C H A P T E R **7**

Maintenance Troubleshooting

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Introduction

This chapter provides the information needed to monitor and troubleshoot Maintenance events and alarms. This chapter is divided into the following sections:

- Maintenance Events and Alarms – Provides a brief overview of each Maintenance event and alarm.
- Monitoring Maintenance Events – Provides the information needed to monitor and correct Maintenance events.
- Troubleshooting Maintenance Alarms – Provides the information needed to troubleshoot and correct Maintenance alarms.

Maintenance Events and Alarms

This section provides a brief overview of the Maintenance events and alarms for the Cisco BTS 10200 Softswitch in numerical order. Table 7-1 lists all maintenance events and alarms by severity.

Note   Click the maintenance message number in Table 7-1 to display information about the event.

Table 7-1   Maintenance Events and Alarms by Severity

CRITICAL	MAJOR	MINOR	WARNING	INFO
MAINTENANCE (40)	MAINTENANCE (3)	MAINTENANCE (18)	MAINTENANCE (29)	MAINTENANCE (1)
MAINTENANCE (43)	MAINTENANCE (4)	MAINTENANCE (24)	MAINTENANCE (41)	MAINTENANCE (2)
MAINTENANCE (44)	MAINTENANCE (5)	MAINTENANCE (48)	MAINTENANCE (75)	MAINTENANCE (11)
MAINTENANCE (47)	MAINTENANCE (6)	MAINTENANCE (67)		MAINTENANCE (12)
MAINTENANCE (50)	MAINTENANCE (7)	MAINTENANCE (83)		MAINTENANCE (13)
MAINTENANCE (53)	MAINTENANCE (8)	MAINTENANCE (86)		MAINTENANCE (14)
MAINTENANCE (57)	MAINTENANCE (9)	MAINTENANCE (90)		MAINTENANCE (15)
MAINTENANCE (61)	MAINTENANCE (10)	MAINTENANCE (98)		MAINTENANCE (16)
MAINTENANCE (65)	MAINTENANCE (19)			MAINTENANCE (17)
MAINTENANCE (69)	MAINTENANCE (20)			MAINTENANCE (22)
MAINTENANCE (70)	MAINTENANCE (21)			MAINTENANCE (25)
MAINTENANCE (73)	MAINTENANCE (23)			MAINTENANCE (27)
MAINTENANCE (74)	MAINTENANCE (26)			MAINTENANCE (28)
MAINTENANCE (82)	MAINTENANCE (42)			MAINTENANCE (30)
MAINTENANCE (85)	MAINTENANCE (45)			MAINTENANCE (32)
MAINTENANCE (91)	MAINTENANCE (49)			MAINTENANCE (33)
MAINTENANCE (97)	MAINTENANCE (51)			MAINTENANCE (34)
MAINTENANCE (100)	MAINTENANCE (55)			MAINTENANCE (35)
MAINTENANCE (101)	MAINTENANCE (62)			MAINTENANCE (36)
MAINTENANCE (102)	MAINTENANCE (63)			MAINTENANCE (37)
MAINTENANCE (103)	MAINTENANCE (64)			MAINTENANCE (38)
	MAINTENANCE (66)			MAINTENANCE (39)
	MAINTENANCE (68)			MAINTENANCE (46)
	MAINTENANCE (71)			MAINTENANCE (52)
	MAINTENANCE (72)			MAINTENANCE (54)
	MAINTENANCE (77)			MAINTENANCE (56)
	MAINTENANCE (84)			MAINTENANCE (58)
	MAINTENANCE (87)			MAINTENANCE (78)
	MAINTENANCE (88)			MAINTENANCE (79)
	MAINTENANCE (89)			MAINTENANCE (80)
	MAINTENANCE (92)			MAINTENANCE (81)

Table 7-1   Maintenance Events and Alarms by Severity (continued)

CRITICAL	MAJOR	MINOR	WARNING	INFO
	MAINTENANCE (93)			MAINTENANCE (94)
	MAINTENANCE (99)			MAINTENANCE (95)
				MAINTENANCE (96)

MAINTENANCE (1)

For additional information, refer to the "Test Report - Maintenance (1)" section on page 7-58.

DESCRIPTION	Test Report
SEVERITY	Information (INFO)
THRESHOLD	10000
THROTTLE	0

MAINTENANCE (2)

For additional information, refer to the "Report Threshold Exceeded - Maintenance (2)" section on page 7-58.

DESCRIPTION	Report Threshold Exceeded
SEVERITY	INFO
THRESHOLD	0
THROTTLE	0
DATAWORDS	Report Type - TWO_BYTES Report Number - TWO_BYTES Threshold Level - TWO_BYTES
PRIMARY CAUSE	Issued when the threshold for a given report type and number is exceeded.
PRIMARY ACTION	No action is required since this is an information report. The root cause event report - threshold should be investigated to determine if there is a service affecting situation.

MAINTENANCE (3)

To troubleshoot and correct the cause of the alarm, refer to the

DESCRIPTION	Keep Alive Module: Local Side has Become Faulty (KAM: Local Side Has Become Faulty)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30] Reason - STRING [80] Probable Cause - STRING [80]
PRIMARY CAUSE	Can result from maintenance report 5, 6, 9, 10, 19, 20.
PRIMARY ACTION	Review information from command line interface (CLI) log report. Usually software problem; restart software using the installation and startup procedure.
SECONDARY CAUSE	Manually shutting down the system using platform stop command.
SECONDARY ACTION	Reboot host machine, reinstall all applications and restart all applications. If fault state is a commonly occurring problem, then operating system (OS) or hardware may be a problem.

MAINTENANCE (4)

To troubleshoot and correct the cause of the alarm, refer to the "Mate Side has Become Faulty - Maintenance (4)" section on page 7-77.

DESCRIPTION	Keep Alive Module: Mate Side Has Become Faulty (KAM: Mate Side Has Become Faulty)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30] Reason - STRING [80] Probable Cause - STRING [80] Mate Ping - STRING [50]
PRIMARY CAUSE	Local side has detected the mate side going to faulty state.
PRIMARY ACTION	Display the event summary on the faulty mate side, using the report event-summary command (see the CLI Guide for command details).
SECONDARY ACTION	Review information in the event summary. This is usually a software problem.
TERNARY ACTION	After confirming the active side is processing traffic, restart software on the mate side. Log in to the mate platform as root user. Enter platform stop command and then platform start command.
SUBSEQUENT ACTION	If software restart does not resolve the problem that is, if the platform goes immediately to faulty again, or does not start, contact Cisco Technical Assistance Center (TAC). It may be necessary to reinstall software. If problem is commonly occurring, then OS or hardware may be a problem. Reboot host machine, then reinstall and restart all applications. If you reboot, this will bring down other applications running on this machine. Contact Cisco TAC for assistance.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (5)

To troubleshoot and correct the cause of the alarm, refer to the "Changeover Failure - Maintenance (5)" section on page 7-77.

DESCRIPTION	Keep Alive Module: Changeover Failure (KAM: Changeover Failure)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	Issued when changing from an active processor to a standby and the changeover fails.
PRIMARY ACTION	Review information from CLI log report.
SECONDARY CAUSE	This alarm is usually caused by a software problem on the specific platform identified in the alarm report.
SECONDARY ACTION	On the platform identified in this alarm report, restart the platform.
TERNARY ACTION	If platform restart is not successful, reinstall the application for this platform, and then restart platform again.
SUBSEQUENT ACTION	If necessary, reboot host machine this platform is located on. Then reinstall and restart all applications on this machine. If faulty state is a commonly occurring event, then OS or hardware may be a problem. Contact Cisco TAC for assistance. It may also be helpful to gather information event/alarm reports that were issued before and after this alarm report.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (6)

To troubleshoot and correct the cause of the alarm, refer to the "Changeover Timeout - Maintenance (6)" section on page 7-78.

DESCRIPTION	Keep Alive Module: Changeover Timeout (KAM: Changeover Timeout)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	System failed to changeover within time period. Soon after this event is issued, one platform will go to faulty state.
PRIMARY ACTION	Review information from CLI log report.
SECONDARY CAUSE	This alarm is usually caused by a software problem on the specific platform identified in the alarm report.
SECONDARY ACTION	On the platform identified in this alarm report, restart the platform.
TERNARY ACTION	If platform restart is not successful, reinstall the application for this platform, and then restart platform again.
SUBSEQUENT ACTION	If necessary, reboot host machine this platform is located on. Then reinstall and restart all applications on this machine. If faulty state is a commonly occurring event, then the operating system (OS) or hardware may be a problem. Contact Cisco TAC for assistance. It may also be helpful to gather information event/alarm reports that were issued before and after this alarm report.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (7)

To troubleshoot and correct the cause of the alarm, refer to the "Mate Rejected Changeover - Maintenance (7)" section on page 7-78.

DESCRIPTION	Keep Alive Module: Mate Rejected Changeover (KAM: Mate Rejected Changeover)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	Mate is not yet in stable state.
PRIMARY ACTION	Enter the status command to get information on the two systems in the pair (primary and secondary Element Management System (EMS), Call Agent (CA) or Feature Server (FS)).
SECONDARY CAUSE	Mate detects itself faulty during changeover and then rejects changeover. **Note** This attempted changeover could be caused by a forced (operator) switch, or could be caused by secondary instance rejecting changeover as primary is being brought up.
SECONDARY ACTION	If mate is faulty (not running), then perform the corrective action steps listed for the MAINTENANCE (4) event.
TERNARY ACTION	If both systems (local and mate) are still running, diagnose whether both instances are operating in stable state (one in active and the other in standby). If both are in a stable state, wait 10 minutes and try the "control" command again.
SUBSEQUENT ACTION	If standby side is not in stable state, bring down the standby side and restart software using the "platform stop" and "platform start" commands. If software restart does not resolve the problem, or if the problem is commonly occurring, contact Cisco TAC. It may be necessary to reinstall software. Additional OS or hardware problems may also need to be resolved.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (8)

To troubleshoot and correct the cause of the alarm, refer to the "Mate Changeover Timeout - Maintenance (8)" section on page 7-81.

DESCRIPTION	Keep Alive Module: Mate Changeover Timeout (KAM: Mate Changeover Timeout)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	Faulty mate.
PRIMARY ACTION	Review information from CLI log report concerning faulty mate.
SECONDARY ACTION	This alarm is usually caused by a software problem on the specific mate platform identified in the alarm report.
TERNARY ACTION	On the mate platform identified in this alarm report, restart the platform.
SUBSEQUENT ACTION	If mate platform restart is not successful, reinstall the application for this mate platform, and then restart mate platform again. If necessary, reboot host machine this mate platform is located on. Then reinstall and restart all applications on that machine.

MAINTENANCE (9)

To troubleshoot and correct the cause of the alarm, refer to the "Local Initialization Failure - Maintenance (9)" section on page 7-81.

DESCRIPTION	Keep Alive Module: Local Initialization Failure (KAM: Local Initialization Failure)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	Local initialization has failed.
PRIMARY ACTION	When this event report is issued, the system has failed and the re-initialization process has failed.
SECONDARY ACTION	Check that the binary files are present for the unit (Call Agent, Feature Server, Element Manager).
TERNARY ACTION	If the files are not present, then re-install the files from initial or backup media. Then restart the failed device.

MAINTENANCE (10)

To troubleshoot and correct the cause of the alarm, refer to the "Local Initialization Timeout - Maintenance (10)" section on page 7-81.

DESCRIPTION	Keep Alive Module: Local Initialization Timeout (KAM: Local Initialization Timeout)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	Local initialization has timed out.
PRIMARY ACTION	Check that the binary files are present for the unit (Call Agent, Feature Server, or Element Manager).
SECONDARY CAUSE	When the event report is issued, the system has failed and the re-initialization process has failed.
SECONDARY ACTION	If the files are not present, then re-install the files from initial or backup media. Then restart the failed device.

MAINTENANCE (11)

For additional information, refer to the "Switchover Complete - Maintenance (11)" section on page 7-59.

DESCRIPTION	Switchover Complete
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	Acknowledges that the changeover successfully completed.
PRIMARY ACTION	Informational event report and no further action is required.

MAINTENANCE (12)

For additional information, refer to the "Initialization Successful - Maintenance (12)" section on page 7-59.

DESCRIPTION	Keep Alive Module: Initialization Successful (KAM: Initialization Successful)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]
PRIMARY CAUSE	Initiates a local initialization that is successful.
PRIMARY ACTION	Informational event report and no further action is required.

MAINTENANCE (13)

For additional information, refer to the "Administrative State Change - Maintenance (13)" section on page 7-60.

DESCRIPTION	Administrative State Change (Admin State Change)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Facility Type - STRING [40] Facility ID - STRING [40] Initial Admin State - STRING [20] Target Admin State - STRING [20] Current Admin State - STRING [20]
PRIMARY CAUSE	The administrative state of a managed resource has changed.
PRIMARY ACTION	No action is required, since this informational event report is given after manually changing the administrative state of a managed resource.

MAINTENANCE (14)

For additional information, refer to the "Call Agent Administrative State Change - Maintenance (14)" section on page 7-60.

DESCRIPTION	Call Agent Administrative State Change
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Call Agent ID - STRING [40] Current Local State - STRING [40] Current Mate State - STRING [20]
PRIMARY CAUSE	Indicates that call agent has changed operational state as a result of a manual switchover (control command in CLI).
PRIMARY ACTION	No action is required.

MAINTENANCE (15)

For additional information, refer to the "Feature Server Administrative State Change - Maintenance (15)" section on page 7-60.

DESCRIPTION	Feature Server Administrative State Change
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Feature Server ID - STRING [40] Feature Server Type - STRING [40] Current Local State - STRING [20] Current Mate State - STRING [20]
PRIMARY CAUSE	Indicates that call agent has changed operational state as a result of a manual switchover (control command in CLI).
PRIMARY ACTION	No action is required.

