CHAPTER 5

Informational Traps

This chapter describes informational traps generated by the LightStream 2020 multiservice ATM switch (LS2020 switch). As implied by their name, informational traps are for information only—they do not require an operator action. Informational traps only provide additional detail on problems that are reported by operational and SNMP traps. The operational and SNMP traps, therefore, contain the suggested actions for an operator to take. Informational traps are used by customer support representatives to do advanced troubleshooting and software debugging because they back up the operational and SNMP traps with an additional level of detail.

In this chapter, the traps are grouped alphabetically by the software module in which they occur. Within each module, traps are listed in numerical order.

Note Within some software modules, gaps exist in the trap numbering sequence because traps have been added or removed during the product life cycle.

ATMM Traps

This section lists traps for the ATM module (ATMM).

Trap Name	**ATMM_2100**
Trap Text	`Trunk port <slot#>.<port#> is DOWN: <local node>:<slot#>.<port#> is no longer linked to <remote node>:<slot#>.<port#>`
Description	This trap indicates that the trunk port is down and that any VCCs using that trunk will be torn down. This trap sometimes occurs in conjunction with NDD_4 or NDD_5. It always occurs in conjunction with the SNMP Link Down trap.
Causes	This trap is generated when the port or the line card supporting the port goes down, the port is disabled by a network management action (even temporarily as with port reconfiguration), the remote port goes down, or the trunk line itself goes down.
Action	See the actions required for the associated traps: NDD_4, NDD_5, or Link Down.

Trap Name	ATMM_2101
Trap Text	`Trunk port <slot#>.<port#> is UP. <local node>:<slot#>.<port#> is linked to <remote node>:<slot#>.<port#>`
Description	This trap indicates the port is up and that new connections will be routed across the trunk. This trap occurs in conjunction with NDD_3 traps if there was a problem with the card. It always occurs in conjunction with the SNMP Link Up trap.
Causes	This trap is generated when the port or the line card supporting the port has come up, the port has been enabled, the remote port comes up, or the trunk line comes up.
Action	None.

Trap Name	ATMM_2102
Trap Text	`Trunk port <slot#>.<port#> is LOOPED: <local node>: <slot#>.<port#> is linked to <remote node>: <slot#>.<port#>`
Description	This trap indicates that the trunk port is enabled and in loopback mode. This trap normally occurs in conjunction with LCC_12 or LCC_14 traps, which indicate the type of loopback selected for the port. If the port has no problems, then this trap is followed by a Link Up trap for the port.
Causes	This trap is generated when the port has been enabled and looped by a network management action. It can also occur if the trunk line itself becomes looped.
Action	No action is required if the trap occurs in conjunction with LCC_12 or LCC_14 traps. Otherwise, consult your carrier to determine where and how the trunk line became looped.

Comment Traps

This section lists traps generated by using the **comment** command.

Trap Name	COMMENT_2001
Trap Text	`<string supplied by user>`
Description	This trap indicates that an operator or support engineer used the **comment** command to generate an informational trap. See the *LightStream 2020 NP O/S Reference Manual* for more information on the **comment** command.
Action	None.

FCLoad Traps

This section lists traps for the FCLoad (function card load) module. FCLoad may be invoked by the system during the installation of new system software (as described in the *LightStream 2020 Release Notes*), and by the operator during the installation of new line cards (as described in the *LightStream 2020 Hardware Reference & Troubleshooting Guide*).

Trap Name	FCLOAD_2000
Trap Text	`Slot <slot#>: resetting card`
Description	This trap indicates that FCLoad is resetting the card in the indicated slot. This trap occurs in conjunction with NDD_4 and NDD_5 traps.
Causes	This trap is generated when FCLoad resets each card as a normal part of an installation or software upgrade.
Action	None.

Trap Name	FCLOAD_2001
Trap Text	`Slot <slot#>: loading image (<image-filename>)`
Description	This trap indicates that FCLoad is downloading application software to the card in the indicated slot. This trap occurs in conjunction with the NDD_3 trap or with NDD_4 and NDD_5 traps.
Causes	This trap is generated when a line card is inserted into the slot or enabled by a network management action, or when diagnostics have completed running on the card. In these cases, it occurs in conjunction with the NDD_3 trap. It is generated as a normal part of an installation or software upgrade, when the NP is rebooted running the new software. In this case, it occurs in conjunction with the NDD_3 trap. It is also generated when the card has failed unexpectedly. In this case, it occurs in conjunction with NDD_4 or NDD_5 traps.
Action	See the action required for the associated NDD trap.

