

ION System x3100 Series

100Mbps-2.5Gbps Fiber-to-Fiber Converter

Slide-in-Card and NID

Command Line Interface (CLI) Reference Manual

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Revision History

Date	Rev	Description
08/22/14	A	Initial release for v 1.2.
7/24/23	B	Clarify “CLI access” references in the manual. Initial Lantronix re-brand. Delete Glossary and Index.
8/30/23	C	FW v 2.0.3: fix port 2 DMI information issue and clarify management support information.
1/16/24	D	Update technical specifications.

Contents

General.....	4
Documentation Conventions.....	5
Related Manuals	6
Management Methods	7
General	7
Management Support	7
Reboot and Reset Command Notes.....	10
Command Line Editing	11
Display Similar Commands	11
Partial Keyword Lookup	11
Recall Commands	11
Keystroke Commands	12
System Commands.....	13
DMI Commands	28
Ethernet Port Commands.....	31
LPT Commands	33
TFTP Transfer / Upgrade Commands	35
C3100 Firmware Upgrade	35
Recording Model Information and System Information.....	39
Appendix A: CLI Command Summary	41
x3100 CLI Commands - <i>help</i> Command (<i>Agent III C1 S17 L1D>?</i>).....	41
x3100 CLI Commands - <i>list</i> Command (<i>Agent III C1 S17 L1D>list</i>).....	42
Device Level Commands	42
Port Level Commands	42
Appendix B: Web Interface vs. CLI Commands	43
Appendix C: CLI Messages and Recovery	44
TFTP Server Messages	63
Appendix D: Linux Commands.....	64
<i>cat</i> Command.....	64
<i>cd</i> Command.....	64
<i>ls</i> Command.....	65
<i>more</i> Command	67
<i>pwd</i> Command.....	67
<i>rm</i> Command	67

Tables

Table 1: Documentation Conventions.....	5
Table 2: Editing Commands.....	12

General

This manual describes the USB and Telnet command line interface (CLI) commands available for ION x3100 operation in an ION System chassis. This manual is for experienced network administrators who are responsible for configuring and maintaining the ION system.

These devices can be managed via Command Line Interface (CLI), Web interface, or Telnet. Access is through the IONMM (ION Management Module), also installed in the ION chassis. See the related *x3100 Installation Guide*.

This manual documents the following models:

- C3100-4040 ION Chassis slide-in-card
- S3100-4040 ION Stand-alone device

The S3100 is used as remote device and can be managed by remote management protocol. Lantronix SFP+ modules fully comply with Multi-Sourcing Agreement (MSA). Manageable C3100 features are available when used in an ION Platform chassis along with an ION Management Module (IONMM). The x3100 is delivered with a default configuration. You can change the configuration via the Web UI and the CLI.

CLI offers the most comprehensive set of management features. CLI is used during the initial setup, configuration, and troubleshooting, but can also be used for day-to-day management (device management, firmware upgrades, managing security features, etc.).

CLI commands are case sensitive. Enter the CLI commands as shown in this document.

In order to execute the commands described in this manual, you must press the **Enter** key after the command has been entered.

Documentation Conventions

The conventions used within this manual for commands/input entries are described in the table below.

Table 1: Documentation Conventions

Convention	Meaning
Boldface text	Indicates the entry must be made as shown. For example: ipaddr=<addr> In the above, only ipaddr= must be entered exactly as you see it, including the equal sign (=).
< >	Arrow brackets indicate a value that must be supplied by you. Do not enter the symbols < >. For example: ipaddr=<addr> In place of <addr> you must enter a valid IP address.
[]	Indicates an optional keyword or parameter. For example: go [s=<xx>] In the above, go must be entered, but s= does not have to be.
{ }	Indicates that a choice must be made between the items shown in the braces. The choices are separated by the symbol. For example: state={enable disable} Enter state=enable or state=disable .
" "	Indicates that the parameter must be entered in quotes. For example: time=<"value"> Enter time="20100115 13:15:00" .
>	Indicates a selection string. For example: Select File>Save . This means to first select/click File then select/click Save .

Related Manuals

A printed documentation card is shipped with each x3100 device. Context-sensitive Help screens, as well as cursor-over-help (COH) facilities are built into the Web interface. For Lantronix Drivers, Firmware, Manuals, Product Notifications, Warranty Policy & Procedures, etc. go to the Lantronix [Technical Resource Center](#). Note that this manual provides links to third party web sites for which Lantronix is not responsible. Other ION system and related device manuals are listed below.

- Product Documentation Postcard, 33504
- C3100 Install Guide, 33580
- S3100 Install Guide, 33581
- x3100 Web User Guide, 33582
- ION Management Module (IONMM) User Guide, 33457 and Install Guide, 33420
- SFP manuals (product specific)
- Release Notes (firmware version specific)

Note: This manual may provide links to third part web sites for which Lantronix is not responsible. Information in this document is subject to change without notice. All information was deemed accurate and complete at the time of publication. This manual documents the latest software/firmware version. While all screen examples may not display the latest version number, all of the descriptions and procedures reflect the latest software/firmware version, noted in the [Revision History](#) on page 2. Transition Networks is now Lantronix. Some products/firmware items are still in process of being re-branded and may still reflect the Transition Networks name/logo.

Management Methods

General

The x3100 is managed either directly or through the IONMM. Whether the x3100 is managed directly or indirectly, management is accomplished through one of the following methods.

- Telnet session – uses a command line interface (CLI) to access and control the IONMM through the network.
- Universal Serial Bus (USB) – uses a CLI to access and control the IONMM through a locally connected workstation.
- Web-browser – access and control the IONMM using a standard web browser and a graphical user interface

The x3100 cannot be remotely managed directly (i.e., not through IONMM).

Management Support

Management of the C3100-4040 is available using the Web UI on a desktop or laptop with Windows OS or Linux distro or the CLI via the console port on the IONMM or SSH when installed in an ION chassis. C3100 and S3100 do not support remote management when they are deployed as remote stand-alone converters. The x3100 devices do not support remote in-band management over fiber, even when the remote unit is linked back to a local unit installed in a managed ION chassis.

Managing C3100 Modules Using CLI Commands

Management of C3100 modules can be accomplished by entering CLI commands through either the local USB serial interface or a remote Telnet session. CLI commands can operate on the device level or port level. This is indicated by the status of the command prompt's preamble.

For example:

```
AgentIII C1|S7|L1D>
```

or just:

```
C1|S1|L1D>
```

This prompt indicates that any subsequent commands entered are for the module located in chassis 1/slot1. In order to enter a command for a different device or port in the ION system, you must change the location of the command prompt. The **go** command lets you change the hierarchical location of the command prompt. Before using the command, a familiarity with the hierarchy structure in the ION system is essential.

A representation of the hierarchy is shown in the figure below.

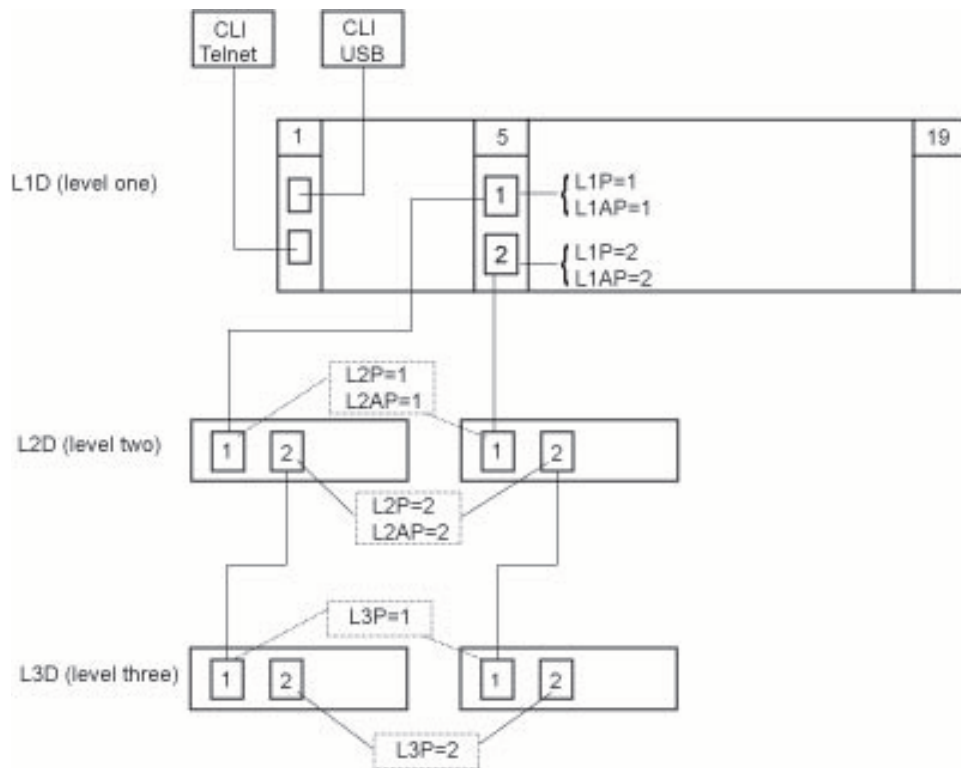


Figure 1: CLI Location Hierarchy

In the above figure, there are three levels of devices:

- L1D, or level one device, refers to devices (IONMM and other chassis-resident devices) that are installed in the chassis.
- L2D, or level two device, refers to a device that is directly connected to a port in a NID in the chassis and has other devices connected to it.
- L3D, or level three device, refers to a device that is directly connected to a port in a level one device.

The ports on a device are divided into two categories: Device ports and Attachment ports.

- Device ports – These are ports on a specified device that are used as service ports for either customer or network connections, and are typically attached to routers or switches. These ports are labeled L1P=, L2P= and L3P=. The L1, L2, and L3 indicate the level of the device that the port is on. Devices attached to a port with this designation **can not** be managed by the IONMM.
- Attachment port – These are also ports on a specified device; they are labeled L1AP= and L2AP= and indicate an attachment point for another ION family device that **can** be managed by the IONMM.

