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. Customer service representatives use informational traps to do advanced troubleshooting and software debugging. The informational traps 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.<br>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 the LCC_12 or LCC_14 trap, each of which indicates the type of loopback selected for the port.

If the port has no problems, 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 the LCC_12 or LCC_14 trap. Otherwise, consult your carrier to determine where and how the trunk line became looped.

# Comment Traps

This section lists traps generated through use of 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 the NDD_4 or NDD_5 trap.

**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#>`<br>`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 catchall 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).<br>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 service 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. |
| **Related Traps** | This trap may accompany the OPER trap COMMENT_1001 (system validation).<br>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 service 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 coincided 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 service 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 that they have synchronized their global information databases.

**Causes** This trap is generated after the two NPs have synchronized their global information databases. There are many causes of database synchronization—for example, a new node is installed, a trunk line comes into service, an NP or a node is rebooted, or 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 is no problem with the remote NP, call customer service.

**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 and can include LynxOS version, copyright information, and 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 time stamp 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. After a reboot occurs, KERN_2001 messages are numbered sequentially, starting at 1.

**Action** Usually, no action is required.

If the messages indicate that the kernel crashed, contact your customer service 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 service representative and report this trap and the associated KERN_2001 traps.

# LCC Traps

This section lists traps for the Line Card Control (LCC) process.

**Trap Name** **LCC_2001**

**Trap Text** `ILMI on <card.port> (user) Accepting NetPrefix: <string>`

**Description** This trap is reported by the Interim Local Management Interface (ILMI) on the user side of a UNI interface. The trap reports a normal part of the address registration procedure at startup. It may also indicate a dynamic addition to the NetPrefix table.

**Causes** The trap is generated in response to the network side ILMI successfully registering a net prefix.

**Action** No action is required.

**Trap Name** **LCC_2002**

**Trap Text** `ILMI on <card.port> (user) rejecting NetPrefix: <string>`

**Description** This trap is reported by the ILMI on the user side of a UNI interface. The trap reports that the net prefix supplied by the network side ILMI is malformed.

**Causes** The user-side ILMI generates the trap in response to an unsuccessful attempt by the network side of the ILMI to register a net prefix.

**Action** Correct the form of the net prefix:

- If an LS2020 node is supplying the malformed net prefix, refer to the procedures in the *LightStream 2020 CLI Reference Manual* or the *LightStream 2020 Configuration Guide*.
- If the malformed net prefix is coming from another device, refer to that device's configuration instructions.

**Trap Name** **LCC_2003**

**Trap Text** `ILMI on <card.port> (user) successfully registered ATM address: <string>`

**Description** This trap is reported by the ILMI on the user side of a UNI interface. The trap reports a normal part of the address registration procedure at startup. It may also indicate the dynamic addition of an ATM address.

**Causes** The trap is generated in response to the network side ILMI successfully registering an ATM address.

**Action** No action is required.

**Trap Name** **LCC_2004**

**Trap Text** `ILMI on <card.port> (user) failed to register ATM address: <string>`

**Description** This trap is reported by the ILMI on the user side of a UNI interface. The trap reports that the ATM address supplied by the user side ILMI has been rejected by the network side ILMI.

**Causes** Rejection of an ATM address generally occurs for one of the following reasons:

- The ATM address is malformed.
- The address is well formed, but its network prefix component is not supported by the network-side device.
- The address has already been registered on another UNI interface of the network-side device.
- The address table on the network-side device is full.

**Action** If the address is malformed, correct it by using the procedures in the *LightStream 2020 CLI Reference Manual* or the *LightStream 2020 Configuration Guide*.

If the network prefix component is not supported by the network-side device, contact Cisco customer service.

If the address is already used by another UNI interface of the network-side device, change either the end-station identifier (esi) on the user side or the net prefix on the network side of the ILMI:

- If a LightStream 2020 node is supplying the ATM address, refer to the procedures in the *LightStream 2020 CLI Reference Manual* or the *LightStream 2020 Configuration Guide*.
- If the ATM address is coming from another device, refer to that device's configuration instructions.

If the address table on the network side device is full, contact your customer service representative.

**Trap Name** **LCC_2005**

**Trap Text** `ILMI on <card.port> (network) accepting ATM address: <string>`

**Description** This trap is reported by the ILMI on the network side of a UNI interface. The trap reports a normal part of the address registration procedure at startup. It may also indicate the dynamic addition of an ATM address.

