CHAPTER 2

The Show Command

Use the **show** command to display the value of specified parameters. The syntax of the command is as follows:

```
show attribute [ID] [parameter1 [parameter2]]
```

The **show** commands are described according to their *attribute* arguments in the following sections:

show bflt **show ipflt** **show ipxflt**	Traffic Filters
show card	Card Attributes
show chassis	Per-Node (Chassis) Attributes
show cli	CLI Display and Logging Attributes
show collection	Collections of Statistical Counts
show config	The Configuration Lock Attribute
show gid	Global Information Distribution (GID) Attributes
show file	Log Files
show modem	Modem Initialization String
show mcast	Multicast Groups
show nd	Neighborhood Discovery (ND) Attributes
show pid	Per-Process Attributes
show port	Per-Port Attributes
show snmp	SNMP Attributes
show spt **show stb**	Spanning-Tree Bridge Attributes
show tcs	Test and Control System (TCS) Attributes
show tprof	Traffic Profiles
show trap	Trap Status

Traffic Filters

Use the commands of this family to display traffic filters or profiles created with the **define** command. See also the **show tprof** command for traffic profiles and the **show mcast** command for multicast groups.

show bflt [ID]

Display bridge traffic filter conditions or profiles created with the **define bflt** command.

Use the optional *ID* argument to limit the display to the filter or traffic profile specified by *ID*. By default, all currently defined filters or traffic profiles are displayed.

show ipflt [ID]

Display traffic filters or profiles created with the **define ipflt** command.

Use the optional *ID* argument to limit the display to the filter or traffic profile specified by *ID*. By default, all currently defined filters or traffic profiles are displayed.

show ipxflt [ID]

Display traffic filters or profiles created with the **define ipxflt** command.

Use the optional *ID* argument to limit the display to the filter or traffic profile specified by *ID*. By default, all currently defined filters or traffic profiles are displayed.

Card Attributes

Use the commands of the **show card** family to display per-card attributes.

In these commands, the first argument, *card#,* is a card number. Use the **show chassis cards** command to display card numbers.

show card card# all

Use the **show card** *card#* **all** command to display all card attributes (name, process ID, status, version, hardware information, peak cell rate, and information about configured ports). The other *parameter* arguments display selected parts of this display.

show card card# hardware

Use the **show card** *card#* **hardware** command to display the card type (e.g. LS edge), temperature readings at the top and bottom of the chassis, Voltages for TCS VCC, VCC, and Vee (or SCSI voltage for NP, BULK voltage for switch card), and temperature readings from region 1 and region 2 (if applicable) of an access card. The voltages are also displayed by the **show tcs** *card#* **voltage** command, where the display includes the normal voltage range for each. The command **show tcs** *card#* **temperature** also displays these temperature readings, where the display includes the warning and shutdown temperature values for each.

show card card# name

Use the **show card** *card#* **name** command to display the card name. This is a string that is set in a field of the StreamView graphical configuration tool. (If you must set it in the CLI, use the **setsnmp cardname.***card# name* command, where *card#* is the card number and *name* is an arbitrary string. Use of a consistent name format, such as *hostname***.***card#*, is convenient for administrative purposes.)

show card card# peak-cell-rate

Use the **show card** *card#* **peak-cell-rate** command to display the peak cell rate on a CLC card configured for 4-port T3/E3 trunk or 1-port OC-3 trunk operation.

show card card# ports

Use the **show card** *card#* **ports** command to display information about each port configured on the card: the port number, the protocol used (e.g. Frame Relay or CLC Trunk), the port name, and the administrative and operational status. The port name is an arbitrary string set with the command **setsnmp portInfoName.***portID name*, where *portID* is the port number in long format *ccctpp* (see the "LightStream 2020 MIB Reference" chapter). You may wish to establish a naming convention for administrative convenience, such as the name format *hostname***.***c***.***p*, where *c* is the card number and *p* is the port number.

Example

The following example shows how to determine what ports are configured on card 3 on the switch that you are interrogating:

```
cli> show card 3 ports
Port   Protocol          Name                       Admin Stat     Oper Stat
----   --------          ----                       ----------     ---------
3.0    Frame Relay       HQ.3.0                        Up            Up
3.1    Frame Relay       HQ.3.1                        Up            Up
3.2    Frame Relay       HQ.3.2                        Up            Up
3.3    Frame Relay       HQ.3.3                        Up            Up
3.4    Frame Relay       <unconfigured name>           Up            Testing
3.5    Frame Relay       <unconfigured name>           Up            Down
3.6    Frame Relay       <unconfigured name>           Up            Up
3.7    Frame Relay       <unconfigured name>           Up            Down
cli>
```

show card card# processid

Use the **show card** *card#* **processid** command to display the process ID associated with the specified card.

show card card# status

Use the **show card** *card#* **status** command to display the status of the card. Operational status is the actual current status of the card. Administrative status is the preferred status to which the card is restored on reset. Configuration register is the status of the board hardware, as read from the TCS board status register. In each case, the status may be up, down, testing, or empty (if no card is present in the slot).

show card card# version

Use the **show card** *card#* **version** command to display version information for LC software and LCC software on the card.

Per-Node (Chassis) Attributes

Use the **show chassis** commands to display node-wide attributes.

show chassis all

Use the **show chassis all** command to display the chassis attributes. The other *parameter* arguments display selected parts of this display. The **show chassis all** command produces the same displays in the following order: general, agent, congestion, primaryswitch, powersupply, cards, listff, listdlci, listvci, listtrunk, and listpvc.

show chassis agent

Use the **show chassis agent** command to display the following MMA attributes: MMA trap filter level, MMA trap logging state, MMA collection size, on/off state of the `Config DB Active` attribute, MMA PID number, configuration host name, configuration author, and configuration ID number.

show chassis cards

Use the **show chassis cards** command to display the type of card in each slot, or `Empty` if there is no card in a given slot.

