eight of the unit's G.shdsl ports.

```
ima clear interfaces
ima add interface imaif1 ima-1 group
ima attach imaif1 dsl-1
ima attach imaif1 dsl-2
ima attach imaif1 dsl-3
ima attach imaif1 dsl-4
ima attach imaif1 dsl-5
ima attach imaif1 dsl-6
```

```
ima attach imaif1 dsl-7
ima attach imaif1 dsl-8
```

- Set up the bridge. Begin by clearing existing bridge interfaces and transports.

```
bridge clear interfaces
transports clear
```

- Create the Ethernet interface for the LAN side of the bridge.

```
ethernet add transport eth1 ethernet
bridge add interface bridge1
bridge attach bridge1 eth1
```

- Create the WAN-side bridge interface.

```
rfc1483 add transport trnsp1 ima-1 0 35 llc bridged
bridge add interface bridge2
bridge attach bridge2 trnsp1
```

Note: If SHDSL and IMA are not fully synchronized and operational when you attach the RFC 1483 transport to the bridge, the Peak Cell Rate (PCR) of the transport will be determined by the IMA group members that are synchronized and operational at the time of attachment. To ensure that the PCR is the desired value, use the following command to explicitly set it:

```
rfc1483 set transport trnsp1 pcr <pcr_val>
```

where <pcr_val> is the PCR desired setting.

- Save the unit's configuration.

```
system config save
```

GoWide 18.4e "B" Configuration

The following describes how to set up the GoWide 18.4e "B" unit to function as the Customer Premise Equipment (CPE) side of the ATM Aggregator link shown in Figure 7 using CLI commands.

- Disable all G.shdsl lines. This is necessary so that the port attribute changes that will be made to the ports will take effect when the G.shdsl lines are re-enabled.

```
shdsl activate disable dsl-1
shdsl activate disable dsl-2
shdsl activate disable dsl-3
shdsl activate disable dsl-4
shdsl activate disable dsl-5
shdsl activate disable dsl-6
shdsl activate disable dsl-7
shdsl activate disable dsl-8
```

- Set the G.shdsl lines for Customer Premise Equipment (CPE) functionality by changing the HDSL Terminating Unit type (HTUType) attribute to cpe.

```
port dsl-1 set HTUType cpe
port dsl-2 set HTUType cpe
port dsl-3 set HTUType cpe
port dsl-4 set HTUType cpe
port dsl-5 set HTUType cpe
port dsl-6 set HTUType cpe
port dsl-7 set HTUType cpe
port dsl-8 set HTUType cpe
```

- Set the G.shdsl line probing to adaptive mode.

```
port dsl-1 set RateMode adaptive
port dsl-2 set RateMode adaptive
port dsl-3 set RateMode adaptive
port dsl-4 set RateMode adaptive
port dsl-5 set RateMode adaptive
port dsl-6 set RateMode adaptive
port dsl-7 set RateMode adaptive
port dsl-8 set RateMode adaptive
```

- Re-enable all G.shdsl lines to cause the port attribute changes to take effect.

```
shdsl activate enable dsl-1
shdsl activate enable dsl-2
shdsl activate enable dsl-3
shdsl activate enable dsl-4
shdsl activate enable dsl-5
shdsl activate enable dsl-6
shdsl activate enable dsl-7
shdsl activate enable dsl-8
```

- Configure a single IMA group interface to include all eight of the unit's G.shdsl ports.

```
ima clear interfaces
ima add interface imaif1 ima-1 group
ima attach imaif1 dsl-1
ima attach imaif1 dsl-2
ima attach imaif1 dsl-3
ima attach imaif1 dsl-4
ima attach imaif1 dsl-5
ima attach imaif1 dsl-6
ima attach imaif1 dsl-7
ima attach imaif1 dsl-8
```

- Set up the bridge. Begin by clearing existing bridge interfaces and transports.

```
bridge clear interfaces
transports clear
```

- Create the Ethernet interface for the LAN side of the bridge.

```
ethernet add transport eth1 ethernet
bridge add interface bridge1
bridge attach bridge1 eth1
```

- Create the WAN-side bridge interface.

```
rfc1483 add transport trnsp1 ima-1 0 35 llc bridged
bridge add interface bridge2
bridge attach bridge2 trnsp1
```

Note: If SHDSL and IMA are not fully synchronized and operational when you attach the RFC 1483 transport to the bridge, the Peak Cell Rate (PCR) of the transport will be determined by the IMA group members that are synchronized and operational at the time of attachment. To ensure that the PCR is the desired value, use the following command to explicitly set it:

```
rfc1483 set transport trnsp1 pcr <pcr_val>
```

where <pcr_val> is the PCR desired setting.

- Save the unit's configuration.

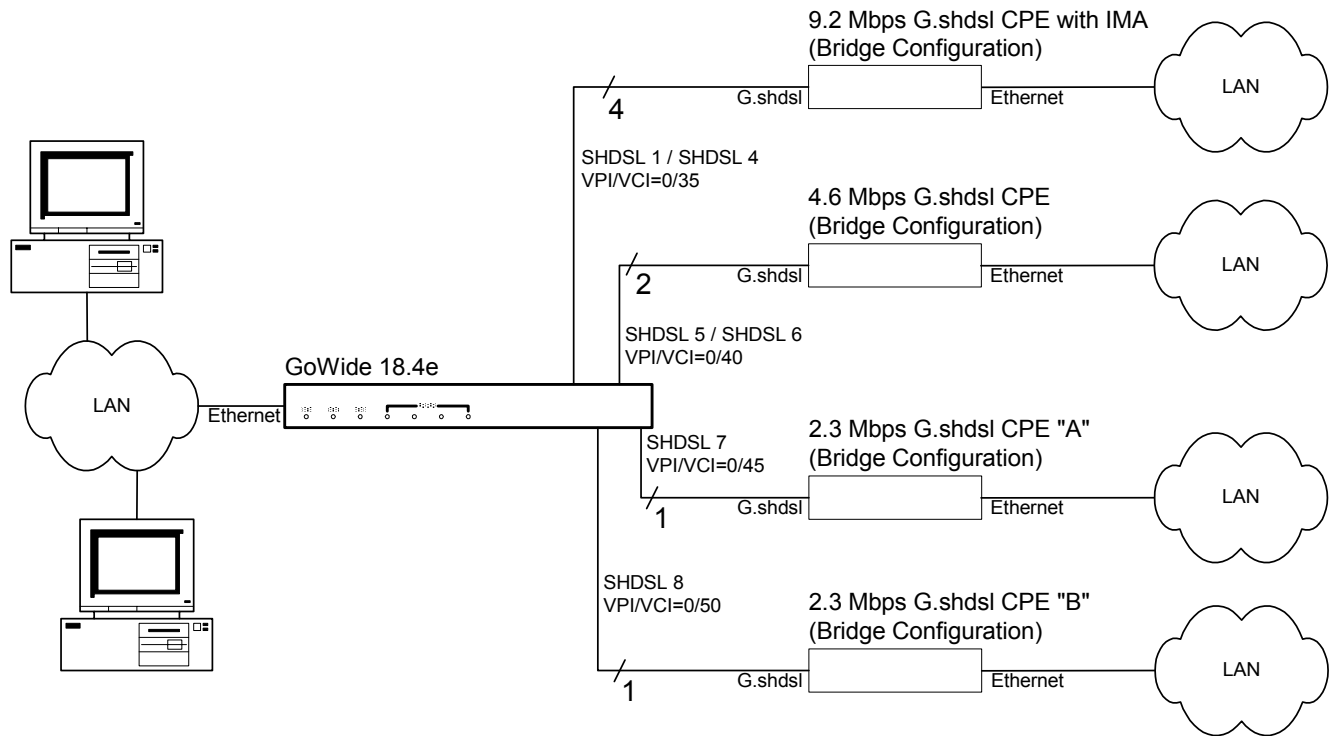
```
system config save
```

Concentrator

The sample configuration shown in Figure 8 shows the GoWide 18.4e configured as an ATM Concentrator. The instructions that follow Figure 8 explain how to set up the hardware shown in the figure. Although the GoWide 18.4e will inter-operate with a variety of G.shdsl CPE hardware, the instructions assume GoWide hardware is used.

As the first step, connect the hardware as shown in Figure 8 using the cabling specified in the hardware user documentation, then follow the steps in the paragraphs that follow to configure the hardware.

Figure 8. Sample Concentrator Configuration



3

GoWide 18.4e Configuration

The following describes how to set up the GoWide 18.4e to function as the ATM Concentrator shown in Figure 8 using CLI commands.

- Disable all G.shdsl lines. This is necessary so that the port attribute changes that will be made to the ports will take effect when the G.shdsl lines are re-enabled.

```
shdsl activate disable dsl-1
shdsl activate disable dsl-2
shdsl activate disable dsl-3
shdsl activate disable dsl-4
shdsl activate disable dsl-5
shdsl activate disable dsl-6
```

```
shdsl activate disable dsl-7
shdsl activate disable dsl-8
```

- Set the G.shdsl lines for Central Office (CO) functionality by changing the HDSL Terminating Unit type (HTUType) attribute to `co`.

```
port dsl-1 set HTUType co
port dsl-2 set HTUType co
port dsl-3 set HTUType co
port dsl-4 set HTUType co
port dsl-5 set HTUType co
port dsl-6 set HTUType co
port dsl-7 set HTUType co
port dsl-8 set HTUType co
```

- Set the G.shdsl line probing to fixed mode.

```
port dsl-1 set RateMode fixed
port dsl-2 set RateMode fixed
port dsl-3 set RateMode fixed
port dsl-4 set RateMode fixed
port dsl-5 set RateMode fixed
port dsl-6 set RateMode fixed
port dsl-7 set RateMode fixed
port dsl-8 set RateMode fixed
```

- Set the G.shdsl payload rate to 2312 K.

```
port dsl-1 set PayloadRate 2312
port dsl-2 set PayloadRate 2312
port dsl-3 set PayloadRate 2312
port dsl-4 set PayloadRate 2312
port dsl-5 set PayloadRate 2312
port dsl-6 set PayloadRate 2312
port dsl-7 set PayloadRate 2312
port dsl-8 set PayloadRate 2312
```

- Set G.shdsl lines SHDSL 5 and SHDSL 6 for four-wire mode.

```
port dsl-5 set LineType 4
port dsl-6 set LineType 4
```

- Re-enable all G.shdsl lines to cause the port attribute changes to take effect.

```
shdsl activate enable dsl-1
shdsl activate enable dsl-2
shdsl activate enable dsl-3
shdsl activate enable dsl-4
shdsl activate enable dsl-5
shdsl activate enable dsl-6
shdsl activate enable dsl-7
shdsl activate enable dsl-8
```

- Configure an IMA group interface to include four of the unit's G.shdsl ports. This interface will be used for the 9.2 Mbps G.shdsl CPE.

```
ima clear interfaces
ima add interface imaif1 ima-1 group
ima attach imaif1 dsl-1
```

```
ima attach imaif1 dsl-2
ima attach imaif1 dsl-3
ima attach imaif1 dsl-4
```

- Configure a four-wire passthrough interface to include G.shdsl ports SHDSL 5 and SHDSL 6. This interface will be used for the 4.6 Mbps G.shdsl CPE.

```
ima add interface imaif2 ima-2 passthrough
ima attach imaif2 dsl-5
```

- Configure a passthrough interface to include one G.shdsl port. This interface will be used for one of the 2.3 Mbps G.shdsl CPEs.

```
ima add interface imaif3 ima-3 passthrough
ima attach imaif3 dsl-7
```

- Configure a passthrough interface to include the remaining G.shdsl port. This interface will be used for the other 2.3 Mbps G.shdsl CPE.

```
ima add interface imaif4 ima-4 passthrough
ima attach imaif4 dsl-8
```

- Set up the bridge. Begin by clearing existing bridge interfaces and transports.

```
bridge clear interfaces
transports clear
```

- Create the Ethernet interface for the LAN side of the bridge.

```
ethernet add transport eth1 ethernet
bridge add interface bridge1
bridge attach bridge1 eth1
```

- Create the bridge interface that connects to the 9.2 Mbps G.shdsl CPE.

```
rfc1483 add transport trnsp1 ima-1 0 35 llc bridged
bridge add interface bridge2
bridge attach bridge2 trnsp1
```

- Create the bridge interface that connects to the 4.6 Mbps G.shdsl CPE.

```
rfc1483 add transport trnsp2 ima-2 0 40 llc bridged
bridge add interface bridge3
bridge attach bridge3 trnsp2
```

- Create the bridge interface that connects to the 2.3 Mbps G.shdsl CPE “A.”

```
rfc1483 add transport trnsp3 ima-3 0 45 llc bridged
bridge add interface bridge4
bridge attach bridge4 trnsp3
```

- Create the bridge interface that connects to the 2.3 Mbps G.shdsl CPE “B.”

```
rfc1483 add transport trnsp4 ima-4 0 50 llc bridged
bridge add interface bridge5
bridge attach bridge5 trnsp4
```

- Save the unit's configuration.

```
system config save
```

2.3 Mbps G.shdsl CPE Bridge Configurations

The following describes how to set up GoWide 2.3 G.shdsl Bridge/Routers to function as the 2.3 Mbps G.shdsl CPE "A" and "B" units shown in Figure 8 using CLI commands. The configuration of the two units is almost exactly the same; the only difference is the VPI/VCI combination used for the ATM virtual circuits.

- Disable the G.shdsl line. This is necessary so that the port attribute changes that will be made to the port will take effect when the G.shdsl line is re-enabled.

```
shdsl activate disable dsl-1
```

- Set the G.shdsl line for Customer Premise Equipment (CPE) functionality by changing the HDSL Terminating Unit type (HTUType) attribute to `cpe`.

```
port dsl-1 set HTUType cpe
```

- Set the G.shdsl line probing to adaptive mode.

```
port dsl-1 set RateMode adaptive
```

- Re-enable the G.shdsl line to cause the port attribute changes to take effect.

```
shdsl activate enable dsl-1
```

- Set up the bridge. Begin by clearing existing interfaces and transports.

```
bridge clear interfaces
transports clear
```

- Create the LAN-side bridge interface.

```
ethernet add transport eth1 ethernet
bridge add interface bridge1
bridge attach bridge1 eth1
```

- Create the WAN-side bridge interface.

```
(for CPE "A") rfc1483 add transport trnsp1 dsl-1 0 45 llc bridged
(for CPE "B") rfc1483 add transport trnsp1 dsl-1 0 50 llc bridged
bridge add interface bridge2
bridge attach bridge2 trnsp1
```

- Save the unit's configuration.

```
system config save
```


4.6 Mbps G.shdsl CPE Bridge Configuration

The following describes how to set up a GoWide 4.6 G.shdsl Bridge/Router to function as the 4.6 Mbps G.shdsl CPE unit shown in Figure 8 using CLI commands. The following steps set up the unit in four-wire G.shdsl mode.

- Disable the G.shdsl lines. This is necessary so that the port attribute changes that will be made to the ports will take effect when the G.shdsl lines are re-enabled.

```
shdsl activate disable dsl-1
shdsl activate disable dsl-2
```

- Set the G.shdsl lines for Customer Premise Equipment (CPE) functionality by changing the HDSL Terminating Unit type (HTUType) attribute to `cpe`.

```
port dsl-1 set HTUType cpe
port dsl-2 set HTUType cpe
```

- Set the G.shdsl line probing to adaptive mode.

```
port dsl-1 set RateMode adaptive
port dsl-2 set RateMode adaptive
```

- Set the G.shdsl lines for four-wire mode.

```
port dsl-1 set LineType 4
port dsl-2 set LineType 4
```

- Re-enable the G.shdsl lines to cause the port attribute changes to take effect.

```
shdsl activate enable dsl-1
shdsl activate enable dsl-2
```

- Set up the bridge. Begin by clearing existing interfaces and transports.

```
bridge clear interfaces
transports clear
```

- Create the LAN-side bridge interface.

```
ethernet add transport eth1 ethernet
bridge add interface bridge1
bridge attach bridge1 eth1
```

- Create the WAN-side bridge interface.

```
rfc1483 add transport trnsp1 dsl-1 0 40 llc bridged
bridge add interface bridge2
bridge attach bridge2 trnsp1
```

- Save the unit's configuration.

```
system config save
```

9.2 Mbps G.shdsl CPE Bridge Configuration

No configuration of the GoWide 9.2 G.shdsl Bridge/Router is necessary for inclusion in the sample ATM Concentrator configuration shown in Figure 8 if the unit's factory default configuration is used. To reset the GoWide 9.2 to factory default settings, press and hold the Reset switch on the unit's rear panel for five seconds while the unit is powered on. When the switch is released, the unit will restart with the factory default settings.

Restoring Factory Defaults

The GoWide's factory default configuration can be restored. This action resets all configurations, including authorized users and passwords. Restoration of factory defaults can be helpful if the unit needs many configuration changes to be reversed, the password is forgotten, or the unit will be installed in a new location.

Defaults are restored to the factory defaults of the latest firmware upgrade. Restoring factory defaults does not affect the firmware version.

Caution: It is important that power is not disconnected from the unit during the factory default restoration operation. If the power is disconnected while the factory defaults are being restored, the unit's firmware image or configuration might be corrupted, and the unit might become unusable. Wait until the unit restarts before disconnecting power.

It is recommended that a console be connected to the front panel DB-9 "CRAFT" port so that status messages can be observed. To restore the factory defaults, insert a small pointed object, such as a straightened paper clip, into the small hole labeled "RESET" in the rear panel of the unit. With power applied to the unit, press the switch and hold for over 3 seconds. Messages will be displayed on the console. The old configurations will be removed, the factory defaults will be restored, and the default configurations will be saved to non-volatile memory (flash). After the configurations are saved, the unit will restart.

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Upgrading the GoWide Firmware

*This chapter explains how to upgrade the
GoWide firmware.*

Chapter 4

Firmware Upgrade Using FTP

The GoWide's firmware can be upgraded via FTP. During the process, the new firmware is first transferred to the unit, then a command is issued to upgrade the firmware. The new firmware is saved to non-volatile memory, then the unit is rebooted.

Procedure K explains how to upgrade the GoWide's firmware using FTP.

Note: Procedure K gives instructions for the command-line version of FTP. If you are using a GUI version of FTP, refer to your FTP program's documentation for the equivalent steps.

Procedure K. Firmware Upgrade Using FTP

Step	Action
1	Enter the following CLI command to ensure that any desired configurations are saved. <code>system config save</code>
2	Obtain the new firmware file from Symmetricom. <i>Note:</i> The filename should be "upgrade.tar", unless you receive additional instructions with the file.
3	Note the IP address of the GoWide, then, open an FTP session to the GoWide from your computer using the IP address of the unit.
4	Login to the unit, using a superuser login and password. You should get a login prompt automatically. If not, use the FTP command, <code>user <login-name></code> , where <code><login-name></code> is a superuser login name. Enter the superuser password when prompted.
5	Set FTP to binary using the <code>binary</code> FTP command.
6	Transfer the file to the unit using the FTP command <code>put upgrade.tar</code> . Do not specify a path to the filename, as the unit does not support directory structures and might incorrectly interpret directory path descriptions as part of the filename. Use the FTP command <code>lcd</code> , if necessary, to change to the local directory where the upgrade file is located on your computer.
7	After the file is transferred, close FTP using the <code>quit</code> FTP command.
8	Connect a terminal, or terminal emulator on a computer, to the serial port of the unit, then login to the unit using a superuser login and password. <i>Note:</i> Alternatively, you can telnet to the unit.

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Procedure K. Firmware Upgrade Using FTP (Continued)

Step	Action
9	Enter the following CLI command to extract the firmware from the downloaded file, save it to non-volatile memory, and reboot the unit. <code>system upgrade</code>
<i>End of Procedure</i>	

Upgrading the Firmware Using BOOTP

This section provides information on updating firmware using a BOOTP download procedure. The procedure is a generic Windows-based procedure for updating the firmware on the GoWide 18.4e using the boot protocol (BOOTP).

Before Beginning the Procedure

Read the following information before beginning the upgrade procedure.

Firmware Image File

You must obtain the proper firmware upgrade file from Symmetricom. This file should be stored on the system (PC) that will be used to download it to the GoWide. The following image file is needed:

- *bootp.bin* - the firmware upgrade image file.

BOOTP Server

The procedure uses a BOOTP server application. BOOTP server applications are available for Windows-based systems. You must obtain and install a BOOTP server application on the system that will be used to download the firmware image to the GoWide prior to beginning the procedure.

Upgrading the GoWide

Procedure L describes how to upgrade the GoWide firmware using BOOTP.

Procedure L. Upgrading the GoWide

Step	Procedure
<i>Set Up the Equipment</i>	
1	Connect the GoWide unit's RJ-45 10/100M Ethernet port to the Ethernet port on the NIC card of the PC using a crossover Ethernet cable. <i>Note:</i> If the two ports are connected via a hub, standard (straight-through) Ethernet cables can be used.
2	Connect a DB-9 serial interface cable from the PC's serial COM port to the GoWide unit's DB-9 "Craft" port.

Procedure L. Upgrading the GoWide (Continued)

Step	Procedure
3	<p>On the PC, launch a terminal emulation application, such as Hyper Terminal, ProComm, or Tera Term, and set the connection as follows:</p> <ul style="list-style-type: none"> - Bits per second: 9600 - Data bits: 8 - Parity: None - Stop bits: 1 - Flow control: None
4	<p><i>If you do not know the MAC address of the GoWide unit, perform this step, otherwise continue with Step 5.</i></p> <p>Log in to the unit using the required password, then enter the following console command to display the unit's MAC address:</p> <pre style="margin-left: 40px;">chips info</pre> <p>The unit's MAC address is part of the information displayed, and is shown in bold in the following example output. Record the unit's actual MAC address.</p> <pre style="margin-left: 40px;">GoWide 18.4e version 1.0 (Oct 21 2003) Release Machine Name: MAC address: 0:b0:ae:0:30:da</pre>
5	<p>Launch the BOOTP server application on the PC.</p>
6	<p>Provide the following information to the BOOTP server application:</p> <ul style="list-style-type: none"> - The MAC address of the GoWide unit, obtained in Step 4. - The path in the PC's directory structure where the firmware image file "bootp.bin" is stored, including the filename. - An IP address for the unit that is on the same subnet as the PC, if the BOOTP server does not automatically assign an IP address. <p><i>Note:</i> Ensure that the MAC address is properly entered into the BOOTP server. If it is not correct, the GoWide will not boot properly from the server.</p>
7	<p>Activate the BOOTP server.</p>
<p><i>Upgrade the Firmware</i></p>	
8	<p>Set the unit's power switch off, then back on while holding down the space bar on the keyboard.</p> <p>The message <code>Entered console ... User request</code> appears in the display, then the] prompt appears.</p>



Procedure L. Upgrading the GoWide (Continued)

Step	Procedure
9	<p>Enter the following command at the] prompt.</p> <pre data-bbox="266 365 337 394">tftp</pre> <p>A short time after the <code>tftp</code> command is entered, the bootp firmware download sequence will initiate automatically. A series of dots across the screen indicates that the firmware file is downloading.</p>
10	<p>After the firmware finishes downloading, enter <code>quit</code> at the] prompt to continue the boot process. When the boot process completes, log in to the unit using the Login name "admin" and the password "admin."</p> <p>The CLI prompt (<code>--></code>) appears.</p>
11	<p>Enter the following CLI command to save the configuration.</p> <pre data-bbox="266 821 581 850">system config save</pre> <p>The configuration save operation will take a few seconds to complete. The save operation is complete when the CLI prompt returns.</p>
12	<p>Set the unit's power switch off, then back on to complete the upgrade process.</p>
13	<p>Exit the BOOTP server application on the PC.</p>

End of Procedure

Section 3

CLI Command Reference

CLI Command Summary

Table B lists all of the commands that are included in the Command Line Interface of the GoWide 18.4e. Some of these commands, while included in the CLI, are not currently supported. Table B indicates which of the CLI commands are supported and not supported in the unit.

Caution: Do not attempt to use any unsupported CLI commands. Usage of unsupported CLI commands can cause erratic system behavior, or data or connectivity loss.