Physically these are the same port. That is, L1P1 and L1AP1 are both port one on a level one device. However, it is how they are used that determines their syntax. For example, L1P1 indicates that the port is used to connect to a service device that is not managed by the IONMM. L1AP1 indicates that the port is used to connect to a level two device that can be managed by the IONMM.

Example 1

In the CLI location hierarchy, to go to the first port (L3P1) on device L3D in the network topology shown in Figure 19, you would enter the following command from the base prompt.

```
C1|S1|L1D>go s=5 l1ap=2 l2ap=1 l3p=1
```

The resulting command line prompt would be:

```
C1|S5|L1AP2|L2AP1|L3P1>
```

Any CLI command appropriate for the port can now be entered.

Example 2

In the CLI location hierarchy, to go to device L2D in the network topology shown in Figure 1 above, you would enter the following command from the base prompt.

```
C1|S1|L1D>go s=5 l1ap=2 l2d=1
```

The resulting command line prompt would be:

```
C1|S5|L1AP1|L2D>
```

Any CLI command appropriate for the device can now be entered.

The following describes the procedure for using CLI commands to manage the x3100s.

1. Access the S3100 through either a local USB serial interface or a remote Telnet session.
2. Use the **go** command to change the operational location to the device/port to be managed. The **go** command format is:

```
go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
```
3. Configure the x3100 using the appropriate commands.
4. To return the location to the IONMM, type **home** and press **Enter**.

Reboot and Reset Command Notes

IMPORTANT



Certain CLI commands affect important stored files. Doing a reboot, restart or upgrade of the IONMM, a power restart of the chassis, or a reset to factory removes temporary files (e.g. configuration backup files, Syslog file). A Factory Reset also removes the permanent settings (e.g. configuration files, HTTPS certification file, SSH key).

These CLI commands **can** cause a loss of files:

- **reboot** - cold start the x3100
- **reset** - reset to factory configuration


See the specific command description for additional information.


Command Line Editing

This section describes how to enter CLI commands.

A CLI command is a series of keywords and arguments. Keywords identify a command, and arguments specify configuration parameters.

Display Similar Commands

At the command line, you can use the  key or the **?** key to show available commands in a category of commands after entering a part of the command.

For example, use the  key to enter part of the command (**show ether** in this example) to display all of the available commands that start with **show ether**. The commands display in a single row.

```
Agent III C1|S2|L1D>show ether
config      security      statistics    tdr
Agent III C1|S2|L1D>show ether
```

Use the **?** key after a partial CLI command entry to display all of the available commands that start with **show ether**, but in a single column:

```
Agent III C1|S2|L1D>show ether
config

security
statistics
tdr
Agent III C1|S2|L1D>
```

Partial Keyword Lookup

If you terminate a partial keyword with a question mark, alternatives that match the initial letters are provided. (Remember to not leave a space between the command and question mark.) For example “**s?**” shows all the keywords starting with “**s**.”

Recall Commands

To recall recently entered commands from the command history, perform one of the optional actions below:

Ctrl-P or **Up arrow** (↑) key: Recall commands in the history buffer, beginning with the most recent command. Repeat the key sequence to recall successively older commands.

Ctrl-N or **Down arrow** (↓) key: Return to more recent commands in the history buffer after recalling commands with Ctrl-P or the Up arrow key. Repeat the key sequence to recall successively more recent commands.

Keystroke Commands

The table below shows the optional keystrokes available to edit command lines (*indicates HyperTerm support, ** indicates command prompt support, *** indicates both HT and command prompt support by this keystroke).

Table 2: Editing Commands

Capability	Keystroke	Purpose
Move the command line around to make changes or corrections	Ctrl-B *** or left (←) arrow key ***	Move the cursor back one character
	Ctrl-F *** or right (→) arrow key ***	Move the cursor forward one character
	Ctrl-A ***	Move the cursor to the beginning of the command line
	Ctrl-E ***	Move the cursor to the end of the command line
Recall commands from the buffer and paste them in the command line	Ctrl-Y ***	Recall the most recent entry in the buffer
	Ctrl-T **	Transpose the character to the left of the cursor with the character located at the cursor
	Ctrl-Y **	Recall the most recent entry in the buffer
Delete entries (if you make a mistake or change your mind)	Delete key *** or Backspace key ***	Erase the character to the left of the cursor
	Ctrl-D ***	Delete the character at the cursor
	Ctrl-K ***	Delete all characters from the cursor to the end of the command line
	Ctrl-U *** or Ctrl-X ***	Delete all characters from the cursor to the beginning of the command line
	Ctrl-W ***	Delete the word to the left of the cursor
	Esc D **	Delete from the cursor to the end of the word
Capitalize or lowercase words or capitalize a set of letters	Esc C *	Change case from capital to lower-case (or lower-case to capital) at the cursor
Redisplay the current command line if the switch unexpectedly sends a message to your screen	Ctrl-L *** or Ctrl-R ***	Redisplay the current command line (reverse-i-search)

System Commands

The following are basic system level commands. These commands are used to show configuration / mode, show help, reboot the system, reset the configuration, and other basic functions.

Password for Login / Access

Syntax: Password: **private**

Description: The default device CLI password. CLI entry requires a successful password entry.

Example:

```
login: ION
Password:private<cr>
Hello, this is ION command line (version 1.00).
Copyright 2009 Transition Networks.

Agent III C1|S1|L1D>
```

In order to control the S3100 via a USB interface, the command line prompt must be showing the location of the module to be managed. Use the procedure below to access the NID and login via USB connection.

1. Start the terminal emulator program (e.g., HyperTerminal).
2. When the emulator screen displays, press **Enter**. The login prompt displays. If your system uses a security protocol (e.g., RADIUS, SSH, etc.), you must enter the login and password required by that protocol.
3. Type **ION** (all upper case) and press **Enter**. The password prompt displays. If a "Login incorrect" message displays, ignore it.
4. Type your password. The default is **private** (all lower case).
5. Press **Enter**. The HyperTerminal command line prompt displays (Agent III C1|S0|L1D>).
6. Enter CLI commands to set up, configure, operate, and maintain the NID.

Log Out (Quit)

Syntax : **q**(uit)

Description: Exit the current mode and return to the previous mode (i.e., the CLI command line prompt).

Example :

```
Agent III C1|S17|L1D>q
login:
```

Note: The NID does not automatically log out upon exit or after a timeout period, which could leave it vulnerable if left unattended. Follow your organizational policy on when to log out.

Clear the Screen

Syntax: **cls**

Description: Clears the screen and returns to the location of the IONMM card.

Go Back to IONMM

Syntax: **home**

Description: Sets the command prompt back to the location of the IONMM card.

Example: If the IONMM card is in chassis 1/slot 1 (c=1 s=1) and the command prompt was at c=1 s=17 l1d and then you entered the following command:

```
Agent III C1|S17|L1D>home
```

the new command line prompt would be:

```
Agent III C1|S1|L1D>
```

Go to Another Location

Syntax: `go [c=<0-16>] [s=<0-32>] [l1ap=<1-15>] [l2ap=<1-15>] (l1p=<1-5>|l2p=<1-15>|l3p=<1-15>|l1d|l2d|l3d)`

Description: Sets the location (device or port) where subsequent commands are destined for. This information will appear on the command prompt line as the location where the command will be executed.

where:

c = Chassis number (1–16) of the chassis where the card/port is located.

s = Slot number (1–32) of the slot in the chassis where the card/port is located.

Note: if the chassis parameter (c=) is specified you must specify a slot number.

l1ap = Port number (1–16) on a level 1 device that is used to attach to a level 1 device.

l2ap = Port number (1–16) on a level 2 device that is used to attach to a level 2 device.

zz = mandatory; specifies the port or device where subsequent commands are destined for. Valid choices are:

l1d – indicates the level 1 device to which subsequent commands are destined.

l1p=<port#> – port number (1–16) on a level 1 device.

l2d – indicates the level 2 device.

l2p=<port#> – port number (1–16) on a level 2 device.

l3d – indicates the level 3 device.

l3p=<port#> – port number (1–16) on a level 3 device.

Usage: `go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)`

Example 1: The following command would cause all subsequent commands to be executed for the device in slot 5 of chassis 1.

```
C1|S1|L1D>go s=5 l1d
```

The new command prompt would be:

```
C1|S5|L1D>
```

Example 2: The following would cause all subsequent commands to be executed for port 2 on the device in slot 5.

```
C1|S5|L1D>go l1p=2
```

The new command prompt would be:

```
C1|S5|L1P2>
```

Example 3: The following would cause all subsequent commands to be executed for a remote device connected to port 2 of a chassis-resident module in slot 5.

```
C1|S5|L1D>go l1ap=2 l2d
```

The new command prompt would be:

```
C1|S5|L1AP2|L2D>
```

Help

Syntax: ?

Description: Display help for CLI commands by typing a question mark (?). Typing a ? at the command line prompt displays a list of base commands (show, set, etc.). To display a list of the options for a particular command or parameter, type the command/parameter then a space and then ?. See “[Appendix A](#)” for a complete **list** command listing.

Examples:

The following will display a list of all base commands.

```
C1|S2|L1D>?
```

While the following will display a list of all the entries for the **set** commands that start with the letter “l”.

```
C1|S15|L1P1>set l ?  
l2cp  
loam  
lpt
```

The following displays a list of all the entries for the **set lpt** commands:

```
C1|S15|L1P1>set lpt ?  
monitor-port  
state
```

The following displays a list of the valid values for the **set lpt state** command:

```
C1|S15|L1P1>set lpt state ?  
disable  
enable  
notSupported  
C1|S15|L1P1>
```

By typing a ? after each parameter in a command string you can see what the options are, either for what the next parameter is or for what options must be specified following an equal sign.

List

Syntax: **list**

Description: Displays all available command line commands.