Example

The following example shows how to determine what cards are configured on the switch that you are interrogating:

```
cli> show chassis cards
Slot 1:  NP
Slot 2:  LS Trunk
Slot 3:  LS Edge
Slot 4:  LS Edge
Slot 5:  MS Trunk
Slot 6:  ATM-UNI
Slot 7:  Empty
Slot 8:  Empty
Slot 9:  Empty
Slot 10: LS Edge
Slot SA: Switch
Slot SB: Empty
cli>
```

show chassis congestion

Use the **show chassis congestion** command to display the maximum and minimum intervals between permit limit updates, and the minimum interval between CA updates.

show chassis general

Use the **show chassis general** command to display the host name, description (e.g. ATM Data Switch), contact person, location, system up time, console trap level, chassis ID, slot of NP being used by CLI, primary and secondary IP addresses and subnet masks, Ethernet address and mask, and default router address.

show chassis listdlci

Use the **show chassis listdlci** command to display a frame relay DLCI table for all frame forwarding ports. The **show port** *c.p* **listdlci** command displays per-port information. An asterisk (`*`) next to the port number means the circuit is deactivated, and the letter `I` means it is disabled by a configuration change.

show chassis listff

Use the **show chassis listff** command to display a table of frame forwarding connections. The display shows the source node and port, the destination node and port, insured rate and bandwidth, and the maximum rate and bandwidth. If the VC is unconnected, the operationally requested maximum rate is displayed. If it is connected, the displayed value (which is actually in use) may have been negotiated down. An asterisk (`*`) next to the port number means the circuit is deactivated, and the letter `I` means it is disabled by a configuration change.

show chassis listpvc

Use the **show chassis listpvc** command to display a PVC table for all CEMAC (constant bit-rate) ports. The **show port** *c.p* **cbrpvc** command displays per-port information. An asterisk (`*`) next to the port number means the circuit is deactivated, and the letter `I` means it is disabled by a configuration change.

show chassis listtrunk

Use the **show chassis listtrunk** command to display a table of all trunk ports.

show chassis listvci

Use the **show chassis listvci** command to display a VCI table for all ATM-UNI ports. The **show port** *c.p* **listvci** command displays per-port information. An asterisk (`*`) next to the port number means the circuit is deactivated, and the letter `I` means it is disabled by a configuration change.

show chassis power supply

Use the **show chassis powersupply** command to display the state and type of power supply A and powersupply B.

show chassis primaryswitch

Use the **show chassis primaryswitch** command to display which switch is primary (`Switch A` or `Switch B`).

CLI Display and Logging Attributes

Use the **show cli** commands to display CLI display and logging attributes.

show cli all

Use the **show cli all** command to display all cli attributes (echosource, lineedit, log, term, time, timer, traplevel, debug, banner). The other *parameter* arguments display selected parts of this display.

show cli banner

Use the **show cli banner** command to display the banner that appears when you log in.

show cli debug

Use the **show cli debug** command to display the on/off setting of the debug switch (for LightStream development and support personnel only).

show cli echosource

Use the **show cli echosource** command to display the on/off status of the CLI echo source. If echo source has been turned on with the command **set cli echosource on**, then the CLI commands in a script file are echoed to the screen when you execute them with the **source** command.

show cli lineedit

Use the **show cli lineedit** command to show whether command-line editing is on or off. This is controlled with **set cli lineedit**.

show cli log

Use the **show cli log** command to display the status of the CLI trap logging function, either `off` or the name of the log file if it has been turned on with the command **set cli log** *logfile*.

show cli term

Use the **show cli term** command to display the configured terminal type for the CLI, e.g. `vt100`.

show cli time

Use the **show cli time** command to display the current date and time.

show cli timeout

Use the **show cli timeout** command to display the current SNMP timeout value. The CLI waits this number of seconds before timing out on an SNMP request to a target that doesn't respond right away.

show cli timer

Use the **show cli timer** command to display the time elapsed since this CLI session was started, or since the command **set cli timer** was last executed.

show cli timestamp

Use the **show timestamp** command to see whether the timestamp feature is turned on or off. See the command **set cli timestamp**.

show cli traplevel

Use the **show cli traplevel** command to display the current traplevel setting (Off, Oper, Info, Trace, or Debug). See the *LightStream 2020 Traps Reference Manual* for information about trap levels. See the *LightStream 2020 Administration Guide* for information about using LS2020 traps.

Collections of Statistical Counts

Use the **show collection** command to display a specified collection record.

show collection

Use the **show collection** *collection#* command to display the collection record identified by *collection#*. Each collection record includes collection status, operational status of the node, beginning and ending time of the collection, the interval between taking collection entries, and the pathname and size of the file in which the collection record is written. This is followed by the name and value of a series of collection items. For example, collectDBObjectID.1.17 is the 17th object in collection number 1. The form of the entry gives more information. For example, ifInOctets.7004 and ifInErrors.7004 are entries for card 7, port 4.

The Configuration Lock Attribute

Use the **show config** command to display the status of the configuration lock attribute.

show config

This command displays the status (locked, unlocked) of the configuration database lock. See the **set config** command (in the chapter entitled "The Set Command").

Global Information Distribution (GID) Attributes

Use the **show gid** command family to display attributes relating to global information distribution (GID) within the target node.

show gid all

Use the **show gid all** command to display all gid attributes (general, synchronization, cards, clients, neighbors, ports, and ip). The other *parameter* arguments display selected parts of this display.

show gid cards

Use the **show gid cards** command to display a table of cards managed by GID, showing the host name (`Chassis`), slot number, sequence number, age (in seconds), originating NP, and number of configured ports.

show gid clients

Use the **show gid clients** command to display a table of clients managed by GID, showing for each client PID the number of link state (LS) announcements received, IP address translation announcements received, generic global information announcements received, transmitted events, and paths generated.

show gid general

Use the **show gid general** command to display the software version number, the PID for GID, the amount of memory in use and the count of memory allocation failures for GID.

show gid ip

Use the **show gid ip** command to display a table of IP addresses managed by GID, showing for each IP address its age, sequence number, the advertising NP, network mask, and port.

show gid neighbors

Use the **show gid neighbors** command to display a table of neighbors managed by GID, showing for each host (chassis) name the VCI number, state, and counts of signals (SYNC, RLL, SLL, Hello, LSA, NLSA, IPA, GA, and NGA).

show gid ports

Use the **show gid ports** command to display a table of ports managed by GID, showing for each host (chassis) name and port the type of service, up/down state, counts for BW0, BW1, and BW2, and the remote port ID. BW0 is raw link capacity, BW1 is data bandwidth, and BW2 is bandwidth in use.

tshow gid synchronization

Use the **show gid synchronization** command to display counts of neighbors in the following states: existent sync, exchange start, exchange, loading sync, and full sync.