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
<u>al clearhlog</u>	Y
<u>al reset hlogsize</u>	Y
<u>al reset severity</u>	Y
<u>al set hlogsize</u>	Y
<u>al set severity</u>	Y
<u>al show</u>	Y
<u>al show logsize</u>	Y
<u>al show severity</u>	Y
<u>al showoam</u>	Y
<u>bridge add interface</u>	Y
<u>bridge attach</u>	Y
<u>bridge clear interfaces</u>	Y
<u>bridge delete interface</u>	Y
<u>bridge detach interface</u>	Y
<u>bridge list interfaces</u>	Y
<u>bridge set filterage</u>	Y
<u>bridge set interface filtertype</u>	Y
<u>bridge set interface portfilter</u>	Y
<u>bridge set spanning</u>	Y
<u>bridge set spanning forwarddelay</u>	Y
<u>bridge set spanning hellotime</u>	Y
<u>bridge set spanning maxage</u>	Y
<u>bridge set spanning priority</u>	Y

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
<u>bridge show</u>	Y
<u>bridge show interface</u>	Y
<u>console enable</u>	Y
<u>console process</u>	Y
<u>dhcpclient add interfaceconfig</u>	Y
<u>dhcpclient clear interfaceconfigs</u>	Y
<u>dhcpclient delete interfaceconfig</u>	Y
<u>dhcpclient interfaceconfig add requested option</u>	Y
<u>dhcpclient interfaceconfig add required option</u>	Y
<u>dhcpclient interfaceconfig add sent option</u>	Y
<u>dhcpclient interfaceconfig clear sent options</u>	Y
<u>dhcpclient interfaceconfig clear requested options</u>	Y
<u>dhcpclient interfaceconfig delete requested option</u>	Y
<u>dhcpclient interfaceconfig delete sent option</u>	Y
<u>dhcpclient interfaceconfig list requested options</u>	Y
<u>dhcpclient interfaceconfig list sent options</u>	Y
<u>dhcpclient list interfaceconfigs</u>	Y
<u>dhcpclient set backoff</u>	Y
<u>dhcpclient set interfaceconfig autoip enabled disabled</u>	Y
<u>dhcpclient set interfaceconfig clientid</u>	Y
<u>dhcpclient set interfaceconfig defaultroute enabled disabled</u>	Y
<u>dhcpclient set interfaceconfig dhcpinform enabled disabled</u>	Y
<u>dhcpclient set interfaceconfig dhcpserverpoolsize</u>	Y
<u>dhcpclient set interfaceconfig dhcpserverinterface</u>	Y
<u>dhcpclient set interfaceconfig givednstoclient enabled disabled</u>	Y
<u>dhcpclient set interfaceconfig givednstorelay enabled disabled</u>	Y
<u>dhcpclient set interfaceconfig interface</u>	Y
<u>dhcpclient set interfaceconfig noclientid</u>	Y

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
<u>dhcpclient set interfaceconfig requestedleasetime</u>	Y
<u>dhcpclient set interfaceconfig server</u>	Y
<u>dhcpclient set reboot</u>	Y
<u>dhcpclient set retry</u>	Y
<u>dhcpclient show</u>	Y
<u>dhcpclient update</u>	Y
dhcpserver add fixedhost	N
dhcpserver add subnet	N
dhcpserver clear fixedhosts	N
dhcpserver clear subnets	N
dhcpserver delete fixedhost	N
dhcpserver delete subnet	N
dhcpserver enable disable	N
dhcpserver list fixedhosts	N
<u>dhcpserver list options</u>	Y
dhcpserver list subnets	N
dhcpserver set allowunknownclients	N
dhcpserver set bootp	N
dhcpserver set defaultleasetime	N
dhcpserver set fixedhost ipaddress	N
dhcpserver set fixedhost macaddress	N
dhcpserver set fixedhost maxleasetime	N
dhcpserver set maxleasetime	N
dhcpserver set subnet defaultleasetime	N
dhcpserver set subnet hostisdefaultgateway	N
dhcpserver set subnet hostisdnsserver	N
dhcpserver set subnet maxleasetime	N
dhcpserver set subnet subnet	N
dhcpserver show	N
dhcpserver show subnet	N

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
dhcpserver subnet add iprange	N
dhcpserver subnet add option	N
dhcpserver subnet add range	N
dhcpserver subnet clear ipranges	N
dhcpserver subnet clear options	N
dhcpserver subnet clear ranges	N
dhcpserver subnet delete iprange	N
dhcpserver subnet delete option	N
dhcpserver subnet delete range	N
dhcpserver subnet list ipranges	N
dhcpserver subnet list options	N
dhcpserver subnet list ranges	N
dhcpserver update	N
<u>ethernet add transport</u>	Y
<u>ethernet clear transports</u>	Y
<u>ethernet delete transport</u>	Y
<u>ethernet list ports</u>	Y
<u>ethernet list transports</u>	Y
<u>ethernet set transport port</u>	Y
<u>ethernet show transport</u>	Y
<u>hostaccesslist add</u>	Y
<u>hostaccesslist delete</u>	Y
<u>hostaccesslist list</u>	Y
igmp set upstreaminterface	N
igmp show status	N
igmp show upstreaminterface	N
<u>ima add interface</u>	Y
<u>ima attach</u>	Y
<u>ima clear interfaces</u>	Y
<u>ima delete interface</u>	Y

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
<i>ima detach</i>	Y
<i>ima diag</i>	Y
<i>ima event show</i>	Y
<i>ima fm interface</i>	Y
<i>ima list interfaces</i>	Y
<i>ima pm interface</i>	Y
<i>ima show interface</i>	Y
<i>ima version</i>	Y
ip add defaultroute gateway	N
ip add defaultroute interface	N
<i>ip add interface</i>	Y
<i>ip add rarp</i>	Y
ip add route	N
<i>ip attach</i>	Y
<i>ip attachbridge</i>	Y
<i>ip attachvirtual</i>	Y
<i>ip clear arpentries</i>	Y
<i>ip clear interfaces</i>	Y
<i>ip clear rarp</i>	Y
ip clear riproutes	N
ip clear routes	N
<i>ip delete interface</i>	Y
ip delete rarp	N
ip delete route	N
<i>ip detach interface</i>	Y
ip interface add proxyarpentry	N
ip interface add proxyarpexclusion	N
ip interface add secondaryipaddress	N
ip interface clear proxyarpentries	N
ip interface clear secondaryipaddresses	N

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
ip interface delete proxyarpentry	N
ip interface delete proxyarpexclusion	N
ip interface delete secondaryipaddress	N
ip interface list proxyarpentries	N
ip interface list secondaryipaddresses	N
<u>ip list arpentries</u>	Y
<u>ip list connections</u>	Y
<u>ip list interfaces</u>	Y
<u>ip list rarps</u>	Y
ip list riproutes	N
ip list routes	N
<u>ip ping</u>	Y
<u>ip set interface dhcp</u>	Y
<u>ip set interface ipaddress</u>	Y
<u>ip set interface mtu</u>	Y
<u>ip set interface netmask</u>	Y
ip set interface rip accept	N
ip set interface rip multicast	N
ip set interface rip send	N
<u>ip set interface tcpmssclamp</u>	Y
<u>ip set rarp destination</u>	Y
<u>ip set rarp macAddress</u>	Y
ip set rip advertisedefault	N
ip set rip authentication	N
ip set rip defaulttroutecost	N
ip set rip hostroutes	N
ip set rip password	N
ip set rip poison	N
ip set route cost	N
ip set route destination	N

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
ip set route gateway	N
ip set route interface	N
<u>ip show</u>	Y
ip show debuginfo	N
<u>ip show interface</u>	Y
<u>ip show rarp</u>	Y
ip show route	N
<u>port list</u>	Y
<u>port set</u>	Y
<u>port show</u>	Y
<u>port status</u>	Y
<u>pvcn atmstats</u>	Y
<u>pvcn cactivate ccdeactivate</u>	Y
<u>pvcn ccstart ccstop</u>	Y
<u>pvcn faultbegin faultend</u>	Y
<u>pvcn lbsend</u>	Y
<u>pvcn lbstats</u>	Y
<u>pvcn oamadd</u>	Y
<u>pvcn oamdelete</u>	Y
<u>pvcn oaminfo</u>	Y
<u>pvcn oamlist</u>	Y
<u>pvcn oamset ccenable ccdisable ccenableauto</u>	Y
<u>pvcn oamset faultenable faultdisable</u>	Y
<u>pvcn oamset faultwatch faultunwatch</u>	Y
<u>pvcn oamset lbenable lbdisable</u>	Y
<u>pvcn oamset pmenable pmdisable pmenableauto</u>	Y
<u>pvcn oamset segmset segmclr</u>	Y
<u>pvcn pmactivate</u>	Y
<u>pvcn pmdeactivate</u>	Y
<u>pvcn pmstart</u>	Y

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
<u>pvcm pmstats</u>	Y
<u>pvcm pmstop</u>	Y
<u>pvcm setglobal ccaccept</u>	Y
<u>pvcm setglobal pmaccept</u>	Y
<u>rfc1483 add transport</u>	Y
<u>rfc1483 clear transports</u>	Y
<u>rfc1483 delete transport</u>	Y
<u>rfc1483 list transports</u>	Y
<u>rfc1483 set transport bt</u>	Y
<u>rfc1483 set transport mbs</u>	Y
<u>rfc1483 set transport mcr</u>	Y
<u>rfc1483 set transport mode</u>	Y
<u>rfc1483 set transport pcr</u>	Y
<u>rfc1483 set transport port</u>	Y
<u>rfc1483 set transport qosclass</u>	Y
<u>rfc1483 set transport rxvci</u>	Y
<u>rfc1483 set transport rxvpi</u>	Y
<u>rfc1483 set transport scr</u>	Y
<u>rfc1483 set transport txvci</u>	Y
<u>rfc1483 set transport txvpi</u>	Y
<u>rfc1483 set transport vci</u>	Y
<u>rfc1483 set transport vpi</u>	Y
<u>rfc1483 show transport</u>	Y
<u>shdsl activate</u>	Y
<u>shdsl inventory</u>	Y
<u>shdsl performance</u>	Y
<u>shdsl resetcount</u>	Y
<u>shdsl status</u>	Y
<u>syslog log</u>	Y
<u>syslog reset host</u>	Y

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
<u>syslog set host</u>	Y
<u>syslog show host</u>	Y
<u>syslog status</u>	Y
<u>syslog status</u>	Y
<u>system add login</u>	Y
<u>system add user</u>	Y
<u>system config backup</u>	Y
<u>system config clear</u>	Y
<u>system config restore</u>	Y
<u>system config save</u>	Y
<u>system delete login</u>	Y
<u>system delete user</u>	Y
<u>system diagnostics</u>	Y
<u>system info</u>	Y
<u>system legal</u>	Y
<u>system list errors</u>	Y
<u>system list logins</u>	Y
<u>system list openfiles</u>	Y
<u>system list users</u>	Y
<u>system log</u>	Y
<u>system log enable disable</u>	Y
<u>system log list</u>	Y
system prodtest	N
<u>system restart</u>	Y
<u>system set login access</u>	Y
<u>system set login mayconfigure</u>	Y
<u>system set login maydialin</u>	Y
<u>system set user access</u>	Y
<u>system set user mayconfigure</u>	Y
<u>system set user maydialin</u>	Y

Table B. GoWide 18.4e CLI Command Summary

Command	Supported?
<u>system set user password</u>	Y
system show aticmem	N
system tag	N
<u>system upgrade</u>	Y
<u>transports clear</u>	Y
<u>transports delete</u>	Y
<u>transports list</u>	Y
<u>transports show</u>	Y
<u>user change</u>	Y
<u>user logout</u>	Y
<u>user password</u>	Y

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Alarm Logger CLI Commands

This chapter describes the Alarm Logger CLI commands.

Summary

Alarm Logger CLI Commands

Table C lists the Alarm Logger commands provided by the CLI:

Table C. Alarm Logger CLI Commands

Command	Reference
al clearhlog	al clearhlog on page 97
al reset hlogsize	al reset hlogsize on page 98
al reset severity	al reset severity on page 99
al set hlogsize	al set hlogsize on page 100
al set severity	al set severity on page 101
al show	al show on page 102
al show logsize	al show logsize on page 103
al show severity	al show severity on page 104
al showoam	al showoam on page 105

al clearhlog

Syntax

```
al clearhlog
```

Description

This command clears the history log.

Options

None.

Example

```
prompt> al clearhlog
```

al reset hlogsize

Syntax

```
al reset hlogsize
```

Description

This command resets the size of the history log to the default value of 1500 entries.

Options

None.

Example

```
prompt> al reset hlogsize
```

al reset severity

Syntax

```
al reset severity <alarm_type>
```

Description

This command resets the severity level for the specified alarm type.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
alarm_type	Alarm type specifies the particular alarm whose severity is to be reset. The alarm types and their severity can be viewed using <i>al show severity</i> . An alarm type of <i>all</i> will reset the severity of all the alarms.	N/A

Example

```
prompt> al reset severity LOL
```

See also

[al set severity](#) on page 101

[al show severity](#) on page 104

al set hlogsize

Syntax

```
al set hlogsize <size>
```

Description

This command sets the size of the history log to the size specified.

Note: The maximum number of entries that can be stored in the history log is 1500.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
size	The integer size of the history log. This number represents the number of entries that can be stored in the log.	1500

Example

```
prompt> al set hlogsize 10
```

See also

[al show logsize](#) on page 103

al set severity

Syntax

```
al set severity <alarm_type> <severity>
```

Description

This command sets the severity level for the given alarm type.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
alarm_type	Alarm type specifies the particular alarm whose severity is to be set. The alarm types and their severity can be viewed using <i>al show severity</i> .	N/A
severity	The severity of the alarm type that can be minor, major or critical.	minor

Example

```
prompt> al set severity LOL critical
```

See also

[al reset severity](#) on page 99

[al show severity](#) on page 104

al show

Syntax

```
al show {clog | hlog} {all | latest | next} [<alarm_type>] [<link_id>]
```

Description

This command shows all, latest, and next part of the current log or the history log. It can take an alarm type and alarm type and link id.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
alarm_type	The alarm type specifies the alarm for which the log is to be shown	N/A
link_id	The link id specifies the link for which the alarm is to be shown.	N/A

Example

```
prompt> al show clog all

id sa colour severity type mod_id lid alarm_set_time
-----
 8 sa none minor LOL SHDSL 8 01/01/70 00:00:07
 7 sa none minor LOL SHDSL 7 01/01/70 00:00:07
 6 sa none minor LOL SHDSL 6 01/01/70 00:00:07
 5 sa none minor LOL SHDSL 5 01/01/70 00:00:07
 4 sa none minor LOL SHDSL 4 01/01/70 00:00:07
 3 sa none minor LOL SHDSL 3 01/01/70 00:00:07
 2 sa none minor LOL SHDSL 2 01/01/70 00:00:07
 1 sa none minor LOL SHDSL 1 01/01/70 00:00:07
***** CurrLog: curr_size = 8, max_size = 500
```

See also

[al show logsize](#) on page 103

al show logsize

Syntax

```
al show logsize
```

Description

This command displays the size of the current log and history log.

Options

None.

Example

```
prompt> al show logsize  
  
Current Log Size = 500  
History Log Size = 10
```

al show severity

Syntax

```
al show severity
```

Description

This command shows the different alarms along with their severities.

Options

None.

Example

```
prompt> al show severity
```

```
Alarm Configuration:
```

Type	Severity	Description
LOL	critical	Loss of Link
LCD	minor	Loss of Cell Delineation
LOSW	minor	Loss of Sync Word
ATTEN	minor	Attenuation alarm
SNRM	minor	Signal to Noise Ratio Margin alarm
OAMRDI	minor	OAM RDI Condition
OAM AIS	minor	OAM AIS Condition

See also

[al set severity](#) on page 101

[al reset severity](#) on page 99

al showoam

Syntax

```
al showoam {<clog>|<hlog>}
```

Description

This command shows the oam part of the current log or the history log.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
clog	Displays the current oam log	N/A
hlog	Displays the history oam log	N/A

Example

```
prompt> al showoam clog

id sa severity type vpi vci Port Flags Set Time
-----
***** CurrLog: curr_size = 0, max_size = 500
```

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Bridge CLI commands

This chapter describes the Bridge CLI commands.

Summary

Bridge CLI commands

Table D lists the Bridge commands provided by the CLI:

Table D. Bridge CLI Commands

Command	Reference
bridge add interface	bridge add interface on page 109
bridge attach	bridge attach on page 110
bridge clear interfaces	bridge clear interfaces on page 111
bridge delete interface	bridge delete interface on page 112
bridge detach interface	bridge detach interface on page 113
bridge list interfaces	bridge list interfaces on page 114
bridge set filterage	bridge set filterage on page 115
bridge set interface filtertype	bridge set interface filtertype on page 116
bridge set interface portfilter	bridge set interface portfilter on page 117
bridge set spanning enabled/ disabled	bridge set spanning on page 119
bridge set spanning forwarddelay	bridge set spanning forwarddelay on page 120
bridge set spanning hellotime	bridge set spanning hellotime on page 121
bridge set spanning maxage	bridge set spanning maxage on page 122
bridge set spanning priority	bridge set spanning priority on page 123
bridge show	bridge show on page 124
bridge show interface	bridge show interface on page 125

bridge add interface

Syntax

```
bridge add interface <name>
```

Description

This command adds a named interface to the bridge.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	An arbitrary name that identifies the interface. It can be made up of one or more letters or a combination of letters and digits, but it cannot start with a digit.	N/A

Example

```
prompt> bridge add interface bridgel
```

See also

[bridge attach](#) on page 110

[bridge list interfaces](#) on page 114

bridge attach

Syntax

```
bridge attach {<name>|<number>} <transport>
```

Description

This command attaches an existing transport to an existing bridge interface to allow data to be bridged via the transport.

Only one transport can be attached to an interface. If you use this command when there is already a transport attached to the interface, the previous transport is replaced by the new one.

This command implicitly enables the transport being attached.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing bridge interface. To display interface names, use the <i>bridge list interfaces</i> command.	N/A
number	A number that identifies an existing bridge interface. To display interface numbers, use the <i>bridge list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
transport	A name that identifies an existing transport. To display transport names, use the <i><transport type> list transports</i> command.	N/A

Example

```
prompt> bridge attach bridge1 my1483
```

See also

[bridge add interface](#) on page 109

[bridge list interfaces](#) on page 114

bridge clear interfaces

Syntax

```
bridge clear interfaces
```

Description

This command deletes all bridge interfaces that were created using the *bridge add interface* command.

Example

```
prompt> bridge clear interfaces
```

See also

[bridge delete interface](#) on page 112

bridge delete interface

Syntax

```
bridge delete interface {<name>|<number>}
```

Description

This command deletes a single interface from the bridge configuration.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing bridge interface. To display interface names, use the <i>bridge list interfaces</i> command.	N/A
number	A number that identifies an existing bridge interface. To display interface numbers, use the <i>bridge list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> bridge delete interface 1
```

See also

[bridge list interfaces](#) on page 114

bridge detach interface

Syntax

```
bridge detach interface {<name>|<number>}
```

Description

This command detaches the transport that was attached to the bridge interface using the *bridge attach interface* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing bridge interface. To display interface names, use the <i>bridge list interfaces</i> command.	N/A
number	A number that identifies an existing bridge interface. To display interface numbers, use the <i>bridge list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> bridge detach interface 2
```

See also

[bridge list interfaces](#) on page 114

bridge list interfaces

Syntax

```
bridge list interfaces
```

Description

This command lists all bridge interfaces that have been created using the *bridge add interface* command. It displays the following information about bridge interfaces:

- interface ID number
- interface name
- filter type
- name of attached transport (if applicable)

Example

```
prompt> bridge list interfaces
```

```
Bridge Interfaces:
```

ID	Name	Filter Type	Transport
1	brwan	All	llcbridged
2	brlan	All	ethernet
3	bridge1	All	Not attached

See also

[bridge set filterage](#) on page 115

[bridge set interface filtertype](#) on page 116

bridge set filterage

Syntax

```
bridge set filterage <filter age>
```

Description

This command specifies the maximum age of filter table entries for the bridge. The filter age for the bridge is displayed by the *bridge show interface* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
filter age	The filter age is the time (in seconds) after which MAC addresses are removed from the filter table when there has been no activity. The time may be an integer value between 10 and 100,000 seconds.	300 seconds

Example

```
prompt> bridge set filterage 2000
```

See also

[bridge show interface](#) on page 125

bridge set interface filtertype

Syntax

```
bridge set interface {<name>|<number>} filtertype {all|ip|pppoe}
```

Description

This command specifies the type of ethernet filtering performed by the named bridge interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing bridge interface. To display interface names, use the <i>bridge list interfaces</i> command.	N/A
number	A number that identifies an existing bridge interface. To display interface numbers, use the <i>bridge list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
all	Allows all types of ethernet packets through the port.	All
ip	Allows only IP/ARP types of ethernet packets through the port.	
pppoe	Allows only PPPoE types of ethernet packets through the port.	

Example

```
prompt> bridge set interface bridge2 filtertype ip
```

See also

[bridge list interfaces](#) on page 114

bridge set interface portfilter

Syntax

```
bridge set interface {<name>|<number>} portfilter {all|<port>}
```

Description

This command controls the bridge's forwarding and broadcasting behavior. It allows you to set a portfilter on a bridge interface to determine which port or ports multicast and unknown packets should be forwarded to.

This command sets one destination port at a time. If you want to forward packets to several ports, enter a *bridge set interface portfilter <port>* command for each port. If you want to forward packets to all ports, enter the command and specify the *all* value.

Note: If a unicast packet is received by an interface with a portfilter set to *all*, the portfilter rule is ignored. The unicast packet is still *only* sent to one port.

Options

The following table gives the range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing bridge interface. To display interface names, use the <i>bridge list interfaces</i> command.	N/A
number	A number that identifies an existing bridge interface. To display interface numbers, use the <i>bridge list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
port	The name of the existing port that you want packets, received on a specified bridge interface, to be forwarded to. To display port names, use the <i>port list</i> command.	all
all	Forwards packets, received on a specified bridge interface, to all existing bridge ports.	

Example

```
prompt> bridge set interface bridge1 portfilter ethernet
```

See also

[*bridge list interfaces*](#) on page 114

[*bridge show interface*](#) on page 125

bridge set spanning

Syntax

```
bridge set spanning { enabled | disabled }
```

Description

This command specifies whether or not the bridge is to implement the spanning tree protocol (STP). The current spanning tree setting is displayed by the *bridge show* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
enabled	Allows the bridge to use the spanning tree protocol.	disabled
disabled	Ensures that the bridge acts as a transparent bridge.	

Example

```
prompt> bridge set spanning enabled
```

See also

[bridge set spanning forwarddelay](#) on page 120

[bridge set spanning hellotime](#) on page 121

[bridge set spanning maxage](#) on page 122

[bridge set spanning priority](#) on page 123

[bridge show](#) on page 124

bridge set spanning forwarddelay

Syntax

```
bridge set spanning forwarddelay <delay>
```

Description

This command sets the time that the bridge spends in listening or learning states when the bridge is or is attempting to become the root bridge. The current *forwarddelay* setting is displayed by the *bridge show* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
delay	This can be any value (in seconds) between 4 and 30 BUT it is constrained by the maxage and hellotimes. The maxage, hellotime and forwarddelay times are constrained as follows: $2 \times (\text{forwarddelay} - 1) \geq \text{maxage}$ $\text{maxage} > 2 \times (\text{hellotime} + 1)$ For example, the default settings are: $2 \times (15 - 1) \geq 20$ $20 > 2 \times (2 + 1)$	15

Example

```
prompt> bridge set spanning forwarddelay 20
```

See also

[bridge set spanning](#) on page 119

[bridge set spanning hellotime](#) on page 121

[bridge set spanning maxage](#) on page 122

[bridge set spanning priority](#) on page 123

[bridge show](#) on page 124

bridge set spanning hellotime

Syntax

```
bridge set spanning hellotime <hellotime>
```

Description

This command sets the time after which the spanning tree process sends notification of topology changes to the root bridge. This is used when the bridge is or is attempting to become the root bridge. The *hellotime* setting is displayed by the *bridge show* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
hellotime	This can be any value (in seconds) between 1 and 10 BUT it is constrained by the maximum age and forwarddelay times. The maxage, hellotime and forwarddelay times are constrained. For an example of the constraints, see Options on page 119.	2

Example

```
prompt> bridge set spanning hellotime 10
```

See also

[bridge set spanning](#) on page 119

[bridge set spanning forwarddelay](#) on page 120

[bridge set spanning maxage](#) on page 122

[bridge set spanning priority](#) on page 123

[bridge show](#) on page 124

bridge set spanning maxage

Syntax

```
bridge set spanning maxage <maxage>
```

Description

This command sets the maximum age of received spanning tree protocol information before it is discarded. This is used when the bridge is or is attempting to become the root bridge. The *maxage* setting is displayed by the *bridge show* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
maxage	This can be any value (in seconds) between 6 and 40 BUT it is constrained by the hellotime and forwarddelay times. The maxage, hellotime and forwarddelay times are constrained. For an example of the constraints, see Options on page 119.	20

Example

```
prompt> bridge set spanning maxage 30
```

See also

[bridge set spanning](#) on page 119

[bridge set spanning forwarddelay](#) on page 120

[bridge set spanning hellotime](#) on page 121

[bridge set spanning priority](#) on page 123

[bridge show](#) on page 124

bridge set spanning priority

Syntax

```
bridge set spanning priority <priority>
```

Description

This command sets the spanning tree protocol priority. Where two bridges have the same priority, their MAC address is compared and the smaller MAC address is treated as the most significant.