Example (partial list):

```
Agent III C1|S17|L1D>list
cat [OPTION] [FILE]
cd [DIR]
clear ether all counters
cls
go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT]
(l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
home
list
ls [OPTION] [FILES]
:           :           :           :           :           :
show usb-port state
show vlan-db config
start ether tdr test
start https certificate
stat
tftp get iptype=(ipv4|ipv6|dns) ipaddr=ADDR remotefile=RFILE [localfile=LFILE]
tftp put iptype=(ipv4|ipv6|dns) ipaddr=ADDR localfile=LFILE [remotefile=RFILE]
tftp upgrade iptype=(ipv4|ipv6|dns) ipaddr=ADDR remotefile=RFILE
update firmware-db file=FILENAME
upgrade module
Agent III C1|S17|L1D>
```

Note: See “[Appendix A](#)” for a complete **list** command listing.

Process Snapshot

Syntax: ps

Description: Displays a snapshot of the current memory processes. For example:

```
Agent III C1|S17|L1D>ps
  PID  Uid      VmSize Stat Command
    1  root         312 S   init
    2  root          SWN [ksoftirqd/0]
    3  root          SW  [watchdog/0]
    4  root          SW< [events/0]
    5  root          SW< [khelper]
    6  root          SW< [kthread]
   37  root          SW< [kblockd/0]
   40  root          SW< [khubd]
   56  root          SW< [aio/0]
  651  root          SW  [mtdblockd]
  681  root          SW< [spi_gpio.0]
  695  root          SWN [jffs2_gcd_mtd4]
  700  root          SWN [jffs2_gcd_mtd7]
  723  root         300 S   upgradeManager -d -l 1
  733  root         244 S < bpd_linux
  734  root        1716 S   snmpd -Lsd -c /etc/snmpd.conf
  739  root         240 S   pure-ftpd (SERVER)
  742  root        1336 S   entityManager -Lsd
  744  root        2676 S   subagent
  745  root         244 S   xxdp
  746  root         240 S   agent_pm
  748  root        2676 S   subagent
  788  root         356 S   radiuscd 0
  803  root         284 S   sntpcd
  821  root         968 S   lighttpd -f /etc/lighttpd.conf
  830  root         176 S   telnetd -p 17800
  834  root         232 S   telnetd -l /usr/local/bin/a3cli
  837  root        2676 S   subagent
  851  root         268 S N monitor /usr/local/bin/taskmonitor.conf /agent3/conf/
  857  root         224 S   init
  859  root         280 S   syslogd -m 0 -L -O /var/log/sys.log -l 6 -s 200 -b 1
  861  root        2676 S   subagent
  868  root         460 S   tacplus
13054 root        2572 S   /usr/local/bin/a3cli --
14430 root         304 S   sh -c ps
14431 root         284 R   ps
Agent III C1|S17|L1D>
```

Show Current Directory

Syntax: **pwd**

Description: Displays the current directory.

Example: Agent III C1|S17|L1D>**pwd**
 /
 Agent III C1|S17|L1D>

Change Modes (Quit)

Syntax : **quit**

Description: Exit the current mode and return to the previous mode (i.e., the CLI command line prompt). Note that the x3100 does not automatically log out upon exit or after a timeout period, which could leave it vulnerable if left unattended. Follow your organizational policy on when to log out.

Example: Agent III C1|S17|L1D>quit
 login:

Reboot

Syntax: **reboot**

Description: Performs a reboot (“Cold start the system”) of the device in the command line prompt. After a x3100 reboot via CLI while connected via USB port, you must disconnect and then reconnect USB cable for the console to become accessible again.

Example: Agent III C1|S17|L1D>**reboot**
 Warning: this command will restart system, connection will be
 lost and please login again!
 Agent III C1|S17|L1D>



Warning: doing a reboot or restart of the x3100 may cause some configuration backup files to be lost and the USB or Telnet session to drop. Doing a reboot, restart or upgrade of the IONMM, a power restart of the chassis, or a reset to factory removes temporary files (e.g. configuration backup files, Syslog file). A Factory Reset also removes the permanent settings (e.g. configuration files, HTTPS certification file, SSH key).

Reset Factory Configuration

Syntax: **reset factory**

Description: Resets a card to its factory default configuration.

Example: Agent III C1|S17|L1D>**reset factory**
Warning: this command will restart the specified card, connection
will be lost!
Agent III C1|S17|L1D>



Warning: doing a x3100 reset to factory restarts the device and drops the Telnet or HyperTerminal connection. Doing a reset to factory removes temporary files (e.g. configuration backup files, Syslog file) and also removes the permanent settings (e.g. configuration files, HTTPS certification file, SSH key).

Reset Device Uptime

Syntax: **reset uptime**

Description: Resets the x3100 Up Time counter to zero, and immediately begins to increment.

Example: Agent III C1|S17|L1D>**reset uptime**
Agent III C1|S17|L1D>

Use the **show card info** command to display the current system uptime.

Note: the reset uptime command is not available for the Power Supply modules.

Show Card Information

Syntax: **show card info**

Description: Displays the system information for the IONMM or slide-in module.

Example: (C3100 in slot 2):

```
Agent III C1|S2|L1D>show card info
System name:        Nmb
Uptime:            02:16:24
MAC:               00-c0-f2-22-16-f1
Port number:       2
Serial number:      unknown
Config mode:       software
Software:           1.2.0
Bootloader:        0.1.0
Hardware:           unknown
Agent III C1|S2|L1D>
```

Message: *Error: Fail to get system name!*

Meaning: *The system name information is not currently discoverable.*

Recovery: 1.

Note: This command does not function for the Power Supply.

Show Card Type

Syntax: **show cardtype**

Description: Displays the device's card type (model number).

Example: (C3100 in slot 2):

```
Agent III C1|S1|L1D>show cardtype
Card type:                   IONMM
Agent III C1|S1|L1D>go c=1 s=2 l1d
Agent III C1|S2|L1D>show cardtype
Card type:                   C3100-4040
Agent III C1|S2|L1D>
Agent III C1|S2|L1D>show cardtype
Card type:                   C3100
Agent III C1|S2|L1D>
```

Show Chassis Information

Syntax: **stat**

Description: Displays information about all slide-in modules installed in the chassis and all standalone modules connected to the slide-in modules (remotes), and their ports.

Example: Agent III C1|S2|L1D>**stat**

```
ION statck
    Chassis -- BPC
        [ 1] IONMM
            Port 1
            Port 2
        [ 2] C3100
            Port 1
            Port 2
        [ 22] IONPS-A
            Temperature Sensor
            Voltage Sensor
            Power Sensor
            Fan-1
            Fan-2
Agent III C1|S2|L1D>
```

Set Circuit ID

Syntax: **set circuit-ID=<xx>**

Description: Lets you define an ASCII text string up to 63 bytes and override the default Circuit ID, which is *vlan-module-port* in binary format, for a device and/or device ports. Use the **show circuit-ID** command to display the Circuit ID information for a device or port.

Example:

```
Agent III C1|S17|L1P1>set circuit XX/YYYY/000000/111/CC/SEG
Agent III C1|S17|L1P1>show circuit-ID
Circuit-ID:            XX/YYYY/000000/111/CC/SEG
Agent III C1|S17|L1P1>
```

Note: the dash (“-“) is required, and the letters “ID” must be upper-case. The x3100 supports the Circuit ID, a company-specific identifier assigned by the user to identify the converter and individual ports in any manner the user chooses. In the ION system, the Circuit ID port identifier is based on the agent-local identifier of the circuit (defined in IETF RFC 3046), detected by the agent and associated with a particular port.

Show Circuit ID

Syntax: **show circuit-ID**

Description: Displays the current Circuit ID for the device or port. Use the **show circuit-ID** command to display the current Circuit ID information defined for a device or port.

Example:

```
Agent III C1|S17|L1P1>set circuit XX/YYYY/000000/111/CC/SEG
Agent III C1|S17|L1P1>show circuit-ID
Circuit-ID:            XX/YYYY/000000/111/CC/SEG
Agent III C1|S17|L1P1>
```

Note: the dash (“-“) is required, and the letters “ID” must be upper-case (in capital letters).

Set Device Description

Syntax: **set device description=<xx>**

Description: Lets you configure an ASCII text string up to 63 bytes and override the default information, which is *vlan-module-port* in binary format.

Example:

```
Agent III C1|S17|L1D>set device description
CIRCUIT
Agent III C1|S17|L1D>set device description D-CIRCUIT
Agent III C1|S17|L1D>show device description
Device description: D-CIRCUIT
Agent III C1|S17|L1D>
```

Show Device Description

Syntax: **show device description**

Description: Displays the currently-configure ASCII text string up to 63 bytes and override the default information, which is *vlan-module-port* in binary format.

Example:

```
Agent III C1|S17|L1D>set device description
CIRCUIT
Agent III C1|S17|L1D>set device description D-CIRCUIT
Agent III C1|S17|L1D>show device description
Device description: D-CIRCUIT
Agent III C1|S17|L1D>
```

Set Debug Level

Syntax: **set dbg level=<0-2>**

where:

0 = debug Severity level 0 (Emergency: system is unusable – e.g., serious hardware failure or imminent power failure).

1 = debug Severity level 1 (Alert: action must be taken immediately).

2 = debug Severity level 2 (Critical condition).

Description: Defines the system debug level.

Example:

```
Agent III C1|S17|L1D>set dbg level 1
Agent III C1|S17|L1D>set dbg level 2
Agent III C1|S17|L1D>set dbg level 3
% Parameter value is out of range.
Agent III C1|S17|L1D>set dbg level 0
Agent III C1|S17|L1D>
```

Backup

Syntax: **set backup module-index** <module-index> < config-file>

Description: Back up the specified provision module(s), where:
module-index = the module number to be backed up (1-255).
config-file = the filename of the backup file (xxxxx.config format).

Example:

```
Agent III C1|S17|L1D>set backup module-index 1 config-file 1-3-S3100-1040.config
Error: this command should be executed on IONMM or a standalone SIC!
Agent III C1|S17|L1D>
```

Messages:

Error: cannot get backplane stack name!

Error: Cannot set device description on this device!

Error: Failed to set device description on this device.

Note that you can change the ION stack name and display in FP3.0.

The default ION backup filename is 'Stack name + current BU file name.config' (on IONMM screen).