Log Files

Use the **show file** commands to display the contents of log files and collection files.

Note This command accesses files *only* on the node on which the CLI is running when you execute it, regardless of a target set with the command **set snmp hostname** *name*. This command is not available when the CLI is run remotely (for example, on a workstation).

The **show file** command invokes the **cbufpr** command at the operating system level (see the *NP O/S Reference Manual*). The first command argument is not an actual file name, it is one of the following file designators: **all**, **collection**, **configlog**, **mmalog**, and **traplog**. The optional tail argument may be given to display only the last portion of a log file.

show file all

Use the **show file all** command to display the log files (configuration log, MMA log and trap log). ♦ **Note:** The **tail** argument is not available with the **show file all** command.

show file collection

Use the **show file collection** *collection#* [**tail**]command to display the contents of the specified collection file. The collection file is /usr/tmp/collector/collect.*collection#*. The contents of the file depend upon the MIB variables specified in the **set collection** commands that defined the collection. Use the optional **tail** argument to display the last 20 lines or so of the designated file.

show file configlog

Use the **show file configlog** [**tail**] command to display the contents of the configuration log file. The pathname of this log file is /usr/tmp/configure/configure.netdb.log. It contains a log of all configuration operations on this node. Use the optional **tail** argument to display the last 20 lines or so of the designated file.

show file mmalog

Use the **show file mmalog** [**tail**] command to display the contents of the MMA log file. The MMA log file is /usr/tmp/mma/mma.log. It contains a log of SNMP set commands sent to this node, with the IP address of the source of each command. Use the optional **tail** argument to display the last 20 lines or so of the designated file.

show file traplog

Use the **show file traplog** [**tail**] command to display the contents of the trap log file. The trap log file is /usr/tmp/mma/mma.traplog. It contains a log of all traps sent to the MMA. Use the optional **tail** argument to display the last 20 lines or so of the designated file.

Modem Initialization String

Use the **show modem** command to display the modem initialization string for a specified switch card.

Note This command affects *only* the node on which the CLI is running when you execute it, regardless of a target set with the command **set snmp hostname** *name*.

---

show modem

The **show modem** command requires the name of the switch (**sa** or **sb**) as its argument.

Note On the inactive switch, the CLI displays the display label `Initstring:` followed by a null.

The modem initialization string is a sequence of modem commands specifying the state that a modem must assume in order to make a connection. The default string is in Hayes modem command format, as follows:

AT&F&D2&C1S0=1S2=128S7=30S36=7S95=44

Hayes-Format Commands in the Modem String

AT	The attention command.
&F	Restore the factory configuration (set register values to Hayes defaults).
&D2	DTR option: Following loss of the data terminal ready (DTR) signal, the modem disconnects, sends the OK result code, and disables auto answer while DTR is OFF.
&C1	DCD option: The received line signal detected (RLSD) follows the state of the data carrier from the remote modem.
S0=1	The number of rings until auto-answer = 1.
S2=128	The escape process is disabled (the escape character is assigned to a value higher than ASCII 127).
S7=30	The local modem waits 30 seconds for a carrier signal from the remote modem before hanging up.
S36=7	If the attempted error correction link fails, an MNP connection is attempted. If it fails, a normal mode connection is established.
S95=44	Extended result code bit map (binary equivalent 101100).
S95=44	Bit 2 Enable the carrier result codes.
S95=44	Bit 3 Enable the protocol result codes.
S95=44	Bit 5 Enable the compression result codes.

If commands are issued to a different type of modem requiring a different format, they must put the modem in an equivalent state.

Multicast Groups

Use the **show mcast** command to display defined multicast groups.

show mcast

Use the **show mcast** [*ID*] command to display point-to-multipoint multicast groups which have been created with the **define** command.You may optionally specify a particular defined multicast group by giving its ID as a command argument. If no *ID* argument is given, the command displays all multicast groups.

Neighborhood Discovery (ND) Attributes

Use the **show nd** command family to display attributes of the neighborhood discovery (ND) system.

show nd all

Use the **show nd all** command to display all ND attributes (general, ndcards, neighbors, switchupdown, switchstat, and clients). The other *parameter* arguments display selected parts of this display.

show nd clients

Use the **show nd clients** command to display a table of ND clients showing for each PID the type (e.g. sys, ca, gid, or lcc), subtype, and mask.

show nd general

Use the **show nd general** command to display the software version number, PID for the ND, amount of memory in use by ND, and counts of timers processed, line cards managed by ND, neighbor NPs known to ND, and registered ND client processes.

show nd ndcards

Use the **show nd ndcards** command to display a table of cards managed by ND showing EIA port, channel number, and up/down state.

show nd neighbors

Use the **show nd neighbors** command to display a table of ND neighbors showing EIA port, channel number, and up/down state.

show nd switchstat

Use the **show nd switchstat** command to display a table of ND switch statistics showing for each slot the number of switch up/down cells in and out, with error counts for each.

show nd switchupdown

Use the **show nd switchupdown** command to display a table of the operational and administrative values of ND up/down parameters for each card, as follows:

interval	ND sends up/down messages to this card this often (in multiples of 100 ms, default 3).
J	ND must receive J/M messages to bring the line up (default 1).
K	ND must receive K/N messages to bring the line up (default 1).
M	ND must receive J/M messages to bring the line up (default 1).
N	ND must receive K/N messages to bring the line up (default 1).

You may set the MIB objects ndAdminIntvl, ndAdminJ, etc. to fine-tune ND performance, but this is not recommended.