MAINTENANCE (16)

For additional information, refer to the "Process Manager: Starting Process - Maintenance (16)" section on page 7-60.

DESCRIPTION	Process Manager: Starting Process (PMG: Starting Process)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Restart Type - STRING [40] Restart Mode - STRING [32] Process Group - ONE_BYTE
PRIMARY CAUSE	Process is being started as system is being brought up.
PRIMARY ACTION	No action is required.

MAINTENANCE (17)

For additional information, refer to the "Invalid Event Report Received - Maintenance (17)" section on page 7-60.

DESCRIPTION	Invalid Event Report Received
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Report Type - TWO_BYTES Report Number - TWO_BYTES Validation Failure - STRING [30]
PRIMARY CAUSE	Indicates that a process has sent an event report that cannot be found in the database.
PRIMARY ACTION	If during system initialization a short burst of these event reports are issued prior to the database initialization, then these event reports are informational and can be ignored.
SECONDARY ACTION	Otherwise, contact Cisco TAC technical support for more information. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (18)

DESCRIPTION	Process Manager: Process has Died (PMG: Process has Died)
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - FOUR_BYTES
PRIMARY CAUSE	This alarm is caused by a software problem.
PRIMARY ACTION	If problem persists, contact Cisco TAC technical support. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (19)

DESCRIPTION	Process Manager: Process Exceeded Restart Rate (PMG: Process Exceeded Restart Rate)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Restart Rate - FOUR_BYTES Process Group - ONE_BYTE
PRIMARY CAUSE	This alarm is usually caused by a software problem on the specific platform identified in the alarm report. Soon after this event is issued, one platform will go to faulty state.
PRIMARY ACTION	Review information from CLI log report.
SECONDARY ACTION	On the platform identified in this alarm report, restart the platform.
TERNARY ACTION	If platform restart is not successful, reinstall the application for this platform, and then restart platform again.
SUBSEQUENT ACTION	If necessary, reboot host machine this platform is located on. Then reinstall and restart all applications on this machine.

MAINTENANCE (20)

To troubleshoot and correct the cause of the alarm, refer to the "Lost Connection to Mate - Maintenance (20)" section on page 7-82.

DESCRIPTION	Keep Alive Module: Lost Connection to Mate (KAM: Lost KAM Connection to Mate)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Mate Ping - STRING [50]
PRIMARY CAUSE	Network interface hardware problem.
PRIMARY ACTION	Check whether the network interface is down. If so, restore network interface and restart the software.
SECONDARY CAUSE	The alarm can be caused by a router problem.
SECONDARY ACTION	If router problem, then repair router and reinstall.
TERNARY CAUSE	Soon after this event is issued, one platform may go to faulty state.

MAINTENANCE (21)

To troubleshoot and correct the cause of the alarm, refer to the "Network Interface Down - Maintenance (21)" section on page 7-82.

DESCRIPTION	Keep Alive Module: Network Interface Down (KAM: Network Interface Down)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	IP Address - STRING [50]
PRIMARY CAUSE	The alarm is caused by a network interface hardware problem.
PRIMARY ACTION	Subsequently system goes faulty.
SECONDARY CAUSE	Soon after this event is issued, one platform may go to faulty state.
SECONDARY ACTION	Check whether the network interface is down. If so, restore network interface and restart the software.

MAINTENANCE (22)

For additional information, refer to the "Mate is Alive - Maintenance (22)" section on page 7-61.

DESCRIPTION	Keep Alive Module: Mate is Alive (KAM: Mate is Alive)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [30] Mate State - STRING [30]

MAINTENANCE (23)

To troubleshoot and correct the cause of the alarm, refer to the "Process Manager: Process Failed to Complete Initialization - Maintenance (23)" section on page 7-82.

DESCRIPTION	Process Manager: Process Failed to Complete Initialization (PMG: Process Failed to Complete Initialization)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	The specified process failed to complete initialization during the restoral process.
PRIMARY ACTION	Verify that the specified process's binary image is installed. If not, install it and restart the platform.

MAINTENANCE (24)

To troubleshoot and correct the cause of the alarm, refer to the "Process Manager: Restarting Process - Maintenance (24)" section on page 7-82.

DESCRIPTION	Process Manager: Restarting Process (PMG: Restarting Process)
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Restart Type - STRING [40] Restart Mode - STRING [32] Process Group - ONE_BYTE
PRIMARY CAUSE	Software problem process has exited abnormally and had to be restarted.
PRIMARY ACTION	If problem persists, contact Cisco TAC.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (25)

For additional information, refer to the "Process Manager: Changing State - Maintenance (25)" section on page 7-61.

DESCRIPTION	Process Manager: Changing State (PMG: Changing State)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Platform State - STRING [40]

MAINTENANCE (26)

To troubleshoot and correct the cause of the alarm, refer to the "Process Manager: Going Faulty - Maintenance (26)" section on page 7-82.

DESCRIPTION	Process Manager: Going Faulty (PMG: Going Faulty)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Reason - STRING [40]
PRIMARY CAUSE	System has been brought down. The system has detected a fault.
PRIMARY ACTION	If it is not due to the operator intentionally bringing down the system, then the platform has detected a fault and has shut down. This is typically followed by MAINTENANCE (3). Use corrective action procedures provided for MAINTENANCE (3).

MAINTENANCE (27)

For additional information, refer to the "Process Manager: Changing Over to Active - Maintenance (27)" section on page 7-62.

DESCRIPTION	Process Manager: Changing Over to Active (PMG: Changing Over to Active)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0

MAINTENANCE (28)

For additional information, refer to the "Process Manager: Changing Over to Standby - Maintenance (28)" section on page 7-62.

DESCRIPTION	Process Manager: Changing Over to Standby (PMG: Changing Over to Standby)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0

MAINTENANCE (29)

To monitor and correct the cause of the event, refer to the "Administrative State Change Failure - Maintenance (29)" section on page 7-62.

DESCRIPTION	Administrative State Change Failure (Admin State Change Failure)
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Facility Type - STRING [40] Facility Instance - STRING [40] Failure Reason - STRING [40] Initial Admin State - STRING [20] Target Admin State - STRING [20] Current Admin State - STRING [20]
PRIMARY CAUSE	An attempt to change the administrative state of a device has failed.
PRIMARY ACTION	Monitor the system to see if any event reports indicate a database update failure.
SECONDARY ACTION	If one is found, analyze the cause of the failure. Verify that the controlling element of the targeted device was in the ACTIVE state in order to service the request to change the ADMIN state of the device.
TERNARY ACTION	If the controlling platform instance is not ACTIVE, restore it to service.

MAINTENANCE (30)

For additional information, refer to the "Element Manager State Change - Maintenance (30)" section on page 7-62.

DESCRIPTION	Element Manager State Change
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Element Manager ID - STRING [40] Current Local State - STRING [40] Current Mate State - STRING [40]
PRIMARY CAUSE	The specified EMS has changed to the indicated state either naturally or via user request.
PRIMARY ACTION	No action is necessary. This is part of the normal state transitioning process for the EMS.
SECONDARY ACTION	Monitor the system for related event reports if the transition was to a faulty or out of service state.

> **Note** MAINTENANCE (31) is not used.

MAINTENANCE (32)

For additional information, refer to the "Process Manager: Sending Go Active to Process - Maintenance (32)" section on page 7-62.

DESCRIPTION	Process Manager: Sending Go Active to Process (PMG: Sending Go Active to Process)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	Process is being notified to switch to active state as the system is switching over from standby to active.
PRIMARY ACTION	No action is necessary.

MAINTENANCE (33)

For additional information, refer to the "Process Manager: Sending Go Standby to Process - Maintenance (33)" section on page 7-62.

DESCRIPTION	Process Manager: Sending Go Standby to Process (PMG: Sending Go Standby to Process)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	Process is being notified to exit gracefully as the system is switching over to standby state, or is shutting down. The switchover or shutdown could be due to either of the following: (1) Operator is taking the action to switch or shut down the system. (2) The system has detected a fault.
PRIMARY ACTION	No action is necessary.

MAINTENANCE (34)

For additional information, refer to the "Process Manager: Sending End Process to Process - Maintenance (34)" section on page 7-63.

DESCRIPTION	Process Manager: Sending End Process to Process (PMG: Sending End Process to Process)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	Process is being notified to exit gracefully as the system is switching over to standby state, or is shutting down. The switchover or shutdown could be due to either of the following: (1) Operator is taking the action to switch or shut down the system. (2) The system has detected a fault.
PRIMARY ACTION	No action is necessary.

MAINTENANCE (35)

For additional information, refer to the "Process Manager: All Processes Completed Initialization - Maintenance (35)" section on page 7-63.

DESCRIPTION	Process Manager: All Processes Completed Initialization (PMG: All Processes Completed Initialization)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
PRIMARY CAUSE	The system is being brought up, and all processes are ready to start executing.
PRIMARY ACTION	No action is necessary.

MAINTENANCE (36)

For additional information, refer to the "Process Manager: Sending All Processes Initialization Complete to Process - Maintenance (36)" section on page 7-63.

DESCRIPTION	Process Manager: Sending All Processes Init Complete to Process (PMG: Sending All Processes Init Complete to Process)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	The system is being brought up, and all processes are being notified to start executing.
PRIMARY ACTION	No action is necessary.

MAINTENANCE (37)

For additional information, refer to the "Process Manager: Killing Process - Maintenance (37)" section on page 7-63.

DESCRIPTION	Process Manager: Killing Process (PMG: Killing Process)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	One of the following software problems occurred while the system was being brought up or shut down.
PRIMARY ACTION	No action is necessary.
SECONDARY CAUSE	A process did not come up when the system was brought up and had to be killed in order to restart it.
TERNARY CAUSE	A process did not exit when asked to exit.

MAINTENANCE (38)

For additional information, refer to the "Process Manager: Clearing the Database - Maintenance (38)" section on page 7-63.

DESCRIPTION	Process Manager: Clearing the Database (PMG: Clearing the Database)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
PRIMARY CAUSE	The system is preparing to copy data from the mate. (The system has been brought up and the mate side is running.)
PRIMARY ACTION	No action is necessary.

MAINTENANCE (39)

For additional information, refer to the "Process Manager: Cleared the Database - Maintenance (39)" section on page 7-63.

DESCRIPTION	Process Manager: Cleared the Database (PMG: Cleared the Database)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
PRIMARY CAUSE	The system is prepared to copy data from the mate. (The system has been brought up and the mate side is running.)
PRIMARY ACTION	No action is necessary.

MAINTENANCE (40)

To troubleshoot and correct the cause of the alarm, refer to the "Process Manager: Binary Does not Exist for Process - Maintenance (40)" section on page 7-82.

DESCRIPTION	Process Manager: Binary Does not Exist for Process (PMG: Binary Does not Exist for Process)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Program Name - STRING [30] Executable Name - STRING [100]
PRIMARY CAUSE	Platform is not installed correctly.
PRIMARY ACTION	Reinstall platform.

MAINTENANCE (41)

To monitor and correct the cause of the event, refer to the .

DESCRIPTION	Administrative State Change Successful with Warning (Admin State Change Successful with Warning)
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Facility Type - STRING [40] Facility Instance - STRING [40] Initial State - STRING [20] Target State - STRING [20] Current State - STRING [20] Warning Reason - STRING [40]
PRIMARY CAUSE	Device was in a flux state.
PRIMARY ACTION	Retry command.

MAINTENANCE (42)

To troubleshoot and correct the cause of the alarm, refer to the .

DESCRIPTION	Keep Alive Module: Number of Heartbeat Messages Received is Less Than 50% of Expected (KAM: # of HB Messages Received is Less Than 50% of Expected)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Interface Name - STRING [50] IP Address - STRING [50] Expected HB Messages - ONE_BYTE HB Messages Received - ONE_BYTE
PRIMARY CAUSE	The alarm is caused by a network problem.
PRIMARY ACTION	Fix the network problem.

MAINTENANCE (43)

To troubleshoot and correct the cause of the alarm, refer to the "Process Manager: Process Failed to Come Up in Active Mode - Maintenance (43)" section on page 7-83.

DESCRIPTION	Process Manager: Process Failed to Come Up in Active Mode (PMG: Process Failed to Come Up in Active Mode)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	The alarm is caused by a software or configuration problem.
PRIMARY ACTION	Restart the platform. If problem persists call tech support. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (44)

To troubleshoot and correct the cause of the alarm, refer to the "Process Manager: Process Failed to Come Up in Standby Mode - Maintenance (44)" section on page 7-83.

DESCRIPTION	Process Manager: Process Failed to Come Up in Standby Mode (PMG: Process Failed to Come Up in Standby Mode)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [40] Process Group - ONE_BYTE
PRIMARY CAUSE	The alarm is caused by a software or configuration problem.
PRIMARY ACTION	Restart the platform. If problem persists call tech support. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (45)

To troubleshoot and correct the cause of the alarm, refer to the "Application Instance State Change Failure - Maintenance (45)" section on page 7-83.

DESCRIPTION	Application Instance State Change Failure
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Application Instance - STRING [20] Failure Reason - STRING [80]
PRIMARY CAUSE	Switchover of application instance failed because of a platform fault.
PRIMARY ACTION	Retry switchover and if condition continues call tech support. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (46)

For additional information, refer to the "Network Interface Restored - Maintenance (46)" section on page 7-65.

DESCRIPTION	Network Interface Restored
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Interface Name - STRING [80] Interface IP Address - STRING [80]
PRIMARY CAUSE	Interface cable is put back and interface is put "up" using ifconfig command.
PRIMARY ACTION	No action is required.

MAINTENANCE (47)

To troubleshoot and correct the cause of the alarm, refer to the "Thread Watchdog Counter Expired for a Thread - Maintenance (47)" section on page 7-83.