Restore

Syntax: **set restore** <module-index> < config-file>

Description: Restore the specified provision module(s), where:
module-index = the module number to be restored (1-255).
config-file = the filename of the restore file (xxxxx.config format).

Example:

```
Agent III C1|S17|L1D>set restore module-index 1 config-file 1-3-C3100-1040.config
Error: this command should be executed on IONMM or a standalone SIC!
Agent III C1|S17|L1D>
```

Refresh

Syntax: **refresh provision configure** <filename>

Description: Refresh the backup and restore config file name, where:
 <**filename**> = the name of the file to be refreshed.

Example:

```
Agent III C1|S17|L1D>refresh provision configure filename ?
  <cr>
Agent III C1|S17|L1D>refresh provision configure filename 1.config
% Unknown command.
Agent III C1|S17|L1D>
Agent III C1|S17|L1D>set restore module-index 1 config-file 1.txt
Error: this command should be executed on IONMM or a standalone SIC!
Agent III C1|S17|L1D>
```

DMI Commands

The following commands are used for Diagnostic Monitoring Interface (DMI) operations.

Note: These commands can only be entered for a fiber port that supports DMI. Not all x3100 models or SFP models support DMI. If you enter a DMI command on an x3100 model that does not support DMI, the message “*The DMI feature is not supported on current port.*” displays.

Show DMI Configuration

Syntax: **show dmi info**

Description: Displays the configuration of the Diagnostic Monitoring Interface (DMI).

Example 1: DMI for port 1:

```
Agent III C1|S2|L1P1>show dmi info
Diagnostic monitoring interface information:
-----
DMI connector type:                LC
DMI identifier:                    SFP
DMI Nominal bit rate:              200*Mbps
DMI 9/125u Singlemode Fiber (m):  N/A
DMI 50/125u Multimode Fiber (m):  2000*m
DMI 62.5/125u Multimode Fiber (m): 200*10m
Copper(m):                        N/A
DMI fiber interface wavelength:    1310*nm
DMI temperature:                   34.9*C
DMI temperature:                   94.8*F
DMI temperature alarm:             normal
DMI transmit bias current:         0*uA
DMI transmit bias alarm:           lowAlarm
DMI Transmit power:                0*uW
DMI Transmit power alarm:          lowAlarm
DMI Receive power:                 0*uW
DMI Receive power alarm:           lowAlarm
DMI Receive power intrusion threshold: 0*uW
Agent III C1|S2|L1P1>go l1p=2
```

Example 2: DMI for port 2:

```
Agent III C1|S2|L1P2>show dmi info
```

```
Diagnostic monitoring interface information:
```

```
-----  
DMI connector type:                LC  
DMI identifier:                    SFP  
DMI Nominal bit rate:              1300*Mbps  
DMI 9/125u Singlemode Fiber (m):   N/A  
DMI 50/125u Multimode Fiber (m):   500*m  
DMI 62.5/125u Multimode Fiber (m): 30*10m  
Copper(m):                        N/A  
DMI fiber interface wavelength:    850*nm  
DMI temperature:                   35.0*C  
DMI temperature:                   95.0*F  
DMI temperature alarm:             normal  
DMI transmit bias current:         0*uA  
DMI transmit bias alarm:           lowAlarm  
DMI Transmit power:                2*uW  
DMI Transmit power:                -26.990*dBM  
DMI Transmit power alarm:          lowAlarm  
DMI Receive power:                 1*uW  
DMI Receive power:                 -30.000*dBM  
DMI Receive power alarm:           lowAlarm  
DMI Receive power intrusion threshold: 0*uW  
Agent III C1|S2|L1P2>
```

Set DMI Receive Power Preset Level

Syntax: **set dmi rx-power-preset-level=<xx>**

Description: Defines the lowAlarm threshold for RxPowerAlarm. If a non-zero value (in microwatts) is specified, the module will stop passing traffic when the receive power drops below the new threshold. This feature is sometimes referred to as Intrusion Detection, since tapping into a fiber to intercept traffic leads to a reduction in receive power.

Sets the Diagnostic Monitoring Interface (DMI) receive preset power level.

where:

xx = Pwr-val: A preset level for Rx Power on the Fiber port (1-100).

Example:

```
Agent III C1|S2|L1P2>set dmi rx-power-preset-level=110
```

```
Agent III C1|S2|L1P2>show dmi info
```

```
Diagnostic monitoring interface information:
```

```
-----
DMI connector type:                LC
DMI identifier:                    SFP
DMI Nominal bit rate:              1300*Mbps
DMI 9/125u Singlemode Fiber (m):   N/A
DMI 50/125u Multimode Fiber (m):   500*m
DMI 62.5/125u Multimode Fiber (m): 30*10m
Copper(m):                        N/A
DMI fiber interface wavelength:    850*nm
DMI temperature:                   34.9*C
DMI temperature:                   94.8*F
DMI temperature alarm:             normal
DMI transmit bias current:         0*uA
DMI transmit bias alarm:           lowAlarm
DMI Transmit power:                0*uW
DMI Transmit power alarm:          lowAlarm
DMI Receive power:                 0*uW
DMI Receive power alarm:           lowAlarm
DMI Receive power intrusion threshold: 110*uW
Agent III C1|S2|L1P2>
```

Message: Error: This card is in hardware mode and no setting allowed!

Ethernet Port Commands

The following commands are used for Ethernet port operations. The functions of some of the Ethernet port commands below depend on the type of port, as shown in the “Port Type” column in the table below.

Note: These commands can only be entered at the port level - when the last part of the command line prompt indicates the location is a port (e.g., L1P1>). In the table below, an asterisk * indicates Read only (ON) capability.

Set Ethernet Port Admin Status

Syntax: **set ether admin state={up | down}**

Description: Specifies whether or not the Ethernet port is available for use.

Example:

```
Agent III C1|S2|L1P2>set ether admin state ?
  down
  up
Agent III C1|S2|L1P2>set ether admin state up
Error: Cannot set administrate state on this port!
Agent III C1|S2|L1P2>go llp=1
Agent III C1|S2|L1P1>set ether admin state up
Error: Cannot set administrate state on this port!
Agent III C1|S2|L1P1>
```

Note: Use the **show ether config** command to show the current Link operation status.

Show Ethernet Port Configuration

Syntax: **show ether config**

Description: Displays the Ethernet port configurations on a slide-in module. Different ports capabilities vary, so the display content will vary according to the model and port type.

Example 1: The example below shows the ether config for Port 1 and then for Port 2.

```
Agent III C1|S2|L1P1>show ether config
Port-1
SM port:
-----
Speed:                               100M
Duplex:                              full
Agent III C1|S2|L1P1>go l1p=2
Agent III C1|S2|L1P2>show ether config
Port-2
MM port:
-----
Speed:                               1000M
Duplex:                              full
Agent III C1|S2|L1P2>
```

Messages: *port speed is not accurate, its value is ranging from 1G to 2.5G*

LPT Commands

Link Pass Through (LPT) is a troubleshooting feature that allows the media converter to monitor both the fiber and copper RX ports for loss of signal. In the event of a loss of RX signal on one media port, the NID will automatically disable the TX signal of the other media port, thus passing through the link loss.

Note: These commands can only be entered at the device level - when the last part of the command line prompt indicates the location is a device (e.g., L1D>).

The following commands are used for Link Pass Through (LPT) operations.

Show Link Pass Through Configuration

Syntax: **show lpt config**

Description: Displays the Link Pass Through (LPT) configuration for the slide-in module.

Example:

```
Agent III C1|S2|L1D>show lpt config
Link pass through configuration:
-----
Link pass through state:           enable
Transparent link pass through state: notSupported
Selective link pass through state:  notSupported
Link pass through monitor port:    0
Remote fault detect state:         notSupported
Agent III C1|S2|L1D>
```

Messages: *Error: Get link pass through state no such object.*
 Error: this command should be executed on a device!

Set LPT State

```
Agent III C1|S2|L1D>set lpt state ?
  disable
  enable
  notSupported
Agent III C1|S2|L1D>set lpt state disable
Error: Cannot set link pass through on this card!
Agent III C1|S2|L1D>set lpt state enable
Error: Cannot set link pass through on this card!
Agent III C1|S2|L1D>set lpt state notSupported
Agent III C1|S2|L1D>
```

Set Transparent Link Pass Through State

Syntax: **set transparent lpt state**={enable | disable}

Description: Enables or disables the transparent link pass through (TLPT) function on a slide-in module.

Example:

```
Agent III C1|S2|L1D>set transparent lpt state ?
  disable
  enable
Agent III C1|S2|L1D>set transparent lpt state enable
Error: Cannot set transparent link pass through on this card!
Agent III C1|S2|L1D>set transparent lpt state disable
Error: Cannot set transparent link pass through on this card!
Agent III C1|S2|L1D>set transparent lpt state notSupported
% Unknown command.
Agent III C1|S2|L1D>
```

Use the **show lpt config** command to display the current link pass through configuration.

TFTP Transfer / Upgrade Commands

TFTP is a simple protocol used to transfer files. A TFTP client needs the IP address entered in one action. The TFTP server can be an IPv4 address, an IPv6 address or a DNS name, but only the latest TFTP IP address or DNS name can be saved. If IPv6 is disabled and the TFTP server address is an IPv6 address, the server can not be used. In this case you must change the TFTP server either to an IPv4 address or a DNS name. The Trivial File Transfer Protocol (TFTP) can be used to transfer files between the IONMM or a standalone local x3100 and a TFTP server. **Note:** A TFTP server must be online and operational. These commands can only be entered when the last part of the command line prompt indicates the location is a device (e.g., L1D>). These commands are only available to Admin level login users.

C3100 Firmware Upgrade

You can upgrade the C3100 to a specific revision via the IONMM (either upgrade to a newer revision firmware or downgrade to an older revision firmware). An upgrade may fail because:

- The communication path between C3100 and IONMM is corrupted, which causes an upgrade protocol timeout.
- There is no valid firmware file stored in the IONMM (e.g., no specific revision C3100 firmware) or you selected a corrupted firmware file.
- Programming the internal FLASH fails.