Per-Process Attributes

Use the **show pid** command family to display per-process attributes for a specified process. The command requires a process ID number (PID) or a process alias as argument.

show pid PID all

Use the **show pid** *PID* **all** command to display all per-process attributes (name, clialias, createtime, adminstatus, operstatus, traplevel) for process *pid#*. The other *parameter* arguments display selected parts of this display.

show pid PID name

Use the **show pid** *PID* **name** command to display the PID name for process *pid#*.

show pid PID clialias

Use the **show pid** *PID* **clialias** command to display the alias used by the CLI for process *pid#*.

show pid PID createtime

Use the **show pid** *PID* **createtime** command to display the time elapsed (up time) since process *pid#* was created.

show pid PID adminstatus

Use the **show pid** *PID* **adminstatus** command to display the administrative status for process *pid#*.

show pid PID operstatus

Use the **show pid** *PID* **operstatus** command to display the operational status of process *pid#*.

show pid PID traplevel

Use the **show pid** *PID* **traplevel** command to display the trap level set for process *pid#*. See the *LightStream 2020 Traps Reference Manual* for information about trap levels.

Per-Port Attributes

Use the **show port** command family to display various attributes of a port.

These commands require a port number in dot-separated format *c.p*,where *c* is the number of a card and *p* is the number of a port on that card. Use the **show chassis cards** command to see card numbers; use the **show card** *card#* **ports** command to see port numbers on card *card#*.

Certain information can be provided about any port, regardless of its type: its name, status, physical attributes, and certain statistics. The show port commands for displaying this information is described in the section entitled General Port Information.

However, many port attributes can be displayed only for an appropriate port type. Table 2-1 indicates where the commands for displaying these type-restricted attributes are described, and correlates each such port type with its MIB2 type assignment and its protocol:

Table 2-1 Port Attributes That are Restricted to Certain Port Types

Described in Section	Port Type	MIB2 Type	Protocol
ATM UNI Ports	MS Edge	T3, E3	ATM-UNI
	T3 Edge E3 Edge	T3 E3	ATM-UNI
	OC3 Edge	sonet	ATM-UNI
Constant Bit-Rate Ports	Cemac	other	T1/E1 Circuit Emulation
Frame Relay Ports	LS Edge	ds1	Frame Relay
Frame Forwarding Ports	LS Edge	ds1	Frame Forwarding
Internetworking Ports	FDDI	fddi	FDDI
	Ethernet	ethernet-csmacd	ETHERNET
	Fiber Ethernet	ethernet-cxmacd	ETHERNET
Trunk Ports	LS Trunk	ds1	T1 Trunk
	MS Trunk	T3, E3	MS Trunk
	T3 Trunk E3 Trunk	T3 E3	CLC Trunk
	OC3 Trunk	sonet	CLC Trunk

Use the **show port** *c.p* **name** command to display the strings shown here in the Port Type column and in the MIB2 Type column. Use the **show card** *card#* **ports** command to display the strings in the Protocol column. See the *LightStream 2020 Configuration Guide* for information about the corresponding differences in hardware.

You may also use the **show chassis cards** command to display the strings in the Port Type column.

The **show port** *c.p* **name** command also displays the medium type for certain port types. OC3 ports may be configured for Sonet (STS-3c) or SDH (STM-1). Ethernet ports may be either AUI or TPE; for fiber Ethernet, fiber is the only medium type.

Note If you use **show port** commands in rapid succession (seconds apart), discrepancies in rate information appear.

General Port Information

Several arguments of the **show port** command display general port information: **name**, **physical**, **status**, and **statistics**. The **all** argument shows the aggregate of these in one display.

show port c.p all

Use the **show port** *c.p* **all** command to display all port attributes (name, status, statistics, physical, frameforward, framerelay, DLCI, VCI, PVC, VPI). This is the default, with **show port** *c.p* followed by no arguments. The other *parameter* arguments display selected parts of this display.

Ethernet MAC addresses are displayed in canonical form (least significant bit first) and FDDI MAC addresses are displayed in MSB form (most significant bit first). Thus, for example, Ethernet MAC address `08:00:2B:3C:7F:E2` is displayed as FDDI MAC address `10:00:4D:3C:FE:47`.

show port c.p name

Use the **show port** *c.p* **name** command to display the description, name, type, MIB2 type, MTU, and speed for the specified port. Additional information depends upon the port type, such as the medium type (e.g. SONET vs. SDH for OC-3 cards).

show port c.p physical

Use the **show port** *c.p* **physical** command to display some of the following physical attributes of the specified port, depending upon the type of port: port type, operational and administrative CSU type, operational and administrative DCE receive bit rate, operational transmit bit rate, measured bit rate, link transmit utilization rate (data plus control), administrative expected DTE rate and operational and administrative net interface type (DTE or DCE; these are for low-speed line cards only), operational and administrative protocol, LC auto enable state and debug level, data cell capacity and available capacity, call setup retry and backoff times, operational maximum frame size, and modem status (DCD, DSR).

For a CBR port, display clock mode, data bandwidth, cable length or attenuation (specified as “line buildout”), line coding, circuit identifier, loopback configuration, line status, under- and over-runs, port type (for example, T1 circuit emulation), port restarts, AAL1 bad sequence, dummy cells, bit error corrections and discards, multi-bit error discards, and port down cells. For T3 and E3 ports, show the framing type (PLCP vs. T3 HEC or G.804).

Line status includes alarms specified in the DS3 MIB; the value Other Failure appears when HEC mode is out of cell delineation; when PLCP mode has PLCP OOF, LOF, or yellow alarm; when receive alarm indicator LOF, LOS, or AIS signals persist and integrate to a CSU failure state; when a CSU failure state persists and becomes a CSU unavailable state.

show port c.p status

Use the **show port** *c.p* **status** command to display the administrative status, operational status, and last change in operational status for the specified port.

show port c.p statistics

Use the **show port** *c.p* **statistics** command to display statistical counts for the specified port. The counters include the number of octets, normal packets, and multicast packets received and sent, the number of received packets that were discarded, the number of discarded output packets, the number of receive errors and output errors, and the number of packets received with unknown protocols. The error counts sum over all error types.

