System Error Messages

This appendix describes the IOS system error messages for the switch. The system software sends these error messages to the console (and, optionally, to a logging server on another system) during operation. Not all system error messages indicate problems with your system. Some messages are purely informational, while others can help diagnose problems with communications lines, internal hardware, or the system software.

This appendix contains the following sections:

How to Read System Error Messages

System error messages begin with a percent sign (%) and are structured as follows:

%FACILITY-SUBFACILITY-SEVERITY-MNEMONIC: Message-text

- FACILITY is a code consisting of two or more uppercase letters that indicate the facility to which the message refers. A facility can be a hardware device, a protocol, or a module of the system software. Table A-1 lists the system facility codes.

Table A-1 Facility Codes

Code	Facility
CHASSIS	Chassis
CMP	Cluster Membership Protocol
ENVIRONMENT	Environment
GIGASTACK	GigaStack GBIC
LINK	Link
LRE_LINK	LRE Link
MODULE	Module
PORT SECURITY	Port Security
RTD	Runtime Diagnostic
STORM CONTROL	Storm Control

- SEVERITY is a single-digit code from 0 to 7 that reflects the severity of the condition. The lower the number, the more serious the situation. Table A-2 lists the message severity levels.
- MNEMONIC is a code that uniquely identifies the error message.

Table A-2 Message Severity Levels

Severity Level	Description
0 – emergency	System is unusable.
1 – alert	Immediate action required.
2 – critical	Critical condition.
3 – error	Error condition.
4 – warning	Warning condition.
5 – notification	Normal but significant condition.
6 – informational	Informational message only.
7 – debugging	Message that appears during debugging only.

- Message-text is a text string describing the condition. This portion of the message sometimes contains detailed information about the event, including terminal port numbers, network addresses, or addresses that correspond to locations in the system memory address space. Because the information in these variable fields changes from message to message, it is represented here by short strings enclosed in square brackets ([ ]). A decimal number, for example, is represented as [dec]. Table A-3 lists the variable fields in messages.

Table A-3 Representation of Variable Fields in Messages

Representation	Type of Information
[dec]	Decimal
[char]	Single character
[chars]	Character string
[hex]	Hexadecimal integer
[inet]	Internet address

The following is a sample system error message:

%LINK-2-BADVCALL: Interface [chars], undefined entry point

Some error messages also indicate the card and slot reporting the error. These error messages begin with a percent sign (%) and are structured as follows:

```
%CARD-SEVERITY-MSG:SLOT %FACILITY-SEVERITY-MNEMONIC:
Message-text
```

where:

- CARD is a code that describes the type of card reporting the error.
- MSG is a mnemonic that means that this is a message. It is always shown as MSG.
- SLOT means that the slot number of the card reporting the error. It is shown as SLOT followed by a number. (For example, SLOT5.)

Error Message Traceback Reports

Some messages describe internal errors and contain traceback information. This information is very important and should be included when you report a problem to your technical support representative.

The following sample message includes traceback information:

-Process= "Exec", level= 0, pid= 17

-Traceback= 1A82 1AB4 6378 A072 1054 1860

Error Message and Recovery Procedures

This section lists the switch system messages by facility. Within each facility, the messages are listed by severity levels 0 to 7: 0 is the highest severity level, and 7 is the lowest severity level. Each message is followed by an explanation and a recommended action.

Chassis Message

This section contains the Chassis error message.

```
CHASSIS-5-BLADE_EXTRACT
```

Explanation The message means that the hot-swap switch has been pressed.

Action Extract the module.

CMP Messages

This section contains the Cluster Membership Protocol (CMP) error messages.

```
CMP-5-ADD: The Device is added to the cluster (Cluster
Name:[chars], CMDR IP Address [inet])
```

Explanation The message means that the device is added to the cluster: [chars] is the cluster name, and [inet] is the Internet address of the command switch.

Action No action is required.

```
CMP-5-MEMBER_CONFIG_UPDATE: Received member configuration from
member [dec]
```

Explanation This message means that the command switch received a member configuration: [dec] is the member number.

Action No action is required.

```
CMP-5-REMOVE The Device is removed from the cluster (Cluster
Name:[chars])
```

Explanation The message means that the device is removed from the cluster: [chars] is the cluster name.

Action No action is required.

Environment Messages

This section contains the Environment error messages.

```
ENVIRONMENT-2-FAN_FAULT
```

Explanation This message means that an internal fan fault is detected. This message is available only on the Catalyst 3524-PWR XL switch.

Action Either check the switch itself, or use the **show env** privileged EXEC command to check if a fan on the switch has failed. The Catalyst 3524-PWR XL switch can operate normally with one failed fan. Replace the switch at your convenience.

```
ENVIRONMENT-2-OVER_TEMP
```

Explanation This message means that an overtemperature condition is detected. This message is available only on the Catalyst 3524-PWR XL switch.

Action Use the **show env** command to check if an overtemperature condition exists. If it does:

- Place the switch in an environment that is within 32 to 113°F (0 to 45°C).
- Make sure fan intake and exhaust areas are clear.

If a multiple-fan failure is causing the switch to overheat, replace the switch.

GigaStack Messages

This section contains the GigaStack error messages.