**Causes** The trap is generated in response to the user-side ILMI successfully registering an ATM address.

**Action** No action is required.

**Trap Name** **LCC_2006**

**Trap Text**
```
ILMI on <card.port> (network) rejecting ATM address:
<string>
```

**Description** This trap is reported by the ILMI on the network side of a UNI interface. The trap reports that the ATM address supplied by the user-side ILMI has been rejected by the network-side ILMI.

**Causes** Rejection of an ATM address generally occurs for one of the following reasons:

- The ATM address is malformed.
- The ATM address is well formed, but its network prefix component is not supported by the network-side device.
- The address has already been registered on another UNI interface of the network-side device.
- The address table on the network side device is full.

**Action** If the address is malformed, correct it by using the procedures in the *LightStream 2020 CLI Reference Manual* or the *LightStream 2020 Configuration Guide*.

If the network prefix component is not supported by the network-side device, contact Cisco customer service.

If the address is already used by another UNI interface of the network side device, change either the end-station identifier (esi) or the net prefix on the user side of the ILMI:

- If a LightStream 2020 node is supplying the ATM address, refer to the procedures in the *LightStream 2020 CLI Reference Manual* or the *LightStream 2020 Configuration Guide*.
- If the ATM address is coming from another device, refer to that device's configuration instructions.

If the address table on the network side device is full, contact your customer service representative.

**Trap Name** **LCC_2007**

**Trap Text**
```
ILMI on <card.port> (network) initiating interface
shutdown, ifstate = < non-existent | starting | address
registration pending | up>
```

**Description** This trap reports the ILMI state of the interface at the time the action to shut the interface down was initiated.

**Causes** This trap is usually issued when the user has set the interface port to inactive or when the LS2020 switch must shut down the port in response to another event.

**Action** No action is required.

**Trap Name** **LCC_2008**

**Trap Text** `ILMI on <card.port> (network) failed to register NetPrefix: <string>`

**Description** This trap is reported by the ILMI on the network side of a UNI interface. The trap reports that the network side ILMI was unable to register the net prefix with the user side ILMI.

**Causes** Failure to register a net prefix generally occurs for one of the following reasons:

- The net prefix is malformed.
- The net prefix table on the user-side device is full.
- The user-side device is not responding to requests by the LS2020 to register the address.
- There are insufficient resources on the LS2020 to support the net prefix.

**Action** If the net prefix malformed, correct it by using the procedures in the *LightStream 2020 CLI Reference Manual* or the *LightStream 2020 Configuration Guide*.

If the network prefix is well-formed, contact your customer service representative.

# 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. The trap occurs in conjunction with Link Up traps.

**Causes** This trap is generated when anything affecting the connectivity to an NP occurs (for example, when a new node is installed, a trunk line comes into service or 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 that a control channel no longer exists between the two NPs. The 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 that a control channel no longer exists between the two NPs. The 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 that a control channel no longer exists between the two NPs. The trap occurs in conjunction with traps NDD_4, and NDD_5 and with Link Down 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 was caused by a link or card going out of service. If the ERMP failure code is 0x403, an internal ERMP software error caused the failure 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, the trap occurs in conjunction with NPTMM_25 or NPTMM_26.

This trap is generated when there is a TCS hardware failure. In this case, the trap occurs with the NPTMM_26 or NPTMM_30 trap.

**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 service 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, and 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 trap.

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 an NPTMM_26 or NPTMM_30 trap.

**Action** See the action required for the associated trap: NDD_4, NDD_5, NPTMM_26, or NPTMM_30.

**Trap Name** **NPTMM_2040**

**Trap Text** `nptmm_nt_swmsg: illegal ErmpHeader flags <flag #> type <type #> command <command #> next <next field> eia <EIA #>`

**Description** This trap indicates that an internal NPTMM error occurred that was related to Nettime operation.

**Causes** This trap is generated when the NPTMM receives an illegal message header from the Nettime task running on a line card.

**Action** Contact your customer service representative.

**Trap Name** **NPTMM_2041**

**Trap Text** `nptmm_nt_swmsg: bad reply <header status>`

**Description** This trap indicates that an internal NPTMM error occurred that was related to Nettime operation.

**Causes** This trap is generated when the NPTMM receives a bad reply message.

**Action** Contact your customer service representative.

**Trap Name** **NPTMM_2042**

**Trap Text** `Nettime rx message too small`

**Description** This trap indicates that an internal NPTMM error occurred that was related to Nettime operation.

**Causes** This trap is generated when the NPTMM receives a message of incorrect size from the Nettime task running on a line card.

**Action** Contact your customer service representative.

**Trap Name** **NPTMM_2043**

**Trap Text** `Nettime active switch card <switch card slot> BITS failed.`

**Description** The BITS clock source is now invalid. Nettime automatically switches 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 reconfigures 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.