DESCRIPTION	Thread Watchdog Counter Expired for a Thread
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [5] Thread Type - FOUR_BYTES Thread Instance - FOUR_BYTES
PRIMARY CAUSE	The alarm is caused by a software error.
PRIMARY ACTION	No action is required. (The system will automatically recover or shutdown.)

MAINTENANCE (48)

To troubleshoot and correct the cause of the alarm, refer to the "Index Table Usage Exceeded Minor Usage Threshold Level - Maintenance (48)" section on page 7-84.

DESCRIPTION	Index Table Usage Exceeded Minor Usage Threshold Level (IDX Table Usage Exceeded Minor Usage Threshold Level)
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Table Name - STRING [80] Size - FOUR_BYTES Used - FOUR_BYTES
PRIMARY CAUSE	Call traffic is above design limits.
PRIMARY ACTION	Verify that traffic is within rated capacity.
SECONDARY CAUSE	Software problem requiring manufacture analysis.
SECONDARY ACTION	Contact customer support. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (49)

To troubleshoot and correct the cause of the alarm, refer to the "Index Table Usage Exceeded Major Usage Threshold Level - Maintenance (49)" section on page 7-84.

DESCRIPTION	Index Table Usage Exceeded Major Usage Threshold Level (IDX Table Usage Exceeded Major Usage Threshold Level)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Table Name - STRING [80] Table Size - FOUR_BYTES Used - FOUR_BYTES
PRIMARY CAUSE	Call traffic is above design limits.
PRIMARY ACTION	Verify that traffic is within rated capacity.
SECONDARY CAUSE	Software problem requiring manufacture analysis has occurred.
SECONDARY ACTION	Contact customer support. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (50)

To troubleshoot and correct the cause of the alarm, refer to the "Index Table Usage Exceeded Critical Usage Threshold Level - Maintenance (50)" section on page 7-84.

DESCRIPTION	Index Table Usage Exceeded Critical Usage Threshold Level (IDX Table Usage Exceeded Critical Usage Threshold Level)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Table Name - STRING [80] Table Size - FOUR_BYTES Used - FOUR_BYTES
PRIMARY CAUSE	Call traffic is above design limits.
PRIMARY ACTION	Verify that traffic is within rated capacity.
SECONDARY CAUSE	Software problem requiring manufacture analysis has occurred.
SECONDARY ACTION	Contact customer support. (Contact Cisco TAC.)

MAINTENANCE (51)

To troubleshoot and correct the cause of the alarm, refer to the "A Process Exceeds 70% of Central Processing Unit Usage - Maintenance (51)" section on page 7-84.

DESCRIPTION	A Process Exceeds 70% of Central Processing Unit Usage (A Process Exceeds 70% of CPU Usage)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] PID - STRING [40] Process Name - STRING [40] CPU Usage - STRING [40]
PRIMARY CAUSE	A process has entered a state of erratic behavior.
PRIMARY ACTION	Monitor the process and kill it if necessary.

MAINTENANCE (52)

For additional information, refer to the "Central Processing Unit Usage is Now Below the 50% Level - Maintenance (52)" section on page 7-66.

DESCRIPTION	Central Processing Unit Usage is Now Below the 50% Level (CPU Usage is Now Below the 50% Level)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] PID - STRING [40] Process Name - STRING [40] CPU Usage - STRING [40]
PRIMARY CAUSE	No probable cause is necessary.
PRIMARY ACTION	No corrective action is necessary.

MAINTENANCE (53)

To troubleshoot and correct the cause of the alarm, refer to the "The Central Processing Unit Usage is Over 90% Busy - Maintenance (53)" section on page 7-84.

DESCRIPTION	The Central Processing Unit Usage is Over 90% Busy (The CPU Usage is Over 90% Busy)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] CPU Usage - STRING [40]
PRIMARY CAUSE	To numerous to determine.
PRIMARY ACTION	Try to isolate the problem. Call Cisco for assistance. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (54)

For additional information, refer to the "The Central Processing Unit has Returned to Normal Levels of Operation - Maintenance (54)" section on page 7-66.

DESCRIPTION	The Central Processing Unit has Returned to Normal Levels of Operation (The CPU has Returned to Normal Levels of Operation)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] CPU Usage - STRING [40]
PRIMARY CAUSE	N/A
PRIMARY ACTION	N/A

MAINTENANCE (55)

To troubleshoot and correct the cause of the alarm, refer to the "The Five Minute Load Average is Abnormally High - Maintenance (55)" section on page 7-85.

DESCRIPTION	The Five Minute Load Average is Abnormally High
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] Load Average - STRING [40]
PRIMARY CAUSE	Multiple processes are vying for processing time on the system, which is normal in a high traffic situation such as heavy call processing or bulk provisioning.
PRIMARY ACTION	Monitor the system to ensure all subsystems are performing normally. If so, only lightening the effective load on the system will clear the situation. If not, verify which process(es) are running at abnormally high rates, provide the information to Cisco TAC. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (56)

For additional information, refer to the "The Load Average has Returned to Normal Levels - Maintenance (56)" section on page 7-66.

DESCRIPTION	The Load Average has Returned to Normal Levels
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] Load Average - STRING [40]
PRIMARY CAUSE	N/A
PRIMARY ACTION	N/A

MAINTENANCE (57)

To troubleshoot and correct the cause of the alarm, refer to the "Memory and Swap are Consumed at Critical Levels - Maintenance (57)" section on page 7-85.

Note Maintenance (57) is issued by the BTS 10200 system when memory consumption is greater than 95 percent (>95%) and swap space consumption is greater than 50 percent (>50%).

DESCRIPTION	Memory and Swap are Consumed at Critical Levels
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] Memory - STRING [40] Swap - STRING [40]
PRIMARY CAUSE	A process or multiple processes have consumed a critical amount of memory on the system and the operating system is utilizing a critical amount of the swap space for process execution. This can be a result of high call rates or bulk provisioning activity.
PRIMARY ACTION	Monitor the system to ensure all subsystems are performing normally. If so, only lightening the effective load on the system will clear the situation. If not, verify which process(es) are running at abnormally high rates, provide the information to Cisco TAC. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (58)

For additional information, refer to the "Memory and Swap are Consumed at Abnormal Levels - Maintenance (58)" section on page 7-67.

Note   Maintenance (58) is issued by the BTS 10200 system when memory consumption is greater than 80 percent (>80%) and swap space consumption is greater than 30 percent (>30%).

DESCRIPTION	Memory and Swap are Consumed at Abnormal Levels
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [40] Memory - STRING [40] Swap - STRING [40]
PRIMARY CAUSE	A process or multiple processes have consumed an abnormal amount of memory on the system and the operating system is utilizing an abnormal amount of the swap space for process execution. This can be a result of high call rates or bulk provisioning activity.
PRIMARY ACTION	Monitor the system to ensure all subsystems are performing normally. If so, only lightening the effective load on the system will clear the situation. If not, verify which process(es) are running at abnormally high rates, provide the information to Cisco TAC. (Contact Cisco TAC.)

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Note   MAINTENANCE (59) and MAINTENANCE (60) are not used.

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MAINTENANCE (61)

To troubleshoot and correct the cause of the alarm, refer to the .

DESCRIPTION	No Heartbeat Messages Received Through the Interface (No HB Messages Received Through the Interface)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Interface Name - STRING [20] Interface IP Address - STRING [50]
PRIMARY CAUSE	Local network interface is down.
PRIMARY ACTION	Restore the local network interface.
SECONDARY CAUSE	Mate network interface on the same sub-net is faulty.
SECONDARY ACTION	Restore mate network interface.
TERNARY CAUSE	Network congestion.

MAINTENANCE (62)

To troubleshoot and correct the cause of the alarm, refer to the .

DESCRIPTION	Link Monitor: Interface Lost Communication
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Interface Name - STRING [80] Interface IP Address - STRING [80]
PRIMARY CAUSE	Interface cable is pulled out or the interface is set "down" using ifconfig command.
PRIMARY ACTION	Restore the network interface.
SECONDARY CAUSE	Interface has no connectivity to any of the machines or routers.

MAINTENANCE (63)

To troubleshoot and correct the cause of the alarm, refer to the "Outgoing Heartbeat Period Exceeded Limit - Maintenance (63)" section on page 7-86.

DESCRIPTION	Outgoing Heartbeat Period Exceeded Limit
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Max. HB Period (ms) - FOUR_BYTES HB Period (ms) - FOUR_BYTES
PRIMARY CAUSE	This is caused by system performance degradation due to central processing unit (CPU) overload or excessive I/O operations.
PRIMARY ACTION	Identify the applications which are causing the system degradation via CLI commands to verify if this is a persistent or on-going situation. Contact Cisco TAC with the gathered information.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (64)

To troubleshoot and correct the cause of the alarm, refer to the "Average Outgoing Heartbeat Period Exceeds Major Alarm Limit - Maintenance (64)" section on page 7-86.

DESCRIPTION	Average Outgoing Heartbeat Period Exceeds Major Alarm Limit (Average Outgoing HB Period Exceeds Maj Alarm Limit)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Max. Avg HB Period - FOUR_BYTES Avg. HB Period (ms) - FOUR_BYTES
PRIMARY CAUSE	This is caused by system performance degradation due to CPU overload or excessive I/O operations.
PRIMARY ACTION	Identify the applications which are causing the system degradation via CLI commands to verify if this is a persistent or on-going situation. Contact Cisco TAC with the gathered information.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (65)

To troubleshoot and correct the cause of the alarm, refer to the "Disk Partition Critically Consumed - Maintenance (65)" section on page 7-86.

DESCRIPTION	Disk Partition Critically Consumed
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Directory - STRING [32] Device - STRING [32] Percentage Used - STRING [8]
PRIMARY CAUSE	A process or processes is/are writing extraneous data to the named partition.
PRIMARY ACTION	Perform disk clean-up and maintenance on the offending system.

MAINTENANCE (66)

To troubleshoot and correct the cause of the alarm, refer to the "Disk Partition Significantly Consumed - Maintenance (66)" section on page 7-86.

DESCRIPTION	Disk Partition Significantly Consumed
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Directory - STRING [32] Device - STRING [32] Percentage Used - STRING [8]
PRIMARY CAUSE	A process or processes is/are writing extraneous data to the named partition.
PRIMARY ACTION	Perform disk clean-up and maintenance on the offending system.

MAINTENANCE (67)

To troubleshoot and correct the cause of the alarm, refer to the "The Free Inter-Process Communication Pool Buffers Below Minor Threshold - Maintenance (67)" section on page 7-86.

DESCRIPTION	The Free Inter-Process Communication Pool Buffers Below Minor Threshold (The Free IPC Pool Buffers Below Minor Threshold)
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Free IPC Pool Buffer - STRING [10] Threshold - STRING [10]
PRIMARY CAUSE	IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic.
PRIMARY ACTION	Contact Cisco TAC immediately.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (68)

To troubleshoot and correct the cause of the alarm, refer to the "The Free Inter-Process Communication Pool Buffers Below Major Threshold - Maintenance (68)" section on page 7-87.

DESCRIPTION	The Free Inter-Process Communication Pool Buffers Below Major Threshold (The Free IPC Pool Buffers Below Major Threshold)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Free IPC Poll Buffer - STRING [10] Threshold - STRING [10]
PRIMARY CAUSE	Inter-process communication (IPC) pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic.
PRIMARY ACTION	Contact Cisco TAC immediately.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (69)

To troubleshoot and correct the cause of the alarm, refer to the "The Free Inter-Process Communication Pool Buffers Below Critical Threshold - Maintenance (69)" section on page 7-87.

DESCRIPTION	The Free Inter-Process Communication Pool Buffers Below Critical Threshold (The Free IPC Pool Buffers Below Critical Threshold)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Free IPC Poll Buffer - STRING [10] Threshold - STRING [10]
PRIMARY CAUSE	IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic.
PRIMARY ACTION	Contact Cisco TAC immediately.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (70)

To troubleshoot and correct the cause of the alarm, refer to the "The Free Inter-Process Communication Pool Buffer Count Below Minimum Required - Maintenance (70)" section on page 7-87.

DESCRIPTION	The Free Inter-Process Communication Pool Buffer Count Below Minimum Required (The Free IPC Pool Buffer Count Below Minimum Required)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Free IPC Buffer Coun - TWO_BYTES Minimum Count - TWO_BYTES
PRIMARY CAUSE	IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic.
PRIMARY ACTION	Contact Cisco TAC immediately.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (71)

To troubleshoot and correct the cause of the alarm, refer to the "Local Domain Name System Server Response Too Slow - Maintenance (71)" section on page 7-87.

DESCRIPTION	Local Domain Name System Server Response Too Slow (Local DNS Server Response Too Slow)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	DNS Server IP - STRING [64]
PRIMARY CAUSE	Local domain name system (DNS) server too busy.
PRIMARY ACTION	Check the local DNS server.

MAINTENANCE (72)

To troubleshoot and correct the cause of the alarm, refer to the "External Domain Name System Server Response Too Slow - Maintenance (72)" section on page 7-87.

DESCRIPTION	External Domain Name System Server Response Too Slow (External DNS Server Response Too Slow)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	DNS Server IP - STRING [64]
PRIMARY CAUSE	The network traffic is busy, or the nameserver is very busy.
PRIMARY ACTION	Check the DNS server(s).
SECONDARY CAUSE	There is an daemon called monitorDNS.sh checking DNS server every minute or so. It will issue alarm if it cannot contact the DNS server or the response is slow. But it will clear the alarm if later it can contact the DNS server.

MAINTENANCE (73)

To troubleshoot and correct the cause of the alarm, refer to the "External Domain Name System Server not Responsive - Maintenance (73)" section on page 7-88.