Trap Name	FCLOAD_2011
Trap Text	`Slot <slot#>: loading flash image (<image-filename>)`
Description	This trap is generated when a new flash image is loaded into the indicated card as part of a software upgrade. The **swchgver** procedure identifies new flash images in the new software package and downloads them into appropriate cards.
Related Traps	FCLOAD_2, FCLOAD_2012
Action	None.

Trap Name	FCLOAD_2012
Trap Text	`Slot <slot#>: card flash image is up to date`
Description	This trap is generated during a software upgrade. A software upgrade may include new flash for some card types and not for others. This trap identifies cards that do not need new flash.
Related Traps	FCLOAD_2, FCLOAD_2011
Action	None.

Trap Name	FCLOAD_2020
Trap Text	`Slot <slot#>: flash load error: error number <error#>` `Slot <slot#>: flash check error: error number <error#>`
Description	This trap provides more detailed information on flash errors during upgrade or validation. This trap is a catch-all trap for errors not covered by the specific INFO-level FCLoad error traps listed below.
Related Traps	This trap may accompany the following OPER traps: FCLOAD_20, COMMENT_1001 (system validation). FCLOAD_2020 is one of a class of INFO-level error traps that includes FCLOAD_2021, FCLOAD_2022, FCLOAD_2023, FCLOAD_2024, and FCLOAD_2025.
Action	Contact your customer support representative.

Trap Name	FCLOAD_2021
Trap Text	`Slot <slot#>: obsolete flash (<checksum-value> vs <image name>'s <checksum-value>)`
Description	This trap indicates a consistency problem. The flash memory in the card indicated is inconsistent with the latest software. This inconsistency can occur when you insert a card with old flash memory into a running system without first performing the flash upgrade procedures described in the *LightStream 2020 Hardware Reference & Troubleshooting Guide.* The checksum values identify the flash version currently in the card and the one in the latest software; they may be ignored.
Related Traps	This trap may accompany the OPER trap COMMENT_1001 (system validation). FCLOAD_2021 is one of a class of INFO-level error traps that includes FCLOAD_2020, FCLOAD_2022, FCLOAD_2023, FCLOAD_2024, and FCLOAD_2025.
Action	Follow the flash upgrade procedure described in the *LightStream 2020 Hardware Reference & Troubleshooting Guide.*

Trap Name	FCLOAD_2022
Trap Text	`Slot <slot#>: flash load error: flash file <image-path> is missing` `Slot <slot#>: flash check error: flash file <image-path> is missing`
Description	This trap indicates a consistency problem. The software installed does not include a flash image for the type of card in the indicated slot.
Related Traps	This trap may accompany the following OPER traps: FCLOAD_20, COMMENT_1001 (system validation). FCLOAD_2022 is one of a class of INFO-level error traps that includes FCLOAD_2020, FCLOAD_2021, FCLOAD_2023, FCLOAD_2024, and FCLOAD_2025.
Action	Contact your customer support representative.

Trap Name	FCLOAD_2023
Trap Text	`Slot <slot#>: flash load error: unable to acquire synchronization lock on card.`
Description	Only one FCLoad operation on a card is allowed at a time. This trap indicates that an operation was started while another was in progress. This might happen if two operators were trying FCLoad operations simultaneously, or if an operator action conflicted with an automatic system action.
Related Traps	This trap may accompany the following OPER traps: FCLOAD_20, COMMENT_1001 (system validation). FCLOAD_2023 is one of a class of INFO-level error traps that includes FCLOAD_2020, FCLOAD_2021, FCLOAD_2022, FCLOAD_2024, and FCLOAD_2025.
Action	If this trap was generated by an operator action, wait and retry later.

Trap Name	FCLOAD_2024
Trap Text	`Slot <slot#>: flash load error: card powered down.`
Description	The swchgver process identifies new flash images in the new software package and downloads them into appropriate cards. This trap indicates that the indicated slot was powered down, and thus the card's flash could not be checked or upgraded. FCLOAD_2024 provides a record of why a card failed to have its flash upgraded.
Related Traps	This trap may accompany the following OPER traps: FCLOAD_20. FCLOAD_2024 is one of a class of INFO-level error traps that includes FCLOAD_2020, FCLOAD_2021, FCLOAD_2022, FCLOAD_2023, and FCLOAD_2025.
Action	No action is required. When the card is re-enabled, FCLOAD_2021 is generated if a flash upgrade is needed.

Trap Name	FCLOAD_2025
Trap Text	`Slot <slot#>: flash load error: unable to set card into testing mode` `Slot <slot#>: flash load error: unable to set card into original mode`
Description	This trap indicates an internal error during load of new flash. It may cause the card to be left in testing mode rather than in enabled (active) mode.
Related Traps	This trap may accompany the following OPER traps: FCLOAD_20. FCLOAD_2025 is one of a class of INFO-level error traps that includes FCLOAD_2020, FCLOAD_2021, FCLOAD_2022, FCLOAD_2023, and FCLOAD_2024.
Action	Contact your customer support representative.