If the C3100 bootloader can not detect a valid firmware installed after it is powered up or rebooted, it will enter upgrade mode automatically to request a valid firmware from the IONMM. When the C3100 finishes upgrading successfully, it will reboot itself and let the bootloader check the firmware again; if it passes, the C3100 will load the new firmware and enter normal operating mode. If it fails, the C3100 will continue entering the upgrade mode.

There are three methods to do the firmware upgrade operation:

- C3100 Web GUI
- C3100 CLI command

See the related manual for more firmware upgrade information.

The TFTP Get, TFTP Put, and TFTP Upgrade commands are used for TFTP firmware file operations as described below.

TFTP Get

Command: TFTP Get

Syntax: **tftp get iptype=(ipv4|ipv6|dns) ipaddr=ADDR remotefile=RFILE [localfile=LFILE]**

Description: This command gets (downloads) a file from a TFTP server, where:

iptype = the type of IP addressing to be used (IPv4, IPv6, or DNS).

ipaddr = the TFTP server's IPv4 or IPv6 address. This TFTP server must be configured and running.

remotefile = the name of the remote file to be transferred with a **.bin** suffix.

localfile = the name of the local file when transferred (optional) with a **.bin** suffix.

Example 1:

```
Agent III C1|S1|L1D>tftp get iptype ?
  ipv4
  ipv6
  dns
Agent III C1|S1|L1D>tftp get iptype ipv4 ipaddr 192.168.1.30 remotefile
x323x_0.8.5_AP.bin
TFTP transferring...
Agent III C1|S1|L1D>

Usage: tftp get iptype=(ipv4|dns) ipaddr=ADDR remotefile=RFILE [lo-
calfile=LFILE]
```

Example 2:

```
C1|S3|L1D>tftp get iptype=ipv4 ipaddr=192.168.1.30 remotefile=cert localfile=cert
TFTP transferring...

File transfer successful!
Agent III C1|S0|L1D>tftp get iptype=ipv4 ipaddr=192.168.1.30 remotefile=cert localfile=cert
Error: tftp get: set address type failed.
Agent III C1|S0|L1D>
```

TFTP Put

Command: TFTP Put

Syntax: **tftp put** **iptype**=(ipv4|ipv6|dns) **ipaddr**=ADDR **localfile**=LFILE [**remotefile**=RFILE]

Description: This command puts (uploads) a file to a TFTP server. This server must be configured and running, where:

iptype = the type of IP addressing to be used (IPv4,IPv6, or DNS).

ipaddr = the TFTP server's IPv4 or IPv6 address. This TFTP server must be configured and running.

remotefile = the name of the remote file to be transferred with a **.bin** suffix.

localfile = the name of the local file when transferred (optional).

Example:

```
Agent III C1|S0|L1D>tftp put iptype ipv4 ipaddr 192.168.1.30 localfile
x323x_0.8.5_AP.bin
Error: tftp put failed.
Agent III C1|S0|L1D>
```

TFTP Upgrade

Command: TFTP Update

Syntax: **tftp upgrade** **iptype**=(ipv4|ipv6|dns) **ipaddr**=ADDR **remotefile**=RFILE

Description: This command gets (downloads) a file from a TFTP server. The TFTP server must be configured and running, where:

iptype = the type of IP addressing to be used (IPv4,IPv6, or DNS).

ipaddr = the TFTP server's IP address. This server must be configured and running.

remotefile = the name of the remote file to be transferred with a **.bin** suffix.

Example:

```
Agent III C1|S0|L1D>tftp upgrade iptype ipv4 ipaddr 192.168.1.30 remotefile
IONMM_0.8.5_AP.bin
Error: tftp get: set address type failed.
Agent III C1|S0|L1D>
```

The Prov Get TFTP Server Address and Prov Set TFTP Server Type commands are used for TFTP server configuration as described below

Prov Get TFTP Server Address

Command: Set TFTP Server

Syntax: **prov set tftp svr type**=(ipv4|ipv6|dns) **addr**=ADDR

Description: This command sets the current TFTP server type and address, where:

type = the type of IP addressing (IPv4, IPv6 or DNS).

addr = the TFTP server's IP address (IPv4, IPv6 or DNS server address).

Example:

```
Agent III C1|S0|L1D>prov set tftp svr type ipv4 addr 192.168.1.30
Agent III C1|S0|L1D>
```

Prov Set TFTP Server Type

Syntax: **prov set tftp svr type**=(ipv4|ipv6|dns) **addr**=ADDR

Description: Provision the TFTP Server type and address. Available to an Admin level login user only.

where:

x = type = (ipv4|ipv6|dns)

y = addr = ADDR

Example:

```
Agent III C1|S1|L1P1>prov set tftp svr type ?
  ipv4
  ipv6
  dns
Agent III C1|S1|L1P1>prov set tftp svr type ipv4 addr 192.168.1.10
Agent III C1|S1|L1P1>prov set tftp svr type ipv6 addr e80::2c0:f2ff:fe20:de9e
Agent III C1|S1|L1P1>
```

Recording Model Information and System Information

After performing the troubleshooting procedures, and before calling or emailing Technical Support, please record as much information as possible in order to help the Lantronix Technical Support Specialist.

1. Select the x3100 **MAIN** tab. From the CLI, use the commands needed to gather the information requested below. This could include commands such as **stat**, **show card info**, **show cardtype**, **show ether config**, or others as request by the Support Specialist.

The screenshot shows the Transition Networks ION System configuration interface. The left sidebar displays the ION Stack hierarchy: Chassis, [01]IONMM, [02]C3100-4040 (selected), [03]C4110-4848, [22]IONPS-A, and [23]IONPS-AL. The main panel is titled 'MAIN' and contains the following sections:

- Model Information:** Fields for Serial Number (1100), Model (C3100-4040), Software Revision (1.2.0), Hardware Revision (1.0.0), and Bootloader Revision (0.1.0).
- System Configuration:** Fields for System Name (C3100), System Up Time (0:0:15:59.00), Configuration Mode (Hardware), and Number of Ports (2). Below these are fields for MAC Address (00-C0-F2-22-16-EE) and buttons for Uptime Reset, System Reboot, and Reset To Factory Config.
- Device Description:** A text input field.
- Link Pass Through(LPT):** A field for Link Pass Through (Enabled).

At the bottom of the main panel are buttons for Refresh, Save, and Help. The status bar at the bottom indicates 'Getting values finished' and 'Version: 1.3.11'.

2. Record the **Model Information** for your system.

Serial Number: _____ Model: _____
Software Revision: _____ Hardware Revision: _____
Bootloader Revision: _____

3. Record the **System Configuration** information for your system.

System Uptime: _____ Configuration Mode: _____
Number of Ports: _____ MAC Address: _____
Device Description: _____ Link Pass Through: _____

4. Provide additional Model and System information to your Technical Support Specialist. See “[Basic ION System Troubleshooting](#)”.

Your Lantronix service contract number: _____

A description of the failure: _____

LED status description: _____

A description of any action(s) already taken to resolve the problem (e.g., changing switch mode, rebooting, etc.): _____

The serial and revision numbers of all involved Lantronix products in the network:

A description of your network environment (layout, cable type, etc.): _____

Network load and frame size at the time of trouble (if known): _____

The device history (i.e., have you returned the device before, is this a recurring problem, etc.):

Any previous Return Material Authorization (RMA) numbers: _____

Appendix A: CLI Command Summary

This appendix provides the list of available CLI commands via the help (?) command and the list command. Commands are arranged in alphabetical order. **Note:** CLI commands are case sensitive. Enter the CLI commands in lower case. **Note:** To execute these commands, you must press the Enter key after the command has been entered.

x3100 CLI Commands - help Command (Agent III C1|S17|L1D>?)

Agent III C1|S17|L1D>?

1. **add** Add a ACL condition
2. **cat** Show the content of the FILES
3. **cd** Change to another directory
4. **cls** Clear the screen.
5. **go** set location to device/port of the SIC to be operated.
6. **home** go back to IONMM card
7. **list** Print command list
8. **ls** List the information about the FILES
9. **more** A filter for paging through text one screenful at a time.
10. **prov** Get current TFTP server address.
11. **ps** Report a snapshot of the current processes
12. **pwd** Show current directory
13. **quit** Exit current mode and down to previous mode
14. **refresh** Refresh backup and restore configure file name.
15. **restore** Restore specified provision modules.
16. **send** Initiates the delay measurement for a given MEP (only one DM request supported at a time per MEP).
17. **serial** transfer file through a serial line.
18. **set** Series of **set** commands for various purposes.
19. **show** Series of **show** commands for various purposes.
20. **stat** Show topology information of a chassis.
21. **tftp** Get a file from a TFTP server.

Agent III C1|S17|L1D>

Note that other CLI commands display on screen; however, only the CLI commands that apply to the x3100 are listed above.

x3100 CLI Commands - *list* Command (*Agent III C1|S17|L1D>list*)

CLI commands are case sensitive. Enter the CLI commands as shown.

To execute these commands, you must press the **Enter** key after the command has been entered.

Device Level Commands

show card info
set system name=(string)
show circuit-ID
set circuit-ID=(string)
show lpt config
set transparent lpt state=(enable|disable)
reset uptime
reset factory
reboot

Port Level Commands

show ether config
set ether admin state=(up|down)
show circuit-ID
set circuit-ID=(string)
show dmi info
set dmi rx-power-present-level=(integer)

Note that other CLI commands display on screen; however, only the CLI commands that apply to the x3100 are listed above.

Appendix B: Web Interface vs. CLI Commands

This appendix provides a cross-reference of the functions configurable via the Web interface versus CLI commands.

Web UI Field	CLI Command
System Level MAIN tab	System Level Commands
System Name	set system name
Device Description	set device description show device description
Uptime Reset button	reset uptime
System Reboot button	reboot
Reset to Factory Config	reset factory
Link Pass Through(LPT)	set transparent lpt state
Port Level MAIN tab	Port Level Commands
Circuit ID	set circuit id show circuit id
Admin Status	set port mgmt access
Port Level DMI tab	Port Level DMI Commands
DMI Interface Charactersitics Diagnostic Monitoring Supported Media Length	set dmi rx-power-preset-level show dmi info

Appendix C: CLI Messages and Recovery

The following messages may display during CLI operations.