DESCRIPTION	External Domain Name System Server not Responsive (External DNS Server not Responsive)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	DNS Server IP - STRING [64]
PRIMARY CAUSE	DNS servers or the network may be down.
PRIMARY ACTION	Check the DNS server(s).
SECONDARY CAUSE	There is an daemon called monitorDNS.sh checking DNS server every minute or so. It will issue alarm if it cannot contact the DNS server or the response is slow. But it will clear the alarm if later it can contact the DNS server.

MAINTENANCE (74)

To troubleshoot and correct the cause of the alarm, refer to the "Local Domain Name System Service not Responsive - Maintenance (74)" section on page 7-88.

DESCRIPTION	Local Domain Name System Service not Responsive (Local DNS Service not Responsive)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	DNS Server IP - STRING [64]
PRIMARY CAUSE	Local DNS service may be down.
PRIMARY ACTION	Check the local DNS server.

MAINTENANCE (75)

To monitor and correct the cause of the event, refer to the "Mismatch of Internet Protocol Address Local Server and Domain Name System - Maintenance (75)" section on page 7-70.

DESCRIPTION	Mismatch of Internet Protocol Address Local Server and Domain Name System (Mismatch of IP Addr % Local Server and DNS)
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Host Name - STRING [64] IP Addr Local Server - STRING [64] IP Addr DNS Server - STRING [64]
PRIMARY CAUSE	DNS updates are not getting to the Cisco BTS 10200 Softswitch from the external server, or the discrepancy was detected before the local DNS lookup table was updated.
PRIMARY ACTION	Ensure the external DNS server is operational and sending updates to the Cisco BTS 10200 Softswitch.

Note   MAINTENANCE (76) is not used.

MAINTENANCE (77)

To troubleshoot and correct the cause of the alarm, refer to the "Mate Time Differs Beyond Tolerance - Maintenance (77)" section on page 7-88.

DESCRIPTION	Mate Time Differs Beyond Tolerance
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Max Time Difference - FOUR_BYTES Actual Time Difference - FOUR_BYTES
PRIMARY CAUSE	Time synchronization is not working.
PRIMARY ACTION	Change UNIX time on the Faulty/Standby side. If Standby, stop platform first.

MAINTENANCE (78)

For additional information, refer to the "Bulk Data Management System Admin State Change - Maintenance (78)" section on page 7-70.

DESCRIPTION	Bulk Data Management System Admin State Change (BDMS Admin State Change)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Application Instance - STRING [40] Local State - STRING [40] Mate State - STRING [40]
PRIMARY CAUSE	The Bulk Data Management Server (BDMS) was switched over manually.
PRIMARY ACTION	None

MAINTENANCE (79)

For additional information, refer to the "Resource Reset - Maintenance (79)" section on page 7-70.

DESCRIPTION	Resource Reset
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Resource Type - STRING [40] Resource Instance - STRING [40]
PRIMARY CAUSE	Trunk-Termination Subscriber-Termination Media Gateways
PRIMARY ACTION	None

MAINTENANCE (80)

For additional information, refer to the .

DESCRIPTION	Resource Reset Warning
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Resource Type - STRING [40] Resource Instance - STRING [40] Warning Reason - STRING [120]
PRIMARY CAUSE	Trunk-Termination Subscriber-Termination Media Gateway
PRIMARY ACTION	None

MAINTENANCE (81)

For additional information, refer to the .

DESCRIPTION	Resource Reset Failure
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Resource Type - STRING [40] Resource Instance - STRING [40] Failure Reason - STRING [120]
PRIMARY CAUSE	This the result of an internal messaging error.
PRIMARY ACTION	Check Dataword 3 (Failure Reason) to determine if this is caused by invalid user input, inconsistent provisioning of the device, or if the system is busy and a timeout occurred.

MAINTENANCE (82)

To troubleshoot and correct the cause of the alarm, refer to the "Average Outgoing Heartbeat Period Exceeds Critical Limit - Maintenance (82)" section on page 7-88.

DESCRIPTION	Average Outgoing Heartbeat Period Exceeds Critical Limit (Average Outgoing HB Period Exceeds Critical Limit)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Critical Threshold F - FOUR_BYTES Current Average HB Peri - FOUR_BYTES
PRIMARY CAUSE	CPU is overloaded.
PRIMARY ACTION	Shutdown platform.

MAINTENANCE (83)

To troubleshoot and correct the cause of the alarm, refer to the "Swap Space Below Minor Threshold - Maintenance (83)" section on page 7-88.

DESCRIPTION	Swap Space Below Minor Threshold
SEVERITY	MINOR
THRESHOLD	5
THROTTLE	0
DATAWORDS	Minor Threshold (MB) - FOUR_BYTES Current Value (MB) - FOUR_BYTES
PRIMARY CAUSE	Too many processes are running.
PRIMARY ACTION	Stop proliferation of executables (processes-scripts).
SECONDARY CAUSE	File spaces /tmp or /var/run are over-used.
SECONDARY ACTION	Cleanup file systems.

MAINTENANCE (84)

To troubleshoot and correct the cause of the alarm, refer to the "Swap Space Below Major Threshold - Maintenance (84)" section on page 7-88.

DESCRIPTION	Swap Space Below Major Threshold
SEVERITY	MAJOR
THRESHOLD	5
THROTTLE	0
DATAWORDS	Major Threshold (MB) - FOUR_BYTES Current Value (MB) - FOUR_BYTES
PRIMARY CAUSE	Too many processes are running.
PRIMARY ACTION	Stop proliferation of executables (processes/shell-procedures).
SECONDARY CAUSE	File spaces /tmp or /var/run are over-used.
SECONDARY ACTION	Cleanup file systems.

MAINTENANCE (85)

To troubleshoot and correct the cause of the alarm, refer to the "Swap Space Below Critical Threshold - Maintenance (85)" section on page 7-89.

DESCRIPTION	Swap Space Below Critical Threshold
SEVERITY	CRITICAL
THRESHOLD	5
THROTTLE	0
DATAWORDS	Critical Threshold (M - FOUR_BYTES Current Value (MB) - FOUR_BYTES
PRIMARY CAUSE	Too many processes are running.
PRIMARY ACTION	Restart Cisco BTS 10200 Softswitch software or reboot system.
SECONDARY CAUSE	File spaces /tmp or /var/run are over-used.
SECONDARY ACTION	Cleanup these file systems.

MAINTENANCE (86)

To troubleshoot and correct the cause of the alarm, refer to the "System Health Report Collection Error - Maintenance (86)" section on page 7-89.

DESCRIPTION	System Health Report Collection Error
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	ErrString - STRING [64]
PRIMARY CAUSE	An error occur while collecting system health report.
PRIMARY ACTION	Contact Cisco TAC for support.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (87)

To troubleshoot and correct the cause of the alarm, refer to the "Status Update Process Request Failed - Maintenance (87)" section on page 7-89.

DESCRIPTION	Status Update Process Request Failed
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	ErrString - STRING [64] Component Type - STRING [64]
PRIMARY CAUSE	The "status" command is not working properly.
PRIMARY ACTION	Verify "status" command is working properly via CLI.

MAINTENANCE (88)

To troubleshoot and correct the cause of the alarm, refer to the "Status Update Process Database List Retrieval Error - Maintenance (88)" section on page 7-89.

DESCRIPTION	Status Update Process Database List Retrieval Error (Status Update Process DB List Retrieval Error)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	ErrString - STRING [64]
PRIMARY CAUSE	Oracle database (DB) is not working properly.
PRIMARY ACTION	Contact Cisco TAC for support.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (89)

To troubleshoot and correct the cause of the alarm, refer to the "Status Update Process Database Update Error - Maintenance (89)" section on page 7-89.

DESCRIPTION	Status Update Process Database Update Error (Status Update Process DB Update Error)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	ErrString - STRING [64] SQL Command - STRING [64]
PRIMARY CAUSE	MySQL DB on EMS is not working properly.
PRIMARY ACTION	Contact Cisco TAC for support.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (90)

To troubleshoot and correct the cause of the alarm, refer to the .

DESCRIPTION	Disk Partition Moderately Consumed
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Directory - STRING [32] Device - STRING [32] Percentage Used - STRING [8]
PRIMARY CAUSE	A process or processes is/are writing extraneous data to the named partition.
PRIMARY ACTION	Perform disk clean-up and maintenance on the offending system.

MAINTENANCE (91)

To troubleshoot and correct the cause of the alarm, refer to the .

DESCRIPTION	Internet Protocol Manager Configuration File Error (IPM Config File Error)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Reason - STRING [128]
PRIMARY CAUSE	Internet Protocol Manager (IPM) config file error.
PRIMARY ACTION	Check IPM config file (ipm.cfg) for incorrect syntax.

MAINTENANCE (92)

To troubleshoot and correct the cause of the alarm, refer to the .

DESCRIPTION	Internet Protocol Manager Initialization Error (IPM Initialization Error)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Reason - STRING [128]
PRIMARY CAUSE	IPM failed to initialize correctly.
PRIMARY ACTION	Check Reason dataword as to cause of error.

MAINTENANCE (93)

To troubleshoot and correct the cause of the alarm, refer to the .

DESCRIPTION	Internet Protocol Manager Interface Failure (IPM Interface Failure)
SEVERITY	MAJOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Interface Name - STRING [32] Reason - STRING [128]
PRIMARY CAUSE	IPM failed to create logical interface.
PRIMARY ACTION	Check Reason dataword as to cause of error.

MAINTENANCE (94)

For additional information, refer to the "Internet Protocol Manager Interface State Change - Maintenance (94)" section on page 7-72.

DESCRIPTION	Internet Protocol Manager Interface State Change (IPM Interface State Change)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Interface Name - STRING [32] State - STRING [16]
PRIMARY CAUSE	IPM changed state on an interface (up/down).
PRIMARY ACTION	None

MAINTENANCE (95)

For additional information, refer to the "Internet Protocol Manager Interface Created - Maintenance (95)" section on page 7-73.

DESCRIPTION	Internet Protocol Manager Interface Created (IPM Interface Created)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Hostname - STRING [128] Physical IF Name - STRING [32] Logical IF Name - STRING [32] IP Addr - STRING [32] Netmask - STRING [32] Broadcast Addr - STRING [32]
PRIMARY CAUSE	IPM created a new logical interface.
PRIMARY ACTION	None

MAINTENANCE (96)

For additional information, refer to the "Internet Protocol Manager Interface Removed - Maintenance (96)" section on page 7-73.

DESCRIPTION	Internet Protocol Manager Interface Removed (IPM Interface Removed)
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	Hostname - STRING [128] Logical IF Name - STRING [32] IP Addr - STRING [32]
PRIMARY CAUSE	IPM removed a logical interface.
PRIMARY ACTION	None

MAINTENANCE (97)

To troubleshoot and correct the cause of the alarm, refer to the "Inter-Process Communication Input Queue Entered Throttle State - Maintenance (97)" section on page 7-90.

DESCRIPTION	Inter-Process Communication Input Queue Entered Throttle State (IPC Input Queue Entered Throttle State)
SEVERITY	CRITICAL
THRESHOLD	500
THROTTLE	0
DATAWORDS	Process Name - STRING [10] Thread Type - TWO_BYTES Thread Instance - TWO_BYTES Hi Watermark - FOUR_BYTES Lo Watermark - FOUR_BYTES
PRIMARY CAUSE	The indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is using up too much of the IPC memory pool resource.
PRIMARY ACTION	Contact Cisco TAC.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (98)

To troubleshoot and correct the cause of the alarm, refer to the "Inter-Process Communication Input Queue Depth at 25% of Its Hi-Watermark - Maintenance (98)" section on page 7-90.

DESCRIPTION	Inter-Process Communication Input Queue Depth at 25% of Its Hi-Watermark (IPC Input Queue Depth At 25% Of Its Hi-Watermark)
SEVERITY	MINOR
THRESHOLD	500
THROTTLE	0
DATAWORDS	Process Name - STRING [10] Thread Type - TWO_BYTES Thread Instance - TWO_BYTES Hi Watermark - FOUR_BYTES Lo Watermark - FOUR_BYTES
PRIMARY CAUSE	The indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is at 25% of the level at which it will enter the throttle state.
PRIMARY ACTION	Contact Cisco TAC.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (99)

To troubleshoot and correct the cause of the alarm, refer to the "Inter-Process Communication Input Queue Depth at 50% of Its Hi-Watermark - Maintenance (99)" section on page 7-91.

DESCRIPTION	Inter-Process Communication Input Queue Depth at 50% of Its Hi-Watermark (IPC Input Queue Depth At 50% Of Its Hi-Watermark)
SEVERITY	MAJOR
THRESHOLD	500
THROTTLE	0
DATAWORDS	Process Name - STRING [10] Thread Type - TWO_BYTES Thread Instance - TWO_BYTES Hi Watermark - FOUR_BYTES Lo Watermark - FOUR_BYTES
PRIMARY CAUSE	The indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is at 50% of the level at which it will enter the throttle state.
PRIMARY ACTION	Contact Cisco TAC.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (100)

To troubleshoot and correct the cause of the alarm, refer to the "Inter-Process Communication Input Queue Depth at 75% of Its Hi-Watermark - Maintenance (100)" section on page 7-91.

DESCRIPTION	Inter-Process Communication Input Queue Depth at 75% of Its Hi-Watermark (IPC Input Queue Depth At 75% Of Its Hi-Watermark)
SEVERITY	CRITICAL
THRESHOLD	500
THROTTLE	0
DATAWORDS	Process Name - STRING [10] Thread Type - TWO_BYTES Thread Instance - TWO_BYTES Hi Watermark - FOUR_BYTES Lo Watermark - FOUR_BYTES
PRIMARY CAUSE	The indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is at 75% of the level at which it will enter the throttle state.
PRIMARY ACTION	Contact Cisco TAC.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

MAINTENANCE (101)

To troubleshoot and correct the cause of the alarm, refer to the "Switchover in Progress - Maintenance (101)" section on page 7-91.