Spanning tree must be enabled before you can use this command. The *priority* setting is displayed by the *bridge show* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
priority	A value that assigns priority to the bridge: the lower the priority number, the more significant the bridge becomes in protocol terms. The priority can be any value (in seconds) between 0 and 65535.	32768

Example

```
prompt> bridge set spanning priority 1000
```

See also

[bridge set spanning](#) on page 119

[bridge set spanning forwarddelay](#) on page 120

[bridge set spanning hellotime](#) on page 121

[bridge set spanning maxage](#) on page 122

[bridge show](#) on page 124

bridge show

Syntax

```
bridge show
```

Description

This command shows the global configuration settings for the bridge. The following bridge information is displayed:

- filter age
- spanning tree setting (true or false)
- spanning tree priority value
- spanning tree forward delay time (seconds)
- spanning tree hello time (seconds)
- spanning tree maximum age (seconds)

Example

```
prompt> bridge show

Global bridge configuration:

    Filter age: 2000

Spanning bridge configuration:

    Spanning: true
    Priority: 1000
Forward delay: 20
    Hello time: 10
    Max. age: 30
```

See also

[*bridge set spanning*](#) on page 119

[*bridge set spanning forwarddelay*](#) on page 120

[*bridge set spanning hellotime*](#) on page 121

[*bridge set spanning maxage*](#) on page 122

bridge show interface

Syntax

```
bridge show interface {<name>|<number>}
```

Description

This command displays the filter type value of a named bridge interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing bridge interface. To display interface names, use the <i>bridge list interfaces</i> command.	N/A
number	A number that identifies an existing bridge interface. To display interface numbers, use the <i>bridge list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> bridge show interface bridge1  
  
Bridge Interface: bridge1  
  
Filter Type: Ip  
Port Filter: ethernet
```

See also

[bridge set interface filtertype](#) on page 116

.....

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Console Access CLI commands

This chapter describes the console access CLI commands.

Summary

Console Access CLI commands

Table E lists the *Console Access* commands provided by the CLI:

Table E. Console Access CLI Commands

Command	Description/Console command
console enable	console enable on page 129
console process	console process on page 130

console enable

Syntax

```
console enable
```

Description

This command allows you to enter console mode in order to use the console commands.

Note: Only Super users can use this command.

Example

```
prompt> console enable
```

Switching from CLI to console mode - type 'exit' to return

See also

[exit \(Console Command\)](#) on page 131.

[console process](#) on page 130

console process

Syntax

```
console process <console command>
```

Description

This command allows you to enter a single *usable* console command without switching to console mode. You cannot enter *blacklisted* console commands using this CLI command.

Note: Users with Engineer or Super user access can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
console command	A <i>usable</i> console command.	N/A

Example

The following *console process* example enters the *usable* console command, *version*:

```
prompt> console process version

GoWide 18.4e version 1.0 (Jul 21 2003)
BSP: GoWide 18.4e BSP v1.0
CSP: He100/2xx CSP v2.3
```

See also

[console enable](#) on page 129 if you have Super user access and want to enter more than one console command or use blacklisted commands.

exit (Console Command)

Note: This console command **has not** been replaced by a CLI command. This is a special console command to allow Super users to return to the CLI from the console.

Syntax

```
exit
```

Description

This console command allows you to return to the CLI after you have entered console mode using the command *console enable*. When you want to exit console mode and return to the CLI, you need to type *exit* in the root of the console.

Note: Only Super users can use this command.

Example

```
prompt> exit
```

```
Returning to CLI from console
```

See also

[console enable](#) on page 129.

.....

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DHCP Client CLI commands

Chapter 8

This chapter describes the DHCP client CLI commands.

Summary

DHCP client CLI commands

Table F lists the DHCP client commands provided by the CLI:

Table F. DHCP Client CLI Commands

Command	Reference
dhcpclient add interfaceconfig	dhcpclient add interfaceconfig on page 137
dhcpclient clear interfaceconfigs	dhcpclient clear interfaceconfigs on page 138
dhcpclient delete interfaceconfig	dhcpclient delete interfaceconfig on page 139
dhcpclient interfaceconfig add requested option	dhcpclient interfaceconfig add requested option on page 140
dhcpclient interfaceconfig add required option	dhcpclient interfaceconfig add required option on page 141
dhcpclient interfaceconfig add sent option	dhcpclient interfaceconfig add sent option on page 142
dhcpclient interfaceconfig clear sent options	dhcpclient interfaceconfig clear sent options on page 144
dhcpclient interfaceconfig clear requested options	dhcpclient interfaceconfig clear requested options on page 145
dhcpclient interfaceconfig delete requested option	dhcpclient interfaceconfig delete requested option on page 146
dhcpclient interfaceconfig delete sent option	dhcpclient interfaceconfig delete sent option on page 148
dhcpclient interfaceconfig list requested options	dhcpclient interfaceconfig list requested options on page 149
dhcpclient interfaceconfig list sent options	dhcpclient interfaceconfig list sent options on page 151
dhcpclient list interfaceconfigs	dhcpclient list interfaceconfigs on page 153
dhcpclient set backoff	dhcpclient set backoff on page 154
dhcpclient set interfaceconfig autoip	dhcpclient set interfaceconfig autoip enabled disabled on page 155
dhcpclient set interfaceconfig clientid	dhcpclient set interfaceconfig clientid on page 156

Table F. DHCP Client CLI Commands

Command	Reference
dhcpclient set interfaceconfig defaultroute enabled disabled	dhcpclient set interfaceconfig defaultroute enabled disabled on page 157
dhcpclient set interfaceconfig dhcpinform enabled disabled	dhcpclient set interfaceconfig dhcpinform enabled disabled on page 158
dhcpclient set interfaceconfig dhcpserverpoolsize	dhcpclient set interfaceconfig dhcpserverpoolsize on page 159
dhcpclient interfaceconfig set dhcpserverinterface	dhcpclient set interfaceconfig dhcpserverinterface on page 160
dhcpclient set interfaceconfig givednstoclient enabled disabled	dhcpclient set interfaceconfig givednstoclient enabled disabled on page 161
dhcpclient set interfaceconfig givednstorelay enabled disabled	dhcpclient set interfaceconfig givednstorelay enabled disabled on page 162
dhcpclient set interfaceconfig interface	dhcpclient set interfaceconfig interface on page 163
dhcpclient set interfaceconfig noclientid	dhcpclient set interfaceconfig noclientid on page 164
dhcpclient set interfaceconfig requestedleasetime	dhcpclient set interfaceconfig requestedleasetime on page 165
dhcpclient set interfaceconfig server	dhcpclient set interfaceconfig server on page 166
dhcpclient set reboot	dhcpclient set reboot on page 167
dhcpclient set retry	dhcpclient set retry on page 168
dhcpclient show	dhcpclient show on page 169
dhcpclient update	dhcpclient update on page 170

DHCP client default settings

By default, DHCP client requests the following information from DHCP server:

- the DHCP server IP address and subnet mask
- DNS server addresses. By default, received DNS server addresses are passed on to the DNS relay and not passed to DNS client. To change these default settings, use the commands [dhcpclient set interfaceconfig givednstoclient](#)

[enabled|disabled](#) on page 161 and [dhcpclient set interfaceconfig givednstorelay enabled|disabled](#) on page 162.

- DHCP server default gateway information. By default, DHCP client makes use of default gateway information. To change the default, use the command [dhcpclient set interfaceconfig defaultroute enabled|disabled](#) on page 157.

dhcpclient add interfaceconfig

Syntax

```
dhcpclient add interfaceconfig <name> <ipinterface>
```

Description

This command configures DHCP client parameters for negotiation over an existing IP interface. The client interface can only set the IP configuration if the IP interface has DHCP enabled.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	An arbitrary name that identifies the client interface. It can be made up of one or more letters or a combination of letters and digits, but it cannot start with a digit.	N/A
ip interface	An IP address or a name that identifies an existing IP interface. The interface must have DHCP enabled. To display interface names, use the <i>ip list interfaces</i> command.	N/A

Example

```
prompt> dhcpclient add interfaceconfig config1 ip1
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[ip list interfaces](#) on page 365

[ip set interface dhcp](#) on page 372

dhcpclient clear interfaceconfigs

Syntax

```
dhcpclient clear interfaceconfigs
```

Description

This command deletes all existing DHCP client interface configurations.

Example

```
prompt> dhcpclient clear interfaceconfigs
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient delete interfaceconfig

Syntax

```
dhcpclient delete interfaceconfig {<name>|<number>}
```

Description

This command deletes a single DHCP client interface configuration.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A

Example

```
prompt> dhcpclient delete interfaceconfig config1
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient interfaceconfig add requested option

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} add requested option <option>
```

Description

This command tells the DHCP client to request a specified option from a DHCP server. The requested option is *not* compulsory - if the option is not included in a lease offered by DHCP server, the DHCP client will still accept the offer.

Options are detailed in RFC 2132, and a list of available option names can be obtained using the command [dhcpserver list options](#) on page 173.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
option	A text string that identifies a DHCP server configuration option.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 add requested option irc-server
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[dhcpclient interfaceconfig add requested option](#) on page 140

[dhcpclient interfaceconfig add required option](#) on page 141

dhcpclient interfaceconfig add required option

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} add required option <option>
```

Description

This command tells DHCP client that it requires a specified option from DHCP server. The required option is compulsory - if the option is not included in a lease offered by DHCP server, the DHCP client will ignore the offer.

Options are detailed in RFC 2132, and a list of available option names can be obtained using the command [dhcpserver list options](#) on page 173.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
option	A text string that identifies a DHCP server configuration option.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 add required option domain-name
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[dhcpclient interfaceconfig add requested option](#) on page 140

[dhcpclient interfaceconfig add required option](#) on page 141

dhcpclient interfaceconfig add sent option

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} add sent option <option> <value>
```

Description

This command tells the DHCP client to send a value for the given DHCP configuration option to a DHCP server. The DHCP server's response depends on the type of option being sent out.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
option	A text string that identifies a DHCP server configuration option.	N/A
value	The value associated with the option identifier.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 add sent option host-name  
  "vancouver"
```

This command example tells the DHCP client to send the DHCP host-name option to the DHCP server with the value "vancouver". Note that for options with string-type values associated with them, the option value **must** be in double-quotes (" "). Also, the entire string including the double quotes **must** be inside single quotes (') to ensure that the CLI treats the double quotes literally.

See also

[*dhcpclient list interfaceconfigs*](#) on page 153

[*dhcpclient interfaceconfig list sent options*](#) on page 151

dhcpclient interfaceconfig clear sent options

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} clear sent options
```

Description

This command deletes all options that were previously added to an interfaceconfig using the *dhcpclient interfaceconfig add sent option* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 clear sent options
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[dhcpclient interfaceconfig list sent options](#) on page 151

[dhcpclient interfaceconfig add sent option](#) on page 142

[dhcpclient interfaceconfig delete sent option](#) on page 148

dhcpclient interfaceconfig clear requested options

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} clear requested options
```

Description

This command deletes all options that were previously added to an interfaceconfig using the *dhcpclient interfaceconfig add requested/required option* commands.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 clear requested options
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[dhcpclient interfaceconfig add requested option](#) on page 140

[dhcpclient interfaceconfig add required option](#) on page 141

[dhcpclient interfaceconfig delete requested option](#) on page 146

dhcpclient interfaceconfig delete requested option

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} delete requested option  
<option number>
```

Description

This command deletes a single option that was previously added to an interfaceconfig using the *dhcpclient interfaceconfig add requested/required option* commands.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
option number	A number that identifies an option that is requested from the DHCP server by the DHCP client. To display option numbers, use the <i>dhcpclient interfaceconfig list requested options</i> command.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 delete requested option 1
```

See also

[*dhcpclient list interfaceconfigs*](#) on page 153

[*dhcpclient interfaceconfig add requested option*](#) on page 140

[*dhcpclient interfaceconfig add required option*](#) on page 141

[*dhcpclient interfaceconfig clear requested options*](#) on page 145

dhcpclient interfaceconfig delete sent option

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} delete sent option  
<option number>
```

Description

This command deletes a single option that was previously added to an interfaceconfig using the *dhcpclient interfaceconfig add sent option* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
option number	A number that identifies an option that is sent from the DHCP client to the DHCP server. To display option numbers, use the <i>dhcpclient interfaceconfig list sent options</i> command.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 delete sent option 5
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[dhcpclient interfaceconfig list sent options](#) on page 151

[dhcpclient interfaceconfig add sent option](#) on page 142

[dhcpclient interfaceconfig clear sent options](#) on page 144

dhcpclient interfaceconfig list requested options

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} list requested options
```

Description

This command lists the options that the DHCP client requests and/or requires from the DHCP server. These options were set using the *dhcpclient interfaceconfig add requested/required option* commands. The following information is displayed:

- Option identification number
- Option identifier (name)
- Requirement status - *true* for options that were added using the *dhcpclient interfaceconfig add required option* command, *false* for options added using the *dhcpclient interfaceconfig add requested option* command.

Options are detailed in RFC 2132, and a list of available option names can be obtained using the command [dhcpserver list options](#) on page 173.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 list requested options

ID | Identifier | Is option required?
-----|-----|-----
  1 | host-name  | true
  2 | domain-name | false
-----
```

See also

[*dhcpclient interfaceconfig add requested option*](#) on page 140

[*dhcpclient interfaceconfig add required option*](#) on page 141

dhcpclient interfaceconfig list sent options

Syntax

```
dhcpclient interfaceconfig {<name>|<number>} list sent options
```

Description

This command displays a list of the options that the DHCP client sends to the DHCP server. These options were set using the *dhcpclient interfaceconfig add sent option* command. The following information is displayed:

- Option identification number
- Option identifier (name)
- Suggested value

Options are detailed in RFC 2132, and a list of available option names can be obtained using the command [dhcpserver list options](#) on page 173.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A

Example

```
prompt> dhcpclient interfaceconfig client1 list sent options
```

```
DHCP client options to be sent to server for client1:
```

```
  ID | Identifier | Suggested Value
-----|-----|-----
   1 | host-name  | "vancouver"
```

See also

[*dhcpclient interfaceconfig add sent option*](#) on page 142

[*dhcpclient interfaceconfig clear sent options*](#) on page 144

[*dhcpclient interfaceconfig delete sent option*](#) on page 148

dhcpclient list interfaceconfigs

Syntax

```
dhcpclient list interfaceconfigs
```

Description

This command lists the following information about existing DHCP client interfaces:

- interface identification number
- interface name
- IP interface configured by the client interface
- requested lease time (in seconds)
- client identifier (if set)
- Status of IP address auto-configuration (true or false)

Example

```
prompt> dhcpclient list interfaceconfigs
```

```
DHCP Client Declarations:
```

ID	Name	Interface	Requested Lease Time	Client ID	AutoIP	DHCPINFORM
1	client1	ipbridge	86000	00:11:22:33:44:5a	false	false

See also

[dhcpclient show](#) on page 169

[dhcpclient set interfaceconfig requestedleasetime](#) on page 165

[dhcpclient set interfaceconfig clientid](#) on page 156

[dhcpclient set interfaceconfig autoip enabled|disabled](#) on page 155

dhcpclient set backoff

Syntax

```
dhcpclient set backoff <backofftime>
```

Description

This command sets the global maximum time (in seconds) that a DHCP client interface will 'back off' between issuing individual DHCP requests. This prevents many clients trying to configure themselves at the same time, and sending too many requests at once.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
backofftime	The maximum number of seconds that the DHCP client can pause for between unsuccessful DHCP negotiations.	120

Example

```
prompt> dhcpclient set backoff 200
```

See also

[dhcpclient show](#) on page 169

dhcpclient set interfaceconfig autoip enabled|disabled

```
dhcpclient set interfaceconfig {<name>|<number>} autoip {enabled | disabled}
```

Description

This command enables/disables IP address auto-configuration (Auto-IP).

Auto-IP automatically configures an IP address when a DHCP client fails to contact a DHCP server and cannot obtain a lease. An IP address on the 169.254 subnet is automatically created, and ARP requests are issued for the suggested IP address. The address is abandoned if it already exists on the network or if any other host on the network issues an ARP probe for that IP address.

Once an IP address has been automatically configured, the DHCP client continues to check whether or not it can contact a DHCP server. If the client can contact a DHCP server and obtain a legitimate lease, the legitimate lease will supersede the auto-configured IP address.

Note: Even if you have enabled Auto-IP using this command, you will not be able to use IP address auto-configuration if a DHCP server on the same network does not allow it.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
enabled	Enables Auto-IP on a specified dhcp client.	enabled
disabled	Disables Auto-IP on a specified dhcp client.	

Example

```
prompt> dhcpclient set interfaceconfig mycfg autoip enabled
```

dhcpclient set interfaceconfig clientid

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} clientid <clientid>
```

Description

This command sets a unique client identifier that DHCP server uses to identify the client.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
client id	A unique identifier that DHCP server can use to identify the client. For Microsoft DHCP servers, the client ID should be the MAC address of the card that DHCP is running on. For other DHCP servers, the client ID can be a MAC address or a text string such as the hostname.	N/A

Example

```
prompt> dhcpclient set interfaceconfig client1 clientid 00:11.22.33.44.5a
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient set interfaceconfig defaultroute enabled|disabled

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} defaultroute  
{enabled|disabled}
```

Description

This command enables/disables whether DHCP client makes use of default gateway information received from a DHCP server. If no DHCP interfaceconfigs have been added to the system, by default DHCP client will use default gateway information received from DHCP server.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
enabled	DHCP client uses default gateway information it receives from DHCP server.	enabled
disabled	DHCP client does not use default gateway information it receives from DHCP server.	

Example

```
prompt> dhcpclient set interfaceconfig client1 defaultroute disabled
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient set interfaceconfig dhcpinform enabled|disabled

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} dhcpinform  
{enabled|disabled}
```

Description

This command enables/disables whether DHCP client uses the *dhcpinform* message type. This DHCP message type is used whenever a client has obtained an IP address or subnet mask (for example, the address has been manually configured or obtained through PPP/IPCP), but wishes to obtain extra configuration parameters (such as DNS servers or default gateway) from a DHCP server.

Options

The following table gives the range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
enabled	Enables the dhcpinform message type. IP address and subnet mask will not be negotiated if this mode is selected.	disabled
disabled	Disables the dhcpinform message type.	

Example

```
prompt> dhcpclient set interfaceconfig client1 dhcpinform disabled
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[dhcpclient set interfaceconfig server](#) on page 166

dhcpclient set interfaceconfig dhcpserverpoolsize

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} dhcpserverpoolsize  
<pool size>
```

Description

This command tells DHCP client to configure a DHCP server on the LAN if the given address pool size is set to a number greater than 0. The LAN DHCP server is configured using parameters received by a DHCP client interface on the WAN. Information such as DNS server addresses can then be distributed to LAN clients.

The new DHCP server gives out the default gateway address as its LAN IP address.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
pool size	The number of DHCP client addresses in a pool. The first address in the pool is the address immediately after the LAN DHCP address. For example, if the LAN DHCP address is 192.168.102.3, the first address in the pool will be 192.168.102.4.	N/A

Example

```
prompt> dhcpclient set interfaceconfig client1 dhcpserverpoolsize 5
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient set interfaceconfig dhcpserverinterface

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} dhcpserverinterface  
<interface name>
```

Description

This command allows the user to specify an existing IP interface on which the automatically configured DHCP server can be created. If the interface name does not correspond with an existing IP interface, or no interface name is given, the DHCP server will be placed on the first LAN interface that it finds.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
interface name	The name that identifies an existing IP interface. To display IP interface names, use the <i>ip list interfaces</i> command.	N/A

Example

```
prompt> dhcpclient set interfaceconfig client1 dhcpserverinterface ip2
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[dhcpclient set interfaceconfig dhcpserverpoolsize](#) on page 159

[ip list interfaces](#) on page 365

dhcpclient set interfaceconfig givednstoclient enabled|disabled

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} givednstoclient {enabled|disabled}
```

Description

This command enables/disables whether DHCP client passes received DNS server addresses to DNS client. If no DHCP interfaceconfigs have been added to the system, by default DHCP client will not pass DNS server addresses to DNS client.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
enabled	DHCP client passes DNS server addresses to DNS client.	disabled
disabled	DHCP client does not pass DNS server addresses to DNS client.	

Example

```
prompt> dhcpclient set interfaceconfig client1 givednstoclient disabled
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient set interfaceconfig givednstorelay enabled|disabled

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} givednstorelay {enabled|disabled}
```

Description

This command enables/disables whether DHCP client passes received DNS server addresses to DNS relay. If no DHCP interfaceconfigs have been added to the system, by default DHCP client will pass DNS server addresses to DNS relay.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
enabled	DHCP client passes DNS server addresses to DNS relay.	enabled
disabled	DHCP client does not pass DNS server addresses to DNS relay.	

Example

```
prompt> dhcpclient set interfaceconfig client1 givednstorelay disabled
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient set interfaceconfig interface

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} interface <ipinterface>
```

Description

This command sets the IP interface that will have its configuration set by the DHCP client interface. The client interface can only set the IP configuration if the IP interface has DHCP enabled, using the *ip set interface dhcp* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
ipinterface	A name that identifies an existing IP interface. The interface must have DHCP enabled. To display interface names, use the <i>ip list interfaces</i> command.	N/A

Example

```
prompt> dhcpclient set interfaceconfig client1 interface ip2
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

[ip list interfaces](#) on page 365

[ip set interface dhcp](#) on page 372

dhcpclient set interfaceconfig noclientid

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} noclientid
```

Description

This command deletes a client identifier from a DHCP client. The DHCP server must have *allowunknownclients* enabled in order to work with DHCP clients that are not specifically named in DHCP server configuration or its lease database.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A

Example

```
prompt> dhcpclient set interfaceconfig client1 noclientid
```

See also

[dhcpclient set interfaceconfig clientid](#) on page 156

dhcpclient set interfaceconfig requestedleasetime

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} requestedleasetime  
<requestedleasetime>
```

Description

The DHCP client requests a specific lease time from the DHCP server for the allocated IP addresses. This command determines the length of lease time requested. The DHCP server will 'cap' a requested lease time if it is too large.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
requested lease time	The lease time (in seconds) that a DHCP client requests from the DHCP server.	86400

Example

```
prompt> dhcpclient set interfaceconfig client1 requestedleasetime 70000
```

See also

[dhcpclient list interfaceconfigs](#) on page 153

dhcpclient set interfaceconfig server

Syntax

```
dhcpclient set interfaceconfig {<name>|<number>} server <ipaddress>
```

Description

If *dhcpclient set dhcpinform* has been set to *enabled*, this command will unicast the first DHCPINFORM message to the specific DHCP server at the specified IP address. If the first unicast fails, the DHCPINFORM will default to broadcasting its messages.

Options

The following table gives the range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing DHCP client interface. To display client interface names, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
number	A number that identifies an existing DHCP client interface. To display client interface numbers, use the <i>dhcpclient list interfaceconfigs</i> command.	N/A
ipaddress	The IP address of a DHCP server that DHCP client can use to obtain configuration parameters. The IP address is displayed in the following format: 192.168.102.3	N/A

Example

```
prompt> dhcpclient set interfaceconfig client1 server 192.168.101.2
```

See also

[dhcpclient set interfaceconfig dhcpinform enabled|disabled](#) on page 158

dhcpcclient set reboot

Syntax

```
dhcpcclient set reboot <reboottime>
```

Description

When the DHCP client is restarted, it tries to reacquire the last address that it had. This command sets the time between the client trying to reacquire its last address and giving up then trying to discover a new address.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
reboottime	The time (in seconds) after a client tries to reacquire the last IP address it had and before the client gives up then tries to discover a new address.	10

Example

```
prompt> dhcpcclient set reboot 5
```

dhcpclient set retry

Syntax

```
dhcpclient set retry <retrytime>
```

Description

This command sets the time that must pass after the client has determined that no DHCP server is present before it tries again to contact a DHCP server.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
retrytime	The time (in seconds) that must pass after the client has determined that no DHCP server is present before it tries again to contact a DHCP server.	300

Example

```
prompt> dhcpclient set retry 150
```

dhcpclient show

Syntax

```
dhcpclient show
```

Description

This command displays the following global configuration information about DHCP client:

- reboot time
- retry time
- maximum backoff time

Example

```
prompt> dhcpclient show  
  
Global DHCP Client Configuration:  
  
    Reboot time: 10  
    Retry time: 300  
    Max. backoff time: 120
```

See also

[dhcpclient set reboot](#) on page 167

[dhcpclient set retry](#) on page 168

[dhcpclient set backoff](#) on page 154

dhcpclient update

Syntax

```
dhcpclient update
```

Description

This command updates the DHCP client configuration. Changes made to the client configuration are not updated until this command has been entered.

Example

```
prompt> dhcpclient update  
dhcpclient: Reset request acknowledged. Reset imminent.
```

DHCP Server CLI commands

This chapter describes the DHCP server CLI commands.

Chapter 9

Summary

DHCP server CLI commands

Table G lists the DHCP server commands provided by the CLI that are supported in the GoWide 18.4e.

Caution: Do not attempt to use any of the unsupported TCP-IP CLI commands. Usage of unsupported TCP-IP commands can cause erratic system behavior, or data or connectivity loss:

Table G. DHCP Server CLI Commands

Command	Reference
dhcpserver list options	dhcpserver list options on page 173

dhcpserver list options

Syntax

```
dhcpserver list options
```

Description

This command lists the option data types available for DHCP server. These options are detailed in RFC2132.

You can configure the DHCP server using any of the options listed.

Example

```
prompt> dhcpserver list options  
subnet-mask  
time-offset  
routers  
time-servers  
ien116-name-servers  
domain-name-servers  
log-servers  
cookie-servers  
lpr-servers  
impress-servers  
resource-location-servers  
host-name  
boot-size  
merit-dump  
domain-name  
swap-server  
root-path  
extensions-path  
ip-forwarding  
non-local-source-routing  
policy-filter  
max-dgram-reassembly  
default-ip-ttl  
path-mtu-aging-timeout  
path-mtu-plateau-table  
interface-mtu  
all-subnets-local  
broadcast-address  
perform-mask-discovery  
mask-supplier  
router-discovery  
router-solicitation-address  
static-routes  
trailer-encapsulation  
arp-cache-timeout  
ieee802-3-encapsulation  
default-tcp-ttl
```

```
tcp-keepalive-interval
tcp-keepalive-garbage
nis-domain
nis-servers
ntp-servers
vendor-encapsulated-options
netbios-name-servers
netbios-dd-server
netbios-node-type
netbios-scope
font-servers
x-display-manager
dhcp-requested-address
dhcp-lease-time
dhcp-option-overload
dhcp-message-type
dhcp-server-identifier
dhcp-parameter-request-list
dhcp-message
dhcp-max-message-size
dhcp-renewal-time
dhcp-rebinding-time
dhcp-class-identifier
dhcp-client-identifier
option-62
option-63
nisplus-domain
nisplus-servers
tftp-server-name
bootfile-name
mobile-ip-home-agent
smtp-server
pop-server
nntp-server
www-server
finger-server
irc-server
streetwork-server
streetwork-directory-assistance-server
user-class
option-78
option-79
option-80
option-81
option-82
option-83
option-84
nds-servers
nds-tree-name
nds-context
option-88
option-89
...(more options down to)
option-115
auto-configure
option-117
...(more options down to)
option-254
option-end
```

Ethernet CLI commands

This chapter describes the Ethernet transport CLI commands.

Summary

Ethernet CLI commands

Table H lists the *Ethernet* commands provided by the CLI:

Table H. Ethernet CLI Commands

Command	Reference
ethernet add transport	ethernet add transport on page 177
ethernet clear transports	ethernet clear transports on page 178
ethernet delete transport	ethernet delete transport on page 179
ethernet list transports	ethernet list transports on page 181
ethernet list ports	ethernet list ports on page 180
ethernet set transport	ethernet set transport port on page 182
ethernet show transport	ethernet show transport on page 183

ethernet add transport

Syntax

```
ethernet add transport <name> [<port>]
```

Description

This command adds a named ethernet transport and allows you to specify which port it will use to transport ethernet data.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	An arbitrary name that identifies the transport. It can be made up of one or more letters or a combination of letters and digits, but it cannot start with a digit.	N/A
port	The system port that is used to transport ethernet data. You cannot use the same port for more than one ethernet transport at a time.	Ethernet

Example

```
prompt> ethernet add transport eth1 ethernet
```

See also

[ethernet list transports](#) on page 181

[ethernet list ports](#) on page 180

[port set](#) on page 216

ethernet clear transports

Syntax

```
ethernet clear transports
```

Description

This command deletes all ethernet transports that were created using the *ethernet add transport* command.

Example

```
prompt> ethernet clear transports
```

See also

[ethernet delete transport](#) on page 179

ethernet delete transport

Syntax

```
ethernet delete transport {<name>|<number>}
```

Description

This command deletes a single ethernet transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing Ethernet transport. To display transport names, use the <i>ethernet list transports</i> command.	N/A
number	A number that identifies an existing Ethernet transport. To display transport numbers, use the <i>ethernet list transports</i> command.	N/A

Example