GIDD Traps

This section lists traps for the Global Information Distribution Daemon (GIDD).

Trap Name	GIDD_2101
Trap Text	`Formed full adjacency with neighbor Network Processor <node name:card# of neighbor NP>`
Description	This trap indicates that a healthy network connection has been established between the two NPs and they have synchronized their global information databases.
Causes	This trap is generated after the two NPs have synchronized their global information databases. Databases are synchronized when anything affecting the connectivity to an NP occurs (for example, a new node is installed, a trunk line comes into service, an NP or a node is rebooted), or when an error is detected in the global information distribution (GID) flooding protocol.
Action	None.

Trap Name	GIDD_2102
Trap Text	`Reset adjacency relationship w-neighbor Network Processor <node name:card# of neighbor NP>`
Description	This trap indicates that the NPs have resynchronized their global information databases. This trap is generated when the database is resynchronized because the remote NP has stopped participating in the data link layer reliability protocol (called ERMP) running between the NPs.
Causes	There may be a problem with the remote NP. There may be an internal software problem in the GIDD module.
Action	Check on the status of the remote NP. To troubleshoot an NP, see the *LightStream 2020 Hardware Reference & Troubleshooting Guide*. If there isn't a problem with the remote NP, call customer support.

Trap Name	GIDD_2103
Trap Text	`Removed Network Processor <node name:card#> from set of known neighbors`
Description	This trap indicates that there is no longer a healthy network connection between the two NPs. The entire process of neighbor discovery and global database synchronization must be repeated in order for adjacency to be reestablished. This trap occurs in conjunction with Link Down traps.
Causes	The network connection between the two NPs has gone out of service.
Action	See the action required for Link Down traps.

Kern Traps

This section lists traps for the LynxOS kernel trap logging facility (Kern).

Trap Name	**KERN_2001**
Trap Text	`KERNEL MSG(#): <string> or` `REBOOT MSG(#): <string>`
Description	This trap indicates that the LynxOS kernel has generated a message. The trap includes the text of the message. Messages reported by Lynx vary from LynxOS version and copyright information to operating status and error indicators.
Causes	Text strings appearing with a `KERN_2001` message are preceded by either a `KERNEL MSG(#):` or a `REBOOT MSG(#):` tag. The `KERNEL MSG(#):` is logged in real time and its timestamp indicates when the message occurred. The `REBOOT MSG(#):` is generated when the system reboots. In this case, the strings contain the last few lines of the kernel output prior to the reboot. Multiple `KERNEL MSG(#):` and `REBOOT MSG(#):` messages can print out under a single `KERN_2001` message. KERN_2001 messages are numbered sequentially, starting at 1 after a reboot occurs.
Action	Usually, no action is required. If the messages indicate that the kernel crashed, contact your customer support representative and report the trap string and any associated information.

Trap Name	**KERN_2002**
Trap Text	`Console log: buffer overrun caused lost kernel console output`
Description	This trap indicates that the LynxOS message printout rate was too high to be captured by the kernel trap logging facility. This trap occurs in conjunction with KERN_2001 traps.
Action	Contact your customer support representative and report this trap and the associated KERN_2001 traps.

NDD Traps

This section lists traps for the Neighborhood Discovery Daemon (NDD) module.

Trap Name	NDD_2000
Trap Text	`Network Processor <node name:card#> established as neighbor.`
Description	This trap indicates that a control channel between the two NPs has been established. This trap occurs in conjunction with Link Up traps.
Causes	This trap is generated when anything affecting the connectivity to an NP occurs (for example, a new node is installed, a trunk line comes into service, an NP or a node is rebooted).
Action	None.

Trap Name	NDD_2001
Trap Text	`Network Processor <node name:card#> no longer neighbor due to failure of intervening trunk.`
Description	This trap indicates a control channel no longer exists between the two NPs. This trap occurs in conjunction with Link Down traps.
Action	See the action required for Link Down traps.

Trap Name	NDD_2002
Trap Text	`Network Processor <node name:card#> no longer a neighbor due to failure of intervening local line card.`
Description	This trap indicates a control channel no longer exists between the two NPs. This trap occurs in conjunction with NDD_4 or NDD_5 traps.
Action	See the action required for the associated trap: NDD_4 or NDD_5.