DESCRIPTION	Switchover in Progress
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Local State - STRING [15] Mate State - STRING [15] Reason - STRING [30]
PRIMARY CAUSE	This alarm is issued when system switchover either due to manual switchover (via CLI command), failover or automatic switchover.
PRIMARY ACTION	No action need to be taken, the alarm is cleared when switchover is complete. The service is temporarily suspended for a short period of time during this transition.

MAINTENANCE (102)

To troubleshoot and correct the cause of the alarm, refer to the "Thread Watchdog Counter Close to Expiry for a Thread - Maintenance (102)" section on page 7-91.

DESCRIPTION	Thread Watchdog Counter Close to Expiry for a Thread
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Process Name - STRING [5] Thread Type - FOUR_BYTES Thread Instance - FOUR_BYTES
PRIMARY CAUSE	Software error has occurred.
PRIMARY ACTION	None, the system will automatically recover or shutdown.

MAINTENANCE (103)

To troubleshoot and correct the cause of the alarm, refer to the "Central Processing Unit is Offline - Maintenance (103)" section on page 7-91.

DESCRIPTION	Central Processing Unit is Offline (CPU Is Offline)
SEVERITY	CRITICAL
THRESHOLD	100
THROTTLE	0
DATAWORDS	Hostname - STRING [20] CPU - ONE_BYTE
PRIMARY CAUSE	An operator action has caused the CPU to go offline.
PRIMARY ACTION	Restore CPU or contact Cisco TAC.

Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Monitoring Maintenance Events

This section provides the information needed to monitor and correct Maintenance events. Table 7-2 lists all Maintenance events in numerical order and provides cross reference to each subsection in this section.

Table 7-2   Cisco BTS 10200 Softswitch Maintenance Events

Event Type	Event Name	Event Severity
MAINTENANCE(1)	Test Report - Maintenance (1)	INFO
MAINTENANCE(2)	Report Threshold Exceeded - Maintenance (2)	INFO
MAINTENANCE(3)	Local Side has Become Faulty - Maintenance (3)	MAJOR
MAINTENANCE(4)	Mate Side has Become Faulty - Maintenance (4)	MAJOR
MAINTENANCE(5)	Changeover Failure - Maintenance (5)	MAJOR
MAINTENANCE(6)	Changeover Timeout - Maintenance (6)	MAJOR
MAINTENANCE(7)	Mate Rejected Changeover - Maintenance (7)	MAJOR
MAINTENANCE(8)	Mate Changeover Timeout - Maintenance (8)	MAJOR
MAINTENANCE(9)	Local Initialization Failure - Maintenance (9)	MAJOR
MAINTENANCE(10)	Local Initialization Timeout - Maintenance (10)	MAJOR
MAINTENANCE(11)	Switchover Complete - Maintenance (11)	INFO
MAINTENANCE(12)	Initialization Successful - Maintenance (12)	INFO
MAINTENANCE(13)	Administrative State Change - Maintenance (13)	INFO
MAINTENANCE(14)	Call Agent Administrative State Change - Maintenance (14)	INFO
MAINTENANCE(15)	Feature Server Administrative State Change - Maintenance (15)	INFO
MAINTENANCE(16)	Process Manager: Starting Process - Maintenance (16)	INFO
MAINTENANCE(17)	Invalid Event Report Received - Maintenance (17)	INFO
MAINTENANCE(18)	Process Manager: Process has Died - Maintenance (18)	MINOR
MAINTENANCE(19)	Process Manager: Process Exceeded Restart Rate - Maintenance (19)	MAJOR
MAINTENANCE(20)	Lost Connection to Mate - Maintenance (20)	MAJOR
MAINTENANCE(21)	Network Interface Down - Maintenance (21)	MAJOR
MAINTENANCE(22)	Mate is Alive - Maintenance (22)	INFO
MAINTENANCE(23)	Process Manager: Process Failed to Complete Initialization - Maintenance (23)	MAJOR
MAINTENANCE(24)	Process Manager: Restarting Process - Maintenance (24)	MINOR
MAINTENANCE(25)	Process Manager: Changing State - Maintenance (25)	INFO
MAINTENANCE(26)	Process Manager: Going Faulty - Maintenance (26)	MAJOR
MAINTENANCE(27)	Process Manager: Changing Over to Active - Maintenance (27)	INFO
MAINTENANCE(28)	Process Manager: Changing Over to Standby - Maintenance (28)	INFO
MAINTENANCE(29)	Administrative State Change Failure - Maintenance (29)	WARNING
MAINTENANCE(30)	Element Manager State Change - Maintenance (30)	INFO
MAINTENANCE(32)	Process Manager: Sending Go Active to Process - Maintenance (32)	INFO
MAINTENANCE(33)	Process Manager: Sending Go Standby to Process - Maintenance (33)	INFO

Table 7-2   Cisco BTS 10200 Softswitch Maintenance Events (continued)

Event Type	Event Name	Event Severity
MAINTENANCE(34)	Process Manager: Sending End Process to Process - Maintenance (34)	INFO
MAINTENANCE(35)	Process Manager: All Processes Completed Initialization - Maintenance (35)	INFO
MAINTENANCE(36)	Process Manager: Sending All Processes Initialization Complete to Process - Maintenance (36)	INFO
MAINTENANCE(37)	Process Manager: Killing Process - Maintenance (37)	INFO
MAINTENANCE(38)	Process Manager: Clearing the Database - Maintenance (38)	INFO
MAINTENANCE(39)	Process Manager: Cleared the Database - Maintenance (39)	INFO
MAINTENANCE(40)	Process Manager: Binary Does not Exist for Process - Maintenance (40)	CRITICAL
MAINTENANCE(41)	Administrative State Change Successful with Warning - Maintenance (41)	WARNING
MAINTENANCE(42)	Number of Heartbeat Messages Received is Less Than 50% of Expected - Maintenance (42)	MAJOR
MAINTENANCE(43)	Process Manager: Process Failed to Come Up in Active Mode - Maintenance (43)	CRITICAL
MAINTENANCE(44)	Process Manager: Process Failed to Come Up in Standby Mode - Maintenance (44)	CRITICAL
MAINTENANCE(45)	Application Instance State Change Failure - Maintenance (45)	MAJOR
MAINTENANCE(46)	Network Interface Restored - Maintenance (46)	INFO
MAINTENANCE(47)	Thread Watchdog Counter Expired for a Thread - Maintenance (47)	CRITICAL
MAINTENANCE(48)	Index Table Usage Exceeded Minor Usage Threshold Level - Maintenance (48)	MINOR
MAINTENANCE(49)	Index Table Usage Exceeded Major Usage Threshold Level - Maintenance (49)	MAJOR
MAINTENANCE(50)	Index Table Usage Exceeded Critical Usage Threshold Level - Maintenance (50)	CRITICAL
MAINTENANCE(51)	A Process Exceeds 70% of Central Processing Unit Usage - Maintenance (51)	MAJOR
MAINTENANCE(52)	Central Processing Unit Usage is Now Below the 50% Level - Maintenance (52)	INFO
MAINTENANCE(53)	The Central Processing Unit Usage is Over 90% Busy - Maintenance (53)	CRITICAL
MAINTENANCE(54)	The Central Processing Unit has Returned to Normal Levels of Operation - Maintenance (54)	INFO
MAINTENANCE(55)	The Five Minute Load Average is Abnormally High - Maintenance (55)	MAJOR
MAINTENANCE(56)	The Load Average has Returned to Normal Levels - Maintenance (56)	INFO
MAINTENANCE(57)	Memory and Swap are Consumed at Critical Levels - Maintenance (57)	CRITICAL
MAINTENANCE(58)	Memory and Swap are Consumed at Abnormal Levels - Maintenance (58)	INFO
MAINTENANCE(61)	No Heartbeat Messages Received Through the Interface - Maintenance (61)	CRITICAL
MAINTENANCE(62)	Link Monitor: Interface Lost Communication - Maintenance (62)	MAJOR
MAINTENANCE(63)	Outgoing Heartbeat Period Exceeded Limit - Maintenance (63)	MAJOR
MAINTENANCE(64)	Average Outgoing Heartbeat Period Exceeds Major Alarm Limit - Maintenance (64)	MAJOR
MAINTENANCE(65)	Disk Partition Critically Consumed - Maintenance (65)	CRITICAL
MAINTENANCE(66)	Disk Partition Significantly Consumed - Maintenance (66)	MAJOR
MAINTENANCE(67)	The Free Inter-Process Communication Pool Buffers Below Minor Threshold - Maintenance (67)	MINOR

Table 7-2   Cisco BTS 10200 Softswitch Maintenance Events (continued)

Event Type	Event Name	Event Severity
MAINTENANCE(68)	The Free Inter-Process Communication Pool Buffers Below Major Threshold - Maintenance (68)	MAJOR
MAINTENANCE(69)	The Free Inter-Process Communication Pool Buffers Below Critical Threshold - Maintenance (69)	CRITICAL
MAINTENANCE(70)	The Free Inter-Process Communication Pool Buffer Count Below Minimum Required - Maintenance (70)	CRITICAL
MAINTENANCE(71)	Local Domain Name System Server Response Too Slow - Maintenance (71)	MAJOR
MAINTENANCE(72)	External Domain Name System Server Response Too Slow - Maintenance (72)	MAJOR
MAINTENANCE(73)	External Domain Name System Server not Responsive - Maintenance (73)	CRITICAL
MAINTENANCE(74)	Local Domain Name System Service not Responsive - Maintenance (74)	CRITICAL
MAINTENANCE(75)	Mismatch of Internet Protocol Address Local Server and Domain Name System - Maintenance (75)	WARNING
MAINTENANCE(76)	Mate Time Differs Beyond Tolerance - Maintenance (77)	N/A
MAINTENANCE(77)	Mate Time Differs Beyond Tolerance - Maintenance (77)	MAJOR
MAINTENANCE(78)	Bulk Data Management System Admin State Change - Maintenance (78)	INFO
MAINTENANCE(79)	Resource Reset - Maintenance (79)	INFO
MAINTENANCE(80)	Resource Reset Warning - Maintenance (80)	INFO
MAINTENANCE(81)	Resource Reset Failure - Maintenance (81)	INFO
MAINTENANCE(82)	Average Outgoing Heartbeat Period Exceeds Critical Limit - Maintenance (82)	CRITICAL
MAINTENANCE(83)	Swap Space Below Minor Threshold - Maintenance (83)	MINOR
MAINTENANCE(84)	Swap Space Below Major Threshold - Maintenance (84)	MAJOR
MAINTENANCE(85)	Swap Space Below Critical Threshold - Maintenance (85)	CRITICAL
MAINTENANCE(86)	System Health Report Collection Error - Maintenance (86)	MINOR
MAINTENANCE(87)	Status Update Process Request Failed - Maintenance (87)	MAJOR
MAINTENANCE(88)	Status Update Process Database List Retrieval Error - Maintenance (88)	MAJOR
MAINTENANCE(89)	Status Update Process Database Update Error - Maintenance (89)	MAJOR
MAINTENANCE(90)	Disk Partition Moderately Consumed - Maintenance (90)	MINOR
MAINTENANCE(91)	Internet Protocol Manager Configuration File Error - Maintenance (91)	CRITICAL
MAINTENANCE(92)	Internet Protocol Manager Initialization Error - Maintenance (92)	MAJOR
MAINTENANCE(93)	Internet Protocol Manager Interface Failure - Maintenance (93)	MAJOR
MAINTENANCE(94)	Internet Protocol Manager Interface State Change - Maintenance (94)	INFO
MAINTENANCE(95)	Internet Protocol Manager Interface Created - Maintenance (95)	INFO
MAINTENANCE(96)	Internet Protocol Manager Interface Removed - Maintenance (96)	INFO
MAINTENANCE(97)	Inter-Process Communication Input Queue Entered Throttle State - Maintenance (97)	CRITICAL
MAINTENANCE(98)	Inter-Process Communication Input Queue Depth at 25% of its Hi-Watermark - Maintenance (98)	MINOR

Table 7-2   *Cisco BTS 10200 Softswitch Maintenance Events (continued)*

Event Type	Event Name	Event Severity
MAINTENANCE(99)	Inter-Process Communication Input Queue Depth at 50% of its Hi-Watermark - Maintenance (99)	MAJOR
MAINTENANCE(100)	Inter-Process Communication Input Queue Depth at 75% of its Hi-Watermark - Maintenance (100)	CRITICAL
MAINTENANCE(101)	Switchover in Progress - Maintenance (101)	CRITICAL
MAINTENANCE(102)	Thread Watchdog Counter Close to Expiry for a Thread - Maintenance (102)	CRITICAL
MAINTENANCE(103)	Central Processing Unit is Offline - Maintenance (103)	CRITICAL

Test Report - Maintenance (1)

The Test Report is for testing the maintenance event category. The event is informational and no further action is required.

Report Threshold Exceeded - Maintenance (2)

The Report Threshold Exceeded event functions as an informational alert that a report threshold has been exceeded. The primary cause of the event is that the threshold for a given report type and number has been exceeded. No further action is required since this is an information report. The root cause event report - threshold should be investigated to determine if there is a service affecting situation.

Local Side has Become Faulty - Maintenance (3)

The Local Side has Become Faulty alarm (major) indicates that the local side has become faulty. To troubleshoot and correct the cause of the Local Side has Become Faulty alarm, refer to the "Local Side has Become Faulty - Maintenance (3)" section on page 7-77.

Mate Side has Become Faulty - Maintenance (4)

The Mate Side has Become Faulty alarm (major) indicates that the mate side has become faulty. To troubleshoot and correct the cause of the Mate Side has Become Faulty alarm, refer to the "Mate Side has Become Faulty - Maintenance (4)" section on page 7-77.

Changeover Failure - Maintenance (5)

The Changeover Failure alarm (major) indicates that a changeover failed. To troubleshoot and correct the cause of the Changeover Failure alarm, refer to the "Changeover Failure - Maintenance (5)" section on page 7-77.