GIGASTACK-6-LOOP_BROKEN

Explanation This message means that a loop formed by GigaStack modules is broken because of link loss. Link 2 of the Master Loop Breaker is re-enabled to replace the broken line.

Action No action is required.

GIGASTACK-6-LOOP_DETECTED

Explanation This message means that a loop has been detected in the GigaStack, and this GigaStack GBIC is selected as the Master Loop Breaker. Link 2 of this GigaStack GBIC is disabled to break the loop.

Action No action is required.

GIGASTACK-6-NO_LOOP_DETECT

Explanation This message means that no acknowledgement for GigaStack loop detection request is received from one of the links on a GigaStack GBIC. Either the neighboring switch does not support the GigaStack Loop breaking algorithm, or the link between the two GigaStack GBICs is broken. Under this condition, a GigaStack loop topology is not automatically detected, and the connectivity between switches in the stack could be lost.

Action If loop topology is used in the GigaStack, make sure the latest software is running on all switches in the stack. Check the GigaStack GBICs involved to make sure they are functioning.

Link Message

This section contains the Link error message.

```
LINK-4-ERROR [chars] is experiencing errors.
```

Explanation This messages means that excessive errors have occurred on this interface: [char] is the interface.

Action Check for duplex mismatches between both ends of the link.

Note The previous error is a LINK-4-ERROR message, which is logged at the Warning level. LINK-3-ERROR messages are more severe and are logged at the Error level.

LRE Link Messages

This section contains the LRE Link error messages.

```
LRE_LINK-3-UPDOWN: Interface changed state to up or down
```

Explanation This message means that the link between the LRE port and the CPE device has been lost and that no Ethernet traffic is being transferred. This could be the result of reconfiguring the port, reconfiguring a profile in use by this port, a physical disconnection or reconnection of the LRE connector on the switch, or by someone disconnecting the CPE LRE cable or cycling its power. It might also be caused by any substantial interruption of the signal or cabling between the LRE port and the CPE.

Action If someone is reconfiguring the port or the profile in use, ignore this message. However, if the LRE link does not go back up within a minute or so, it could mean a physical disconnection at the switch or CPE or a loss of power to the CPE.

```
LRE_LINK-3-PROFILE_FAILURE: Interface, profile failure
```

Explanation When the switch reloads or when the LRE link is lost, the LRE port first attempts to briefly establish link with the CPE in a common, reduced rate mode. This is so that the switch can exchange configuration information

with the CPE to achieve the link rate of the profile configured for the port. When the reduced rate is achieved, link is dropped briefly, and the LRE and CPE ports attempt to establish the profile link rate. If, after a time (typically 30 seconds), no LRE link is established, this message appears, and the port LED is amber. The port continues to attempt to establish link, starting from the reduced rate. This message could also mean that the switch or CPE is faulty.

Action Change the profile on the port to one that has a lower rate or has a longer reach. There might be too many impairments on the connection between the switch and the CPE for the ports to sustain the profile rate. If you suspect the switch or CPE is faulty, contact Cisco Systems.

Module Message

This section contains the Module error message.

`MODULES-3-MAC_TBL_SIZE`

Explanation This messages means that dynamic module insertion supports less MAC addresses.

Action Reboot system to use the module.

Port Security Messages

This section contains the Port Security error message.

`PORT_SECURITY-2-SECURITYREJECT`

Explanation This message means that a packet with an unexpected source address is received on a secure port.

Action Remove the station with the unexpected MAC address from the secure port, or add the MAC address to the secure address table of the secure port.

RTD Messages

This section contains the Runtime Diagnostic (RTD) error messages.

`RTD-1-ADDR_FLAP [chars] relearning [dec] addrs per min`

Explanation Normally, MAC addresses are learned once on a port. Occasionally, when a switched network reconfigures, due to either manual or STP reconfiguration, addresses learned on one port are relearned on a different port. However, if there is a port anywhere in the switched domain that is looped back to itself, addresses will jump back and forth between the real port and the port that is in the path to the looped back port. In this message, [chars] is the interface, and [dec] is the number of addresses being learnt.

Action Determine the real path (port) to the MAC address. Use **debug ethernet-controller addr** to see the alternate path-port on which the address is being learned. Go to the switch attached to that port. Note that the **show cdp neighbors** command is useful in determining the next switch. Repeat this procedure until the port is found that is receiving what it is transmitting, and remove that port from the network.

`RTD-1-LINK_FLAP [chars] link down/up [dec] times per min`

Explanation This message means that an excessive number of link down-up events has been noticed on this interface: [chars] is the interface, and [dec] is the number of times the link goes up and down. This might be the result of reconfiguring the port, or it might indicate a faulty device at the other end of the connection.

Action If someone is reconfiguring the interface or device at the other side of the interface, ignore this message. However, if no one is manipulating the interface or device at the other end of the interface, it is likely that the Ethernet transceiver at one end of the link is faulty and should be replaced.

Storm Control Messages

This section contains the Storm Control error message.

`STORM_CONTROL-2-SHUTDOWN`

Explanation This messages means that excessive traffic has been detected on a port that has been configured to be shut down if a storm event is detected

Action Once the source of the packet storm has been fixed, re-enable the port by using port-configuration commands.