Ambiguous command

A. This message indicates either a) the input for one of the parameters is incorrect, or b) a hyphen is missing between two parts of the command.

1. Verify the CLI command syntax.
2. Retry the operation.

B. You typed part of a valid CLI command and pressed **Enter** before completing the command syntax. For example, if you type

```
C1|S7|L1D>add v
```

and then press the **Enter** key, the message “% *Ambiguous command.*” displays.

1. Type the part of the command that failed (**add v** in the example above), type a question mark (?), and then press **Enter**. The valid commands that start with the part of the command you initially entered are displayed.
2. Verify the CLI command syntax.
3. Retry the operation.

C. The system was unable to resolve the desired command based on the portion of the command entered. For example, you entered the following: C1|S7|L1D>set dot1

1. Verify the command syntax.
2. Retry the CLI command syntax. See Appendix A.
3. If the problem persists, contact Technical Support.

Cannot get link pass through information on this card

This message indicates that a link pass through (LPT) CLI command was entered for an IONMM. CLI commands for LPT operations are only valid for slide-in modules other than the IONMM.

1. Use the **go** command to change from the IONMM to the specific slide-in module. The **go** command format is:
go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
2. Retry the operation. For a complete list of the available commands, see the ION System CLI Reference Manual, 33473.
3. If the problem persists, contact Technical Support.

This message indicates that a port level command was entered for the IONMM but the command is only valid for the other types of slide-in modules.

1. Use the **go** command to change location of where the command operates. The **go** command format is:
go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
2. Retry the operation.
3. If the problem persists, contact Technical Support.

Cannot get port security on this port!

This message indicates that a port level command was entered for the IONMM but the command is only valid for the other types of slide-in modules.

1. Use the **go** command to change location of where the command operates. The **go** command format is:
go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
2. Retry the operation. For a complete list of the available commands, see the ION System CLI Reference Manual, 33473.
3. If the problem persists, contact Technical Support.

Command incomplete

This message indicates that not all of the required fields were entered for the CLI command.

1. Verify the command syntax.
2. Retry the operation. For a complete list of the available commands, see the ION System CLI Reference Manual, 33473.
3. If the problem persists, contact Technical Support.

Could not open connection to the host on port 23. Connection failed.

This message indicates that the Telnet server and client are configured for different ports. For Telnet operations the default port is 23.

1. Ensure that the Telnet port is set to 23 for both the server and the client. This will require someone with administrative rights in order to make a change.
2. Add the port number to the Telnet command. For example:

```
Telnet <ipaddr> <port#>
```

3. If the problem persists, contact Technical Support.

Error: this command should be executed on a device

This message indicates that the CLI command was entered for a port and it is only applicable for a device.

1. Use the **go** command to change location of where the command operates. The **go** command format is:
`go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)`
2. Retry the operation.
3. If the problem persists, contact Technical Support.

Error: this command should be executed on a port

This message indicates that the CLI command was entered for a card and it is only applicable for a port.

1. Use the **go** command to change location of where the command operates. The **go** command format is:
`go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)`
2. Retry the operation.
3. For a complete list of the available commands, see [Appendix A](#).
4. If the problem persists, contact Technical Support.

Fail to get MAC address!

This message indicates that communications to the module can not be established.

1. Verify that the correct hierarchy has been specified in the command (see “[Managing Slide-In and Remote Modules Using CLI Commands](#)”).
2. For all modules (slide-in and remote) check the following:
 - module is properly seated/connected
 - module is powered up
3. Wait 60 seconds, then retry the operation.
4. Cycle power for the module in question. **Note:** for slide-in modules pull the module out so it is no longer connected to the backplane, then slide the module back in, ensuring that it is firmly seated.
5. Retry the operation.
6. If the problem persists, contact Technical Support.

Fail to get port type!

This message indicates that a port level command was entered for the IONMM but the command is only valid for the other types of slide-in modules.

1. Use the **go** command to change location of where the command operates.
2. Retry the operation.
3. If the problem persists, contact Technical Support.

Incomplete location command!

This message indicates that one or more parameters for the **go** command are missing. The **go** command was entered to set location parameters, but the module, slot and/or port value(s) were not included in the command string.

The **go** command can operate on a local or remote card/port, and you must give the last parameter to specify the target is a port or device. For example, the input **go c=1 s=14** does not include the port parameter, so the CLI module displays “Incomplete location parameters”.

1. Verify the command syntax.
2. Re-enter the **go** command and be sure to include all of the location parameters:

```
go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
```

3. If the problem persists, contact Technical Support.

Invalid location parameters, cannot find the physical entity!

This message indicates that the system can not detect the presence of the device or port specified in the **go** command.

1. Verify that the correct hierarchy has been specified in the command (see [“Managing Slide-In and Remote Modules Using CLI Commands”](#)).
2. For all modules (slide-in and remote) check the following:
 - module is properly seated/connected
 - module is powered up
3. Wait 60 seconds then retry the operation.
4. Cycle power for the module in question. **Note:** for slide-in modules pull the module out so it is no longer connected to the backplane, then slide the module back in, ensuring that it is firmly seated.
5. Retry the operation.
6. If the problem persists, contact Technical Support.

Invalid user!

This message indicates that the specified user is not valid.

1. Verify the user.
2. Retry the operation.
3. If the problem persists, contact Technical Support.

Login incorrect

This message indicates that either the login or password entered while trying to establish a USB or Telnet connection is incorrect.

1. Verify the login/password.

Note: the login and password are case sensitive. The default login is **ION** and the default password is **private**.

2. Retry the operation.
3. If the problem persists, contact Technical Support.

No DMI support on this port!

This message indicates that you entered a DMI command for a port that does not support DMI.

1. Verify that the port supports DMI.
2. Retry the operation.
3. If the problem persists, contact Technical Support.

There is no matched command

This message indicates that there is no such command available on this system.

1. Verify the command syntax.
2. Retry the operation.
3. If the problem persists, contact Technical Support.

Unable to open xx. Please check your port settings.

This message indicates that HyperTerminal no longer recognizes which COM port to use for its connection.

1. Check that the USB cable is connected to the management station and the IONMM.
2. Check that the COM port is listed for the device manager on the management station (PC).
 - a) On the desktop, right-click on **My Computer**.
 - b) Select **Manage**.
 - c) Click **Device Manager**.
 - d) In the right panel, expand the list for **COM & LPT**.
3. Is the COM port in the list?

Yes	No
Continue with step 4 .	Restart the management station.

4. In the HyperTerminal window, select **File>Properties**.
5. Check that the correct port is listed in the **Connect using** field.
6. Restart the management station.
7. Reboot the IONMM.
8. If the problem persists, contact Technical Support.

Error, you should first give full location parameters

The location value is incomplete; it is missing the module, slot and/or port value(s). This message can display when a device-level command is entered (e.g., **show lpt config**).

When you change a bigger container, the value of smaller object is cleared. For example, originally the operated object is Chassis=1, slot=4, L1AP=1 L2AP=2 L3D, and then when the command chassis 3 is entered. This automatically sets the value of module, slot and port to 0.

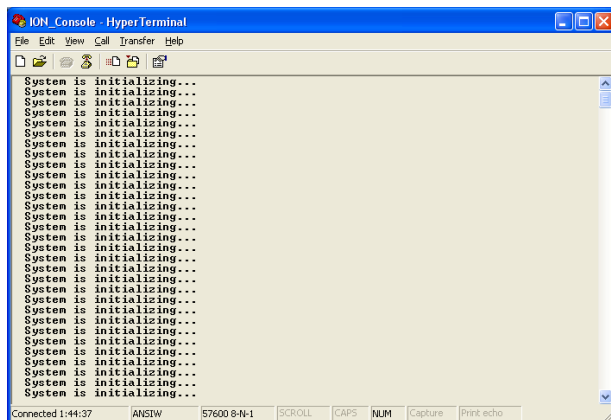
If the value of module, slot and port are not set in later commands, and then you run a device-level command (e.g., **show lpt config**), this error message displays.

Enter the **go** command and be sure to include all of the location parameters.

```
go [c=CHASSIS] [s=SLOT] [l1ap=L1APORT] [l2ap=L1APORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
```

System is initializing...

CLI is receiving continuous error message "system is initializing..."



1. Wait for a few minutes for the message to clear.
2. Cycle power to the IONMM.
3. Retry the operation.
4. If the problem persists, contact Technical Support.

Start HTTPS certificate failed.

1. Verify the HTTPS parameters (HTTPS is enabled, the certificate type is defined, certificate file defined, private key file defined, password defined).
2. Verify that the HTTPS server is operational.
3. Retry the operation (i.e., type **start https certificate** and press **Enter**).
4. If the problem persists, contact Technical Support.

This command is only available on <x323x> card!

The command you entered is not supported on the card from which it was entered (e.g., you entered **set soam ma**, **set soam meg**, or **set soam mep** from a x3100 card, which does not support SOAM).

1. Verify the command entered is the one you want.
2. Verify that the device for the command entered can support the function of the command.
3. Retry the operation.
4. If the problem persists, contact Technical Support.

Error: this command should be executed on a port!

1. Verify the command entered is the one you want.
2. Change to the desired port; enter the **go** command with all of the location parameters (chassis / slot / port).
3. Retry the operation from the port (i.e., type **show fwd portlist** and press **Enter**).

Unknown command!

The command you entered is not supported, or you entered the wrong command format / syntax.

1. Verify the CLI command syntax.
2. Retry the operation.
3. For a complete list of the available commands, see Appendix A.
4. If the problem persists, contact Technical Support.

There is no matched command.

The command you entered is not supported, or you entered the wrong command format / syntax.

1. Verify the CLI command syntax.
2. Retry the operation.
3. For a complete list of the available commands, see Appendix A.
4. If the problem persists, contact Technical Support.