Changeover Timeout - Maintenance (6)

The Changeover Timeout alarm (major) indicates that a changeover timed out. To troubleshoot and correct the cause of the Changeover Timeout alarm, refer to the "Changeover Timeout - Maintenance (6)" section on page 7-78.

Mate Rejected Changeover - Maintenance (7)

The Mate Rejected Changeover alarm (major) indicates that the mate rejected the changeover. To troubleshoot and correct the cause of the Mate Rejected Changeover alarm, refer to the "Mate Rejected Changeover - Maintenance (7)" section on page 7-78.

Mate Changeover Timeout - Maintenance (8)

The Mate Changeover Timeout alarm (major) indicates that the mate changeover timed out. To troubleshoot and correct the cause of the Mate Changeover Timeout alarm, refer to the "Mate Changeover Timeout - Maintenance (8)" section on page 7-81.

Local Initialization Failure - Maintenance (9)

The Local Initialization Failure alarm (major) indicates that the local initialization has failed. To troubleshoot and correct the cause of the Local Initialization Failure alarm, refer to the "Local Initialization Failure - Maintenance (9)" section on page 7-81.

Local Initialization Timeout - Maintenance (10)

The Local Initialization Timeout alarm (major) indicates that the local initialization has timed out. To troubleshoot and correct the cause of the Local Initialization Timeout alarm, refer to the "Local Initialization Timeout - Maintenance (10)" section on page 7-81.

Switchover Complete - Maintenance (11)

The Switchover Complete event functions as an informational alert that the switchover has been completed. The Switchover Complete event acknowledges that the changeover successfully completed. The event is informational and no further action is required.

Initialization Successful - Maintenance (12)

The Initialization Successful event functions as an informational alert that the initialization was successful. The Initialization Successful event indicates that a local initialization has been successful. The event is informational and no further action is required.

Administrative State Change - Maintenance (13)

The Administrative State Change event functions as an informational alert that the administrative state of a managed resource has changed. No action is required, since this informational event is given after manually changing the administrative state of a managed resource.

Call Agent Administrative State Change - Maintenance (14)

The Call Agent Administrative State Change event functions as an informational alert that indicates that the call agent has changed operational state as a result of a manual switchover. The event is informational and no further action is required.

Feature Server Administrative State Change - Maintenance (15)

The Feature Server Administrative State Change event functions as an informational alert that indicates that the feature server has changed operational state as a result of a manual switchover. The event is informational and no further action is required.

Process Manager: Starting Process - Maintenance (16)

The Process Manager: Process has Died: Starting Process event functions as an information alert that indicates that a process is being started as system is being brought up. The event is informational and no further action is required.

Invalid Event Report Received - Maintenance (17)

The Invalid Event Report Received event functions as an informational alert that indicates that a process has sent an event report that cannot be found in the database. If during system initialization a short burst of these events are issued prior to the database initialization, then these events are informational and can be ignored; otherwise, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Process Manager: Process has Died - Maintenance (18)

The Process Manager: Process has Died alarm (minor) indicates that a process has died. To troubleshoot and correct the cause of the Process Manager: Process has Died alarm, refer to the "Process Manager: Process has Died - Maintenance (18)" section on page 7-81.

Process Manager: Process Exceeded Restart Rate - Maintenance (19)

The Process Manager: Process Exceeded Restart Rate alarm (major) indicates that a process has exceeded the restart rate. To troubleshoot and correct the cause of the Process Manager: Process Exceeded Restart Rate alarm, refer to the "Process Manager: Process Exceeded Restart Rate - Maintenance (19)" section on page 7-81.

Lost Connection to Mate - Maintenance (20)

The Lost Connection to Mate alarm (major) indicates that the keepalive module connection to the mate has been lost. To troubleshoot and correct the cause of the Lost Connection to Mate alarm, refer to the "Lost Connection to Mate - Maintenance (20)" section on page 7-82.

Network Interface Down - Maintenance (21)

The Network Interface Down alarm (major) indicates that the network interface has gone down. To troubleshoot and correct the cause of the Network Interface Down alarm, refer to the "Network Interface Down - Maintenance (21)" section on page 7-82.

Mate is Alive - Maintenance (22)

The Mate is Alive event functions as an informational alert that the mate is alive. The reporting CA/FS/EMS/BDMS is indicating that its mate has been successfully restored to service. The event is informational and no further action is required.

Process Manager: Process Failed to Complete Initialization - Maintenance (23)

The Process Manager: Process Failed to Complete Initialization alarm (major) indicates that a PMG process failed to complete initialization. To trouble and correct the cause of the Process Manager: Process Failed to Complete Initialization alarm, refer to the "Process Manager: Process Failed to Complete Initialization - Maintenance (23)" section on page 7-82.

Process Manager: Restarting Process - Maintenance (24)

The Process Manager: Restarting Process alarm (minor) indicates the a PMG process is being restarted. To troubleshoot and correct the cause of the Process Manager: Restarting Process alarm, refer to the "Process Manager: Restarting Process - Maintenance (24)" section on page 7-82.

Process Manager: Changing State - Maintenance (25)

The Process Manager: Changing State event functions as an informational alert that a PMG process is changing state. The primary cause of the event is that a side is transitioning from one state to another. This is part of the normal side state change process. Monitor the system for other maintenance category event reports to see if the transition is due to a failure of a component within the specified side.

Process Manager: Going Faulty - Maintenance (26)

The Process Manager: Going Faulty alarm (major) indicates that a PMG process is going faulty. To troubleshoot and correct the cause of the Process Manager: Going Faulty alarm, refer to the "Process Manager: Going Faulty - Maintenance (26)" section on page 7-82.

Process Manager: Changing Over to Active - Maintenance (27)

The Process Manager: Changing Over to Active event functions as an informational alert that a PMG process is being changed to active. The primary cause of the event is that the specified platform instance was in the standby state and was changed to the active state either by program control or via user request. No action is necessary. This is part of the normal process of activating the platform.

Process Manager: Changing Over to Standby - Maintenance (28)

The Process Manager: Changing Over to Standby event functions as an information alert that a PMG process is being changed to standby. The primary cause of the event is that the specified side was in the active state and was changed to the standby state, or is being restored to service, and its mate is already in the active state either by program control or via user request. No action is necessary. This is part of the normal process of restoring or duplexing the platform.

Administrative State Change Failure - Maintenance (29)

The Administrative State Change Failure event functions as a warning that a change of the administrative state has failed. The primary cause of the event is that an attempt to change the administrative state of a device has failed. If one is found, analyze the cause of the failure. Verify that the controlling element of the targeted device was in the ACTIVE state in order to service the request to change the ADMIN state of the device. If the controlling platform instance is not ACTIVE, restore it to service.

Element Manager State Change - Maintenance (30)

The Element Manager State Change event functions as an informational alert that the element manager has changed state. The primary cause of the event is that the specified EMS has changed to the indicated state either naturally or via user request. The event is informational and no action is necessary. This is part of the normal state transitioning process for the EMS. Monitor the system for related event reports if the transition was due to a faulty or out of service state.

Process Manager: Sending Go Active to Process - Maintenance (32)

The Process Manager: Sending Go Active to Process event functions as an informational alert that a process is being notified to switch to active state as the system is switching over from standby to active. The event is informational and no further action is required.

Process Manager: Sending Go Standby to Process - Maintenance (33)

The Process Manager: Sending Go Standby to Process event functions as an informational alert that a process is being notified to exit gracefully as the system is switching over to standby state, or is shutting down. The switchover or shutdown could be due to the operator taking the action to switch or shut down the system or due to the system has detected a fault. The event is informational and no further action is required.

Process Manager: Sending End Process to Process - Maintenance (34)

The Process Manager: Sending End Process to Process event functions as an informational alert that a process is being notified to exit gracefully as the system is switching over to standby state, or is shutting down. The switchover or shutdown could be due to the operator taking the action to switch or shut down the system or due to the system has detected a fault. The event is informational and no further action is required.

Process Manager: All Processes Completed Initialization - Maintenance (35)

The Process Manager: All Processes Completed Initialization event functions as an informational alert that the system is being brought up, and that all processes are ready to start executing. The event is informational and no further action is required.

Process Manager: Sending All Processes Initialization Complete to Process - Maintenance (36)

The Process Manager: Sending All Processes Initialization Complete to Process event functions as an informational alert that system is being brought up, and all processes are being notified to start executing. The event is informational and no further action is required.

Process Manager: Killing Process - Maintenance (37)

The Process Manager: Killing Process event functions as an informational alert that a process is being killed. A software problem occurred while the system was being brought up or shut down. Either a process did not come up when the system was brought up and had to be killed in order to restart it or a process did not come up when the system was brought up and had to be killed in order to restart it. The event is informational and no further action is required.

Process Manager: Clearing the Database - Maintenance (38)

The Process Manager: Clearing the Database event functions as an informational alert that the system is preparing to copy data from the mate. The system has been brought up and the mate side is running. The event is informational and no further action is required.

Process Manager: Cleared the Database - Maintenance (39)

The Process Manager: Cleared the Database event functions as an informational alert that the system is prepared to copy data from the mate. The system has been brought up and the mate side is running. The event is informational and no further action is required.

Process Manager: Binary Does not Exist for Process - Maintenance (40)

The Process Manager: Binary Does not Exist for Process alarm (critical) indicates that the platform was not installed correctly. To troubleshoot and correct the cause of the Process Manager: Binary Does not Exist for Process alarm, refer to the "Process Manager: Binary Does not Exist for Process - Maintenance (40)" section on page 7-82.

Administrative State Change Successful with Warning - Maintenance (41)

The Administrative State Change Successful with Warning event functions as a warning that the system was in a flux when a successful administrative state change occurred. The primary cause of the event is that the system was in flux state when an administrative change state command was issued. To correct the primary cause of the event, retry the command.

Number of Heartbeat Messages Received is Less Than 50% of Expected - Maintenance (42)

The Number of Heartbeat messages Received is Less Than 50% of Expected alarm (major) indicates that number of heartbeat (HB) messages being received is less than 50% of expected number. To troubleshoot and correct the cause of the Number of Heartbeat messages Received is Less Than 50% of Expected alarm, refer to the "Number of Heartbeat Messages Received is Less Than 50% of Expected - Maintenance (42)" section on page 7-83.

Process Manager: Process Failed to Come Up in Active Mode - Maintenance (43)

The Process Manager: Process Failed to Come Up in Active Mode alarm (critical) indicates that the process has failed to come up in active mode. To troubleshoot and correct the cause of the Process Manager: Process Failed to Come Up in Active Mode alarm, refer to the "Process Manager: Process Failed to Come Up in Active Mode - Maintenance (43)" section on page 7-83.

Process Manager: Process Failed to Come Up in Standby Mode - Maintenance (44)

The Process Manager: Process Failed to Come Up in Standby Mode alarm (critical) indicates that the process has failed to come up in standby mode. To troubleshoot and correct the cause of the Process Manager: Process Failed to Come Up in Standby Mode alarm, refer to the "Process Manager: Process Failed to Come Up in Standby Mode - Maintenance (44)" section on page 7-83.

Application Instance State Change Failure - Maintenance (45)

The Application Instance State Change Failure alarm (major) indicates that an application instance state change failed. To troubleshoot and correct the cause of the Application Instance State Change Failure alarm, refer to the "Application Instance State Change Failure - Maintenance (45)" section on page 7-83.

Network Interface Restored - Maintenance (46)

The Network Interface Restored event functions as an informational alert that the network interface was restored. The primary cause of the event is that the interface cable is reconnected and the interface is put 'up' using **ifconfig** command. The event is informational and no further action is required.

Thread Watchdog Counter Expired for a Thread - Maintenance (47)

The Thread Watchdog Counter Expired for a Thread alarm (critical) indicates that a thread watchdog counter has expired for a thread. To troubleshoot and correct the cause of the Thread Watchdog Counter Expired for a Thread alarm, refer to the "Thread Watchdog Counter Expired for a Thread - Maintenance (47)" section on page 7-83.

Index Table Usage Exceeded Minor Usage Threshold Level - Maintenance (48)

The Index Table Usage Exceeded Minor Usage Threshold Level alarm (minor) indicates that the index (IDX) table usage has exceeded the minor threshold crossing usage level. To troubleshoot and correct the cause of the Index Table Usage Exceeded Minor Usage Threshold Level alarm, refer to the "Index Table Usage Exceeded Minor Usage Threshold Level - Maintenance (48)" section on page 7-84.

Index Table Usage Exceeded Major Usage Threshold Level - Maintenance (49)

The Index Table Usage Exceeded Major Usage Threshold Level alarm (major) indicates that the IDX table usage has exceeded the major threshold crossing usage level. To troubleshoot and correct the cause of the Index Table Usage Exceeded Major Usage Threshold Level alarm, refer to the "Index Table Usage Exceeded Major Usage Threshold Level - Maintenance (49)" section on page 7-84.

Index Table Usage Exceeded Critical Usage Threshold Level - Maintenance (50)

The Index Table Usage Exceeded Critical Usage Threshold Level alarm (critical) indicates that the IDX table usage has exceeded the critical threshold crossing usage level. To troubleshoot and correct the cause of the Index Table Usage Exceeded Critical Usage Threshold Level alarm, refer to the "Index Table Usage Exceeded Critical Usage Threshold Level - Maintenance (50)" section on page 7-84.

A Process Exceeds 70% of Central Processing Unit Usage - Maintenance (51)

The A Process Exceeds 70% of Central Processing Unit Usage alarm (major) indicates that a process has exceeded the CPU usage threshold of 70 percent. To troubleshoot and correct the cause of the A Process Exceeds 70% of Central Processing Unit Usage alarm, refer to the "A Process Exceeds 70% of Central Processing Unit Usage - Maintenance (51)" section on page 7-84.