Example

The following example shows how to display port statistics for port 2 on card 3 in the switch that you are interrogating:

```
cli> show port 3.2 statistics
Octets Rcvd:              3356927738
Normal Packets Rcvd:      83574214
Multicast Packets Rcvd:   0
Discarded Rcvd Packets:   31524
Receive Errors:           4
Unknown Protocols Rcvd:   0
Octets Sent:              4070237100
Normal Packets Sent:      46399345
Multicast Packets Sent:   0
Discarded Output Packets: 0
Output Errors:            3
cli>
```

ATM UNI Ports

show port c.p listvci

Use the **show port** *c.p* **listvci** command to display a list of ATM PVCs in order of their VCI numbers for the specified port. The VCI numbers are in column 3 of the display. If the two virtual connections that form the virtual circuit do not have the same values, they are displayed on two lines. A displayed (operational) value may differ from the requested value if it has been negotiated down. An asterisk at the beginning of the line means that circuit is down, or has not been created; an uppercase I means that the circuit has been set to inactive manually with the **set port** *c.p* **vci** *vci#***deactivate** command.

show port c.p vci VCI#

Use the **show port** *c.p* **vci** *VCI#* command to display, for the specified ATM-UNI port, the following attributes of the PVC with the specified VCI: source node, port, and VCI; source insured rate, insured burst, maximum rate, and maximum burst (operational and administrative); destination operational node, port, VCI, insured rate, insured burst, maximum rate, and maximum burst; to-net and from-net circuit ID and circuit state, last error reported by ATMM, and cells required; counts of cells to the switch with CLP= 0 or 1, a count of cells to the switch with CLP = 0 upon arrival at the port, but forwarded with CLP = 1, and a count of discarded cells.

Constant Bit-Rate Ports

show port c.p cbrpvc

Use the **show port** *c.p* **cbrpvc** *PVC#* command to display the data bandwidth (cells per second), clock mode, target depth and maximum depth of the reassembly buffer, status (active, inactive, or deleted), and end-point destination of the specified PVC (chassis ID or alias, port number, and connected PVC number). If a PVC exists, the display includes the service type, incoming call ID, downstream and upstream state, last ATM error and location, direction, and MAC endpoint status.

Frame Forwarding Ports

show port c.p frameforward

Use the **show port** *c.p* **frameforward** command to display the following frame forwarding attributes of the specified port: source node and port, and destination node and port (operational and administrative); source and destination insured rate, insured burst, maximum rate, and maximum burst (operational and administrative for source, operational for destination); to-net and from-net circuit ID and circuit state, last error reported by ATMM, and number of cells required; counts of frames and cells to and from the switch with CLP= 0 or 1, and counts of discarded frames and cells. If the VC is unconnected, the operationally requested maximum rate is displayed. If it is connected, the displayed value (which is actually in use) may have been negotiated down.

Frame Relay Ports

show port c.p dlci

Use the **show port** *c.p* **dlci** *dlci#* command to display the following attributes of the specified frame relay DLCI: source node, port, and DLCI; source insured rate, insured burst, maximum rate, and maximum burst (operational and administrative); destination node, port, and DLCI (operational and administrative); destination operational insured rate, insured burst, maximum rate, and maximum burst; local and remote link management interface (LMI) state, to-net and from-net circuit ID and circuit state, last error reported by ATMM, and cells required; counts of frames and cells to and from the switch with cell loss priority (CLP) = 0 or 1, and counts of discarded frames and cells. ♦ **Note:** Port number 1255 or 2255 refers to the control port (port 255) of the NP in slot 1 or slot 2, respectively.

show port c.p framerelay

Use the **show port** *c.p* **framerelay** command to display the following frame relay attributes: the type of active LMI system, address length, request interval, the maximum for status query errors, the status query period, the maximum supported VCs, the type of broadcast supported (e.g. Uni-cast), the user polling interval, full enquiry interval, a count of user monitored events, and the net interface type (e.g. NNI).

show port c.p listdlci

Use the **show port** *c.p* **listdlci** command to display a list of frame relay PVCs for the port in order of their DLCI numbers. The DLCI numbers are in column 3 of the display. If the values specified for the two directions of the circuit are not the same, they are displayed on two lines. A displayed (operational) value may differ from the requested value if it has been negotiated down. An asterisk at the beginning of the line means that circuit is down, or has not been created; an uppercase I means that the circuit has been set to inactive manually with the **set port dlci** *dlci#***deactivate** command. The **show chassis listdlci** command displays a table for all ports on a node. ♦ **Note:** Port number 1255 or 2255 refers to the control port (port 255) of the NP in slot 1 or slot 2, respectively.

show port c.p listpvc

Use the **show port** *c.p* **listpvc** command to display a list of constant bit-rate (CBR) PVCs for the port in order of their PVC numbers. If the values specified for the two directions of the circuit are not the same, they are displayed on two lines. A displayed (operational) value may differ from the requested value if it has been negotiated down. The **show chassis listpvc** command displays a PVC table for all ports on a node.

show port c.p sonet

Use the **show port** *c.p* **sonet** commands to display a list of statistical counts for an OC3 port configured for SONET. Counts are collected in 15-minute error-collection intervals. An interval may be specified by number (counting from the beginning of the measurement period, when the system last was rebooted), in elapsed time since the beginning of the measurement period, or by the clock time of the collection interval. (Use the **set cli timestamp** command to display current time (GMT) in the CLI prompt.) For the specified interval, the command displays the time elapsed and (for the section, line, and path) the number of error seconds, severe error seconds, unavailable seconds (or severe framing error seconds for the section), and coding violations. The display also includes the number of valid intervals.

show port c.p sonet interval

Use the **show port** *c.p* **sonet interval** *#* command to display SONET counts for a specified interval.

show port c.p sonet {interval elapsedtime hh:mm

Use the **show port** *c.p* **sonet elapsedtime** *hh***:***mm* command to display SONET counts for the indicated period of time elapsed since the beginning of the measurement period.

show port c.p sonet clocktime hh:mm

Use the **show port** *c.p* **sonet clocktime** *hh***:***mm* command to display SONET counts for the interval that corresponds to the specified clock time.