```
prompt> ethernet delete transport eth1
```

See also

[ethernet list transports](#) on page 181

ethernet list ports

Syntax

```
ethernet list ports
```

Description

This command lists the valid ports that can be used to transport ethernet data.

Example

```
prompt> ethernet list ports
```

```
Valid ethernet port names:  
ethernet
```

See also

[port set](#) on page 216

ethernet list transports

Syntax

```
ethernet list transports
```

Description

This command lists all ethernet transports that have been created using the *ethernet add transport* command. It displays the transport identification number and name, and the name of the port that it uses to transport ethernet data.

Example

```
prompt> ethernet list transports
```

```
Ethernet transports:
```

ID	Name	Port
1	ethernet	ethernet

See also

[ethernet list ports](#) on page 180

ethernet set transport port

Syntax

```
ethernet set transport {<name>|<number>} port <port>
```

Description

This command sets the port that an existing ethernet transport uses to transport ethernet data.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing Ethernet transport. To display transport names, use the <i>ethernet list transports</i> command.	N/A
number	A number that identifies an existing Ethernet transport. To display transport numbers, use the <i>ethernet list transports</i> command.	N/A
port	The system port that is used to transport ethernet data. You cannot use the same port for more than one ethernet transport at a time.	Ethernet

Example

```
prompt> ethernet set transport eth1 port ethernet
```

See also

[ethernet add transport](#) on page 177

[ethernet list transports](#) on page 181

ethernet show transport

Syntax

```
ethernet show transport {<name>|<number>}
```

Description

This command displays the name and port used by an existing ethernet transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing Ethernet transport. To display transport names, use the <i>ethernet list transports</i> command.	N/A
number	A number that identifies an existing Ethernet transport. To display transport numbers, use the <i>ethernet list transports</i> command.	N/A

Example

```
prompt> ethernet show transport ethernet  
  
Ethernet transport: ethernet  
  
Description: ethernet  
Port: ethernet
```

See also

[ethernet list transports](#) on page 181

.....

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Hostaccesslist CLI commands

*This chapter describes the hostaccesslist CLI
commands.*

Summary

Hostaccesslist CLI commands

Table I lists the hostaccesslist commands provided by the CLI:

Table I. Port CLI Commands

Command	Reference
hostaccesslist add	hostaccesslist add on page 187
hostaccesslist delete	hostaccesslist delete on page 188
hostaccesslist list	hostaccesslist list on page 189

hostaccesslist add

Syntax

```
hostaccesslist add <ip_address> [<password>]
```

Description

The GoWide system uses a host access list as a method of controlling access the unit. Only services attempting to access the unit from the IP addresses that are contained in the host access list succeed; services at IP addresses that are not in the host access list are denied access to the unit. The services for which the unit can control access include Web (HTTP), Telnet, TFTP, and FTP.

The `hostaccesslist add` command is used to add IP addresses to the host access list.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
ip_address	An IP address that is to be added to the host access list. <i>Note:</i> Adding an IP address of 0.0.0.0 effectively disables the host access list, allowing access from all IP addresses. If 0.0.0.0 is included in the host access list, the <i>hostaccesslist delete</i> command can be used to delete that entry, thus re-enabling the host access list.	0.0.0.0
password	A password to be used for TFTP access. This argument is ignored when non-TFTP services attempt access to the unit.	password

Example

```
prompt> hostaccesslist add 10.0.0.5
```

See also

[hostaccesslist delete](#) on page 188

[hostaccesslist list](#) on page 189

hostaccesslist delete

Syntax

```
hostaccesslist delete <number>
```

Description

This command deletes the specified entry from the host access list.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
number	The numeric identifier of the entry in the host access list to be deleted. To view the numeric identifiers that are associated with host access list entries, use the <i>hostaccesslist list</i> command.	N/A

Example

```
prompt> hostaccesslist delete 3
```

See also

[hostaccesslist add](#) on page 187

[hostaccesslist list](#) on page 189

hostaccesslist list

Syntax

```
hostaccesslist list
```

Description

This command displays the host access list entries.

Example

```
prompt> hostaccesslist list
```

```
Host Access Lists:
```

ID	IP Address	Password (for tftp)
1	0.0.0.0	password
2	10.0.0.1	
3	121.245.3.166	
4	145.3.26.1	
5	10.0.0.5	

See also

[hostaccesslist add](#) on page 187

[hostaccesslist delete](#) on page 188

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IMA CLI commands

This chapter describes the IMA CLI commands.

Summary

IMA CLI commands

Table J lists the IMA commands provided by the CLI:

Table J. IMA CLI Commands

Command	Reference
ima add interface	ima add interface on page 193
ima attach	ima attach on page 195
ima clear interfaces	ima clear interfaces on page 196
ima delete interface	ima delete interface on page 197
ima detach	ima detach on page 198
ima diag	ima diag on page 199
ima event show	ima event show on page 200
ima fm interface	ima fm interface on page 201
ima list interfaces	ima list interfaces on page 204
ima pm interface	ima pm interface on page 205
ima show interface	ima show interface on page 209
ima version	ima version on page 211

ima add interface

Syntax

```
ima add interface <name> <slot> {passthrough|group}
```

Description

This command creates (adds) an IMA group or passthrough interface.

The GoWide 18.4e uses IMA (inverse multiplexing over ATM) as a means of transmitting an ATM stream at high speeds. During transmission, the unit's internal IMA module breaks the aggregate stream of ATM cells up and transmits it across multiple G.shdsl links. Upon reception, the IMA module in the receiving unit reassembles the individual links back into the original ATM stream.

In order to use the unit's IMA functionality, an *IMA group interface* must be created using this command. An IMA group interface allows multiple G.shdsl ports to be attached to it, and it is over the attached G.shdsl ports that the aggregate ATM stream is distributed during transmission.

A *passthrough interface* does not use the unit's IMA functionality. Each passthrough interface that is created can only be attached to a single G.shdsl port.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	An arbitrary name that identifies the IMA interface. It can be made up of one or more letters or a combination of letters and digits, but it cannot start with a digit.	N/A
slot	The IMA slot. This parameter must be in the form <i>ima-x</i> , where <i>x</i> is a number from 1 to 8.	N/A

Example

```
prompt> ima add interface ima1 ima-1 group
```

```
prompt> ima add interface ima2 ima-2 passthrough
```

See also

[*ima attach*](#) on page 195

[*ima clear interfaces*](#) on page 196

[*ima delete interface*](#) on page 197

[*ima detach*](#) on page 198

ima attach

Syntax

```
ima attach <name> <portname>
```

Description

This command attaches the specified G.shdsl port to the specified IMA group or passthrough interface. For passthrough interfaces, only one G.shdsl port can be attached to a given interface. For IMA group interfaces, up to eight G.shdsl ports can be attached to a given interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IMA group or passthrough interface. To display interface names, use the <i>ima list interfaces</i> command.	N/A
portname	The name of a G.shdsl port that is configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Example

```
prompt> ima attach ima2 dsl-4
```

```
IMA: Set DSL 4 to IMA 2 in Passthru mode successful.
```

See also

[ima delete interface](#) on page 197

[ima detach](#) on page 198

[ima list interfaces](#) on page 204

[port list](#) on page 215

ima clear interfaces

Syntax

```
ima clear interfaces
```

Description

This command detaches any attached G.shdsl ports from all existing IMA group and passthrough interfaces, deletes all of the existing interfaces, and resets the IMA device.

Options

None.

Example

```
prompt> ima clear interfaces  
  
IMA Reset Completed
```

See also

[ima delete interface](#) on page 197

ima delete interface

Syntax

```
ima delete interface <name>
```

Description

This command detaches any attached G.shdsl ports from the specified IMA group or passthrough interface, then deletes the interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IMA group or passthrough interface. To display interface names, use the <i>ima list interfaces</i> command.	N/A

Example

```
prompt> ima delete interface ima2
```

See also

[ima clear interfaces](#) on page 196

ima detach

Syntax

```
ima detach <name> <portname>
```

Description

This command detaches the specified G.shdsl port from the specified IMA group or passthrough interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IMA group or passthrough interface. To display interface names, use the <i>ima list interfaces</i> command.	N/A
portname	The name of a G.shdsl port that is currently attached to the interface, in the form <i>dsl-x</i> . To display the numbers (<i>x</i>) of the currently attached ports, use the <i>ima list interfaces</i> command.	N/A

Example

```
prompt> ima detach ima2 dsl-4
```

```
IMA: Deleting DSL 4 from IMA group 2 Successful.
```

See also

[ima clear interfaces](#) on page 196

[ima delete interface](#) on page 197

[ima list interfaces](#) on page 204

ima diag

Syntax

```
ima diag
```

Description

This command runs a diagnostic test on the IMA device and returns a PASS or FAIL indication with an error code. Table K describes the error codes:

Table K. IMA Diagnostic Error Code Descriptions

Error Code	Description
5	The IMA device has not been allocated.
24	The defaults are incorrect.
25/26	The receive DPRAM test failed.
27/28	The transmit DPRAM test failed.
29	The SRAM test failed.

Options

None.

Examples

IMA diagnostics pass:

```
prompt> ima diag
```

```
IMA_DIAGNOSTICS
```

```
PASS
```

IMA diagnostics fail:

```
prompt> ima diag
```

```
IMA_DIAGNOSTICS
```

```
FAIL: error code 25
```

ima event show

Syntax

```
ima event show {enable|disable}
```

Description

This command enables or disables IMA event messages. When `enable` is specified, IMA event messages are written to the event buffer. When `disable` is specified, IMA event messages are not written to the event buffer.

Note: In order for IMA event messages to be displayed, a command that enables display of event messages (such as `console process event show`) must be entered.

Options

None.

Example

```
prompt> ima event show enable
```

```
prompt> ima event show disable
```

See also

[event ... \(System Console Command\)](#) on page 405

ima fm interface

Syntax

```
ima fm interface <name>
```

Description

This command displays failure monitoring information for the specified IMA group interface.

Note: Failure monitoring information can only be obtained for IMA group interfaces. The `ima fm interface` command is not valid for passthrough interfaces.

The following group failure monitoring information is reported by the `ima fm interface` command:

- **IMA Group Status** - The current status of the near-end group traffic state machine. The possible states are `DOWN` (either the near-end or far-end IMA group is not in the operational state), or `UP` (both the near-end or far-end IMA groups are in the operational state).
- **State** - The current state of the near-end (NE) or far-end (FE) group state machine. The possible states are `StUp` (the group is in the start-up state, and waiting to receive an indication that the other end of the link is also in the start-up state), `StUpAk` (both near-end and far-end groups are in the start-up state), `CfgAbtM` (configuration was aborted because an unsupported “IMA frame size (M)” group parameter was recorded), `CfgAbtSym` (configuration was aborted because an incompatible “group symmetry” group parameter was recorded), `CfgAbtVer` (configuration was aborted because an unsupported “IMA version” group parameter was recorded), `CfgAbt` (configuration was aborted for an unspecified reason), `InsfLnk` (the group has accepted the other end’s group parameters and has received notification that the other end’s group has accepted its group parameters, but it does not have sufficient links to move to the operational state), `Blk` (the group is blocked (inhibited), as for maintenance purposes), and `Oper` (the group is not inhibited and has sufficient transmit and receive links).
- **Cfg Links** - The number of links in the group that configured to transmit (Tx) and receive (Rx).
- **Act Links** - The number of links in the group that are configured to transmit (Tx) and receive (Rx), and are capable of passing ATM layer cells in the specified direction.
- **Payload Rate** - The current payload rate of each link in the group.

The following link failure monitoring information is reported by the `ima fm interface` command. The command’s output lists the port `dsl-1` FM parameters under the heading `Link 1`, the port `dsl-2` FM parameters under the heading `Link 2`, etc.:

- TxNe, TxFe, RxNe, RxFe - The current state of the near-end (NE) and far-end (FE) transmit (Tx) and receive (Rx) link state machine. The possible states are NotInGroup (the link is not configured within an IMA group), Unusable (the link is configured, but not in use due to fault, inhibition, etc.), Usable (the link ready to operate, but waiting for the other end to be in the Usable or Active state), and Active (the link is capable of passing ATM layer cells to/from the ATM layer).
- Reason - The highest priority failure alarm reported at the near-end (NE) or far-end (FE) receive link. The possible alarms are No Failure (no defects are detected), Failure (an IMA link failure has been detected), LIF Failure (the persistence of a LIF defect is detected at the near end), LODS Failure (the persistence of a LODS defect is detected at the near end), Misconnected (the transmit or receive is detected as mis-connected), Blocked (the far end is reporting that it is blocked), Fault (an implementation-specific near-end transmit or receive fault has been detected), Fe TX Unusable (the far end is reporting a transmit unusable (Tx-Unusable-FE) defect), and Fe RX Unusable (the far end is reporting a receive unusable (Rx-Unusable-FE) defect).
- LIF Defect - The state of the LIF defect the last time the failure monitoring registers were polled.
- LODS Defect - The state of the LODS defect the last time the failure monitoring registers were polled.

Note: The states for LIF and LODS defects are 0 for inactive, and 1 for active.

- Relative Delay - The latest measured delay on the link, in milliseconds, relative to the link with the least delay in the group.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IMA group interface. To display interface names, use the <i>ima list interfaces</i> command.	N/A

Example

```
prompt> ima fm interface imal

IMA Group Status -- DOWN
State -- NE = StUp, FE = StUp
Cfg Links --- Tx = 4, Rx = 4
Act Links --- Tx = 0, Rx = 0
```

.....

Payload Rate -- 2304

Link 1 --- TxNe = Unusable, RxNe = Unusable, Reason: LIF Failure
TxFe = NotInGroup, RxFe = NotInGroup, Reason: No Failure
LIF Defect = 1, LODS Defect = 0 Relative Delay = 0

Link 2 --- TxNe = Unusable, RxNe = Unusable, Reason: LIF Failure
TxFe = NotInGroup, RxFe = NotInGroup, Reason: No Failure
LIF Defect = 1, LODS Defect = 0 Relative Delay = 0

Link 3 --- TxNe = Unusable, RxNe = Unusable, Reason: LIF Failure
TxFe = NotInGroup, RxFe = NotInGroup, Reason: No Failure
LIF Defect = 1, LODS Defect = 0 Relative Delay = 0

Link 4 --- TxNe = Unusable, RxNe = Unusable, Reason: LIF Failure
TxFe = NotInGroup, RxFe = NotInGroup, Reason: No Failure
LIF Defect = 1, LODS Defect = 0 Relative Delay = 0

See also

[ima pm interface](#) on page 205

ima list interfaces

Syntax

```
ima list interfaces
```

Description

This command lists all IMA group and passthrough interfaces that have been created. It displays the following information about the interfaces:

- *Name* - The name assigned to the interface.
- *IMA Slot* - The IMA slot used by the interface.
- *DSL Ports* - The G.shdsl ports that are currently attached to the interface.
- *Group* - Whether the interface is an IMA group interface (true) or a passthrough interface (false).

Options

None.

Example

```
prompt> ima list interfaces
```

```
IMA Interfaces:
```

NAME	IMA SLOT	DSL PORTS	GROUP
ima1	ima-1	5,6,7,8	true
ima2	ima-2	2	false

See also

[ima show interface](#) on page 209

ima pm interface

Syntax

```
ima pm interface <name>
```

Description

This command displays performance monitoring (PM) parameters for the specified IMA group interface. The following parameters are displayed for each G.shdsl port that is part of the specified IMA group interface.

Note: Performance monitoring information can only be obtained for IMA group interfaces. The `ima pm interface` command is not valid for passthrough interfaces.

Command Output

The command's output lists the port `dsl-1` PM parameters under the heading `[Link 0 PM (NE/FE)]`, the port `dsl-2` PM parameters under the heading `[Link 1 PM (NE/FE)]`, etc. "NE" denotes near-end events, and "FE" denotes far-end events. Near-end and far-end events are separated by a slash (/) in the command output. The numbers shown in the command output represent a running count of the indicated events.

The following IMA performance parameters are reported in the command output:

- `Out of IMA Frame (OIF-IMA)` - Number of times the IMA frame synchronization mechanism has declared an OIF state transition, except during SES-IMA and UAS-IMA conditions.

Note: OIF state transitions occur when the IMA frame synchronization mechanism is not in the IMA Sync state.

- `IMA cell Violation (IV-IMA)` - Number of errored, invalid, or missing IMA Control Protocol (IPC) cells, except during seconds where a SES-IMA or UAS-IMA condition was reported.
- `Tx Stuff Event (TxStuff-IMA)` - Number of stuff events inserted in the transmit direction.
- `Rx Stuff Event (RxStuff-IMA)` - Number of stuff events inserted in the receive direction, except during SES-IMA and UAS-IMA conditions.

Note: A stuff event is defined as the repetition of an ICP cell containing the Link Stuffing Indication (LSI) code "000" over one IMA link to compensate for timing differences with other links within the IMA group.

- `Severe Errored Seconds, near-end (SES-IMA)` - Number of one second intervals where any of the following occurred, except during UAS-IMA conditions:

- 30% or greater of the ICP cells were counted as IV-IMA cells.
- One or more link defects [for example, Loss-of-Signal (LOS), Out-of-Frame/Loss-of-Frame (OOF/LOF), Alarm Indication Signal (AIS), and Loss of Cell Delineation (LOC) defects] were detected.
- One or more Loss of IMA Frame (LIF) or Link Out of Delay Synchronization (LODS) defects were detected.
- Severe Errored Seconds, *far-end (SES-IMA-FE)* - Number of one second intervals where one or more RDI-IMA defects occurred, except during UAS-IMA-FE conditions.

Note: An RDI-IMA defect occurs when one of the available remote defect indicators (including an IMA link-specific defect) is indicated in the link related “Link Information” field.

- Unavailable Seconds, *near-end (UAS-IMA)* - Number of near-end unavailable seconds. Near-end unavailability begins at the onset of ten contiguous SES-IMA seconds including the first ten seconds to enter the UAS-IMA condition, and ends at the onset of ten contiguous seconds with no SES-IMA condition present, excluding the last ten seconds to exit the UAS-IMA condition.
- Unavailable Seconds, *far-end (UAS-IMA-FE)* - Number of far-end unavailable seconds. Far-end unavailability begins at the onset of ten contiguous SES-IMA-FE seconds including the first ten seconds to enter the UAS-IMA-FE condition, and ends at the onset of ten contiguous seconds with no SES-IMA-FE condition present, excluding the last ten seconds to exit the UAS-IMA-FE condition.

Note: Performance parameters that are inhibited during seconds when the UAS-IMA or UAS-IMA-FE parameters are incremented are adjusted when the UAS-IMA or UAS-IMA-FE parameters are adjusted at the entrance or exit of the UAS-IMA or UAS-IMA-FE condition.

- Tx Unusable Seconds, *near-end (Tx-UUS-IMA)* - Number of transmit unusable seconds detected at the near-end transmit link state mechanism. The link is considered to be in the unusable state when it is configured but cannot be used for a variety of reasons.
- Tx Unusable Seconds, *far-end (Tx-UUS-IMA-FE)* - Number of seconds with transmit unusable indications from the far-end transmit link state mechanism.
- Rx Unusable Seconds, *near-end (Rx-UUS-IMA)* - Number of receive unusable seconds detected at the near-end receive link state mechanism. The link is considered to be in the unusable state when it is configured but cannot be used for a variety of reasons.
- Rx Unusable Seconds, *far-end (Rx-UUS-IMA-FE)* - Number of seconds with receive unusable indications from the far-end receive link state mechanism.
- Tx Number of Fail, *near-end (Tx-FC)* - Number of times a near-end transmit link failure alarm condition was entered. A near-end transmit link failure alarm condition occurs when the IMA module has determined that the

transmit link is not connected to the same far-end IMA module as the other transmit links in the group, or when an implementation-specific transmit fault is declared at the near end.

- Tx Number of Fail, *far-end (Tx-FC-FE)* - Number of times a far-end transmit link failure alarm condition was entered. A far-end transmit link failure alarm condition occurs when the far end reports a transmit unusable state condition.
- Rx Number of Fail, *near-end (Rx-FC)* - Number of times a near-end receive link failure alarm condition was entered. A near-end receive link failure alarm condition occurs when a Loss of IMA Frame (LIF) or Link Out of Delay Synchronization (LODS) defect persists at the near end, the IMA module has determined that the receive link is not connected to the same far-end IMA module as the other receive links in the group, or when an implementation-specific receive fault is declared at the near end.
- Rx Number of Fail, *far-end (Rx-FC-FE)* - Number of times a far-end receive link failure alarm condition was entered. A far-end receive link failure alarm condition occurs when an RDI-IMA defect persists at the near end, or when the far end reports a receive unusable state condition.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IMA group interface. To display interface names, use the <i>ima list interfaces</i> command.	N/A

Example

```
prompt> ima pm interface imal

[Link 0 PM (NE/FE)]
Out of IMA Frame:          0
IMA cell Violation :      0
Tx Stuff Event:           0 Rx Stuff Event:          0
Severe Errored Seconds: 0 / 0
Unavailable Seconds:      0 / 0
Tx Unusuable Seconds:    0 / 0 Rx Unusuable Seconds: 0 / 0
Tx Number of Fail:       0 / 0 Rx Number of Fail:    0 / 0

[Link 1 PM (NE/FE)]
Out of IMA Frame:          0
IMA cell Violation :      0
Tx Stuff Event:           0 Rx Stuff Event:          0
Severe Errored Seconds: 0 / 0
Unavailable Seconds:      0 / 0
```

```
.....  
Tx Unusable Seconds: 0 / 0 Rx Unusable Seconds: 0 / 0  
Tx Number of Fail: 0 / 0 Rx Number of Fail: 0 / 0
```

```
[Link 2 PM (NE/FE)]
```

```
Out of IMA Frame: 0  
IMA cell Violation : 0  
Tx Stuff Event: 0 Rx Stuff Event: 0  
Severe Errored Seconds: 0 / 0  
Unavailable Seconds: 0 / 0  
Tx Unusable Seconds: 0 / 0 Rx Unusable Seconds: 0 / 0  
Tx Number of Fail: 0 / 0 Rx Number of Fail: 0 / 0
```

```
[Link 3 PM (NE/FE)]
```

```
Out of IMA Frame: 0  
IMA cell Violation : 0  
Tx Stuff Event: 0 Rx Stuff Event: 0  
Severe Errored Seconds: 0 / 0  
Unavailable Seconds: 0 / 0  
Tx Unusable Seconds: 0 / 0 Rx Unusable Seconds: 0 / 0  
Tx Number of Fail: 0 / 0 Rx Number of Fail: 0 / 0
```

See also

[ima_fm interface](#) on page 201

ima show interface

Syntax

```
ima show interface <name>
```

Description

This command displays detailed information for the specified IMA group or passthrough interface. It displays the following information about the interface:

- *IMA Interface* - The name assigned to the interface.
- *IMA Slot* - The IMA slot used by the interface.
- *DSL Ports* - The G.shdsl ports that are currently attached to the interface.
- *Group Flag* - Whether the interface is an IMA group interface (true) or a passthrough interface (false).

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IMA group interface. To display interface names, use the <i>ima list interfaces</i> command.	N/A

Example

```
prompt> ima show interface ima1
```

```
Ima Interface: ima1

Ima Slot: ima-1
DSL Ports: 5,6,7,8
Group Flag: true
```

```
prompt> ima show interface ima2
```

```
Ima Interface: ima2

Ima Slot: ima-2
DSL Ports: 2
Group Flag: false
```

See also

[ima list interfaces](#) on page 204

ima version

Syntax

```
ima version
```

Description

This command displays the IMA version.

Options

None.

Example

```
prompt> ima version  
  
IMA_VERSION  
  
1.1
```

.....

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Port CLI commands

This chapter describes CLI support for ports.

Summary

Port CLI commands

Table L lists the port commands provided by the CLI:

Table L. Port CLI Commands

Command	Reference
port list	port list on page 215
port set	port set on page 216
port show	port show on page 224
port status	port status on page 226

port list

Syntax

```
port list {all | ethernet | atm}
```

Description

This command lists the valid port names within a specified class (type) of port.

Example

```
--> port list all

Valid port names in class 'all':
  ciao
  ethernet
  dsl-1
  dsl-2
  dsl-3
  dsl-4
  dsl-5
  dsl-6
  dsl-7
  dsl-8
  ima-1
  ima-2
  ima-3
  ima-4
  ima-5
  ima-6
  ima-7
  ima-8
```

See also

[port set](#) on page 216

[port show](#) on page 224

port set

Syntax

```
port <portname> set <attribute> <value>
```

Description

This command allows you to modify attributes on a port. Any modifications override existing attribute values specified for the port. The attributes available depend on the type of port you are modifying.

To display a list of valid attributes for a specific port, use the '?' syntax options key after `port <portname> set`. For example:

```
prompt> port dsl-1 set ?
```

```
ATTNThreshold  
Activate  
Asym_PSD  
Disabled  
EOCRequest  
HTUType  
LBTimeout  
LineType  
Loopback  
NTR  
PayloadRate  
PwrBackoff  
RateMode  
SNRThreshold  
Standard  
TargetMargin
```