Trap Name	NDD_2003
Trap Text	`Network Processor <chassis.slot#> no longer a neighbor due to ERMP failure (code <hex>).`
Description	This trap indicates a control channel no longer exists between the two NPs. This trap occurs in conjunction with Link Down, NDD_4, and NDD_5 traps.
Causes	One of the NPs failed to function properly in the ERMP protocol running between the NPs. Unless the ERMP failure code is 0x403, the failure is due to a link or card going out of service. If the ERMP failure code is 0x403, then this is due to an internal ERMP software error and the link goes down after this trap is generated.
Action	See the action required for the associated trap: Link Down, NDD_4, or NDD_5.

NPTMM Traps

This section lists traps for the NP TCS Monitoring (NPTMM) module.

Trap Name	NPTMM_2007
Trap Text	`Active NP encountered TCS read/write failure`
Description	This trap indicates that the primary NP could not perform a read or write operation using the TCS.
Causes	This trap is generated as a normal part of an unplanned switch cutover. In this case, this trap occurs in conjunction with NPTMM_25 or NPTMM_26. This trap is generated when there is a hardware failure of the TCS. In this case, the trap occurs with NPTMM_26 or NPTMM_30 traps.
Action	See the action required for the associated trap: NPTMM_25, NPTMM_26, or NPTMM_30.

Trap Name	NPTMM_2010
Trap Text	`ERROR: <error string>`
Description	This trap indicates that an internal NPTMM error occurred.
Causes	This trap is generated when there are internal state inconsistencies within the NPTMM process.
Action	In the following circumstances, this trap is benign and can be ignored: • A card has been reset. • A card has been set from the inactive state to the active state. • In a redundantly configured system, cutover from one switch card to the other has occurred. If you see this trap at a time when none of the items listed above applies, call your customer support representative and report the error string.

Trap Name	NPTMM_2020
Trap Text	`Slot <slot#> State Changed From <state> To <state>`
Description	This trap indicates that the line card in the specified slot has changed from one state to another. The possible states are `EMPTY`, `FAILED`, `UP`, or `DOWN`.
Causes	A card changes to the `EMPTY` state if it is removed from the slot. A card changes to the `FAILED` state if it can't communicate over the TCS. A card changes to the `UP` state if it becomes operational and to the `DOWN` state if it ceases to be operational. If there is a change to the `UP` state, this trap occurs in conjunction with the NDD_3 traps. If there is a change to the `DOWN` or `EMPTY` state, this trap occurs in conjunction with the NDD_4 or NDD_5 trap. If there is a change to the `FAILED` state, the trap occurs with NPTMM_26 or NPTMM_30 traps.
Action	See the action required for the associated trap: NDD_4, NDD_5, NPTMM_26, or NPTMM_30.

Trap Name	NPTMM_2043
Trap Text	`Nettime active switch card <switch card slot> BITS failed.`
Description	The BITS clock source is now invalid. Nettime will automatically switch to the next highest priority clock source.
Causes	The cable is unplugged, or the BITS clock source has become invalid.
Action	Plug the cable back in and send a priority reset. Fix the BITS clock source and send a priority reset.

Trap Name	NPTMM_2044
Trap Text	`Nettime reference clock source preference number <pref num> source <source ifIndex/1/2> failed,` where 1 represents the switch card BITS interface and 2 represents the switch card oscillator.
Description	The current clock source has failed. Nettime automatically switches to the next available clock source.
Causes	Loss of port signal; the cable is unplugged; or the port has been set to inactive status.
Action	Correct the problem with the port signal; plug the cable back in; set the port to active status and send a priority reset.

Trap Name	NPTMM_2045
Trap Text	`Nettime reference clock transition to preference <preference> completed. New reference source is <1/2/ifIndex>,` where 1 represents the switch card oscillator and 2 represents the switch card BITS interface.
Description	After a reference clock failure, Nettime will reconfigure to the next available reference source. This trap identifies the new reference source.
Causes	Any nettime failure.
Action	None.

STP Traps

This section lists spanning-tree protocol (STP) traps generated by the bridging software.

Trap Name	STP_2001
Trap Text	`Spanning Tree topology changed. New Spanning Tree Root, Bridge ID <ID#>`
Description	This trap indicates that the sending agent has become the new root of the spanning tree; the trap is sent by a bridge soon after its election as the new root.
Action	None.

Trap Name	STP_2002
Trap Text	`Spanning Tree topology changed. Bridge port <port#> transitioned from <status> to <status> state.` where `<status>` is one of the following: forwarding, listening, learning, or blocking.
Description	This trap indicates a change in the topology, or structure, of the bridged network created by the spanning-tree protocol. The trap is sent by a bridge when any of its configured ports transitions from one state to another. (This trap is not sent if a New Root trap, STP_2001, is sent for the same transition.) The change of state may be caused, for example, by a port going up or down, or by the detection or elimination of a loop in the network.
Action	None.