Internetworking Ports

FDDI Ports

Use the **show port** *c.p* **fddi** commands to display FDDI information. Displayed values include: TVX (valid transmit timer), TReq (target request time), TRT (token rotation time), TNeg (negotiated target token rotation time or TTRT), T Max. (maximum token rotation time) value, RMT (ring management), UNDA (upstream neighbor duplicate address) flag, For the meanings of these and other displayed items, refer to the specification FDDI SMT X3T9.5 (Rev. 7.3). The arguments of the **show port** *c.p* **fddi** command are as follows:

Note FDDI MAC addresses are displayed in MSB form (most significant bit first) and Ethernet MAC addresses are canonical form (least significant bit first). So, for example, Ethernet MAC address 08:00:2B:3C:7F:E2 is displayed as FDDI MAC address 10:00:4D:3C:FE:47.

---

show port c.p fddi mac

Use the **show port** *c.p* **fddi mac** command to display the following MAC information for this FDDI port: station management (SMT) index, MAC index, frame status functions, maximum capability, TVX capability, available paths, current path, upstream number, downstream number, old upstream number, old downstream number, duplicate address test, requested paths, downstream port type, SMT address, TReq, TNeg, T Max value, TVX value, frame count, copied count, transmit count, error count, lost count, frame error ratio, RMT state, duplicate address flag, UNDA flag, frame error flag, unit data present, hardware present, unit data enable flag.

show port c.p fddi MACcounters

Use the **show port** *c.p* **fddi MACcounters** command to display statistical information about FDDI traffic on this circuit. (The command is not case-sensitive, you may enter it as **MACcounters** or **maccounters**.) The items displayed are: MAC index, token count, TVX expirations, not copied count, TRT expirations, ring op count, not copied ratio, not copied flag.

show port c.p fddi path

Use the **show port** *c.p* **fddi path** *path#* command to display the following information for FDDI path 1 (primary path) or 2 (secondary path): the SMT index (calculated per port), path index (same as the path number), minimum TVX value, minimum TMax value, and maximum TReq value.

show port c.p fddi aport

Use the **show port** *c.p* **fddi aport** command to display the following information about FDDI port A in this FDDI circuit: station management (SMT) index, path index, PC type, remote type, connection policy, MAC indicated, current path, requested paths, MAC placement, available paths, PMD type, connection capabilities, BS flag, failed confidence test count, LER estimate, link error count, LER cutoff, LER alarm, connect state, PCM state, PC withhold, LER flag, hardware present, and action. See the commands **set port** *c.p* **fddi {aport**|**bport**} (in the chapter entitled "The Set Command") for details about these fields.

show port c.p fddi bport

Use the **show port** *c.p* **fddi bport** command to display information about FDDI port B in this FDDI circuit. See the command **show port** *c.p* **fddi aport** for a list of displayed fields. See the command **set port** *c.p* **fddi {aport**|**bport**} (in the chapter entitled "The Set Command") for details about these fields.

show port c.p fddi smt

Use the **show port** *c.p* **fddi smt** command to display the following FDDI station management (SMT) information: the SMT index, Path index, Minimum TMax value, and Maximum TReq value.

Spanning-Tree Bridge Ports

show port c.p stb

Use the **show port** *c.p* **stb** command to display the bridging state of the specified port (enabled or disabled for bridging), its priority (a value used in the Spanning Tree Protocol), and the port path cost (the contribution of this port to the path cost of those paths toward the root bridge that include it). See also the section on spanning-tree bridge commands **show stb** and **show spt**.

Traffic Filters

show port c.p bcast-limit

Use the **show port** *c.p* **bcast-limit** command to display the default broadcast rate limit that has been set for this port and the number of excess broadcast frames that have been dropped at this port as a result of applying this limit.

show port c.p bflt

Display bridge filter definitions and counts.

Use the **show port** *c.p* **bflt** [*ID*]command to display the filters that are associated with the specified port, plus some statistical counts of filtered traffic. The optional *ID* argument limits the display to the specified filter. The display includes the filter ID, priority, action, and a count of the number of times the NP acted on traffic that matched a filter on this port. The display also includes the IDs of any multicast group or traffic profile associated with the filter for this port.

show port c.p ipflt

Display IP filter definitions and counts.

Use the **show port** *c.p* **ipflt** [*ID*] command to display the filters that are associated with the specified port, plus some statistical counts of filtered traffic. The optional *ID* argument limits the display to the specified filter. The display includes the filter ID, priority, action, and a count of the number of times the NP acted on traffic that matched a filter on this port. The display also includes the IDs of any multicast group or traffic profile associated with the filter for this port.

show port c.p ipxflt

Display IPX filter definitions and counts.

Use the **show port** *c.p* **ipxflt** [*ID*] command to display the filters that are associated with the specified port, plus some statistical counts of filtered traffic. The optional *ID* argument limits the display to the specified filter. The display includes the filter ID, priority, action, and a count of the number of times the NP acted on traffic that matched a filter on this port. The display also includes the IDs of any multicast group or traffic profile associated with the filter for this port.

show port c.p bflt-def

Use the **show port** *c.p* **bflt-def** command to display the default bridge filter action that has been set for the specified port (**drop** or **forward**).

show port c.p ipflt-def

Use the **show port** *c.p* **ipflt-def** command to display the default IP filter action that has been set for the specified port (**drop** or **forward**).

show port c.p ipxflt-def

Use the **show port** *c.p* **ipxflt-def** command to display the default IPX filter action that has been set for the specified port (**drop** or **forward**).

show port c.p np-deliver

Use the **show port** *c.p* **np-deliver** command to show whether received frames are being delivered to NPs in the network (forward) or not (block).

VLI Information

show port c.p wgrp

Use the **show port c.p wgrp** command to display the ID numbers of the workgroups associated with the specified port (if any), and the sense of the workgroup list (include or exclude).

Note The **show** command does not display the mnemonic workgroup names (aliases) maintained by the configuration tool. If you prefer to use the **show port** *c.p* **wgrp** command, you should maintain a list showing the correspondence of group IDs to mnemonic workgroup names as a reminder of what each ID means.

Trunk Ports

Information about trunk ports is not available with show port commands, except for virtual path trunk ports (below). Trunk information is available with the **show card** *card#* **peak-cell-rat**e command (see Card Attributes) and the **show chassis listtrunk** command (see Per-Node (Chassis) Attributes).

show port c.p vpi

Use the **show port** *c.p* **vpi** *VPI#* command to display the virtual path identifier (VPI) for the specified port. The VPI number is set with the **set port** *c.p* **characteristics vpi** command.