```
prompt> port ethernet set ?
```

```
AutoNegotiation  
NoNeg100BaseMode  
NoNegFullDuplexMode
```

```
prompt> port ima-1 set ?
```

```
DefaultMaxQueue
```

Once you have identified the attribute that you want to modify, you can specify the new value that you want to set it to.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
portname	The name of a port that is configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A
attribute	A single attribute of a specified port. An attribute has a value attached to it which you can modify. Refer to the <i>Port Attributes</i> sections, below.	N/A
value	A value attached to an attribute. The value could be a numerical setting or a true/false qualifier. Refer to the <i>Port Attributes</i> sections, below.	N/A

G.shdsl Port Attributes

Note: The G.shdsl port attributes are **case-sensitive**. You *must* type the attribute names exactly as they appear below, or the command fails and the CLI displays a syntax error message.

HTUType

Sets the G.shdsl line probing. To establish a link between two DSL modems, one side must be set as the CO side of the link, and the other side must be set as the CPE side of the link.

Value	Description
co	Set the transceiver to act as the Central Office side.
cpe	Set the transceiver to act as the Customer Premise side.

LineType

Sets the G.shdsl line mode.

Note: On the GoWide 2.3 unit, this will always be set to two-wire mode.

Value	Description
2	Set G.shdsl to two-wire mode.
4	Set G.shdsl to four-wire mode.
auto	Sets auto-discovery of G.shdsl mode.

RateMode

Sets the G.shdsl line probing. The default is *adaptive*, and will negotiate with the remote side for the best possible line rate. Fixed mode will only link up with the line rate indicated by the PayloadRate attribute. (This Item will only affect the CO side of the link).

Value	Description
fixed	Links up with the rate indicated by the PayloadRate attribute.
adaptive	Negotiates with the remote side for the best possible line rate.

PayloadRate

Sets the G.shdsl payload rate. The default value is 2312K.

Standard

This item determines which ANNEX standard is applied.

Value	Description
a	ANNEX A
b	ANNEX B
banfp	ANNEX B ANFP
auto	Auto detect (CPE)

NTR

Sets the clock source used by the SHDSL transceiver.

Value	Description
8k	Use NTR (Network Timing Recovery).
local	Use the local oscillator.

Asym_PSD

This value enables the transceiver to use an asymmetric power spectral density mask, as specified in the G.991.2 standard.

Value	Description
r1	784 kb/s for Annex A, 2312 kb/s for Annex B.
r2	1552 kb/s for Annex A, 2056 kb/s for Annex B.
symm, disable	To disable asymmetrical PSD, use <i>disable</i> or <i>symm</i> as the input value.

PwrBackoff

Enable and disable the power backoff feature.

Value	Description
enable	Enable power backoff.
disable	Disable power backoff.

SNRThreshold

Sets the SNR (Signal-to-Noise Ratio) Margin Threshold. A SNR Margin Threshold alarm will be set when the SNR margin falls below the SNR Margin value.

Value	Description
1 .. 15	The value can be set between 1 and 15 dB.
disable, 0	To disable the threshold alarm, use 0 or <i>disable</i> .

ATTNThreshold

Sets the attenuation threshold

Value	Description
1 .. 127	The threshold can be set between 1 and 127 dB.
disable, 0, 128	To disable, use 0, 128, or <i>disable</i> .

TargetMargin

Sets the target margin parameters.

Note: Do not change these parameters unless you fully understand the effects of target margin.

The TargetMargin attribute value consists of two or four integers, separated by spaces. The integers, issued in the order of the following list, represent the following parameters:

- Current Margin (CM) - Use if GoWide is set as CO or CPE equipment.
- Snext Margin (SM) - Use if GoWide is set as CO or CPE equipment.
- Remote Current Margin (RCM) - Use only if GoWide is set as CO equipment.

- Remote Snext Margin (RSM) - *Use only if GoWide is set as CO equipment.*

Value	Description
CM	CM can be set between 0 and 10. 11 is disabled, and the default is 4.
SM	SM can be set between -10 and 10. 11 is disabled, and the default is disabled.
RCM	RCM can be set between 0 and 10. 11 is disabled, and the default is 4.
RSM	RSM can be set between -10 and 10. 11 is disabled, and the default is disabled.

If the GoWide is set as CPE equipment, then CM and SM affect the line sync process if the CO side is overriding the CPE side setting, which is the most likely case. For example, to set CM to 4 and SM to disabled, the TargetMargin attribute value should be 4 11.

If the GoWide is set as CO equipment, then the additional parameters RCM and RSM are used to force the remote CPE settings, unless those settings are disabled. For example, to set CM to 4, SM to disabled, RCM to 5, and RSM to 2, the TargetMargin attribute value should be 4 11 5 2.

EOCRequest

Enable or disable remote EOC requests.

Value	Description
enable	Enable remote EOC requests.
disable	Disable remote EOC requests.

LBTimeout

Sets the loopback time-out value.

Value	Description
1.. 4095	1 to 4095 minutes.
0	To disable, use 0 as the input value.

Loopback

Enable and disable different types of loopback.

Value	Description
enable	If set on the CO side, informs the CPE to enable network loopback. If set on the CPE side, enables network loopback.
disable	If set on the CO side, informs the CPE to disable network loopback. If set on the CPE side, disables network loopback.
digital ¹	Exits data mode and enables digital loopback.
analog ¹	Exits data mode and enables analog loopback.
repeater	Enable loopback for repeaters.
All (CO)	Enable loopback for all repeaters and CPE devices.

1. These loopback modes are used for debugging purposes only.

Activate

Enables or disables the line, resets the transmitter, or requests the remote side to reset the line.

Value	Description
enable	Enables the line.
disable	Disables the line.
reset	Resets the transmitter.
remote	Requests the remote side to reset the line.

Disabled

Enables or disables the G.shdsl port.

Value	Description
true	Disables the port.
false	Enables (activates) the port.

Ethernet Port Attributes

Note: The Ethernet port attributes are **case-sensitive**. You *must* type the attribute names exactly as they appear below, or the command fails and the CLI displays a syntax error message.

AutoNegotiation

Sets the Ethernet mode to use.

Value	Description
true	The Ethernet port auto-negotiates the Ethernet mode to use.
false	The Ethernet mode will be determined by the No Neg 100 Base Mode and No Neg Full Duplex Mode settings.

NoNeg100BaseMode

Sets the mode of the Ethernet port if the Auto Negotiation setting is "False."

Value	Description
true	The Ethernet port will use 100Base.
false	The Ethernet port will use 10Base.

NoNegFullDuplexMode

Sets the duplex mode of the Ethernet port if the Auto Negotiation setting is "False."

Value	Description
true	The Ethernet port will use Full Duplex.
false	The Ethernet port will use Half Duplex.

IMA Port Attributes

Note: The IMA port attributes are **case-sensitive**. You *must* type the attribute names exactly as they appear below, or the command fails and the CLI displays a syntax error message.

DefaultMaxQueue

Sets the default ATM queue size for a PVC.

Value	Description
1..128	The number of buffers that can be in each ATM queue. The minimum recommended value is 32, and the default is 64.

Examples

```
prompt> port dsl-1 set SNRThreshold 15
```

```
prompt> port ethernet set AutoNegotiation true
```

See also

[port list](#) on page 215

[port show](#) on page 224

port show

Syntax

```
port <portname> show
```

Description

This command displays the current attributes and values of a port. The attributes available depend on the type of port that you are using

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
portname	The name of a port that is configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Example

```
prompt>port dsl-1 show
```

```
Version                = 2.00
HTUType                = CPE
LineType               = TwoWire
RateMode               = Adaptive
PayloadRate            = 2304
Standard               = Auto
NTR                    = OSC
Asym_PSD               = Disabled
PwrBackoff             = Enabled
SNRThreshold           = Disabled
ATTNThreshold          = Disabled
TargetMargin           = 4 11
EOCRequest             = Enabled
LBTimeout              = 0
Loopback               = WriteOnly
Activate               = WriteOnly
Disabled               = false
ModemType              = GoWide 18.4
BusMode                = IMA
OpStatus               = Handshake
CurrLineRate           = 0
CurrSNRMargin          = 0.0
CurrAttenuation        = 0.0
CurrStandard           = Unavailable
```

InUse	= 1
Connected	= false

See also

[port list](#) on page 215

[port set](#) on page 216

port status

Syntax

```
port <portname> status
```

Description

This command displays the current status of the specified port.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
portname	The name of a port that is configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Example

```
prompt> port ethernet status

MAC                = 00:b0:ae:00:30:da
RxOk                = 0
RxBroadcastPackets = 0
RxErrorPackets      = 0
TxOk                = 0
TxCollisions        = 0
TxErrorPackets      = 0
100Base             = false
AutoNegotiation     = true
Connected           = false
FullDuplex          = false
NoNeg100BaseMode    = true
NoNegFullDuplexMode = false
```

See also

[port list](#) on page 215

PVCM CLI Commands

Chapter 14

This chapter describes the PVCM CLI commands.

Summary

PVCM CLI Commands

Table M lists the PVCM commands provided by the CLI:

Table M. PVCM CLI Commands

Command	Reference
pvcm atmstats	pvcm atmstats on page 229
pvcm ccactivate ccdeactivate	pvcm ccactivate ccdeactivate on page 230
pvcm ccstart ccstop	pvcm ccstart ccstop on page 232
pvcm faultbegin faultend	pvcm faultbegin faultend on page 234
pvcm lbsend	pvcm lbsend on page 236
pvcm lbstats	pvcm lbstats on page 238
pvcm oamadd	pvcm oamadd on page 240
pvcm oamdelete	pvcm oamdelete on page 241
pvcm oaminfo	pvcm oaminfo on page 242
pvcm oamlist	pvcm oamlist on page 243
pvcm oamset ccenable ccdisable ccenableauto	pvcm oamset ccenable ccdisable ccenableauto on page 244
pvcm oamset faultenable faultdisable	pvcm oamset faultenable faultdisable on page 246
pvcm oamset faultwatch faultunwatch	pvcm oamset faultwatch faultunwatch on page 248
pvcm oamset lbenable lbdisable	pvcm oamset lbenable lbdisable on page 250
pvcm oamset pmenable pmdisable pmenableauto	pvcm oamset pmenable pmdisable pmenableauto on page 252
pvcm pmactivate	pvcm pmactivate on page 256
pvcm pmdeactivate	pvcm pmdeactivate on page 258
pvcm pmstart	pvcm pmstart on page 260
pvcm pmstats	pvcm pmstats on page 262
pvcm pmstop	pvcm pmstop on page 264
pvcm setglobal ccaccept	pvcm setglobal ccaccept on page 266
pvcm setglobal pmaccept	pvcm setglobal pmaccept on page 267

pvcn atmstats

Syntax

```
pvcn atmstats [reset]
```

Description

This command displays the ATM statistics. If the *reset* option is included with the command, the interval counter will be cleared.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
reset	The interval counter is cleared.	N/A

Example

```
prompt> pvcn atmstats
```

```
Total Cell Counter          Total      Interval
Total Transmit:             2          0
Total Received:             0          0
```

pvcn ccactivate|ccdeactivate

Syntax

```
pvcn {ccactivate | ccdeactivate} <slot> <vpi> <vci> {<f4>|<f5>}  
      {<segm>|<etoe>} {<tx>|<rx>|<both>}
```

Description

This command sends continuity checking activation/deactivation requests on the specified OAM flow. Activation/deactivation requests are sent in the form of special activation/deactivation OAM cells from the local node to remote nodes that have been enabled to process the requests.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
ccactivate	Sends a continuity checking activate request for the specified OAM flow.	N/A
ccdeactivate	Sends a continuity checking deactivate request for the specified OAM flow.	N/A
slot	The IMA slot on which the activate/deactivate request is sent. This parameter must be in the form <i>ima-x</i> , where <i>x</i> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the activate/deactivate request is sent, and on which CC cells will flow. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the activate/deactivate request is sent, and on which CC cells will flow. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A
tx	Specifies the request is for a CC cell flow in the transmit direction (from the local node to the remote node).	N/A

Option	Description	Default Value
rx	Specifies the request is for a CC cell flow in the receive direction (from the remote node to the local node).	N/A
both	Specifies the request is for a CC cell flow in both the transmit and receive directions.	N/A

Example

The following command sends out a continuity checking activate request for an F5 end-to-end CC cell flow on VPI/VCI 0/35 in both directions.

```
prompt> pvcm ccactivate ima-1 0 35 f5 etoe both
```

See also

[pvcm oamset ccenable|ccdisable|ccenableauto](#) on page 244

[pvcm oamset segmset|segmclr](#) on page 254

[pvcm setglobal ccaccept](#) on page 266

pvcn ccstart|ccstop

Syntax

```
pvcn {ccstart | ccstop} <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>}  
{<tx>|<rx>|<both>}
```

Description

This command starts or stops a flow of CC cells in the transmit, receive, or both directions, without the need for activation/deactivation handshaking between the local and remote nodes.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
ccstart	Starts the flow of CC cells on the specified OAM flow.	N/A
ccstop	Stops the flow of CC cells on the specified OAM flow.	N/A
slot	The IMA slot on which the CC cell flow is started/stopped. This parameter must be in the form <i>ima-x</i> , where <i>x</i> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the flow of CC cells is started/stopped. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the flow of CC cells is started/stopped. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A
tx	Specifies a CC cell flow in the transmit direction (from the local node to the remote node).	N/A

Option	Description	Default Value
rx	Specifies a CC cell flow in the receive direction (from the remote node to the local node).	N/A
both	Specifies a CC cell flow in the both the transmit and receive directions.	N/A

Example

The following command starts a flow of CC cells on an F5 end-to-end flow on VPI/VCI 0/35 in both directions.

```
prompt> pvcn ccstart ima-1 0 35 f5 etoe both
```

See also

[pvcn oamset ccenable|ccdisable|ccenableauto](#) on page 244

[pvcn oamset segmset|segmclr](#) on page 254

pvcn faultbegin|faultend

Syntax

```
pvcn {faultbegin | faultend} <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>}
```

Description

This command declares/clears a fault state on the specified OAM flow.

Note: Fault monitoring must be enabled on a flow before a fault state can be declared on the flow using this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
faultbegin	Declares a fault state on the specified OAM flow.	N/A
faultend	Clears a fault state on the specified OAM flow.	N/A
slot	The IMA slot on which the fault state is declared/cleared. This parameter must be in the form <code>ima-x</code> , where <code>x</code> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the fault state is declared/cleared. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the fault state is declared/cleared. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A

Example

The following command declares a fault state on an F5 end-to-end flow on VPI/VCI 0/35.

prompt> **pvcn faultbegin ima-1 0 35 f5 etoe**

See also

[pvcn oamset faultenable|faultdisable](#) on page 246

[pvcn oamset faultwatch|faultunwatch](#) on page 248

pvcmlsendsend

Syntax

```
pvcmlsendsend <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>} [<llid>]
```

Description

This command sends a loopback cell on the specified OAM flow with the specified loopback location identifier (LLID).

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
slot	The IMA slot on which the loopback cell is sent. This parameter must be in the form <code>ima-x</code> , where <code>x</code> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the loopback cell is sent. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the loopback cell is sent. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A
llid	The optional loopback location identifier (LLID). If no LLID is specified, the loopback cell is sent with the LLID set to the default, which is 16 octets of all '1's. Enter LLIDs in hexadecimal format, using "dot notation" to separate octets, as in the following example: <code>A1.29.FF.46.B6.76.33.E2.44.53.8A.69.DA.21.FB.33</code> If an LLID is entered that does not contain all 16 octets, it is padded by the system with zeros to the full 16 octets.	16 octets of all '1's (<code>ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff</code>)

Example

The following command sends a loopback cell on an F5 end-to-end flow on VPI/VCI 0/35, with the default LLID.

```
prompt> pvcn lbsend ima-1 0 35 f5 etoe
```

See also

[pvcn lbstats](#) on page 238

[pvcn oamset lbenable|lbdisable](#) on page 250

[pvcn oamset segmset|segmclr](#) on page 254

pvcmlbstats

Syntax

```
pvcmlbstats <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>}
```

Description

This command displays loopback statistics for the specified OAM flow.

The command is entered at the node which performs the loopback operation. The loopback statistics indicate how many loopback cells were received at the node, and how many loopback cells were dropped by the node.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
slot	The IMA slot for which loopback statistics are displayed. This parameter must be in the form <i>ima-x</i> , where <i>x</i> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow for which loopback statistics are displayed. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow for which loopback statistics are displayed. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A

Example

The following command displays loopback statistics for an F5 end-to-end flow on VPI/VCI 0/35.

```
prompt> pvcmlbstats ima-1 0 35 f5 etoe
```

```
Statistics for port ima-1 vpi 0 vci 35 flags = f5 etoe
Loopback requests received = 8
Loopback requests dropped = 0
```

See also

[pvcn lsend](#) on page 236

[pvcn oamset lbenable|lbdisable](#) on page 250

pvcn oamadd

Syntax

```
pvcn oamadd <name> <slot> <vpi> <vci>
```

Description

This command adds the specified OAM interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface to add.	N/A
slot	The IMA slot on which the OAM interface is being added. This parameter must be in the form <code>ima-x</code> , where <code>x</code> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the OAM interface is being added. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the OAM interface is being added. The valid VCI range is 0 to 65535.	N/A

Example

```
prompt> pvcn oamadd oamif ima-1 0 35
```

See also

[pvcn oamdelete](#) on page 241

pvcm oamdelete

Syntax

```
pvcm oamdelete <name>
```

Description

This command deletes the specified OAM interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the oam interface to delete.	N/A

Example

```
prompt> pvcm oamdelete oamif1
```

See also

[pvcm oamadd](#) on page 240

pvcn oaminfo

Syntax

```
pvcn oaminfo <name>
```

Description

This command displays information about the specified OAM interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface for which to display information.	N/A

Example

```
prompt> pvcn oaminfo default
```

Oam Info:

```
Name      |Port      |Vpi |Vci | Settings      |
-----|-----|---|---|-----|
default   |ima-1     |any |any |cc, lb, fault, pm |
-----|-----|---|---|-----|
```

```
                                F4-ETOE   F4-SEGM   F5-ETOE   F5-SEGM

loopback                Y           Y           Y           Y
cc                       Y           Y           Y           Y
cc auto                 n           n           n           n
fault                   Y           Y           Y           Y
fault non-intrusive    n           n           n           n
segment sinkpoint      n           Y           n           Y
pm                       Y           Y           Y           Y
pmauto                  n           n           n           n
```

```
f4 segm llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
f4 etoe llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
f5 segm llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
f5 etoe llid = ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff.ff
```

See also

[pvcn oamlist](#) on page 243

pvcn oamlist

Syntax

```
pvcn oamlist
```

Description

This command lists all the existing oam interfaces with a summary of their settings.

Options

None.

Example

```
prompt> pvcn oamlist
```

Oam Interfaces:

Name	Port	Vpi	Vci	settings
default	ima-1	any	any	cc, lb, fault, pm
oamif1	ima-1	8	32	lb

See also

[pvcn oaminfo](#) on page 242

pvcn oamset ccenable|ccdisable|ccenableauto

Syntax

```
pvcn oamset <name> {ccenable | ccdisable | ccenableauto} {<f4>|<f5>|<both>}  
{<segm>|<etoe>|<both>}
```

Description

This command enables/disables the reception of continuity checking activation requests, or enables automatic acceptance of received continuity checking activation requests, for the specified OAM flows.

The enable operation is done locally on a node that will participate in continuity checking, and sets up the node to be able to receive and process activation requests on the specified flows from other nodes that are participating in continuity checking. Once the reception of activation requests is enabled on a given flow, an additional global setting (*pvcn setglobal ccaccept*) determines how the node actually responds to the continuity checking activation request.

If the *ccenableauto* version of the command is instead entered, the node will automatically receive and accept activation requests on the specified flows without regard to the global setting.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface to which the settings will apply.	N/A
ccenable	Enables reception of activate requests on the specified OAM flows.	N/A
ccdisable	Disables reception of activate requests on the specified OAM flows.	N/A
ccenableauto	Enables automatic acceptance of received activate requests on the specified OAM flows.	N/A
f4	Setting applies to virtual path level OAM flows.	N/A
f5	Setting applies to virtual channel level OAM flows.	N/A
both	Setting applies to both virtual channel and virtual path level OAM flows.	N/A

Option	Description	Default Value
segm	Setting applies to segment OAM flows.	N/A
etoe	Setting applies to end-to-end OAM flows.	N/A
both	Setting applies to both segment and end-to-end OAM flows.	N/A

Example

The following command enables the reception of continuity checking activation requests for F5 end-to-end OAM flows. The settings are applied to the existing OAM interface named *oamif1*.

```
prompt> pvcn oamset oamif1 ccenable f5 etoe
```

See also

[pvcn ccactivate|ccdeactivate](#) on page 230

[pvcn ccstart|ccstop](#) on page 232

pvcn oamset faultenable|faultdisable

Syntax

```
pvcn oamset <name> {faultenable | faultdisable} {<f4>|<f5>|<both>}  
{<segm>|<etoe>|<both>}
```

Description

This command enables/disables fault monitoring for the specified OAM flows.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface to which the settings will apply.	N/A
faultenable	Enables fault monitoring on the specified OAM flows.	N/A
faultdisable	Disables fault monitoring on the specified OAM flows.	N/A
f4	Setting applies to virtual path level OAM flows.	N/A
f5	Setting applies to virtual channel level OAM flows.	N/A
both	Setting applies to both virtual channel and virtual path level OAM flows.	N/A
segm	Setting applies to segment OAM flows.	N/A
etoe	Setting applies to end-to-end OAM flows.	N/A
both	Setting applies to both segment and end-to-end OAM flows.	N/A

Example

The following command enables fault monitoring for F5 end-to-end OAM flows. The settings are applied to the existing OAM interface named *oamif1*.

```
prompt> pvcn oamset oamif1 faultenable f5 etoe
```

See also

[*pvcn faultbegin|faultend*](#) on page 234

[*pvcn oamset faultwatch|faultunwatch*](#) on page 248

pvcn oamset faultwatch|faultunwatch

Syntax

```
pvcn oamset <name> {faultwatch | faultunwatch} {<f4>|<f5>|<both>}  
{<segm>|<etoe>|<both>}
```

Description

This command enables/disables non-intrusive fault monitoring for the specified OAM flows.

Note: Fault monitoring must be enabled on a flow before non-intrusive fault monitoring can be enabled on the flow.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface to which the settings will apply.	N/A
faultwatch	Enables non-intrusive fault monitoring on the specified OAM flows.	N/A
faultunwatch	Disables non-intrusive fault monitoring on the specified OAM flows.	N/A
f4	Setting applies to virtual path level OAM flows.	N/A
f5	Setting applies to virtual channel level OAM flows.	N/A
both	Setting applies to both virtual channel and virtual path level OAM flows.	N/A
segm	Setting applies to segment OAM flows.	N/A
etoe	Setting applies to end-to-end OAM flows.	N/A
both	Setting applies to both segment and end-to-end OAM flows.	N/A

Example

The following command enables non-intrusive fault monitoring for F5 end-to-end OAM flows. The settings are applied to the existing OAM interface named *oamif1*.

```
prompt> pvcm oamset oamif1 faultwatch f5 etoe
```

See also

[pvcm oamset faultenable|faultdisable](#) on page 246

[pvcm oamset segmset|segmclr](#) on page 254

pvcn oamset lbenable|lbdisable

Syntax

```
pvcn oamset <name> {lbenable | lbdisable} {<f4>|<f5>|<both>}  
{<segm>|<etoe>|<both>} [<llid>]
```

Description

This command enables/disables loopback testing for the specified OAM flows, and optionally sets the loopback location identifier (LLID) for the specified flows.

Note: The <llid> parameter is only valid for *lbenable* commands.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface to which the settings will apply.	N/A
lbenable	Enables loopback testing on the specified OAM flows.	N/A
lbdisable	Disables loopback testing on the specified OAM flows.	N/A
f4	Setting applies to virtual path level OAM flows.	N/A
f5	Setting applies to virtual channel level OAM flows.	N/A
both	Setting applies to both virtual channel and virtual path level OAM flows.	N/A
segm	Setting applies to segment OAM flows.	N/A
etoe	Setting applies to end-to-end OAM flows.	N/A
both	Setting applies to both segment and end-to-end OAM flows.	N/A
llid	The optional loopback location identifier (LLID). If no LLID is specified, it defaults to 16 octets of all '1's. Enter LLIDs in hexadecimal format, using "dot notation" to separate octets, as in the following example: A1.29.FF.46.B6.76.33.E2.44.53.8A.69.DA.21.FB.33 If an LLID is entered that does not contain all 16 octets, it is padded by the system with zeros to the full 16 octets.	16 octets of all '1's (ff.ff.ff.ff.ff.ff.ff.ff. ff.ff.ff.ff.ff)

Example

The following command enables loopback testing for F5 end-to-end OAM flows, and specifies an LLID of ff.ff.ff.12.0.0.0.0.0.0.0.0.0. The settings are applied to the existing OAM interface named *oamif1*.

```
prompt> pvcm oamset oamif1 lbenable f5 etoe ff.ff.ff.ff.12
```

See also

[*pvcm lbsend*](#) on page 236

[*pvcm lbstats*](#) on page 238

pvcn oamset pmenable|pmdisable|pmenableauto

Syntax

```
pvcn oamset <name> {pmenable | pmdisable | pmenableauto} {<f4>|<f5>|<both>}  
{<segm>|<etoe>|<both>}
```

Description

Caution: Performance monitoring functionality is not supported in the current version of GoWide firmware. Integrity of the performance monitoring CLI commands has not been verified.

This command enables/disables the reception of performance monitoring activation requests, or enables automatic acceptance of received performance monitoring activation requests, for the specified OAM flows.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface to which the settings will apply.	N/A
pmenable	Enables reception of activate requests on the specified OAM flows.	N/A
pmdisable	Disables reception of activate requests on the specified OAM flows.	N/A
pmenableauto	Enables automatic acceptance of received activate requests on the specified OAM flows.	N/A
f4	Setting applies to virtual path level OAM flows.	N/A
f5	Setting applies to virtual channel level OAM flows.	N/A
both	Setting applies to both virtual channel and virtual path level OAM flows.	N/A
segm	Setting applies to segment OAM flows.	N/A
etoe	Setting applies to end-to-end OAM flows.	N/A
both	Setting applies to both segment and end-to-end OAM flows.	N/A

Example

The following command enables the reception of performance monitoring activation requests for F5 end-to-end OAM flows. The settings are applied to the existing OAM interface named *oamif1*.

```
prompt> pvcm oamset oamif1 pmenable f5 etoe
```

See also

[*pvcm pmactivate*](#) on page 256

[*pvcm pmstart*](#) on page 260

[*pvcm pmstats*](#) on page 262

pvcn oamset segmset|segmclr

Syntax

```
pvcn oamset <name> {segmset | segmclr} {<f4>|<f5>|<both>}
```

Description

This command sets the GoWide ATM interface node as a segment sinkpoint, or clears its status as a segment sinkpoint, for the specified OAM flows.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	Specifies the name of the OAM interface to which the settings will apply.	N/A
segmset	Sets the GoWide ATM interface node as a segment sinkpoint for the specified OAM flows.	N/A
segmclr	Clears the GoWide ATM interface node as a segment sinkpoint for the specified OAM flows.	N/A
f4	Setting applies to virtual path level OAM flows.	N/A
f5	Setting applies to virtual channel level OAM flows.	N/A
both	Setting applies to both virtual channel and virtual path level OAM flows.	N/A

Example

The following sets the GoWide ATM interface node as a segment sinkpoint for F5 segment OAM flows. The settings are applied to the existing OAM interface named *oamif1*.