Central Processing Unit Usage is Now Below the 50% Level - Maintenance (52)

The Central Processing Unit Usage is Now Below the 50% Level event functions as an informational alert that the CPU usage level has fallen below the threshold level of 50 percent. The event is informational and no further action is required.

The Central Processing Unit Usage is Over 90% Busy - Maintenance (53)

The Central Processing Unit Usage is Over 90% Busy alarm (critical) indicates that the CPU usage is over the threshold level of 90 percent. To troubleshoot and correct the cause of The Central Processing Unit Usage is Over 90% Busy alarm, refer to the "The Central Processing Unit Usage is Over 90% Busy - Maintenance (53)" section on page 7-84.

The Central Processing Unit has Returned to Normal Levels of Operation - Maintenance (54)

The The Central Processing Unit has Returned to Normal Levels of Operation event functions as an informational alert that the CPU usage has returned to the normal level of operation. The event is informational and no further actions is required.

The Five Minute Load Average is Abnormally High - Maintenance (55)

The Five Minute Load Average is Abnormally High alarm (major) indicates the five minute load average is abnormally high. To troubleshoot and correct the cause of The Five Minute Load Average is Abnormally High alarm, refer to the "The Five Minute Load Average is Abnormally High - Maintenance (55)" section on page 7-85.

The Load Average has Returned to Normal Levels - Maintenance (56)

The Load Average has Returned to Normal Levels event functions as an informational alert the load average has returned to normal levels. The event is informational and no further action is required.

Memory and Swap are Consumed at Critical Levels - Maintenance (57)

Note   Maintenance (57) is issued by the BTS 10200 system when memory consumption is greater than 95 percent (>95%) and swap space consumption is greater than 50 percent (>50%).

The Memory and Swap are Consumed at Critical Levels alarm (critical) indicates that memory and swap file usage have reached critical levels. To troubleshoot and correct the cause of the Memory and Swap are Consumed at Critical Levels alarm, refer to the "Memory and Swap are Consumed at Critical Levels - Maintenance (57)" section on page 7-85.

Memory and Swap are Consumed at Abnormal Levels - Maintenance (58)

> **Note** Maintenance (58) is issued by the BTS 10200 system when memory consumption is greater than 80 percent (>80%) and swap space consumption is greater than 30 percent (>30%).

The Memory and Swap are Consumed at Abnormal Levels event functions as an informational alert the memory and swap file usage are being consumed at abnormal levels. The primary cause of the event is that a process or multiple processes have consumed an abnormal amount of memory on the system and the operating system is utilizing an abnormal amount of the swap space for process execution. This can be a result of high call rates or bulk provisioning activity. Monitor the system to ensure all subsystems are performing normally. If so, only lightening the effective load on the system will clear the situation. If not, verify which process(es) are running at abnormally high rates, and contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

No Heartbeat Messages Received Through the Interface - Maintenance (61)

The No Heartbeat Messages Received Through the Interface alarm (critical) indicates that no HB messages are being received through the local network interface. To troubleshoot and correct the cause of the No Heartbeat Messages Received Through the Interface alarm, refer to the "No Heartbeat Messages Received Through the Interface - Maintenance (61)" section on page 7-85.

Link Monitor: Interface Lost Communication - Maintenance (62)

The Link Monitor: Interface Lost Communication alarm (major) indicates that a interface has lost communication. To troubleshoot and correct the cause of the Link Monitor: Interface Lost Communication alarm, refer to the "Link Monitor: Interface Lost Communication - Maintenance (62)" section on page 7-85.

Outgoing Heartbeat Period Exceeded Limit - Maintenance (63)

The Outgoing Heartbeat Period Exceeded Limit alarm (major) indicates that the outgoing HB period has exceeded the limit. To troubleshoot and correct the cause of the Outgoing Heartbeat Period Exceeded Limit alarm, refer to the "Outgoing Heartbeat Period Exceeded Limit - Maintenance (63)" section on page 7-86.

Average Outgoing Heartbeat Period Exceeds Major Alarm Limit - Maintenance (64)

The Average Outgoing Heartbeat Period Exceeds Major Alarm Limit alarm (major) indicates that the average outgoing HB period has exceeded the major threshold crossing alarm limit. To troubleshoot and correct the cause of the Average Outgoing Heartbeat Period Exceeds Major Alarm Limit alarm, refer to the "Average Outgoing Heartbeat Period Exceeds Major Alarm Limit - Maintenance (64)" section on page 7-86.

Disk Partition Critically Consumed - Maintenance (65)

The Disk Partition Critically Consumed alarm (critical) indicates that the disk partition consumption has reached critical limits. To troubleshoot and correct the cause of the Disk Partition Critically Consumed alarm, refer to the "Disk Partition Critically Consumed - Maintenance (65)" section on page 7-86.

Disk Partition Significantly Consumed - Maintenance (66)

The Disk Partition Significantly Consumed alarm (major) indicates that the disk partition consumption has reached the major threshold crossing level. To troubleshoot and correct the cause of the Disk Partition Significantly Consumed alarm, refer to the "Disk Partition Significantly Consumed - Maintenance (66)" section on page 7-86.

The Free Inter-Process Communication Pool Buffers Below Minor Threshold - Maintenance (67)

The Free Inter-Process Communication Pool Buffers Below Minor Threshold alarm (minor) indicates that the number of free IPC pool buffers has fallen below the minor threshold crossing level. To troubleshoot and correct the cause of The Free Inter-Process Communication Pool Buffers Below Minor Threshold alarm, refer to the "The Free Inter-Process Communication Pool Buffers Below Minor Threshold - Maintenance (67)" section on page 7-86.

The Free Inter-Process Communication Pool Buffers Below Major Threshold - Maintenance (68)

The Free Inter-Process Communication Pool Buffers Below Major Threshold alarm (major) indicates that the number of free IPC pool buffers has fallen below the major threshold crossing level. To troubleshoot and correct the cause of The Free Inter-Process Communication Pool Buffers Below Major Threshold alarm, refer to the "The Free Inter-Process Communication Pool Buffers Below Major Threshold - Maintenance (68)" section on page 7-87.

The Free Inter-Process Communication Pool Buffers Below Critical Threshold - Maintenance (69)

The Free Inter-Process Communication Pool Buffers Below Critical Threshold alarm (critical) indicates that the number of free IPC pool buffers has fallen below the critical threshold crossing level. To troubleshoot and correct the cause of The Free Inter-Process Communication Pool Buffers Below Critical Threshold alarm, refer to the "The Free Inter-Process Communication Pool Buffers Below Critical Threshold - Maintenance (69)" section on page 7-87.

The Free Inter-Process Communication Pool Buffer Count Below Minimum Required - Maintenance (70)

The Free Inter-Process Communication Pool Buffers Below Critical Threshold alarm (critical) indicates that the IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic. To troubleshoot and correct the cause of The Free Inter-Process Communication Pool Buffers Below Critical Threshold alarm, refer to the "The Free Inter-Process Communication Pool Buffer Count Below Minimum Required - Maintenance (70)" section on page 7-87.

Local Domain Name System Server Response Too Slow - Maintenance (71)

The Local Domain Name System Server Response Too Slow alarm (major) indicates that the response time of the local DNS server is too slow. To troubleshoot and correct the cause of the Local Domain Name System Server Response Too Slow alarm, refer to the "Local Domain Name System Server Response Too Slow - Maintenance (71)" section on page 7-87.

External Domain Name System Server Response Too Slow - Maintenance (72)

The External Domain Name System Server Response Too Slow alarm (major) indicates that the response time of the external DNS server is too slow. To troubleshoot and correct the cause of the External Domain Name System Server Response Too Slow alarm, refer to the "External Domain Name System Server Response Too Slow - Maintenance (72)" section on page 7-87.

External Domain Name System Server not Responsive - Maintenance (73)

The External Domain Name System Server not Responsive alarm (critical) indicates that the external DNS server is not responding to network queries. To troubleshoot and correct the cause of the External Domain Name System Server not Responsive alarm, refer to the "External Domain Name System Server not Responsive - Maintenance (73)" section on page 7-88.

Local Domain Name System Service not Responsive - Maintenance (74)

The Local Domain Name System Service not Responsive alarm (critical) indicates that the local DNS server is not responding to network queries. To troubleshoot and correct the cause of the Local Domain Name System Service not Responsive alarm, refer to the "Local Domain Name System Service not Responsive - Maintenance (74)" section on page 7-88.

Mismatch of Internet Protocol Address Local Server and Domain Name System - Maintenance (75)

The Mismatch of Internet Protocol Address Local Server and Domain Name System event functions as a warning that a mismatch of the local server IP address and the DNS server address has occurred. The primary cause of the event is that the DNS server updates are not getting to the Cisco BTS 10200 Softswitch from the external server, or the discrepancy was detected before the local DNS lookup table was updated. Ensure the external DNS server is operational and sending updates to the Cisco BTS 10200 Softswitch.

Mate Time Differs Beyond Tolerance - Maintenance (77)

The Mate Time Differs Beyond Tolerance alarm (major) indicates that the mate differs beyond the tolerance. To troubleshoot and correct the cause of the Mate Time Differs Beyond Tolerance alarm, refer to the "Mate Time Differs Beyond Tolerance - Maintenance (77)" section on page 7-88.

Bulk Data Management System Admin State Change - Maintenance (78)

The Bulk Data Management System Admin State Change event functions as an informational alert that the BDMS administrative state has changed. The primary cause of the event is that the Bulk Data Management Server was switched over manually. The event is informational and no further action is required.

Resource Reset - Maintenance (79)

The Resource Reset event functions as an informational alert that a resource reset has occurred. The event is informational and no further action is required.

Resource Reset Warning - Maintenance (80)

The Resource Reset Warning event functions as an informational alert that a resource reset is about to occur. The event is informational and no further action is required.

Resource Reset Failure - Maintenance (81)

The Resource Reset Failure event functions as an informational alert that a resource reset has failed. The primary cause of the event an internal messaging error. Check dataword three (failure reason) to determine if this is caused by invalid user input, inconsistent provisioning of the device, or if the system is busy and a timeout occurred.

Average Outgoing Heartbeat Period Exceeds Critical Limit - Maintenance (82)

The Average Outgoing Heartbeat Period Exceeds Critical Limit alarm (critical) indicates that the average outgoing HB period has exceeded the critical limit threshold. To troubleshoot and correct the cause of the Average Outgoing Heartbeat Period Exceeds Critical Limit alarm, refer to the "Average Outgoing Heartbeat Period Exceeds Critical Limit - Maintenance (82)" section on page 7-88.

Swap Space Below Minor Threshold - Maintenance (83)

The Swap Space Below Minor Threshold alarm (minor) indicates that the swap space has fallen below the minor threshold level. To troubleshoot and correct the cause of the Swap Space Below Minor Threshold alarm, refer to the "Swap Space Below Minor Threshold - Maintenance (83)" section on page 7-88.

Swap Space Below Major Threshold - Maintenance (84)

The Swap Space Below Major Threshold alarm (major) indicates that the swap space has fallen below the major threshold level. To troubleshoot and correct the cause of the Swap Space Below Major Threshold alarm, refer to the "Swap Space Below Major Threshold - Maintenance (84)" section on page 7-88.

Swap Space Below Critical Threshold - Maintenance (85)

The Swap Space Below Critical Threshold alarm (critical) indicates that the swap space has fallen below the critical threshold level. To troubleshoot and correct the cause of the Swap Space Below Major Threshold alarm, refer to the "Swap Space Below Critical Threshold - Maintenance (85)" section on page 7-89.

System Health Report Collection Error - Maintenance (86)

The System Health Report Collection Error alarm (minor) indicates that an error occurred while collecting System Health Report. To troubleshoot and correct the cause of the System Health Report Collection Error alarm, refer to the "System Health Report Collection Error - Maintenance (86)" section on page 7-89.

Status Update Process Request Failed - Maintenance (87)

The Status Update Process Request Failed alarm (major) indicates that the status update process request failed. To troubleshoot and correct the cause of the Status Update Process Request Failed alarm, refer to the "Status Update Process Request Failed - Maintenance (87)" section on page 7-89.

Status Update Process Database List Retrieval Error - Maintenance (88)

The Status Update Process Database List Retrieval Error alarm (major) indicates that the status update process DB had a retrieval error. To troubleshoot and correct the cause of the Status Update Process Database List Retrieval Error alarm, refer to the "Status Update Process Database List Retrieval Error - Maintenance (88)" section on page 7-89.

Status Update Process Database Update Error - Maintenance (89)

The Status Update Process Database Update Error alarm (major) indicates that the status update process DB had an update error. To troubleshoot and correct the cause of the Status Update Process Database Update Error alarm, refer to the "Status Update Process Database Update Error - Maintenance (89)" section on page 7-89.

Disk Partition Moderately Consumed - Maintenance (90)

The Disk Partition Moderately Consumed alarm (minor) indicates that the disk partition is moderately consumed. To troubleshoot and correct the cause of the Disk Partition Moderately Consumed alarm, refer to the "Disk Partition Moderately Consumed - Maintenance (90)" section on page 7-89.

Internet Protocol Manager Configuration File Error - Maintenance (91)

The Internet Protocol Manager Configuration File Error alarm (critical) indicates that IPM configuration file has an error. To troubleshoot and correct the cause of the Internet Protocol Manager Configuration File Error alarm, refer to the "Internet Protocol Manager Configuration File Error - Maintenance (91)" section on page 7-90.

Internet Protocol Manager Initialization Error - Maintenance (92)

The Internet Protocol Manager Initialization Error alarm (major) indicates that the IPM process failed to initialize correctly. To troubleshoot and correct the cause of the Internet Protocol Manager Initialization Error alarm, refer to the "Internet Protocol Manager Initialization Error - Maintenance (92)" section on page 7-90.