Error location parameter number!

The go command you entered had an invalid or missing parameter.

1. Enter the **go** command with all of the location parameters (chassis / slot / port) in the format:

```
go [c=CHASSIS] [s=SLOT] [l1ap=PORT] [l2ap=PORT] (l1p=PORT|l2p=PORT|l3p=PORT|l1d|l2d|l3d)
```

Fail to set link pass through state!

You tried to set the LPT state to an unacceptable state. For example, you typed:

```
C1|S3|L1D>set lpt state=enable
```

1. Verify the CLI command syntax.
2. Check the **set lpt monitor-port** and **set selective lpt state** command settings.
3. Enter the **show lpt config** command and in the Link Pass Through configuration, check if the Link pass through state is set to **notSupported** or if the **Remote fault detect state** is set to **notSupported**.

If either is set to **notSupported**, change the setting to enable (e.g., type **set rfd state enable** and press **Enter**).

4. Retry the operation.
5. If the problem persists, contact Technical Support.

TFTP transfer failed!

The attempted firmware upgrade via the **tftp upgrade** command was unsuccessful.

1. Verify the CLI command syntax.
2. Verify the firmware version.
3. Be sure the TFTP server is configured and running.
4. Check that the remotefile is in the proper location (e.g., the file *x323x.bin.0.5.4* is at *C:\TFTP-Root*).
5. Retry the operation. See the **tftp upgrade** command.
6. If the problem persists, contact Technical Support.

Fail to transfer the file!

tftp get: set address type failed.

tftp put failed.

The file transfer attempt failed. The command you entered to do a tftp file transfer was unsuccessful (e.g., tftp get or tftp put or tftp transfer). For example:

```
C1|S4|L1D>tftp get iptype ipv4 ipaddr 192.168.1.30 remotefile xxxx
tftp get: set address type failed.
C1|S4|L1D>tftp put iptype ipv4 ipaddr 192.168.1.30 localfile xxxx
tftp put failed.
C1|S4|L1D>tftp upgrade iptype ipv4 ipaddr 192.168.1.30 remotefile xxxx
tftp get: set address type failed.
```

1. Check the command syntax. See “[TFTP Commands](#)” page.
2. Make sure the TFTP server is configured and running.
3. Verify the filename to be transferred, its location, and the IP address of the TFTP server.
4. If the problem persists, contact Technical Support.

The attempted show dot1bridge aging-time command failed to complete.

1. Verify the **dot1bridge aging-time** command syntax. See “[Configure Forwarding Learning Aging Time](#)”.
2. Retry the operation. See the **dot1bridge aging-time** command
3. If the problem persists, contact Technical Support.

Redundancy is not supported on this card!

The attempt to set or show fiber redundancy failed. For example, you entered the command: **show redundancy info**, but the device does not support fiber redundancy.

1. Verify that the card you entered the command on supports this function (must have at least 2 fiber ports) .
2. Retry the operation on a card that supports this function.
3. If the problem persists, contact Technical Support.

Invalid user!**Fail to set SSH server state!**

You entered the command **show ssh public-key user admin**, but the x3100 does not support SSH.

1. Use the **go** command to switch to a device that supports SSH.
2. If the problem persists, contact Technical Support.

Upgrade is only supported on IONMM card!

You entered a firmware *upgrade* or firmware *update* command from a device other than the IONMM. For example:

```
C1|S3|L1D>show firmware upgrade result
C1|S3|L1D>show firmware-db update result
C1|S3|L1D>show upgrade firmware file
C1|S3|L1D>update firmware-db file cert
C1|S3|L1D>upgrade module
```

1. Make sure of the command you want to enter. See “[Firmware Upgrade Commands](#)”.
2. Use the **home** command to go to the IONMM device.
3. Re-enter the firmware upgrade command from the IONMM.
4. If the problem persists, contact Technical Support.

DMI is only supported on FIBER port!

You entered the command **show dmi info** on a card that does not support it. For example:

```
C1|S7|L1P1>show dmi info
DMI is only supported on FIBER port!
```

1. Verify if the card supports DMI.
2. Use the **go** command to switch to a different card port supporting Fiber.
3. Verify the command entry. See “[DMI Commands](#)”.
4. If the problem persists, contact Technical Support.

Cannot clear loopback counters on this card!
Cannot set administrate state on this port!
Cannot set advertisement capability on this port!
Cannot set autocross on this card!
Cannot set auto negotiation state on this port!
Cannot set Ethernet port speed for this card!
Cannot set Ether port duplex mode on this card!
Cannot set far end fault on this card!
Cannot set filter unknown dest unicast frames on this port!
Cannot set pause on this port!
Cannot set source address lock action on this port!
Cannot set USB port state on this card!
Cannot get port security configuration on this port!
Cannot show forwarding port list on this card!
Cannot show slot info on this card!
Cannot show USB port state on this card!
Cannot show port QoS configuration in this card!
Cannot set tag type for priority in this card!
Cannot set default priority in this card!
Cannot set IEEE tag for priority in this card!
Cannot get VLAN database configuration on this card!
Cannot get LOAM configuration on this port!
Cannot set remote fault detect state on this card!
Cannot set service vid for tag on this card!
Fail to set management VLAN id!
Fail to set management VLAN state!
Cannot set bandwidth alloc type on this card!
Cannot set ingress and egress rate on this card!
Cannot show system information on this card!
Cannot set ingress and egress rate on this card!
IP management is not supported on this card!
Link OAM is not supported on this card!
No tdm loopback supported on this card!
No Time-domain reflectometer support on this card!
Syslog is not supported on this card!
TAOS status setting is not supported on this card!
TNDP is not supported on this card!

You entered a command for a function not supported on the card. For example:

```
C1|S7|L1P1>clear ether all counters
Cannot clear loopback counters on this card!
C1|S7|L1P1>show qos config
Cannot show port QoS configuration in this card!

C1|S7|L1P1>show qos priority remapping
Cannot show port QoS priority remapping in this card!
```

1. Verify if the card supports the desired function.
2. Use the **go** command to switch to a different card port supporting loopback.
3. Verify the command entry.

Cannot set slot power on this card!

You entered a **set slot power=** command on a device that does not support it. For example:

```
C1|S16|L1P1>set slot 16 power on
Cannot set slot power on this card!
```

1. Verify this is the command you want.
2. Verify the command parameter; make sure you are not trying to power up a slot that already has power.
3. Use the **go** command to switch to the slot you want.
4. If the problem persists, contact Technical Support.

Error: this command should be executed on a power sensor or fan!

You entered a **set sensor** command on a device that does not support it. For example:

```
C1|S16|L1P1>set sensor stid 1 notif true
Error: this command should be executed on a power sensor or fan!
```

1. Verify this is the command you want.
2. Use the **stat** command to show the chassis configuration. For example:

```
[ 22] IONPS-A
      Temperature Sensor
      Volatage Sensor
      Power Sensor
      Fan-1
      Fan-2
```

3. Use the **go** command to switch to the power sensor or fan.
4. If the problem persists, contact Technical Support.

Error: Software version of this card is too old, please upgrade it!

Example:

```
Agent III C1|S3|L1D>stat
Cannot find software version of this card!
Error: Software version of this card is too old, please upgrade it!
Agent III C1|S3|L1D>
```

1. Verify this is the command you want.
2. Verify the card is at the current or correct software version.
3. Upgrade the card's firmware as required.

Invalid forward port list!

You entered an invalid parameter in response to a prompt (e.g., for a module number for firmware upgrade). For example:

```
C1|S7|L1D>upgrade module
Available modules:
index      module                                     loc
-----
1          ION219                                     c=1 s=0 11d
2          C3230-1040                               c=1 s=3 11d
3          C3230-1040                               c=1 s=5 11d
4          S3230-1040                               c=1 s=5 11ap=2 12d
5          IONMM                                     c=1 s=7 11d
6          C3231-1040                               c=1 s=10 11d
7          C2220-1014                               c=1 s=16 11d
8          C3220-1040                               c=1 s=18 11d
9          IONPS-A                               c=1 s=22 11d

Choose the module you want to upgrade: (eg. 1,3,16; at most 8 modules
to upgrade, press 'q' to exit upgrade)
show card info

Invalid forward port list!
```

1. Re-enter the command, wait for the prompt, and then enter a response in the correct syntax.
2. See the related command / function section of this manual.
3. If the problem persists, contact Technical Support.

L2CP is not supported on this card!

You tried to perform an L2CP function but the device does not support L2CP.

1. Make sure this is the command / function that you wanted.
2. Use the **go** command to switch to a device that supports L2CP.
3. Try entering another command.
4. If the problem persists, contact Technical Support.

Cannot show circuit-ID on this card!

You tried to display the Circuit ID information, but the function is not supported.

1. Make sure this is the command / function that you wanted.
2. Use the **go** command to switch to a device that supports Circuit ID display.
3. Try entering the command again. See “[Circuit ID](#)”.
4. If the problem persists, contact Technical Support.

Cannot set circuit-ID on this card!

You tried to enter Circuit ID information, but the function is not supported.

1. Verify the Circuit ID parameters. See “[Circuit ID](#)” and try entering the command again.
2. Use the **go** command to switch to a device that supports Circuit ID entry.
3. If the problem persists, contact Technical Support.

Can not set speed on this port!

You entered the CLI command to define the x3100 port’s operating speed, but the command failed.

For example:

```
C1|S5|L1P2>set ether speed 100M  
Can not set speed on this port!  
C1|S5|L1P2>
```

1. Verify the x3100 supports this speed.
2. Verify the command syntax.
3. Re-enter the **set ether speed=** command with a speed supported by the card.
4. If the problem persists, contact Technical Support.

Cannot remove vlan on this card!

You entered a command to delete one or all VLANs from the x3100, but the action cannot be performed. For example:

```
C1|S7|L1D>remove vlan all  
Cannot remove vlan on this card!  
C1|S7|L1D>remove vlan vid=3  
Cannot remove vlan on this card!  
C1|S7|L1D>
```

1. Make sure this is the function that you want.
2. Use the **go** command to switch to a x3100 that supports the VLAN database.
3. Use the **add vlan-db** command to add a VLAN VID if needed.
4. If the problem persists, contact Technical Support.