```
prompt> pvcn oamset oamif1 segmset f5
```

See also

[*pvcn ccactivate|ccdeactivate*](#) on page 230

[*pvcn ccstart|ccstop*](#) on page 232

[*pvcn lbsend*](#) on page 236

[*pvcn oamset_faultwatch|faultunwatch*](#) on page 248

[*pvcn pmactivate*](#) on page 256

[*pvcn pmstart*](#) on page 260

pvcm pmactivate

Syntax

```
pvcm pmactivate <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>} <both>  
<txblk> <rxblk>
```

```
pvcm pmactivate <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>} {<tx>|<rx>}  
<blk>
```

Description

Caution: Performance monitoring functionality is not supported in the current version of GoWide firmware. Integrity of the performance monitoring CLI commands has not been verified.

This command sends performance monitoring activation requests on the specified OAM flow. Activation requests are sent in the form of special activation OAM cells from the local node to remote nodes that have been enabled to process the requests.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
slot	The IMA slot on which the activate request is sent. This parameter must be in the form <code>ima-x</code> , where <code>x</code> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the activate request is sent, and on which PM cells will flow. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the activate request is sent, and on which PM cells will flow. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A
tx	Specifies the request is for a PM cell flow in the transmit direction (from the local node to the remote node).	N/A

Option	Description	Default Value
rx	Specifies the request is for a PM cell flow in the receive direction (from the remote node to the local node).	N/A
both	Specifies the request is for a PM cell flow in both the transmit and receive directions.	N/A
txblk	Specifies the performance monitoring transmit block size when the <i>both</i> option is specified.	N/A
rxblk	Specifies the performance monitoring receive block size when the <i>both</i> option is specified.	N/A
blk	Specifies the performance monitoring transmit or receive block size when the <i>tx</i> or <i>rx</i> option is specified.	N/A

Example

The following command sends out a performance monitoring activate request for an F5 end-to-end PM cell flow on VPI/VCI 0/35 in both directions with transmit and receive block sizes of 2048.

```
prompt> pvcm pmactivate ima-1 0 35 f5 etoe both 2048 2048
```

See also

[pvcm oamset pmenable|pmdisable|pmenableauto](#) on page 252

[pvcm oamset segmset|segmclr](#) on page 254

[pvcm setglobal pmaccept](#) on page 267

pvcn pmdeactivate

Syntax

```
pvcn pmdeactivate <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>}  
{<tx>|<rx>|<both>}
```

Description

Caution: Performance monitoring functionality is not supported in the current version of GoWide firmware. Integrity of the performance monitoring CLI commands has not been verified.

This command sends performance monitoring deactivation requests on the specified OAM flow. Deactivation requests are sent in the form of special deactivation OAM cells from the local node to remote nodes that have been enabled to process the requests.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
slot	The IMA slot on which the deactivate request is sent. This parameter must be in the form <i>ima-x</i> , where <i>x</i> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the deactivate request is sent. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the deactivate request is sent. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A
tx	Specifies the deactivate request is for PM cells flowing in the transmit direction (from the local node to the remote node).	N/A

Option	Description	Default Value
rx	Specifies the deactivate request is for PM cells flowing in the receive direction (from the remote node to the local node).	N/A
both	Specifies the deactivate request is for PM cells flowing in both the transmit and receive directions.	N/A

Example

The following command sends out a performance monitoring deactivate request for an F5 end-to-end PM cell flow on VPI/VCI 0/35 for the current PM cell flow in both directions.

```
prompt> pvcm pmdeactivate ima-1 0 35 f5 etoe both
```

See also

[pvcm oamset pmenable | pmdisable | pmenableauto](#) on page 252

[pvcm oamset segmset | segmclr](#) on page 254

[pvcm setglobal pmaccept](#) on page 267

pvcn pmstart

Syntax

```
pvcn pmstart <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>} <both>  
      <txblk> <rxblk>
```

```
pvcn pmstart <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>} {<tx>|<rx>} <blk>
```

Description

Caution: Performance monitoring functionality is not supported in the current version of GoWide firmware. Integrity of the performance monitoring CLI commands has not been verified.

This command starts a flow of PM cells in the transmit, receive, or both directions, without the need for activation handshaking between the local and remote nodes.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
slot	The IMA slot on which the PM cell flow is started. This parameter must be in the form <i>ima-x</i> , where <i>x</i> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the flow of PM cells is started. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the flow of PM cells is started. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A
tx	Specifies a PM cell flow in the transmit direction (from the local node to the remote node).	N/A
rx	Specifies a PM cell flow in the receive direction (from the remote node to the local node).	N/A

Option	Description	Default Value
both	Specifies a PM cell flow in the both the transmit and receive directions.	N/A
txblk	Specifies the performance monitoring transmit block size when the <i>both</i> option is specified.	N/A
rxblk	Specifies the performance monitoring receive block size when the <i>both</i> option is specified.	N/A
blk	Specifies the performance monitoring transmit or receive block size when the <i>tx</i> or <i>rx</i> option is specified.	N/A

Example

The following command starts a flow of PM cells on an F5 end-to-end flow on VPI/VCI 0/35 in both directions with transmit and receive block sizes of 1024.

```
prompt> pvcm pmstart ima-1 0 35 f5 etoe both 1024 1024
```

See also

[pvcm oamset pmenable|pmdisable|pmenableauto](#) on page 252

[pvcm oamset segmset|segmclr](#) on page 254

pvcn pmstats

Syntax

```
pvcn pmstats <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>}
```

Description

Caution: Performance monitoring functionality is not supported in the current version of GoWide firmware. Integrity of the performance monitoring CLI commands has not been verified.

This command displays performance monitoring statistics for the specified OAM flow. The statistics indicate the following:

- ATM-level TUC-0+1 count
- ATM-level TUC-0 count
- ATM-level TRCC-0+1 count
- ATM-level TRCC-0 count
- ATM-level severely errored cell blocks

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
slot	The IMA slot for which performance monitoring statistics are displayed. This parameter must be in the form <code>ima-x</code> , where <code>x</code> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow for which performance monitoring statistics are displayed. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow for which performance monitoring statistics are displayed. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A

Option	Description	Default Value
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A

Example

The following command displays performance monitoring statistics for an F5 end-to-end flow on VPI/VCI 0/35.

```
prompt> pvcm pmstats ima-1 0 35 f5 etoe

Statistics for port ima-1 vpi 0 vci 35 flags = f5 etoe
TUC0+1  0
TUC0    0
TRCC0+1 0
TRCC0   0
SECBC   0
```

See also

[pvcm oamset pmenable|pmdisable|pmenableauto](#) on page 252

[pvcm pmactivate](#) on page 256

pvcn pmstop

Syntax

```
pvcn pmstop <slot> <vpi> <vci> {<f4>|<f5>} {<segm>|<etoe>} {<tx>|<rx>|<both>}
```

Description

Caution: Performance monitoring functionality is not supported in the current version of GoWide firmware. Integrity of the performance monitoring CLI commands has not been verified.

This command stops a flow of PM cells in the transmit, receive, or both directions.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
slot	The IMA slot on which the PM cell flow is stopped. This parameter must be in the form <code>ima-x</code> , where <code>x</code> is a number from 1 to 8.	N/A
vpi	The virtual path identifier of the flow on which the flow of PM cells is stopped. The valid VPI range is 0 to 4095.	N/A
vci	The virtual circuit identifier of the flow on which the flow of PM cells is stopped. The valid VCI range is 0 to 65535.	N/A
f4	Specifies a virtual path level OAM flow.	N/A
f5	Specifies a virtual channel level OAM flow.	N/A
segm	Specifies a segment OAM flow.	N/A
etoe	Specifies an end-to-end OAM flow.	N/A
tx	Specifies the stop request is for PM cells flowing in the transmit direction (from the local node to the remote node).	N/A
rx	Specifies the stop request is for PM cells flowing in the receive direction (from the remote node to the local node).	N/A
both	Specifies the stop request is for PM cells flowing in the both the transmit and receive directions.	N/A

Example

The following command stops a flow of PM cells on an F5 end-to-end flow on VPI/VCI 0/35 in both directions.

```
prompt> pvcn pmstop ima-1 0 35 f5 etoe both
```

See also

[pvcn oamset pmenable|pmdisable|pmenableauto](#) on page 252

[pvcn oamset segmset|segmclr](#) on page 254

pvcn setglobal ccaccept

Syntax

```
pvcn setglobal ccaccept {<on>|<off>}
```

Description

This command sets the behavior of the system upon reception of continuity checking activation requests. If set to *on*, activation requests will be accepted, and if set to *off*, activation requests will be rejected.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
on	Sets the value of <i>ccglobalaccept</i> to on	on
off	Sets the value of <i>ccglobalaccept</i> to off	

Example

```
prompt> pvcn setglobal ccaccept on
```

See also

[pvcn ccactivate|ccdeactivate](#) on page 230

[pvcn oamset ccenable|ccdisable|ccenableauto](#) on page 244

pvcm setglobal paccept

Syntax

```
pvcm setglobal paccept {<on>|<off>}
```

Description

This command sets the behavior of the system upon reception of performance monitoring activation requests. If set to *on*, activation requests will be accepted, and if set to *off*, activation requests will be rejected.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
on	Sets the value of <i>pmglobalaccept</i> to on	on
off	Sets the value of <i>pmglobalaccept</i> to off	

Example

```
prompt> pvcm setglobal paccept off
```

See also

[pvcm oamset pmenable|pmdisable|pmenableauto](#) on page 252

[pvcm pmactivate](#) on page 256

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RFC1483 CLI commands

This chapter describes the RFC1483 CLI commands.

Chapter 15

Summary

RFC1483 CLI commands

Table N lists the RFC1483 commands provided by the CLI:

Table N. RFC 1483 CLI Commands

Command	Reference
rfc1483 add transport	rfc1483 add transport on page 271
rfc1483 clear transports	rfc1483 clear transports on page 273
rfc1483 delete transport	rfc1483 delete transport on page 274
rfc1483 list transports	rfc1483 list transports on page 275
rfc1483 set transport bt	rfc1483 set transport bt on page 276
rfc1483 set transport mbs	rfc1483 set transport mbs on page 277
rfc1483 set transport mcr	rfc1483 set transport mcr on page 278
rfc1483 set transport mode	rfc1483 set transport mode on page 279
rfc1483 set transport pcr	rfc1483 set transport pcr on page 280
rfc1483 set transport port	rfc1483 set transport port on page 281
rfc1483 set transport qosclass	rfc1483 set transport qosclass on page 282
rfc1483 set transport rxvci	rfc1483 set transport rxvci on page 284
rfc1483 set transport rxvpi	rfc1483 set transport rxvpi on page 285
rfc1483 set transport scr	rfc1483 set transport scr on page 286
rfc1483 set transport txvci	rfc1483 set transport txvci on page 287
rfc1483 set transport txvpi	rfc1483 set transport txvpi on page 288
rfc1483 set transport vci	rfc1483 set transport vci on page 289
rfc1483 set transport vpi	rfc1483 set transport vpi on page 290
rfc1483 show transport	rfc1483 show transport on page 291

rfc1483 add transport

Syntax

```
rfc1483 add transport <name> <slot> <vpi> <vci> {llc|vcmux} {bridged|routed}
```

Description

This command creates a named RFC1483 transport and allows you to specify the following:

- the IMA slot that will transport RFC1483 data.
- VPI (Virtual Path Identifier)
- VCI (Virtual Circuit Identifier)
- LLC or VcMux encapsulation (optional)
- Bridged or Routed (optional)

The slot/VPI/VCI combination must be unique for each transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	An arbitrary name that identifies the transport. It can be made up of one or more letters or a combination of letters and digits, but it cannot start with a digit.	N/A
slot	The IMA slot that is used to transport ATM data. This parameter must be in the form <code>ima-x</code> , where <code>x</code> is a number from 1 to 8.	N/A
vpi	A field in the ATM header. The VPI is used to identify the virtual path that a circuit belongs to. The VPI can be any value between 0 and 4095.	N/A
vci	Part of the ATM header. The VCI is a tag that identifies which channel a cell will travel over. The VCI can be any value between 1 and 65535.	N/A

Option	Description	Default Value
llc	Logical Link Control encapsulation method.	llc
vcmux	VC Multiplexing encapsulation method.	
bridged	Traffic type that is going to be transmitted/received.	bridged
routed	Traffic type that is going to be transmitted/received.	

Example

```
prompt> rfc1483 add transport my1483 ima-1 0 700 vcmux routed
```

See also

[rfc1483 list transports](#) on page 275

[port set](#) on page 216

[port list](#) on page 215.

rfc1483 clear transports

Syntax

```
rfc1483 clear transports
```

Description

This command deletes all RFC1483 transports that were created using the *rfc1483 add transport* command.

Example

```
prompt> rfc1483 clear transports
```

See also

[rfc1483 delete transport](#) on page 274

rfc1483 delete transport

Syntax

```
rfc1483 delete transport {<name>|<number>}
```

Description

This command deletes a single RFC1483 transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value for each option (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A

Example

```
prompt> rfc1483 delete transport my1483
```

See also

[rfc1483 list transports](#) on page 275

rfc1483 list transports

Syntax

```
rfc1483 list transports
```

Description

This command lists all rfc1483 transports that have been created using the *rfc1483 add transport* command. It displays the following information about the transports:

- transport identification number
- transport name
- name of the IMA slot used to transport rfc1483 data
- transmit and receive VCI numbers
- transmit and receive VPI numbers

Example

```
prompt> rfc1483 list transports
```

```
RFC1483 transports:
```

ID	Name	Port	TxVci	RxVci	TxVpi	RxVpi
1	my1483	ima-1	700	700	0	0

See also

[rfc1483 show transport](#) on page 291

rfc1483 set transport bt

Syntax

```
rfc1483 set transport {<name>|<number>} bt <burst tolerance>
```

Description

This command sets the burst tolerance (bt) that an existing RFC1483 transport uses to transport data over ATM. This command is only valid if you set VBR or VBR RT as the QoS Class using the *rfc1483 set transport qosclass* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
burst tolerance	Controls the duration of traffic bursts on VBR (Variable Bit Rate) and VBR RT (VBR Real Time) channels. This value overrides an existing MBS value (if set).	6

Example

```
prompt> rfc1483 set transport my1483 bt 5
```

See also

[rfc1483 set transport mbs](#) on page 277

[rfc1483 set transport qosclass](#) on page 282

rfc1483 set transport mbs

Syntax

```
rfc1483 set transport {<name>|<number>} mbs <maximum burst size>
```

Description

This command sets the maximum burst size (mbs) for the RFC1483 transport. This command is only valid if you set VBR or VBR RT as the QoS Class using the *rfc1483 set transport qosclass* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
maximum burst size	Controls the maximum burst size for VBR (Variable Bit Rate) and VBR RT (VBR Real Time) channels. The MBS can be any value between 0 and 5000.	0

Example

```
prompt> rfc1483 set transport my1483 mbs 10
```

See also

[rfc1483 set transport bt](#) on page 276

[rfc1483 set transport qosclass](#) on page 282

rfc1483 set transport mcr

Syntax

```
rfc1483 set transport {<name>|<number>} mcr <minimum cell rate>
```

Description

This command sets the minimum cell rate (mcr) for an existing RFC1483 transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
minimum cell rate	Determines the minimum rate at which ATM cells are allowed to be transported into the ATM network.	0

Example

```
prompt> rfc1483 set transport my1483 mcr 0
```

See also

[rfc1483 set transport pcr](#) on page 280

rfc1483 set transport mode

Syntax

```
rfc1483 set transport {<name>|<number>} mode {llc|vcmux}
```

Description

This command sets the mode of encapsulation that an existing RFC1483 transport uses.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value for each option (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
llc	Logical Link Control encapsulation method.	LLC
vcmux	VC Multiplexing encapsulation method.	

Example

```
prompt> rfc1483 set transport my1483 mode vcvmux
```

See also

[rfc1483 list transports](#) on page 275

rfc1483 set transport pcr

Syntax

```
rfc1483 set transport {<name>|<number>} pcr <peak cell rate>
```

Description

This command sets the peak cell rate (pcr) for an existing RFC1483 transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
peak cell rate	Determines the maximum rate at which ATM cells are allowed to be transported into the ATM network. <i>Note:</i> The PCR can be any value from 0 up to the maximum PortSpeed parameter set, depending upon the negotiated port speed upon DSL linkup.	<i>equal to port speed</i>

Example

```
prompt> rfc1483 set transport my1483 pcr 5000
```

See also

[rfc1483 set transport mcr](#) on page 278

[rfc1483 list transports](#) on page 275

rfc1483 set transport port

Syntax

```
rfc1483 set transport {<name>|<number>} port <slot>
```

Description

This command sets the IMA slot (port) that an existing RFC1483 transport uses to transport RFC1483 data over ATM.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
slot	The IMA slot that is used to transport ATM data. This parameter must be in the form <i>ima-x</i> , where <i>x</i> is a number from 1 to 8.	N/A

Example

```
prompt> rfc1483 set transport my1483 port ima-1
```

See also

[rfc1483 list transports](#) on page 275

[port set](#) on page 216

rfc1483 set transport qosclass

Syntax

```
rfc1483 set transport {<name>|<number>} qosclass {ubr|cbr|vbr|vbrrrt|abr|qfc}
```

Description

This command sets the quality of service (QoS) class for the transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A

Option	Description	Default Value
ubr	Unspecified Bit Rate; non-constant and unpredictable data transport rate. PCR (Peak Cell Rate) is the average and maximum speed of transmission.	UBR
cbr	Constant Bit Rate; constant demand and predictable data transport rate. PCR is the average and maximum speed of transmission.	
vbr	Variable Bit Rate; non-constant but predictable data transport rate that uses Non-Real-Time (NRT). You can specify the PCR, SCR, BT and MBS for VBR traffic.	
vbrrt	Variable Bit Rate Real-Time; non-constant but predictable data transport rate that uses Real-Time (RT). You can specify the PCR, SCR, BT and MBS for VBRRT traffic.	
abr	Available Bit Rate; non-constant and unpredictable data transport rate that provides ATM-layer feedback and flow control.	
qfc	Quantum Flow Control; ATM flow control protocol that supports ABR.	

Example

```
prompt> rfc1483 set transport my1483 abr
```

See also

- [rfc1483 show transport](#) on page 291
- [rfc1483 set transport bt](#) on page 276
- [rfc1483 set transport mbs](#) on page 277
- [rfc1483 set transport pcr](#) on page 280
- [rfc1483 set transport scr](#) on page 286

rfc1483 set transport rxvci

Syntax

```
rfc1483 set transport {<name>|<number>} rxvci <vci>
```

Description

This command sets the receive Virtual Circuit Identifier channel. If you later set the VCI using the *rfc1483 set transport vci* command, the rxvci setting will be overridden.

The slot/VCI/VPI combination must be unique for each transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
rxvci	Part of the ATM header. The RXVCI is a tag that identifies which channel a cell will be received over. The RXVCI can be any value between 1 and 65535.	VCI value set when the transport was created using the <i>rfc1483 add transport</i> command

Example

```
prompt> rfc1483 set transport my1483 rxvci 700
```

See also

[rfc1483 list transports](#) on page 275

[rfc1483 set transport txvci](#) on page 287

rfc1483 set transport rxvpi

```
rfc1483 set transport {<name>|<number>} rxvpi <vpi>
```

Description

This command sets the receive Virtual Path Identifier. If you later set the VPI using the *rfc1483 set transport vpi* command, the rxvpi setting will be overridden.

The slot/VCI/VPI combination must be unique for each transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
rxvpi	A field in the ATM header. The RXVPI is used to identify the virtual path that a circuit belongs to and receives information on. The RXVPI can be any value between 0 and 4095.	VPI value set when the transport was created using the <i>rfc1483 add transport</i> command

Example

```
prompt> rfc1483 set transport my1483 rxvpi 0
```

See also

[rfc1483 list transports](#) on page 275

[rfc1483 set transport txvpi](#) on page 288

rfc1483 set transport scr

Syntax

```
rfc1483 set transport {<name>|<number>} scr <sustainable cell rate>
```

Description

This command sets the Sustainable Cell Rate. This command is only valid if you set VBR or VBR RT as the QoS Class using the *rfc1483 set transport qosclass* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
sustainable cell rate	Sustainable Cell Rate; the average cell rate for a VBR or VBR RT connection. The SCR can be any positive value that is less than the both PortSpeed set (when the port was created or modified) and the PCR set for the channel.	0

Example

```
prompt> rfc1483 set transport my1483 scr 25000
```

See also

[rfc1483 set transport qosclass](#) on page 282

[rfc1483 list transports](#) on page 275

rfc1483 set transport txvci

Syntax

```
rfc1483 set transport {<name>|<number>} txvci <vci>
```

Description

This command sets the transmit Virtual Circuit Identifier channel. If you later set the VCI using the *rfc1483 set transport vci* command, the txvci setting will be overridden.

The slot/VCI/VPI combination must be unique for each transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
txvci	Part of the ATM header. The txvci is a tag that identifies which channel a cell will be transmitted over. The txvci can be any value between 1 and 65535.	VCI value set when the transport was created using the <i>rfc1483 add transport</i> command

Example

```
prompt> rfc1483 set transport my1483 txvci 800
```

See also

[rfc1483 list transports](#) on page 275

[rfc1483 set transport rxvci](#) on page 284

rfc1483 set transport txvpi

Syntax

```
rfc1483 set transport {<name>|<number>} txvpi <vpi>
```

Description

This command sets the transmit Virtual Path Identifier. If you later set the VPI using the *rfc1483 set transport vpi* command, the txvpi setting will be overridden.

The slot/VCI/VPI combination must be unique for each transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
txvpi	A field in the ATM header. The TX VPI is used to identify the virtual path that a circuit belongs to and transmits information on. The TX VPI can be any value between 0 and 4095.	VPI value set when the transport was created using the <i>rfc1483 add transport</i> command

Example

```
prompt> rfc1483 set transport my1483 txvpi 0
```

See also

[rfc1483 list transports](#) on page 275

[rfc1483 set transport rxvpi](#) on page 285

rfc1483 set transport vci

Syntax

```
rfc1483 set transport {<name>|<number>} vci <vci>
```

Description

This command sets the Virtual Circuit Identifier channel. It overrides existing VCI settings (including rxvci and txvci).

The slot/VCI/VPI combination must be unique for each transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
vci	Part of the ATM header. The VCI is a tag that identifies which channel a cell will travel over. The VCI can be any value between 1 and 65535.	VCI value set when the transport was created using the <i>add transport</i> command

Example

```
prompt> rfc1483 set transport my1483 vci 800
```

See also

[rfc1483 list transports](#) on page 275

[rfc1483 set transport txvci](#) on page 287

[rfc1483 set transport rxvci](#) on page 284

rfc1483 set transport vpi

Syntax

```
rfc1483 set transport {<name>|<number>} vpi <vpi>
```

Description

This command sets the Virtual Path Identifier. It overrides existing VPI settings (including RX VPI and TX VPI).

The slot/VPI/VCI combination must be unique for each transport.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A
vpi	A field in the ATM header. The VPI is used to identify the virtual path that a circuit belongs to. The VPI can be any value between 0 and 4095.	VPI value set when the transport was created using the <i>add transport</i> command

Example

```
prompt> rfc1483 set transport my1483 vpi 0
```

See also

[rfc1483 list transports](#) on page 275

[rfc1483 set transport rxvpi](#) on page 285

[rfc1483 set transport txvpi](#) on page 288

rfc1483 show transport

Syntax

```
rfc1483 show transport {<name>|<number>}
```

Description

This command displays the following information about an existing rfc1483 transport:

- Name
- Description
- Encapsulation method
- IMA slot (ATM port)
- TX VPI - transmit Virtual Path Identifier
- RX VPI - receive Virtual Path Identifier
- TX VCI - transmit Virtual Circuit Identifier
- RX VCI - receive Virtual Circuit Identifier
- QOS class - Quality of Service class
- PCR - Peak Cell Rate
- SCR - Sustainable Cell Rate
- MCR - Minimum Cell Rate
- BT - Burst Tolerance
- MBS - Maximum Burst Size

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RFC1483 transport. To display transport names, use the <i>rfc1483 list transports</i> command.	N/A
number	A number that identifies an existing RFC1483 transport. To display transport numbers, use the <i>rfc1483 list transports</i> command.	N/A

Example

```
prompt> rfc1483 show transport my1483

RFC1483 Transport: my1483

    Description: my1483
    Encapsulation: LlcBridged

    ATM port: ima-1
    Tx VPI: 0
    Rx VPI: 0
    Tx VCI: 800
    Rx VCI: 800

    QOS class: UBR
    Peak cell rate: 0           Burst tolerance: 0
    Sustainable cell rate: 0   Max. burst size: 0
    Minimum cell rate: 0
```

See also

[rfc1483 list transports](#) on page 275

SHDSL CLI Commands

This chapter describes the SHDSL CLI commands.

Summary

SHDSL CLI Commands

Table O lists the SHDSL commands provided by the CLI:

Table O. SHDSL CLI Commands

Command	Reference
shdsl activate	shdsl activate on page 295
shdsl inventory	shdsl inventory on page 296
shdsl performance	shdsl performance on page 297
shdsl resetcount	shdsl resetcount on page 299
shdsl status	shdsl status on page 300

shdsl activate

Syntax

```
shdsl activate {enable | disable | reset | remote} [<port>]
```

Description

This command enables or disables a G.shdsl line. It can also reset the transmitter, or request the remote side of the G.shdsl connection to reset the line.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
enable	This option enables the line.	N/A
disable	This option disables the line.	N/A
reset	This option resets the transmitter.	N/A
remote	This option requests the remote side to reset the line.	N/A
port	The name of a G.shdsl port that is configured in your GoWide. If this option is omitted, the command applies to all G.shdsl ports that are configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Examples

```
prompt> shdsl activate enable  
prompt> shdsl activate disable dsl-4  
prompt> shdsl activate reset dsl-2  
prompt> shdsl activate remote
```

shdsl inventory

Syntax

```
shdsl inventory [<port>]
```

Description

This command displays the inventory.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
port	The name of a G.shdsl port that is configured in your GoWide. If this option is omitted, the command applies to all G.shdsl ports that are configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Example