SNMP Attributes

show snmp

Use the **show snmp** command to display the read/write community name and the host name (target). These are both SNMP attributes.

Spanning-Tree Bridge Attributes

Use the **show spt** and **show stb** command families to display the spanning-tree bridge parameters that have been set with **set stb** and **set port** *c.p* **stb** commands, and by the root bridge (see also the command **show port** *c.p* **stb**).

show spt

Use the **show spt** command to display the following spanning-tree bridge parameters: designated root bridge address, root path cost, port for lowest cost path, protocol used (e.g. IEEE 8021d), maximum age, hello time, forward delay, priority, base bridge address, bridge max age, bridge hello time, bridge forward delay, topology change time, hold time, topology changes, bridge aging time, and the list of bridge ports with the spanning state of each.

Two values are displayed for the maximum age, hello time, and forward delay. One set of values is provided by the root bridge; the other set of values is established with the **set stb** command and takes effect only when the present node becomes the root bridge. These pairs of values are shown in Table 2-2:

Table 2-2 Bridge Parameters that are Inherited and Those that are Set

Provided by root bridge	Set with command set stb
Bridge Max Age	Maximum age
Bridge Hello Time	Hello time
Bridge Forward Delay	Forward delay

show stb

Use the **show stb** commands to display spanning-tree bridge attributes. These attributes may be set with the **set stb** command.

show stb all

Use the **show stb all** command to display all spanning-tree bridge attributes that are displayed in part by each of the other **show stb** commands.

show stb fwd

Use the **show stb fwd** command to display the bridge forwarding table with the following entries: MAC address, static/dynamic, chassis, interface (card, port).

show stb general

Use the **show stb general** command to display the following bridge parameters: maximum age, hello timer, forward delay, and priority (for the node). The values displayed for Bridge Max Age, Bridge Hello Timer, and Bridge Forward Delay are those provided by the root bridge.

show stb ports

Use the **show stb ports** command to display a list of all ports enabled for bridging, with the following parameters: port number, port state, received frames, forwarded frames, and dropped frames.

show stb static

Use the **show stb static** command to display static entries in the bridge forwarding table (see **set stb static** in the chapter entitled "The Set Command"), including the following entries: MAC address, receive port, and allowed transmit ports.

Test and Control System (TCS) Attributes

show tcs

Use the **show tcs** command family to display per-card attributes available through the test and control system (TCS) software.

Note This command affects *only* the node on which the CLI is running when you execute it, regardless of a target set with the command **set snmp hostname** *name*.

Note The **show tcs** commands do not work on a Sun workstation. When you start the CLI on a Sun, you see the message `Warning: No TCS available.`

---

show tcs card# all

Use the **show tcs** *card#* **all** command to display all card attributes (for the specified card) that are accessible using TCS (state, config, daughter, paddle, oem, midplane, temperature, voltage, and power). The other *parameter* arguments show portions of this display.

show tcs card# configl

Use the **show tcs** *card#* **config** command family to display card configuration attributes that are accessible using TCS. With *parameter2* the **config** argument is as follows:

show tcs card# config all

Use the **show tcs** *card#* **config all** command to display all the card configuration attributes for the specified card. For explanation of the display, see the descriptions of the other *parameter2* arguments, below, each of which displays a selected part of this display.

show tcs card# config assembly

Use the **show tcs** *card#* **config assembly** command to display the assembly number (the manufacturing part number) of the specified card.

show tcs card# config postcode

Use the **show tcs** *card#* **config postcode** command to display the revision number of the power-on self-test (POST) software on the specified card.

show tcs card# config serialnum

Use the **show tcs** *card#* **config serialnum** command to display the serial number of the specified card.

show tcs card# config slavecode

Use the **show tcs** *card#* **config slavecode** command to display the version number of the TCS slave on the specified card.

show tcs card# config type

Use the **show tcs** *card#* **config type** command to display the card type.

Abbreviations Used for Card Types

Type	Description
S1	Switch card 1
S2	Switch card 2
N1	Network processor (NP) card 1
L1	Low-speed line card 1
M1	Medium-speed line card 1
P1	Packet line card 1
C1	Cell line card 1

show tcs card# daughter

Use the **show tcs** *card#* **daughter** command family to display TCS daughter card attributes. With *parameter2* the **daughter** argument is as follows:

show tcs card# daughter all

Use the **show tcs** *card#* **daughter all** command to display both TCS daughter card attributes (assembly and serial number). The other *parameter2* arguments each display just one of these attributes.

show tcs card# daughter assembly

Use the **show tcs** *card#* **daughter assembly** command to display the daughter card assembly number (part number).

show tcs card# daughter serialnum

Use the **show tcs** *card#* **daughter serialnum** command to display the daughter card serial number.

show tcs card# midplane

Use the **show tcs** *card#* **midplane** command family to display midplane attributes of the specified card that are accessible using TCS. The *card#* argument must be **sa** or **sb**. With *parameter2* the **midplane** argument is as follows:

show tcs card# midplane all

Use the **show tcs** *card#* **midplane all** command to display all three TCS midplane attributes (assembly number, node address, and serial number). The other *parameter2* arguments each display just one attribute.

show tcs card# midplane assembly

Use the **show tcs** *card#* **midplane assembly** command to display the midplane assembly number (part number).

show tcs card# midplane nodeaddress

Use the **show tcs** *card#* **midplane nodeaddress** command to display the midplane node address.

show tcs card# midplane serialnum

Use the **show tcs** *card#* **midplane serialnum** command to display the midplane serial number.

show tcs card# oem

Use the **show tcs** *card#* **oem** command family to display attributes for the portion of the access card that is reserved for development partners, which are accessible using TCS. With *parameter2* the **oem** argument is as follows:

show tcs card# oem all

Use the **show tcs** *card#* **oem all** command to display both TCS access card attributes (assembly and serial number). The other *parameter2* arguments each display just one part of this display.