Cannot remove forward database rows on this card!

You entered a command to delete a VLAN forward database VID (forward database row) from the x3100, but the action cannot be performed. For example:

```
C1|S7|L1D>remove vlan-db vid 3  
Cannot remove forward database rows on this card!  
C1|S7|L1D>
```

1. Make sure this is the function that you want.
2. Use the **go** command to switch to a NID that supports the VLAN FDB.
3. If the problem persists, contact Technical Support.

Error symbol period window low is out of range, its range is 125000000 - 268435455!

Error frame period window is out of range, its range is 174762 - 104057560!

Error frame period threshold is out of range, its range is 0 - 268435455!

Error frame window is out of range, its range is 10 - 600!

Error frame threshold is out of range, its range is 0 - 268435455!

Error frame seconds summary window is out of range, its range is 100 - 9000!

Error frame seconds summary threshold is out of range, its range is 0 - 268435455!

A parameter entered in the "Event Configuration" has exceeded the range limitation.

1. Enter a parameter within the valid range displayed.
2. If the problem persists, contact Technical Support.

No data in VLAN forward database table now!

You entered the command to display FWDDb information, but the VLAN forward database table has no data to report. For example:

```
C1|S16|L1D>show fwddb config fdbid 1
No data in VLAN forward database table now!
```

1. Make sure this is the function that you want.
2. Use the [Forwarding Database Commands](#) to create the VLAN FDB entry.
3. If the problem persists, contact Technical Support.

The specified monitor-port does not exist!

You specified a monitoring port (monitor-port) number outside the valid range.

1. Make sure this is the function that you want.
2. See the related section (e.g., "Redundancy" or "Link Pass Through") for more information.
3. If the problem persists, contact Technical Support.

Cannot show cable length for fiber port!

You entered the command to display the length of the copper cable for a port that does not support it.

1. Make sure the DEVICE supports the **show cable length** command (only for x2110).
2. Verify the command syntax. See the related *User Guide* manual.
3. Type **show ether config** to show the Ethernet port's configuration.
4. If the problem persists, contact Technical Support.

Message: *tftp get: set address type failed.*

Meaning: You entered a tftp command, but the address entered was not accepted.

```
C1|S15|L1D>tftp get ip type ipv4 ipaddr 192.168.1.30 remotefile
C3210_1.0.4_AP
tftp get: set address type failed.
C1|S15|L1D>
```

Recovery:

1. Make sure the tftp server address is valid.
2. Verify that the TFTP Server is running and properly configured.
3. Try entering the tftp command again.
4. If the problem persists, contact Technical Support.

Cannot proceed because some other TFTP operation is currently in progress!

Please input config file name!

TFTP file transferring failed! Please make sure the TFTP server is up and the file being transferred does exist.

TFTP Server Address is empty or invalid!

The firmware has been successfully upgraded and the system will be rebooted soon

The specified firmware on the TFTP server will be upgraded to the current module, operation is currently in progress!

The sys.log file will be transferred to the TFTP server, are you sure to proceed?

You tried a TFTP transfer operation, but the operation failed or is still in process.

1. Wait for the "*operation is currently in progress!*" message to clear.
2. If an entry was requested in the message, enter the required information (e.g., valid TFTP Server address, or config file name).
3. Follow any on-screen instructions (e.g., "make sure the TFTP server is up").
4. Verify that this is the operation you want (e.g., click **OK** at the "*are you sure to proceed?*" message).
5. Verify the related command syntax in the applicable section of this manual (e.g., Syslog, or TFTP Upgrade section).
6. Retry the operation.
7. If the problem persists, contact Technical Support.

ERROR: Current user is not authorized to do this operation!
% There is no matched command.

You tried to enter a CLI command but the entry failed.

An Admin user has full rights to read/write all configurations through Web/CLI. An Admin user can create new users and delete any users other than itself and ION.

A Read-Write user can read/write all configurations except for Upgrade and Backup/Restore via the Web or CLI. A read-write user can also change its own login password. When a read-write user logs in via the Web, the “UPGRADE” tab and the “BACKUP/RESTORE” tab are disabled. When a read-write user logs in via the CLI, all set commands except for upgrade and backup/restore can be executed.

A Read-Only user can read all configurations except for Upgrade and Backup/Restore through the Web/CLI.

1. Try another command on the x3100.
2. Check with the Admin if the command should be supported.
3. If the problem persists, contact Technical Support.

Error: This card is in hardware mode and no setting allowed!

You tried to enter a CLI command with the x3100 in Hardware mode.

1. Change the x3100 to Software mode. See the x3100 Install Guide manual for information.

TFTP Server Messages

Messages like the ones below may display during TFTP Server operation, depending on the TFTP Server package that you use.

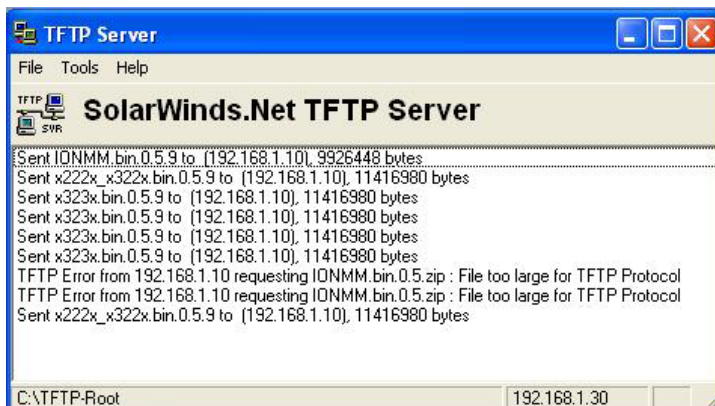
Message: *File does not exist*



Meaning: A TFTP Server error - the TFTP Server Address that you specified does not contain the Firmware File Name specified.

Recovery: 1) Verify the TFTP server's correct file location (e.g., local disk at *C:\TFTP-Root*). 2) Make sure of the filename / extension. 3) Check the TFTP Server's online helps for suggestions.

Message: *File too large for TFTP Protocol*



Meaning: A TFTP Server error - you tried to upload a file e.g., (IONMM.bin.0.5 – 50Mb) but the TFTP server failed. The file you tried to upload via the TFTP server exceeded the file size capability.

Recovery: 1) Check if some extra files ended up in the zip folder – some repeated – 6 FW files total. 2) Remove some of the files from the zip folder and try the upload again. 3) Send the remaining files in a separate file. 4) Check the TFTP Server's online helps for suggestions.

Appendix D: Linux Commands

ION supports certain standard Linux file system commands such as **cat**, **cd**, **ls**, **more**, **pwd**, and **rm**. These commands are restricted to the user directories; internal Linux file systems are not accessible.

The ION standard Linux file system commands are based on BSD 4; refer to the related documentation for more information.

cat Command

Command: cat

Description: Show the content of the FILES. Concatenate files and print on the standard output.

Example: C1|S7|L1D>cat [OPTION]

Options: Refer to the BSD 4 documentation for options and Interactive commands for the **more** command.

cd Command

Command: cd

Description: Change to another directory.

Example:

Options: Refer to the BSD 4 documentation for options and Interactive commands for the **more** command.

ls Command

Command: ls

Description: Unix and Unix-like operating systems maintain the concept of a current working directory, (i.e., where you are currently positioned in the hierarchy of directories).

When invoked without any arguments, **ls** lists the files in the current working directory. This command is restricted to the IONMM user directories; internal Linux file systems are not accessible.

The IONMM card stores all configuration backup files, HTTPS certification file, SSH key file, and Syslog file. For example, the HTTPS certificate is stored in *'agent3/conf/lighttpd'*. For SSH, the host keys (RSA and DSA) are stored in *'agent3/conf/dropbear'*. For the SSH user key, there is a 'root' user and the user key for 'root' is stored in *'root/.ssh'*.

Example:

```
C1|S7|L1D>ls
agent3
app
bin
dev
etc
lib
linuxrc
mnt
proc
root
sbin
sys
tftpboot
tmp
usr
var
www
C1|S7|L1D>
```

Options:

Without options, **ls** displays files in a bare format. This bare format however makes it difficult to establish the type, permissions, and size of the files. The most common options to reveal this information or change the list of files are:

-l long format, displaying Unix file types, permissions, number of hard links, owner, group, size, date, and filename

-F appends a character revealing the nature of a file, for example, *** for an executable, or */* for a directory. Regular files have no suffix.

-a lists all files in the given directory, including those whose names start with "." (which are hidden files in Unix). By default, these files are excluded from the list.

-R recursively lists subdirectories. The command **ls -R /** would therefore list all files.

-d shows information about a symbolic link or directory, rather than about the link's target or listing the contents of a directory.

-t sort the list of files by modification time.

-h print sizes in human readable format. (e.g., 1K, 234M, 2G, etc.)

Example:

```
C1 | S3 | L1D>ls etc
```

```
TZ
VERSION
dropbear
factory
fstab
group
gshadow
host.conf
hostname
hosts
init.d
inittab
lighttpd
lighttpd.conf
motd
openssl
passwd
profile
protocols
radius
rcS.d
resolv.conf
rpc
script
services
shadow
snmpd.conf
sysconfig
terminfo
```

```
C1 | S3 | L1D>
```

Refer to the BSD 4 documentation for additional options and Interactive commands for the **more** command.

more Command

Command: more

Description: A filter for paging through text one screenful at a time.

Example: C1|S7|L1D>more [OPTION]

Options: Refer to the BSD 4 documentation for options and Interactive commands for the **more** command.

pwd Command

Command: pwd

Description: Show current directory.

Example:

```
C1|S7|L1D>pwd
/
C1|S7|L1D>
```

Options: Refer to the BSD 4 documentation for options and Interactive commands for the **pwd** command.

rm Command

Command: rm

Description: Removes each specified file. By default, it does not remove directories.

Example:

Options: Refer to the BSD 4 documentation for options and Interactive commands for the **rm** command.

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