```
prompt> shdsl inventory dsl-4

[line-4]
---- Local Unit ----
G.SHDSL Standard = 1, EOC Version = 6
Vendor Id          : 0x01b5544d534c0000
Vendor Model Number : GoWide 18.4e
Vendor Serial Number :
Vendor List Number  :
Vendor Issue Number :
Software Version    : 1.0
Equipment Code      : VAHMT30MAA
Vendor Other Info   : GLS2.3.1
```


shdsl performance

Syntax

```
shdsl performance [<port>]
```

Description

This command displays the performance counters for the G.shdsl loops.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
port	The name of a G.shdsl port that is configured in your GoWide. If this option is omitted, the command applies to all G.shdsl ports that are configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Example

```
prompt> shdsl performance dsl1-1

[line-1]
RemoteEOCRequest ---- Enable
      | Interval      Global      Local      Remote
-----+-----
Seconds: | 00000051    00521040    00000000    00000000
-----+-----
CRC:     | 00000000    00000000    00000000    00000000
LOSW:   | 00000000    00000000    00000000    00000000
-----+-----
ES:     | 00000000    00000000    00000000    00000000
SES:    | 00000000    00000000    00000000    00000000
UAS:    | 00000000    00000000    00000000    00000000

[SHDSL Cell Count]
Line-1: Received Cells = 0
Line-1: Transmit Cells = 0
Line-1: Drop Cells     = 0
```

See also

[shdsl inventory](#) on page 296

[shdsl resetcount](#) on page 299

[shdsl status](#) on page 300

shdsl resetcount

Syntax

```
shdsl resetcount [<port>]
```

Description

This command resets the interval counters, which are used in the display of G.shdsl line performance statistics.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
port	The name of a G.shdsl port that is configured in your GoWide. If this option is omitted, the command applies to all G.shdsl ports that are configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Example

```
prompt> shdsl resetcount dsl-1
Line-1 performing interval restart...

prompt> shdsl resetcount
Line-1 performing interval restart...
Line-2 performing interval restart...
Line-3 performing interval restart...
Line-4 performing interval restart...
Line-5 performing interval restart...
Line-6 performing interval restart...
Line-7 performing interval restart...
Line-8 performing interval restart...
```

See also

[shdsl performance](#) on page 297

shdsl status

Syntax

```
shdsl status [<port>]
```

Description

This command displays the line status.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
port	The name of a G.shdsl port that is configured in your GoWide. If this option is omitted, the command applies to all G.shdsl ports that are configured in your GoWide. To display available ports, use the <i>port list</i> command.	N/A

Example

```
prompt> shdsl status dsl-1
```

```
[line-1]
          |      Local Unit      Remote Unit
-----+-----+-----
Line Status: |      Handshake
Transceiver Mode: |      2 Wire
Payload Rate: |      2304
ANNEX: |      Auto
-----+-----+-----
Loss Sync Detected: |      NO
Loss Sync Failure: |      NO              NO
-----+-----+-----
SNR (dB) : |      50.0
SNR Margin: |      00.0           00
SNR Alarm: |      NO             NO
Attenuation: |      00.0           00
Attenuation Alarm: |      NO             NO
-----+-----+-----
ATM Status: |      ok             ok
HEC Error: |      00             00
-----+-----+-----
Power BackOff : |      00             00
```

See also

[shdsl performance](#) on page 297

.....

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Syslog CLI commands

This chapter describes the Syslog CLI commands.

Summary

Syslog CLI commands

Table P lists the *Syslog* commands provided by the CLI:

Table P. Syslog CLI Commands

Command	Reference
syslog log	syslog log on page 305
syslog reset host	syslog reset host on page 306
syslog set host	syslog set host on page 307
syslog show host	syslog show host on page 308

syslog log

Syntax

```
syslog log <message>
```

Description

This command sends a test message from the GoWide to the Syslog application running on a remote host.

Note: In order for the Syslog application to receive messages from a given GoWide, the following must be true:

- The Syslog application must be installed and running on a remote host that is reachable via an Ethernet connection from the GoWide.
- The GoWide's Syslog host address setting must be set, using the CLI command *syslog set host*, to the IP address of the remote host that is running the Syslog application.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
message	The text of the test message. If the message contains spaces, it must be enclosed in double-quotes ("").	N/A

Example

The following command sends the message *This is a test message* to the Syslog application.

```
prompt> syslog log "This is a test message"
```

See also

[syslog set host](#) on page 307.

[syslog show host](#) on page 308

syslog reset host

Syntax

```
syslog reset host
```

Description

This command resets the Syslog host address within the GoWide to 0.0.0.0.

Note: The Syslog host address is the IP address of the remote host to which the GoWide sends log messages. It is not the GoWide's local IP address.

Example

The following command resets the Syslog host address.

```
prompt> syslog reset host
```

See also

[syslog set host](#) on page 307

[syslog show host](#) on page 308

syslog set host

Syntax

```
syslog set host <address>
```

Description

This command sets the Syslog host address within the GoWide.

Note: The Syslog host address is the IP address of the remote host to which the GoWide sends log messages. It is not the GoWide's local IP address.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
address	The IP address of the remote host to which the GoWide will send log messages.	N/A

Example

The following command sets the Syslog host address to 10.0.0.9.

```
prompt> syslog set host 10.0.0.9
```

See also

[syslog reset host](#) on page 306

[syslog show host](#) on page 308

syslog show host

Syntax

```
syslog show host
```

Description

This command displays the Syslog host address that is currently set in the GoWide.

Note: The Syslog host address is the IP address of the remote host to which the GoWide sends log messages. It is not the GoWide's local IP address.

Example

The following command displays the Syslog host address that is currently set in the GoWide.

```
prompt> syslog show host  
Host: 10.0.0.9
```

See also

[*syslog reset host*](#) on page 306

[*syslog set host*](#) on page 307

syslog status

Syntax

```
syslog status
```

Description

This command displays the status of Syslog. The following is displayed:

- *Buffer* - The number of free bytes in the buffer, and the total buffer size.
- *H* - The header pointer.
- *T* - The tail pointer.
- *nRounds* - The number of times the buffer has gone around.
- The number of received messages.
- The number of sent messages.
- The number of discarded messages.

Example

```
prompt> syslog status  
Buffer: 3116B of 3072B free; H=1056, T=1012, nRounds=155.  
Rcvd 14023 msgs, sent 0 msgs, 10461 times old messages got lost
```

syslog version

Syntax

```
syslog version
```

Description

This command displays the Syslog version number.

Example

```
prompt> syslog version  
syslog version 0.99
```

System CLI commands

This chapter describes the System CLI commands.

Summary

System CLI commands

Table Q lists the *System* commands provided by the CLI:

Table Q. System CLI Commands

Command	Reference
system add user	system add user on page 314
system add login	system add login on page 316
system config backup	system config backup on page 318
system config clear	system config clear on page 319
system config restore	system config restore on page 320
system config save	system config save on page 321
system delete login	system delete login on page 322
system delete user	system delete user on page 323
system diagnostics	system diagnostics on page 324
system info	system info on page 327
system legal	system legal on page 328
system list errors	system list errors on page 329
system list openfiles	system list openfiles on page 330
system list users	system list users on page 331
system list logins	system list logins on page 332
system log	system log on page 333
system log enable disable	system log enable disable on page 334
system log list	system log list on page 336
system restart	system restart on page 338
system set login access	system set login access on page 339
system set login mayconfigure	system set login mayconfigure on page 340
system set login maydialin	system set login maydialin on page 341
system set user access	system set user access on page 342
system set user mayconfigure	system set user mayconfigure on page 343
system set user maydialin	system set user maydialin on page 344
system set user password	system set user password on page 345

Table Q. System CLI Commands

Command	Reference
system upgrade	system upgrade on page 346

system add user

Syntax

```
system add user <name> ["comment"]
```

Description

This command adds a user (typically a PPP user) to the system.

Note: Only a Super user can use this command.

Default setting

The default setting in the table below are applied to new accounts added using the *system add user* command. (A different set of defaults are applied to a new account added using the *system add login* command.)

Option	Default Setting
dialin to the system	enabled
login to the system	disabled
configuration permissions	disabled
access permissions	default user

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A unique user name made up of more than one character that identifies an individual user and lets the user access the system.	N/A
comment	An optional comment about the user that is displayed when you type the command <i>system list users</i> and <i>system list logins</i> .	No comment added

Example

```
prompt> system add user <name> ["comment"]
```

See also

[system set user access](#) on page 342

[system set user maydialin](#) on page 344

[system set user mayconfigure](#) on page 343

[system list users](#) on page 331

[system delete user](#) on page 323

system add login

Syntax

```
system add login <name> ["comment"]
```

Description

This command adds a user to the system.

Note: Only a Super user can use this command.

Default setting

The default setting in the table below are applied to new accounts added using the *system add login* command. (A different set of defaults are applied to a new account added using the *system add user* command.)

Option	Default Setting
dialin to the system	disabled
login to the system	enabled
configuration permissions	enabled
access permissions	default user

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A unique login name made up of more than one character that identifies an individual user and lets the user access the system.	N/A
comment	An optional comment about the user that is displayed when you type the command <i>system list users</i> and <i>system list logins</i> .	Blank (No comment added)

Example

```
prompt> system add login ckearns "temporary contractor"
```

See also

[system delete login](#) on page 322

[system list logins](#) on page 332

system config backup

Syntax

```
system config backup
```

Description

This command saves the system configuration to a file named *im.conf.backup*.

To prevent a user from overwriting the system with their own configuration, only a Super user can use this command.

Options

None.

Example

```
prompt> system config backup  
Saving to backup configuration //isfs/im.conf.backup
```

See also

[system config restore](#) on page 320

[system config save](#) on page 321

system config clear

Syntax

```
system config clear
```

Description

This command clears your current configuration. Attributes are set to their defaults, and all interfaces and transports are deleted. The default admin user is not affected, so you can still login to the system.

This command has the same effect as entering the `system config restore minimal` command.

Example

```
prompt> system config clear  
Restoring backup configuration //isfs/im.conf.minimal
```

See also

[system config restore](#) on page 320

system config restore

Syntax

```
system config restore {backup|factory|minimal}
```

Description

This command allows Super users, Engineers and Default users to restore their backup configuration from the *im.conf.backup* file. Note that **only** Super users can backup their system configuration.

The command tries to restore all system modules; if you do not have all modules installed, the CLI will display a message telling you which modules could not be restored.

This command also allows Super users to restore the factory defaults from the *im.conf.factory* file.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
backup	Restores the backup configuration from the <i>im.conf.backup</i> file.	N/A
factory	Restores the factory default configuration from the <i>im.conf.factory</i> file. Only Super users can use this command.	N/A
minimal	Restores the factory default configuration from the <i>im.conf.minimal</i> file.	N/A

Example

```
prompt> system config restore backup
```

```
Restoring backup configuration //isfs/im.conf.backup
```

See also

[system config backup](#) on page 318

[system config save](#) on page 321

system config save

Syntax

```
system config save
```

Description

This command saves the system configuration in the *im.conf* file in FlashFS. This allows all users to create their own backup files.

Note: Default, Engineer and Super users can use this command.

Example

```
prompt> system config save
```

See also

[system config backup](#) on page 318

[system config restore](#) on page 320

Super users can list all configuration files using the console command *fm ls*.

system delete login

Syntax

```
system delete login <name>
```

Description

This command deletes a user that has been added to the system using the *system add login* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A

Example

```
prompt> system delete login ckearns
```

See also

[system add login](#) on page 316

system delete user

Syntax

```
system delete user <name>
```

Description

This command deletes a user that has been added to the system using the *system add user* command or the *system add login* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A

Example

```
prompt> system delete user ckearns
```

See also

[system add user](#) on page 314

[system add login](#) on page 316

system diagnostics

Syntax

```
system diagnostics [shdsl | ether | oam]
```

Note: The `ether` (Ethernet) option is not supported for the GoWide 18.4e.

Description

This command runs several SHDSL and ATM layer diagnostics if no options are included with the command. If the `shdsl` option is included with the command, only the SHDSL-layer diagnostics are run, and if the `oam` option is included, only the ATM-layer diagnostics are run.

The diagnostics that the command runs are as follows:

SHDSL Diagnostics

- *SHDSL Sync Test* - Determines if a loss of sync has occurred on the SHDSL link. Details on a loss of sync event can be viewed using the `shdsl status` CLI command.

Note: If the `shdsl` link is not connected, not activated, or otherwise down, the SHDSL Sync Test will fail and all the other `shdsl` tests will not run.

- *SHDSL Alarms Test* - Determines if there are any active SHDSL alarms. If any SHDSL alarms are currently active, that is, if they have been set and not yet subsequently cleared, this will be shown as `FAIL`. Details on the specific alarms can be viewed using the `al show clog all` CLI command.
- *SHDSL Performance Test* - Determines if any SHDSL performance errors have occurred during the last 15-minute period, and shows `FAIL` if any have. Details of the specific performance tests can be viewed using the `shdsl performance` CLI command.

Note: The SHDSL Performance Test will fail for the first 15 minutes after the unit is restarted, since the counters are read every 15 minutes. After the first 15 minutes, the test results will accurately depict the SHDSL performance error status.

- *SHDSL EOC Test* - Determines if embedded operations channel (EOC) messages are being transmitted and received. If they are not, this will be shown as `FAIL`.

ATM Diagnostics

- *OAM Loopback Tests* - Runs an OAM segment loopback test at the virtual channel (F5) level.

Notes:

1. In order for the OAM loopback test to work, OAM F5 segment loopback must be enabled on the remote GoWide that will be involved in the loopback test.
2. The *system diagnostics* command can conduct loopback tests on a maximum of eight PVC's. The loopback tests are conducted only on those PVC's whose transports are attached to a bridge or an ip interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
shdsl	Conducts diagnostic tests for the shdsl layer only.	N/A
ether	<i>Not supported for the GoWide 18.4e.</i>	
oam	Conducts diagnostic tests for the ATM layer only.	N/A

Troubleshooting

For troubleshooting problems discovered by running the diagnostics, OAM continuity checks can be used (see the `pvcn oamset` CLI command). Also, the console can be set to show events using the `console process event show` CLI command before conducting loopback tests, so that verbose loopback test output is shown on the console.

The following are some troubleshooting tips for specific situations:

- If the SHDSL Sync Test has failed, it usually means the user has deactivated the line or the line is not able to sync with the remote side. If the line is deactivated, use the `shdsl activate` CLI command to start the sync process. If the line is activated but unable to sync with the remote side, use the `port status` CLI command to review the list of SHDSL attributes. Determine if any attribute is not being set correctly, for example, if `HTUType` is set to `cpe` when it should be `co`. port attributes can be changed using the `port set` CLI command.
- If the SHDSL Alarms Test has failed, use the `al show clog all` command to review the list of current alarms. Sometimes, if the alarm causing the failure is SNR- or Attenuation-related, the related threshold can be adjusted using the `port set` CLI command to remove the alarm. Note that SNR and Attenuation affect the operation of the line.
- The EOC Test issues an EOC command to the remote side and waits a second for the response. No response from the remote side indicates that the EOC engine is broken on either the remote side or the local unit, or the line is faulty. Commands that require EOC, like remote loopback, will not function properly if the EOC test fails.

Example

The following example displays all diagnostics results.

```
prompt> system diagnostics

*****
DIAGNOSTICS RESULTS
*****

PORT DSL-1
SHDSL SYNC TEST ..... [PASS]
SHDSL ALARMS..... [PASS]
SHDSL PERFORMANCE..... [PASS]
SHDSL EOC..... [PASS]

OAM F5 SEGM LOOPBACK TESTS..... [START]
Loopback test on port ima-1 vpi 0 vci 42..... [PASS]
Loopback test on port ima-1 vpi 0 vci 41..... [PASS]
Loopback test on port ima-1 vpi 0 vci 40..... [PASS]
Loopback test on port ima-1 vpi 0 vci 39..... [PASS]
Loopback test on port ima-1 vpi 0 vci 38..... [PASS]
Loopback test on port ima-1 vpi 0 vci 37..... [PASS]
Loopback test on port ima-1 vpi 0 vci 36..... [PASS]
Loopback test on port ima-1 vpi 0 vci 35..... [PASS]
OAM F5 SEGM LOOPBACK TESTS..... [FINISH]
```

See also

[*al show*](#) on page 102

[*port set*](#) on page 216

[*pvcn oamset ccenable|ccdisable|ccenableauto*](#) on page 244

[*shdsl activate*](#) on page 295

[*shdsl inventory*](#) on page 296

[*shdsl performance*](#) on page 297

[*shdsl status*](#) on page 300

system info

Syntax

```
system info
```

Description

This command displays the vendor ID, URL, base MAC address and hardware and software version details of the GoWide that you are using.

Example

```
prompt> system info

Global System Configuration:

    Vendor: Symmetricom
           URL: http://www.symmetricom.com/

    MAC address: 00:E0:B2:00:00:00

    Hardware ver: GoWide 18.4e BSP v1.0 / He100/2xx CSP v2.3
    Software ver: 1.0
    Build type: RELEASE
```

system legal

Syntax

```
system legal
```

Description

This command displays copyright information about the software that you are using.

Example

```
prompt> system legal  
Copyright (c) 2003 Symmetricom, Inc.
```


system list errors

Syntax

```
system list errors
```

Description

This command displays a system error log. The error log contains the following information:

- the time (in minutes) that an error was made, calculated from the start of your session
- the module that was affected by the error
- a brief overview of the error itself

Example

```
prompt> system list errors

Errors:
  When   | What
-----|-----
  104    | webserver:Failed to create node type 'ImRfc1483'
  104    | webserver:Invalid argument:Failed to open port a4 (may already be
        | in use, or invalid port name)
-----|-----
```

See also

[system list users](#) on page 331

[system list logins](#) on page 332

system list openfiles

Syntax

```
system list openfiles <name>
```

Description

This command allows you to display low-level debug information about specific open file handles.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of a file which has open file handles associated with it.	N/A

Example

```
prompt> system list openfiles bun
```

qid	devuse	appuse	colour	flags	lasterrno
console	0000004d	00000000	00400000	3	0
console	00000029	00000000	00400000	5	0
console	00000005	00000000	00400000	5	0

See also

[system log enable | disable](#) on page 334

system list users

Syntax

```
system list users
```

Description

This command displays a list of users and logins added to the system using the *system add user* and *system add login* commands. The same information is displayed by the *system list logins* command.

The list contains the following information:

- user ID number
- user name
- configuration permissions (enabled or disabled)
- dialin permissions (enabled or disabled)
- access level (default, engineer or super user)
- comment (any comments that were included when the user was added to the system)

Example

```
prompt> system list users
```

```
Users:
```

ID	Name	May Conf.	May Dialin	Access Level	Comment
1	admin	ENABLED	disabled	superuser	Default admin user

See also

[system list errors](#) on page 329

[system list logins](#) on page 332

system list logins

Syntax

```
system list logins
```

Description

This command displays a list of logins and users added to the system using the *system add login* and *system add user* commands. The same information is displayed by the *system list users* command.

The list contains the following information:

- user ID number
- user name
- configuration permissions (enabled or disabled)
- dial in permissions (enabled or disabled)
- access level (default, engineer or super user)
- comment (any comments that were included when the user was added to the system)

Example

```
prompt> system list logins
```

```
Users:
```

ID	Name	May Conf.	May Dialin	Access Level	Comment
1	admin	ENABLED	disabled	superuser	Default admin user

See also

[system list errors](#) on page 329

[system list users](#) on page 331

system log

Syntax

```
system log {nothing|warnings|info|trace|entryexit|all}
```

Description

This command sets the level of output that is displayed by the CLI for various modules. Setting a level also implicitly displays the level(s) below it.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
nothing	No extra output is displayed.	N/A
warnings	Non-fatal errors are displayed.	N/A
info	Certain program messages are displayed. Also displays the values for the <i>warnings</i> option.	N/A
trace	Detailed trace output is displayed. Also displays the values for <i>info</i> and <i>warnings</i> options.	N/A
entryexit	A message is displayed every time a function call is entered or left. Also displays the values for <i>trace</i> , <i>info</i> and <i>warnings</i> options.	N/A
all	All output is displayed. Also displays the values for <i>entryexit</i> , <i>trace</i> , <i>info</i> and <i>warnings</i> options.	N/A

Example

```
prompt> system log all
```

system log enable|disable

Syntax

```
system log {enable|disable} rip {errors|rx|tx}
system log {enable|disable} ip {config|icmp|rawip|udp|tcp|arp|socket|l2cyan}
system log {enable|disable} webserver {access|file|trace}
```

Description

This command enables/disables the tracing support output that is displayed by the CLI for a specific module and module category. The command is used for debugging purposes. The available values for module and category are displayed by the *system log list* command. The current list of supported modules is *RIP*, *IP* and *Webserver*.

Each individual module has its own specific module category (see [Examples](#) on page 335). The output produced when a particular option is enabled depends on that option, and on the trace statements in the module which are executed. The general purpose of this tracing is to:

- show how data packets pass through the system
- demonstrate how packets are processed and what they contain
- display any error conditions that occur

For example *ip rawip* tracing shows that an IP packet has been received, sent or discarded due to an error. Brief details of the packet are displayed to identify it.

The RIP and IP modules provide separate categories which are enabled and disabled independently. For example, if you enable *ip rawip*, it does not affect *ip udp*, and so on.

To display a list of modules and categories and their enable/disable status, see [system log list](#) on page 336.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
enable	Enables tracing support output for a specified specific module and module category.	disable
disable	Disables tracing support output for a specified specific module and module category.	

Examples

Example One - RIP

```
prompt> system log enable rip rx  
enabled logging for rip rx
```

Example Two - Webserver

```
prompt> system log enable webserver trace  
enabled logging for webserver trace
```

See also

[*system log list*](#) on page 336

[*system log*](#) on page 333

system log list

Syntax

```
system log list [<module>]
```

Description

The *system log list* command displays the tracing options for the modules available in the current image that you are using. The *system log list module* command displays the tracing options for an individual module specified in the command. Both commands displays the current status of the tracing options set using the command *system log enable | disable*.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
module	The name of a module that exists in your current image build. This can be either RIP, IP or Webserver, depending on the modules that you have present in your image build.	N/A

Examples

Example One - *system log list*

```
prompt> system log list  
  
ip      config  (ENABLED)  
ip      arp    (ENABLED)  
ip      rawip  (ENABLED)  
ip      icmp  (ENABLED)  
ip      udp   (ENABLED)  
ip      tcp   (ENABLED)  
webserver access (ENABLED)  
webserver file  (ENABLED)  
webserver trace (ENABLED)  
ip      socket (disabled)  
rip     tx     (disabled)  
rip     rx     (ENABLED)  
rip     errors (disabled)  
ip      l2cyan (ENABLED)
```

Example Two - *system log list <module>*

```
prompt> system log list ip  
  
ip      config      (ENABLED)  
ip      arp          (ENABLED)  
ip      rawip       (ENABLED)  
ip      icmp        (ENABLED)  
ip      udp         (ENABLED)  
ip      tcp         (ENABLED)  
ip      socket     (disabled)  
ip      l2cyan      (ENABLED)
```

See also

[*system log*](#) on page 333

[*system log enable|disable*](#) on page 334

system restart

Syntax

```
system restart
```

Description

This command restarts your GoWide.

Example

```
prompt> system restart
```

See also

[system config restore](#) on page 320

system set login access

Syntax

```
system set login <name> access {default|engineer|superuser}
```

Description

This command sets the access permissions of a user who has been added to the system using the *system add login* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A
default/ engineer/ superuser	Access permissions for a user.	default

Example

```
prompt> system set login ckearns access engineer
```

See also

[system set login mayconfigure](#) on page 340

[system set login maydialin](#) on page 341

system set login mayconfigure

Syntax

```
system set login <name> mayconfigure {enabled|disabled}
```

Description

This command sets configuration permissions for a user who has been added to the system using the *add system login* or the *add system user* command.

Notes:

1. Only a Super user can use this command.
2. If you 'disable' your own login configuration permissions and then logout of the system, you **will not** be able to login again. However, there is a security measure that allows you to access the system without a password **if** you were the last Super user to logout of the system.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A
enabled/ disabled	Determines whether or not a user can configure the system.	enabled

Example

```
prompt> system set login ckearns mayconfigure disabled
```

See also

[system set login access](#) on page 339

[system set login maydialin](#) on page 341

system set login maydialin

Syntax

```
system set login <name> maydialin {enabled|disabled}
```

Description

This command sets dial in permissions for a user who has been added to the system using the *system add login* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A
enabled/ disabled	Determines whether or not a user can dialin to the system.	disabled

Example

```
prompt> system set login ckearns maydialin enabled
```

See also

[system set login access](#) on page 339

[system set login mayconfigure](#) on page 340

system set user access

Syntax

```
system set user <name> access {default|engineer|superuser}
```

Description

This command sets the access permissions of a user who has been added to the system using the *system add user* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A
default/ engineer/ superuser	Allows you to set the access permissions for a user.	default

Example

```
prompt> system set user ckearns access default
```

See also

[system set user mayconfigure](#) on page 343

[system set user maydialin](#) on page 344

system set user mayconfigure

Syntax

```
system set user <name> mayconfigure {enabled|disabled}
```

Description

This command sets configuration permissions for a user who has been added to the system using the *add system user* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A
enabled/ disabled	Determines whether or not a user can configure the system.	disabled

Example

```
prompt> system set user ckearns mayconfigure enabled
```

See also

[system set user access](#) on page 342

[system set user maydialin](#) on page 344

system set user maydialin

Syntax

```
system set user <name> maydialin {enabled|disabled}
```

Description

This command sets dial in permissions for a user who has been added to the system using the *system add user* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A
enabled/ disabled	Determines whether or not a user can dialin to the system.	enabled

Example

```
prompt> system set user ckearns maydialin enabled
```

See also

[system set user access](#) on page 342

[system set user mayconfigure](#) on page 343

system set user password

Syntax

```
system set user <name> password <password>
```

Description

This command sets the user password that was previously created using the *user password* command.

Note: Only a Super user can use this command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	The name of an existing user.	N/A
password	A unique password made up of more than one character that identifies an individual user and lets the user access PPP services.	N/A

Example

```
prompt> system set user ckearns password sydney
```

See also

[user password](#) on page 396

system upgrade

Syntax