show tcs card# oem assembly

Use the **show tcs** *card#* **oem assembly** command to display the access card assembly number (part number).

show tcs card# oem serialnum

Use the **show tcs** *card#* **oem serialnum** command to display the access card serial number.

show tcs card# paddle

Use the **show tcs** *card#* **paddle** commands to display attributes for the LightStream portion of the access (paddle) card, which are accessible using TCS. With *parameter2* the **paddle** argument is as follows:

show tcs card# paddle all

Use the **show tcs** *card#* **paddle all** command to display both TCS access (paddle) card attributes (assembly and serial number). The other *parameter2* arguments each display just one part of this display.

show tcs card# paddle assembly

Use the **show tcs** *card#* **paddle assembly** command to display the access (paddle) card assembly number (part number).

show tcs card# paddle serialnum

Use the **show tcs** *card#* **paddle serialnum** command to display the access (paddle) card serial number.

show tcs card# power

Use the **show tcs** *card#* **power** command to display on/off power state of the specified card.

show tcs card# state

Use the **show tcs** *card#* **state** command to display the status of the following card attributes that are accessible using TCS power supply, temperature, clock, POST, XILINX load, application load, access (paddle) cards and overrides, flash memory, CP POST, application software, card, power (TCS VCC, VCC, VPP, and SCSI), temperature (top, and bottom if applicable), board initialization, flash initialization, and TCS HUB.

show tcs card# temperature

Use the **show tcs** *card#* **temperature** command to display temperature readings for the top region of the specified card (and bottom region, if applicable), which are accessible using TCS. The command **show card** *card#* **hardware** also displays these temperature readings.

show tcs card# voltage

Use the **show tcs** *card#* **voltage** command to display voltage readings and normal voltage ranges for TCS VCC, VCC, VEE (or SCSI for NP), and VPP voltage (except for switch card) on the specified card, which are accessible using TCS. The command **show card** *card#* **hardware** also displays these voltages.

Traffic Profiles

There is one command for displaying information about traffic profiles.

show tprof

Use the **show tprof** command to display traffic profiles created with the **define tprof** command (described in Chapter 3). All command arguments are optional. Without any argument, the command displays all configured traffic profiles.

show tprof ID

Use the optional *ID* argument to limit the display to a specified traffic profile.

show tprof default

Use the optional **default** argument to display the default traffic profile values. If no traffic profile is explicitly configured for a port, the default traffic profile values take effect on that port.

Example

The following example illustrates use of the **show tprof** command without any argument to display all currently defined traffic profiles on the system:

```
*cli> show tprof

Traffic
Profile
  ID      Service-Type     Max R     Max B      Ins R    Ins B  S Scl  Xmt Pri
-------   ------------     -----     -----      -----    -----  -----  -------
   1          Insured    Default     32000          0        0       1      0
   2          Insured     122000     32000          0        0       1      0
   7          Insured      77000     32000          0        0       1      0
  16       Guaranteed      64000     32000      32000    30000       1      0
cli>
```

For each traffic profile, the display shows the ID, service type, maximum rate and burst, insured rate and burst, secondary scale, and transmit priority. Rates are in bits per second, bursts are in bytes. (Additional detail about rates and bursts is given in the description of the **define tprof** command in the chapter entitled "The Define and Delete Commands.")

The above example shows `default` as the value of the `Max Rate` parameter. The command **define tprof** *ID* **max-rate default** sets this value. When the traffic profile is assigned to the port, the software determines the default maximum rate for the type of connection, as follows:

- For multicast circuits, 500 kilobits/sec.
- For unicast circuits, the calculated value for the smallest bottleneck in the circuit path, up to a maximum of 120 Mbits/sec (for FDDI) or 12 Mbits/sec (for Ethernet).

Omitting some detail, the smallest bottleneck is basically the smallest physical transmission capacity found along the path of the circuit, including the output edge. The output of the **show tprof default** command includes an explanation of this.

Trap Status

Traps may be set with the **set trap** commands to issue messages about objects and processes in the network. The **show trap** command family is used to display the state of these trap settings.

trapspec

In the following command descriptions, *trapspec* stands for a trap name or a trap number. See the *Traps Reference Manual* for trap names and numbers. You may also specify a name for a group of traps previously defined in the cli.groups file. It is also possible to specify a range of trap numbers. This is not recommended, as you could easily disrupt the system by flooding it with traps.

The *trapspec* arguments are used to specify which traps to display, as follows:

trapname	The trap identified by its trap name (see the Traps Reference Manual.).
trapgroup	The set of traps identified by the definition of the name trapgroup in the cli.groups file.
trap#	The trap identified by trap#.
trap#-trap#	The set of traps identified the range of traps trap#-trap#.

show trap

Use the **show trap** command family to display the state of traps, either system-wide (the default) or by process.

See the *LightStream 2020 Administration Guide* for information about using LS2020 traps. See the *LightStream 2020 Traps Reference Manual* for information about trap levels and individual traps.

Note This command affects *only* the node on which the CLI is running when you execute it, regardless of a target set with the command **set snmp hostname** *name*.

Syntax

```
show trap {[global] | pid {PID#|PIDname}} trapspec [ {[global] | pid {PID#|PIDname}}
trapspec ...]
```

show trap [global] trapspec

Use the command **show trap** *trapspec* to display traps from all processes, system wide. Optionally, you may use the command **show trap global** *trapspec*, but the **global** argument is the default.

The *trapspec* arguments are used to specify which traps to display, as follows:

trapname	The trap identified by its trap name (see the Traps Reference Manual.).
trapgroup	The set of traps identified by the definition of the name trapgroup in the cli.groups file.
trap#	The trap identified by trap#.
trap#-trap#	The set of traps identified the range of traps trap#-trap#.

show trap pid PID trapspec

Use this command to display traps issued by a particular process. The process ID may be either a PID number or a process alias. Use the command **show trap pid** *PID# trapspec* to display traps from the process whose process ID is *PID#*. Use the command **show trap pid** *PIDname trapspec* to display traps from the process whose alias is *PIDname*. These commands are of interest primarily to support personnel and developers.

The *trapspec* arguments are used to specify which traps to display, as described under the **show trap** [**global**] *trapspec* command.