```
system upgrade
```

Description

This command upgrades the unit's firmware. A firmware archive file, named *upgrade.tar*, must first be downloaded to the unit. During the upgrade process, the firmware files are extracted from the downloaded archive file, saved to non-volatile memory, and the unit is rebooted.

Example

```
prompt> system upgrade  
Upgrading system, please wait ...
```

TCP/IP CLI commands

This chapter describes the TCP/IP CLI commands.

Summary

IP Tracing commands

You can carry out tracing in the IP stack using the following *system* commands:

- [system log enable|disable](#) on page 334; enables/disables the tracing support output for a specific module and category.
- [system log list](#) on page 336; displays the tracing options for the modules available in your current image.

TCP-IP CLI commands

Table R lists the *TCP-IP* commands provided by the CLI that are supported in the GoWide 18.4e.

Caution: Do not attempt to use any of the unsupported *TCP-IP* CLI commands. Usage of unsupported *TCP-IP* commands can cause erratic system behavior, or data or connectivity loss:

Table R. TCP-IP CLI Commands

Command	Reference
ip add interface	ip add interface on page 350
ip add rarp	ip add rarp on page 352
ip attachbridge	ip attachbridge on page 354
ip attachvirtual	ip attachvirtual on page 355
ip attach	ip attach on page 356
ip clear interfaces	ip clear interfaces on page 359
ip clear arpentries	ip clear arpentries on page 358
ip clear rarps	ip clear rarps on page 360
ip delete interface	ip delete interface on page 361
ip detach interface	ip detach interface on page 362
ip list arpentries	ip list arpentries on page 363
ip list connections	ip list connections on page 364
ip list interfaces	ip list interfaces on page 365
ip list rarps	ip list rarps on page 366
ip ping	ip ping on page 367
ip set interface ipaddress	ip set interface ipaddress on page 368

Table R. TCP-IP CLI Commands

Command	Reference
ip set interface netmask	ip set interface netmask on page 370
ip set interface mtu	ip set interface mtu on page 371
ip set interface dhcp	ip set interface dhcp on page 372
ip set interface tcpmssclamp	ip set interface tcpmssclamp on page 373
ip set rarp macAddress	ip set rarp macAddress on page 376
ip set rarp destination	ip set rarp destination on page 374
ip show	ip show on page 378
ip show interface	ip show interface on page 379
ip show rarp	ip show rarp on page 381

ip add interface

Syntax

```
ip add interface <name> [<ipaddress> [<netmask>]]
```

Description

This command adds a named interface and optionally sets its IP address. The IP address is not mandatory at this stage, but if it is not specified in this command, the interface will be unconfigured. There are two ways that the IP address can be set later:

- using the *ip set interface ipaddress* command
- you can set the interface to obtain its configuration via Dynamic Host Configuration Protocol (DHCP) using the *ip set interface dhcp enabled* command. By default, DHCP is disabled.

The IP stack automatically creates a loopback interface for address 127.0.0.1 subnet mask 255.0.0.0. This interface is not displayed by the *ip list interfaces* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	An arbitrary name that identifies the ip interface. It can be made up of one or more letters or a combination of letters and digits, but it cannot start with a digit.	N/A
ipaddress	The IP address of the interface displayed in the following format: 192.168.102.3 If the IP address is set to the special value <i>0.0.0.0</i> , the interface is marked as unconfigured. This value is used when the interface address is obtained automatically.	0.0.0.0
netmask	The netmask address of the interface displayed in the following format: 255.255.255.0	If no IP address is supplied, the natural mask of the IP address is used.

Example

```
prompt> ip add interface ip1 192.168.103.3 255.255.255.0
```

See also

[ip attach](#) on page 356

[ip show interface](#) on page 379

[ip set interface ipaddress](#) on page 368

[ip set interface dhcp](#) on page 372

For information on setting DHCP client configuration options, see [DHCP Client CLI commands](#) on page 133.

ip add rarp

Syntax

```
ip add rarp <name> <ip_adrs> <mac_adrs>
```

Description

This command adds an entry to the GoWide RARP server's mapping table which specifies the mapping between an RARP client's assigned IP address and its MAC address.

Note: General details of the RARP protocol can be found in RFC 903, entitled *A Reverse Address Resolution Protocol*.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	An arbitrary name that identifies the RARP mapping table entry. It can be made up of one or more letters or a combination of letters and digits, but it cannot start with a digit.	N/A
ip_adrs	The assigned IP address of the RARP client displayed in the following format: 192.168.102.3	N/A
mac_adrs	The media access control address of the RARP client displayed in the following format: 00:11:22:33:44:5a	N/A

Example

```
prompt> ip add rarp rmap1 192.168.207.1 00:18:43:33:6b:55
```

See also

[ip list rarp](#) on page 366

[ip set rarp destination](#) on page 374

[ip set rarp macAddress](#) on page 376

ip attachbridge

Syntax

```
ip attachbridge {<name>|<number>}
```

Description

This command attaches the bridge to the router via an existing IP interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> ip attachbridge 2
```

See also

[ip add interface](#) on page 350

[ip list interfaces](#) on page 365

ip attachvirtual

Syntax

```
ip attachvirtual <name> <real_interface>
```

Description

This command creates a virtual interface. The virtual interface is associated with a 'real' IP interface that has already been attached to a transport using the *ip attach* command. You can attach multiple virtual interfaces to one 'real' IP interface.

Options

The following table gives the range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface that will be used as a virtual interface. The IP interface should <i>not</i> have a transport attached to it. To display interface names, use the <i>ip list interfaces</i> command.	N/A
real_interface	A name that identifies an existing IP interface. A virtual interface must be associated with an existing 'real' IP interface that is attached to a transport. To display interface names, use the <i>ip list interfaces</i> command.	N/A

Example

```
prompt> ip attachvirtual ip_virtual ip_real
```

See also

[ip list interfaces](#) on page 365

ip attach

Syntax

```
ip attach {<name>|<number>} <transport>
```

Description

This command attaches an existing transport to an existing IP interface so that data can be transported via the selected transport method.

This command implicitly enables the transport being attached.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
transport	A name that identifies an existing transport.	N/A

Example

In the example below, *eth1* is the name of an ethernet transport created using the *ethernet add transport* command:

```
prompt> ip attach ip1 eth1
```

See also

[*ip add interface*](#) on page 350

[*ip list interfaces*](#) on page 365

For information on a particular transport type, see the relevant transport chapter:

[*Ethernet CLI commands*](#) on page 175

[*RFC1483 CLI commands*](#) on page 269

ip clear arpentries

Syntax

```
ip clear arpentries
```

Description

This command clears all ARP entries listed in the IP ARP table.

Example

```
prompt> ip clear arpentries
```

See also

[ip list arpentries](#) on page 363

ip clear interfaces

Syntax

```
ip clear interfaces
```

Description

This command clears all IP interfaces that were created using the *ip add interface* command.

Example

```
prompt> ip clear interfaces
```

See also

[ip delete interface](#) on page 361

ip clear rarp

Syntax

```
ip clear rarp
```

Description

This command clears all RARP server mapping table entries that were created using the *ip add rarp* command.

Note: General details of the RARP protocol can be found in RFC 903, entitled *A Reverse Address Resolution Protocol*.

Example

```
prompt> ip clear rarp
```


ip delete interface

Syntax

```
ip delete interface {<name>|<number>}
```

Description

This command deletes a single IP interface that was created using the *ip add interface* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> ip delete interface ip1
```

See also

[ip clear interfaces](#) on page 359

[ip list interfaces](#) on page 365

ip detach interface

Syntax

```
ip detach {<name>|<number>}
```

Description

This command detaches a transport from an IP interface which was previously attached using the *ip attach interface* command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> ip detach ip1
```

See also

[ip list interfaces](#) on page 365

ip list arpentries

Syntax

```
ip list arpentries
```

Description

This command displays the ARP table which lists the following information:

- IP addresses and corresponding MAC addresses obtained by ARP.
- IP interface on which the host is connected
- Static status - 'no' for dynamically generated ARP entries; 'yes' for static entries added by the user.

Example

```
prompt> ip list arpentries
```

```
IP ARP table entries:
```

IP address	MAC address	Interface	Static
10.10.10.10	00:20:2b:e0:03:87	3	no
20.20.20.20	00:20:2b:03:0a:72	2	no
30.30.30.30	00:20:2b:03:09:c4	1	no

ip list connections

Syntax

```
ip list connections
```

Description

This command lists the active TCP/UDP connections in use by applications running on the device. It displays the following information:

- Protocol type (TCP or UDP)
- Local connection address
- Remote connection address
- Connection state for TCP connections

This command does not show raw socket connections or UDP connections opened internally within the IP stack.

Example

The example below shows an active telnet connection, WebServer, TFTP server and SNMP:

```
prompt> ip list connections
```

```
Local TCP/UDP connections:
```

Proto	Local address	Remote address	State
tcp	*:21	*:*	LISTEN
tcp	192.168.91.19:23	192.168.91.18:1080	ESTABLISHED
tcp	*:80	*:*	LISTEN
udp	*:520	*:*	
udp	*:55003	*:*	
udp	*:55002	*:*	
udp	*:55001	*:*	
udp	*:55000	*:*	
udp	*:69	*:*	

ip list interfaces

Syntax

```
ip list interfaces
```

Description

This command lists information about IP interfaces that were added using the *ip add interface* command. The following information is displayed:

- interface ID numbers
- interface names
- IP addresses (if previously specified)
- DHCP status
- Whether a transport is attached to the interface, and if so, the name of the transport

Example

```
prompt> ip list interfaces
```

```
IP Interfaces:
```

ID	Name	IP Address	DHCP	Transport
1	ipbridge	10.0.0.1	disabled	<BRIDGE>

See also

[ip show interface](#) on page 379

[ip set interface dhcp](#) on page 372

ip list rarps

Syntax

```
ip list rarps
```

Description

This command displays the RARP server mapping table, which includes the following information for each table entry:

- The ID number and name of the RARP server mapping table entry.
- The assigned IP address and MAC address of the RARP client.

Note: General details of the RARP protocol can be found in RFC 903, entitled *A Reverse Address Resolution Protocol*.

Example

```
prompt> ip list rarps
```

```
IP rarps:
```

ID	Name	Dest. IP Address	MAC Address
1	rmap2	192.168.12.134	00:22:5b:66:ef:03
2	rmap1	192.168.12.133	00:18:43:33:6b:55

See also

[ip show rarp](#) on page 381

ip ping

Syntax

```
ip ping <dest-ip>
```

Description

This command pings a specified destination IP address.

Note: You can only ping IP addresses. You can **not** ping host names using DNS client.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
dest-ip	The IP address of the destination machine that you want to ping, displayed in the following format: 192.168.102.3	N/A

Example

```
prompt> ip ping 10.0.0.5  
ping: PING 10.0.0.5: 32 data bytes  
ping: 40 bytes from 10.0.0.5: seq=0, ttl=128, rtt<10ms
```

If ping was unsuccessful, the following output is displayed:

```
prompt> ip ping 10.0.0.5  
ping: PING 10.0.0.5: 32 data bytes  
ping: Request timed out.
```

ip set interface ipaddress

Syntax

```
ip set interface {<name>|<number>} ipaddress <ipaddress> [<netmask>]
```

Description

This command sets the IP address for an existing IP interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
ip address	The IP address of the interface displayed in the following format: 192.168.102.3 If the IP address is set to the special value <i>0.0.0.0</i> , the interface is marked as unconfigured. This value is used when the interface address is obtained automatically.	0.0.0.0
netmask	The netmask address of the interface displayed in the following format: 255.255.255.0	If no IP address is supplied, the natural mask of the IP address is used.

Example

```
prompt> ip set interface ip4 ipaddress 192.168.102.3 255.255.255.0
```

See also

[*ip set interface mtu*](#) on page 371

[*ip set interface dhcp*](#) on page 372

[*ip list interfaces*](#) on page 365

[*ip set interface netmask*](#) on page 370

ip set interface netmask

Syntax

```
ip set interface {<name>|<number>} netmask <netmask>
```

Description

This command sets the netmask for an existing IP interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
netmask	The netmask address of the interface displayed in the following format: 255.255.255.0	N/A

Example

```
prompt> ip set interface ip6 netmask 255.255.255.0
```

See also

[ip set interface ipaddress](#) on page 368

[ip list interfaces](#) on page 365

ip set interface mtu

Syntax

```
ip set interface {<name>|<number>} mtu <mtu>
```

Description

This command sets the MTU (Maximum Transmission Unit) for an existing IP interface.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
mtu	Maximum Transmission Unit: maximum packet size (in bytes) that an interface can handle. The MTU should be set to a value appropriate for the transport attached to the interface (typically from 576 to 1500 bytes). For example, Ethernet and most other transports support an MTU of 1500 bytes.	1500

Example

```
prompt> ip set interface ip2 mtu 800
```

See also

[ip set interface ipaddress](#) on page 368

[ip set interface dhcp](#) on page 372

[ip list interfaces](#) on page 365

ip set interface dhcp

Syntax

```
ip set interface {<name>|<number>} dhcp {enabled|disabled}
```

Description

This command specifies whether a named interface should obtain its configuration via DHCP.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
enabled	The interface obtains its configuration information from DHCP client.	disabled
disabled	The interface does not use DHCP client configuration information.	

Example

```
prompt> ip set interface ip2 dhcp enabled
```

See also

[ip set interface ipaddress](#) on page 368

[ip set interface mtu](#) on page 371

For information on setting DHCP client configuration options, see [DHCP Client CLI commands](#) on page 133.

[ip list interfaces](#) on page 365

ip set interface tcpmssclamp

Syntax

```
ip set interface <name> tcpmssclamp {enabled|disabled}
```

Description

This command enables/disables TCP MSS (Maximum Segment Size) Clamp functionality on an existing IP interface. When TCP MSS Clamp is enabled on an interface, all TCP traffic routed through that interface will be examined. If a TCP SYN (synchronize/start) segment is sent with a maximum segment size larger than the interface MTU (Maximum Transmission Unit), the MSS option will be rewritten in order to allow TCP traffic to pass through the interface without requiring fragmentation.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
enabled	TCP SYN segments routed through this interface will be examined and, if necessary, modified.	disabled
disabled	The IP stack will not examine or modify TCP traffic routed through this interface.	

Example

```
prompt> ip set interface ip2 tcpmssclamp enabled
```

See also

[ip set interface mtu](#) on page 371

[ip show](#) on page 378

ip set rarp destination

Syntax

```
ip set rarp {<name>|<number>} destination <ip_adrs>
```

Description

This command sets the assigned IP address of the RARP client within an existing RARP server mapping table entry.

Note: General details of the RARP protocol can be found in RFC 903, entitled *A Reverse Address Resolution Protocol*.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RARP server mapping table entry. To display mapping table entry names, use the <i>ip list rarps</i> command.	N/A
number	A number that identifies an existing RARP server mapping table entry. To display mapping table entry numbers, use the <i>ip list rarps</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
ip_adrs	The assigned IP address of the RARP client displayed in the following format: 192.168.102.3	N/A

Example

```
prompt> ip set rarp rmap1 destination 192.168.233.198
```

See also

[ip list rarp](#) on page 366

[ip set rarp macAddress](#) on page 376

[ip show rarp](#) on page 381

ip set rarp macAddress

Syntax

```
ip set rarp {<name>|<number>} macAddress <mac_adrs>
```

Description

This command sets the MAC address of the RARP client within an existing RARP server mapping table entry.

Notes:

1. This CLI command is **case-sensitive**. You *must* type the command attributes exactly as they appear in the syntax section on this page. If you do not use the same case-sensitive syntax, the command fails and the CLI displays a syntax error message.
2. General details of the RARP protocol can be found in RFC 903, entitled *A Reverse Address Resolution Protocol*.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RARP server mapping table entry. To display mapping table entry names, use the <i>ip list rarps</i> command.	N/A
number	A number that identifies an existing RARP server mapping table entry. To display mapping table entry numbers, use the <i>ip list rarps</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A
mac_adrs	The media access control address of the RARP client displayed in the following format: 00:11:22:33:44:5a	N/A

Example

```
prompt> ip set rarp rmap1 macAddress 02:ff:72:43:42:5e
```

See also

[*ip list rarp*](#) on page 366

[*ip set rarp destination*](#) on page 374

[*ip show rarp*](#) on page 381

ip show

Syntax

```
ip show
```

Description

Shows current global IP configuration settings.

Example

```
prompt> ip show
```

```
Global IP configuration:
```

```
    Host routes: false
    Poison reverse: false
    Authentication: false
    Auth password:
    Advertise default: false
    Default Route Cost: 1
```

ip show interface

Syntax

```
ip show interface {<name>|<number>}
```

Description

This command displays the following information about a named interface:

- IP address and netmask address (if set)
- MTU (Maximum Transmission Unit)
- Status of DHCP
- Status of TCP MSS Clamp
- Status of RIP send and RIP accept
- Status of RIP multicast

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing IP interface. To display interface names, use the <i>ip list interfaces</i> command.	N/A
number	A number that identifies an existing IP interface. To display interface numbers, use the <i>ip list interfaces</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> ip show interface ip2
```

```
IP Interface: ip2
```

```
IP addr: 192.168.102.3
Mask: 255.255.255.0
MTU: 1500
Dhcp: false
```

```
TCP MSS Clamp: false
  Accept V1: false
    Send V1: false
  Accept V2: false
    Send V2: false
Send Multicast: false
```

See also

[*ip show*](#) on page 378

[*ip list interfaces*](#) on page 365

ip show rarp

Syntax

```
ip show rarp {<name>|<number>}
```

Description

This command displays the following information about a named RARP server mapping table entry:

- The name of the mapping table entry
- The assigned IP address of the RARP client
- The MAC address of the RARP client
- The RARP status (whether or not the unit supports the RARP protocol)

Note: General details of the RARP protocol can be found in RFC 903, entitled *A Reverse Address Resolution Protocol*.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing RARP server mapping table entry. To display mapping table entry names, use the <i>ip list rars</i> command.	N/A
number	A number that identifies an existing RARP server mapping table entry. To display mapping table entry numbers, use the <i>ip list rars</i> command. The number appears in the first column under the heading <i>ID</i> .	N/A

Example

```
prompt> ip show rarp 2

IP rarp: rmap1

Destination: 192.168.12.133
  MacAddress: 00:18:43:33:6b:55

Rarp valid: true
```

See also

[ip list rarp](#) on page 366

TFTP CLI commands

Chapter 20

This chapter describes CLI support for TFTP.

Summary

TFTP CLI commands

There is currently no support for TFTP in the CLI.

TFTP Console commands

Table S lists the *ftp* **console** commands:

Table S. TFTP Console Commands

Command	Command Status/Reference
connect	Blacklisted command, see connect (TFTP Console Command) on page 400
get	Blacklisted command, see get (TFTP Console Command) on page 401
put	Blacklisted command, see put (TFTP Console Command) on page 402
trace	Blacklisted command, see trace (TFTP Console Command) on page 403
version	Blacklisted command, see version (TFTP Console Command) on page 404

Transports CLI commands

This chapter describes the Transports CLI commands

Chapter 21

Summary

This module allows you to clear, delete, list and display information about existing transports that were created using the `<transport_module> add transport` commands. To carry out more detailed configuration of transports, see the corresponding transport module chapter:

For RFC1483 commands, see [RFC1483 CLI commands](#) on page 269

For Ethernet commands, see [Ethernet CLI commands](#) on page 175

Transports CLI commands

Table T lists the Transports commands provided by the CLI:

Table T. Transports CLI Commands

Command	Reference
transports clear	transports clear on page 387
transports delete	transports delete on page 388
transports list	transports list on page 389
transports show	transports show on page 390

transports clear

Syntax

```
transports clear
```

Description

This command deletes all transports that were created using the *<transport_module>* *add transport* command.

Example

```
prompt> transports clear
```

See also

[transports delete](#) on page 388

transports delete

Syntax

```
transports delete {<name>|<number>}
```

Description

This command deletes a single transport that was created using the `<transport_module> add transport` command.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value for each option (if applicable).

Option	Description	Default Value
name	A name that identifies an existing transport. To display transport names, use the <i>transports list</i> command.	N/A
number	A number that identifies an existing transport. To display transport numbers, use the <i>transports list</i> command.	N/A

Example

```
prompt> transports delete eth1
```

See also

[transports clear](#) on page 387

[transports list](#) on page 389

transports list

Syntax

```
transports list
```

Description

This command lists all transports created during a session. It displays the following information about the transports:

- transport identification number
- transport name
- transport type
- Number of transmitted/received packets for each transport

Example

```
prompt> transports list
```

```
Services:
```

ID	Name	Type				
1	ethernet	Ethernet	TxPkts:	2892/0	RxPkts:	48/0
2	llcbridged	RFC1483	TxPkts:	2927/2894	RxPkts:	0/0 VPI/VCI: 0/35

See also

[transports show](#) on page 390

transports show

Syntax

```
transports show {<name>|<number>}
```

Description

This command displays detailed information about an existing transport. The information displayed depends on the transport type selected. See below for an example of RFC1483 transport information.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A name that identifies an existing transport. To display transport names, use the <i>transports list</i> command.	N/A
number	A number that identifies an existing transport. To display transport numbers, use the <i>transports list</i> command.	N/A

Example

```
prompt> transports show llcbridged
RFC1483 Status

Service
Creator           : Factory Defaults
Description       : llcbridged

RFC1483
Mode              : LlcBridged
If In Octets     : 0
If Out Octets    : 213878
If In Errors     : 0
If Out Errors    : 4007
Packets Sent     : 4040

Good Packets     : 0
Enabled          : true
Termination      : Bridge Interface: brwan

Atm Channel
Tx Vci           : 35
```

```
.....  
Rx Vci           : 35  
  
Peak Cell Rate   : 5434  
Burst Tolerance  : 6  
Class            : UBR  
Port             : ima-1  
Port             : dsl-1
```

See also

[transports list](#) on page 389

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User CLI commands

This chapter describes the User CLI commands.

Summary

User CLI commands

Table U lists the *User* commands provided by the CLI:

Table U. User CLI Commands

Command	Reference
user logout	user logout on page 395
user password	user password on page 396
user change <name>	user change on page 397

user logout

Syntax

```
user logout
```

Description

This command logs you out of the system. Default, Engineer and Super users can use this command.

Example

```
prompt> user logout
```

```
Logging out.
```

```
Login:
```

user password

Syntax

```
user password
```

Description

This command allows you to change your user password. Default, Engineer and Super users can use this command.

Example

```
prompt> user password  
  
Enter new password *****  
Again to verify *****
```

user change

Syntax

```
user change <name>
```

Description

This command allows you to change your login to that of another named user. Super users can use this command. When you change your login to that of a user with Default or Engineer access permissions, you lose your Super user privileges and inherit the access permissions of either the Default or Engineer user.

Options

The following table gives a description and range of values for each option which can be specified with this command and a default value (if applicable).

Option	Description	Default Value
name	A unique login name made up of more than one character that identifies an individual user and lets the user access the system.	N/A

Example

```
prompt> user change admin
```

```
You are now logged in as user 'admin' ...
```

See also

[system add user](#) on page 314

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Console Commands

This appendix describes a selection of console commands that are important for the operation of the GoWide.

App. A

connect (TFTP Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

```
connect {<node_name> | <ipaddress>}
```

Scope:

Client mode only.

Description

The *connect* command is used to specify the remote node name or IP address for the *host* node that will be used in subsequent client mode transfers.

Either a *node name* may be entered, searched for in the *ipaddresses* configuration file, or an IP address in the form *abc.def.ghi.jkl*. If the *node name* is not recognized or the IP address does not convert correctly, an error is signalled.

The non-appearance of an error message after the command *does not* signify that the host node is accessible, only that the syntax of the command was appropriate.

This command is required before a client mode user first attempts to *put* or *get* a file, but need not be issued again unless you want to change the remote host node name or address.

Example

```
10.0.0.1>tftp connect 192.168.200.10
```

get (TFTP Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

```
get <remote_file> [local_file]
```

Scope:

Client mode only.

Description

The *get* command requests TFTP to retrieve a file from the remote host previously specified using the *connect* command.

By default the file is named locally as the remote filename but by specifying a second filename an implicit rename is performed.

Example

```
10.0.0.1>tftp get ipaddresses
```

put (TFTP Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

```
put [local_file] <remote_file>
```

Scope:

Client mode only.

Description

The *put* command requests TFTP to transmit a file to the remote host previously specified using the *connect* command.

By default, the file is named remotely as the local filename but by specifying a second filename, an implicit rename is performed.

Example

```
10.0.0.1>tftp put foo.txt
```

trace (TFTP Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

```
trace <help> || <-*> || <+event1> <-event2>
```

Description

The *trace* command allows the user to examine the currently set trace types or add/subtract trace types. Trace help lists all the available tracing types.

If the *trace* command is used with no parameters, the currently set trace types are displayed.

Example

```
10.0.0.1>tftp trace +tmr_exp
```

version (TFTP Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

```
version
```

Description

The *version* command displays software version information about the process.

The version number, which is displayed in the form *a.bc*, is defined in the module file as an integer *abc*.

Example

```
10.0.0.1>tftp version  
TFTP v1.17, client mode, 0 session server,
```

event ... (System Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

```
event help
event n[ext]
event p[revious]
event r[ecent]
event show
event unshow
```

Description

The command *event show* enables display of background output on this console device.

The command *event unshow* disables it. By default, the display of background output is disabled.

The command *event recent* (or *event r*) displays the most recent background output stored in the memory buffer; *event previous* (or *event p*) displays the background output immediately preceding that last displayed; *event next* (or *event n*) displays the background output immediately following that last displayed. Up to 24 lines are displayed in each case.

For example, after *event r*, *event n* will show only new background output that has arrived since the *event r* command: repeated typing of *event n* will let the user keep up to date with new background output (without any repetitions in the output).

The command *event help* displays a summary of the options of the *event* command.

. (history mechanism) (System Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

. (*the period character*)

Description

Repeats the previous console command.

Example

```
10.0.0.1>isfs version
```

```
ISFS v2.07
```

```
10.0.0.1>.
```

```
ISFS v2.07
```

version (System Console Command)

Note: This console command **has not** been replaced by a CLI command. If used, this command will not create inconsistencies between the Information Model and the underlying system. It is a *usable* console command.

Syntax

```
version
```

Description

Displays the system type and version.

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