Internet Protocol Manager Interface Failure - Maintenance (93)

The Internet Protocol Manager Interface Failure alarm (major) indicates that an IPM interface has failed. To troubleshoot and correct the cause of the Internet Protocol Manager Interface Failure alarm, refer to "Internet Protocol Manager Interface Failure - Maintenance (93)" section on page 7-90.

Internet Protocol Manager Interface State Change - Maintenance (94)

The Internet Protocol Manager Interface State Change event functions as an informational alert that the state of the IPM interface has changed. The primary cause of the event is that the IPM changed state on an interface (up or down). The event is informational and no further action is required.

Internet Protocol Manager Interface Created - Maintenance (95)

The Internet Protocol Manager Interface Created event functions as an informational alert that the IPM has created a new logical interface. The event is informational and no further action is required.

Internet Protocol Manager Interface Removed - Maintenance (96)

The Internet Protocol Manager Interface Removed event functions as an informational alert that the IPM has removed a logical interface. The event is informational and no further action is required.

Inter-Process Communication Input Queue Entered Throttle State - Maintenance (97)

The Inter-Process Communication Input Queue Entered Throttle State alarm (critical) alarm indicates that the thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is using up too much of the IPC memory pool resource. To troubleshoot and correct the cause of the Inter-Process Communication Input Queue Entered Throttle State alarm, refer to the "Inter-Process Communication Input Queue Entered Throttle State - Maintenance (97)" section on page 7-90.

Inter-Process Communication Input Queue Depth at 25% of its Hi-Watermark - Maintenance (98)

The Inter-Process Communication Input Queue Depth at 25% of its Hi-Watermark alarm (minor) indicates that the IPC input queue depth has reached 25 percent of its hi-watermark. To troubleshoot and correct the cause of the Inter-Process Communication Input Queue Depth at 25% of its Hi-Watermark alarm, refer to the "Inter-Process Communication Input Queue Depth at 25% of Its Hi-Watermark - Maintenance (98)" section on page 7-90.

Inter-Process Communication Input Queue Depth at 50% of its Hi-Watermark - Maintenance (99)

The Inter-Process Communication Input Queue Depth at 50% of its Hi-Watermark alarm (major) indicates that the IPC input queue depth has reached 50 percent of its hi-watermark. To troubleshoot and correct the cause of the Inter-Process Communication Input Queue Depth at 50% of its Hi-Watermark alarm, refer to the "Inter-Process Communication Input Queue Depth at 50% of Its Hi-Watermark - Maintenance (99)" section on page 7-91.

Inter-Process Communication Input Queue Depth at 75% of its Hi-Watermark - Maintenance (100)

The Inter-Process Communication Input Queue Depth at 75% of its Hi-Watermark alarm (critical) indicates that the IPC input queue depth has reached 75 percent of its hi-watermark. To troubleshoot and correct the cause of the Inter-Process Communication Input Queue Depth at 75% of its Hi-Watermark alarm, refer to the "Inter-Process Communication Input Queue Depth at 75% of Its Hi-Watermark - Maintenance (100)" section on page 7-91.

Switchover in Progress - Maintenance (101)

The Switchover in Progress alarm (critical) indicates that a system switchover is progress. This alarm is issued when a system switchover is in progress either due to manual switchover (via CLI command), failover switchover, or automatic switchover. No action needs to be taken, the alarm is cleared when switchover is complete. Service is temporarily suspended for a short period of time during this transition.

Thread Watchdog Counter Close to Expiry for a Thread - Maintenance (102)

The Thread Watchdog Counter Close to Expiry for a Thread alarm (critical) indicates that the thread watchdog counter is close to expiry for a thread. The primary cause of the alarm is that a software error has occurred. No further action is required, the Cisco BTS 10200 Softswitch system will automatically recover or shutdown.

Central Processing Unit is Offline - Maintenance (103)

The Central Processing Unit is Offline alarm (critical) indicates that the CPU is offline. To troubleshoot and correct the cause of the Central Processing Unit is Offline alarm, refer to the "Central Processing Unit is Offline - Maintenance (103)" section on page 7-91.

Troubleshooting Maintenance Alarms

This section provides the information needed to troubleshoot and correct Maintenance alarms. Table 7-3 lists all Maintenance alarms in numerical order and provides cross reference to each subsection in this section.

Table 7-3   Cisco BTS 10200 Softswitch Maintenance Alarms

Alarm Type	Alarm Name	Alarm Severity
MAINTENANCE(3)	Local Side has Become Faulty - Maintenance (3)	MAJOR
MAINTENANCE(4)	Mate Side has Become Faulty - Maintenance (4)	MAJOR
MAINTENANCE(5)	Changeover Failure - Maintenance (5)	MAJOR
MAINTENANCE(6)	Changeover Timeout - Maintenance (6)	MAJOR
MAINTENANCE(7)	Mate Rejected Changeover - Maintenance (7)	MAJOR
MAINTENANCE(8)	Mate Changeover Timeout - Maintenance (8)	MAJOR
MAINTENANCE(9)	Local Initialization Failure - Maintenance (9)	MAJOR
MAINTENANCE(10)	Local Initialization Timeout - Maintenance (10)	MAJOR
MAINTENANCE(18)	Process Manager: Process has Died - Maintenance (18)	MINOR
MAINTENANCE(19)	Process Manager: Process Exceeded Restart Rate - Maintenance (19)	MAJOR
MAINTENANCE(20)	Lost Connection to Mate - Maintenance (20)	MAJOR
MAINTENANCE(21)	Network Interface Down - Maintenance (21)	MAJOR
MAINTENANCE(23)	Process Manager: Process Failed to Complete Initialization - Maintenance (23)	MAJOR
MAINTENANCE(24)	Process Manager: Restarting Process - Maintenance (24)	MINOR
MAINTENANCE(26)	Process Manager: Going Faulty - Maintenance (26)	MAJOR
MAINTENANCE(40)	Process Manager: Binary Does not Exist for Process - Maintenance (40)	CRITICAL
MAINTENANCE(42)	Number of Heartbeat Messages Received is Less Than 50% of Expected - Maintenance (42)	MAJOR
MAINTENANCE(43)	Process Manager: Process Failed to Come Up in Active Mode - Maintenance (43)	CRITICAL
MAINTENANCE(44)	Process Manager: Process Failed to Come Up in Standby Mode - Maintenance (44)	CRITICAL
MAINTENANCE(45)	Application Instance State Change Failure - Maintenance (45)	MAJOR
MAINTENANCE(47)	Thread Watchdog Counter Expired for a Thread - Maintenance (47)	CRITICAL
MAINTENANCE(48)	Index Table Usage Exceeded Minor Usage Threshold Level - Maintenance (48)	MINOR
MAINTENANCE(49)	Index Table Usage Exceeded Major Usage Threshold Level - Maintenance (49)	MAJOR
MAINTENANCE(50)	Index Table Usage Exceeded Critical Usage Threshold Level - Maintenance (50)	CRITICAL
MAINTENANCE(51)	A Process Exceeds 70% of Central Processing Unit Usage - Maintenance (51)	MAJOR
MAINTENANCE(53)	The Central Processing Unit Usage is Over 90% Busy - Maintenance (53)	CRITICAL
MAINTENANCE(55)	The Five Minute Load Average is Abnormally High - Maintenance (55)	MAJOR
MAINTENANCE(57)	Memory and Swap are Consumed at Critical Levels - Maintenance (57)	CRITICAL
MAINTENANCE(61)	No Heartbeat Messages Received Through the Interface - Maintenance (61)	CRITICAL
MAINTENANCE(62)	Link Monitor: Interface Lost Communication - Maintenance (62)	MAJOR

Table 7-3   Cisco BTS 10200 Softswitch Maintenance Alarms (continued)

Alarm Type	Alarm Name	Alarm Severity
MAINTENANCE(63)	Outgoing Heartbeat Period Exceeded Limit - Maintenance (63)	MAJOR
MAINTENANCE(64)	Average Outgoing Heartbeat Period Exceeds Major Alarm Limit - Maintenance (64)	MAJOR
MAINTENANCE(65)	Disk Partition Critically Consumed - Maintenance (65)	CRITICAL
MAINTENANCE(66)	Disk Partition Significantly Consumed - Maintenance (66)	MAJOR
MAINTENANCE(67)	The Free Inter-Process Communication Pool Buffers Below Minor Threshold - Maintenance (67)	MINOR
MAINTENANCE(68)	The Free Inter-Process Communication Pool Buffers Below Major Threshold - Maintenance (68)	MAJOR
MAINTENANCE(69)	The Free Inter-Process Communication Pool Buffers Below Critical Threshold - Maintenance (69)	CRITICAL
MAINTENANCE(70)	The Free Inter-Process Communication Pool Buffer Count Below Minimum Required - Maintenance (70)	CRITICAL
MAINTENANCE(71)	Local Domain Name System Server Response Too Slow - Maintenance (71)	MAJOR
MAINTENANCE(72)	External Domain Name System Server Response Too Slow - Maintenance (72)	MAJOR
MAINTENANCE(73)	External Domain Name System Server not Responsive - Maintenance (73)	CRITICAL
MAINTENANCE(74)	Local Domain Name System Service not Responsive - Maintenance (74)	CRITICAL
MAINTENANCE(77)	Mate Time Differs Beyond Tolerance - Maintenance (77)	MAJOR
MAINTENANCE(82)	Average Outgoing Heartbeat Period Exceeds Critical Limit - Maintenance (82)	CRITICAL
MAINTENANCE(83)	Swap Space Below Minor Threshold - Maintenance (83)	MINOR
MAINTENANCE(84)	Swap Space Below Major Threshold - Maintenance (84)	MAJOR
MAINTENANCE(85)	Swap Space Below Critical Threshold - Maintenance (85)	CRITICAL
MAINTENANCE(86)	System Health Report Collection Error - Maintenance (86)	MINOR
MAINTENANCE(87)	Status Update Process Request Failed - Maintenance (87)	MAJOR
MAINTENANCE(88)	Status Update Process Database List Retrieval Error - Maintenance (88)	MAJOR
MAINTENANCE(89)	Status Update Process Database Update Error - Maintenance (89)	MAJOR
MAINTENANCE(90)	Disk Partition Moderately Consumed - Maintenance (90)	MINOR
MAINTENANCE(91)	Internet Protocol Manager Configuration File Error - Maintenance (91)	CRITICAL
MAINTENANCE(92)	Internet Protocol Manager Initialization Error - Maintenance (92)	MAJOR
MAINTENANCE(93)	Internet Protocol Manager Interface Failure - Maintenance (93)	MAJOR
MAINTENANCE(97)	Inter-Process Communication Input Queue Entered Throttle State - Maintenance (97)	CRITICAL
MAINTENANCE(98)	Inter-Process Communication Input Queue Depth at 25% of Its Hi-Watermark - Maintenance (98)	MINOR
MAINTENANCE(99)	Inter-Process Communication Input Queue Depth at 50% of Its Hi-Watermark - Maintenance (99)	MAJOR
MAINTENANCE(100)	Inter-Process Communication Input Queue Depth at 75% of Its Hi-Watermark - Maintenance (100)	CRITICAL
MAINTENANCE(101)	Switchover in Progress - Maintenance (101)	CRITICAL

Table 7-3   Cisco BTS 10200 Softswitch Maintenance Alarms (continued)

Alarm Type	Alarm Name	Alarm Severity
MAINTENANCE(102)	Thread Watchdog Counter Close to Expiry for a Thread - Maintenance (102)	CRITICAL
MAINTENANCE(103)	Central Processing Unit is Offline - Maintenance (103)	CRITICAL

Local Side has Become Faulty - Maintenance (3)

The Local Side has Become Faulty alarm (major) indicates that the local side has become faulty. The alarm can result from maintenance reports 5, 6, 9, 10, 19, or 20. Review information from CLI log report. The alarm is usually caused by a software problem. To correct the primary cause of the alarm, restart the software using the Installation and Startup procedure. The alarm can also be caused by manually shutting down the system using platform stop command. To correct the secondary cause of the alarm, reboot host machine, reinstall all applications and restart all applications. If the alarm is reoccurring, the operating system or the hardware may have a problem.

Mate Side has Become Faulty - Maintenance (4)

The Mate Side has Become Faulty alarm (major) indicates that the mate side has become faulty. The primary cause of the alarm is that the local side has detected the mate side going into a faulty state. To correct the primary cause of the alarm, display the event summary on the faulty mate side, using the **report event-summary** command (see the CLI Guide for command details). Review information in the event summary. The alarm is usually caused by a software problem. After confirming the active side is processing traffic, restart software on the mate side. Log in to the mate platform as root user. Enter platform stop command and then platform start command. If a software restart does not resolve the problem or if the platform goes immediately to faulty again, or does not start, contact Cisco TAC. It may be necessary to reinstall software. If the alarm is reoccurring, then the operating system or the hardware may have a problem. Reboot host machine, then reinstall and restart all applications. The reboot will bring down the other applications running on the machine. Contact Cisco TAC for assistance. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Changeover Failure - Maintenance (5)

The Changeover Failure alarm (major) indicates that a changeover failed. The alarm is issued when changing from an active processor to a standby processor and the changeover fails. To correct the cause of the alarm, review alarm information from CLI log report. This alarm is usually caused by a software problem on the specific platform identified in the alarm report. Restart the platform identified in the alarm report. If the platform restart is not successful, reinstall the application on the platform, and then restart platform again. If necessary, reboot host machine the platform is located on. Then reinstall and restart all applications on this machine. If faulty state is a reoccurring event, then operating system or the hardware may be defective. Contact Cisco TAC for assistance. It may also be helpful to gather information event/alarm reports that were issued before and after this alarm report. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Changeover Timeout - Maintenance (6)

The Changeover Timeout alarm (major) indicates that a changeover timed out. The cause of the alarm is that the system failed to changeover within time period. Soon after this event is issued, one platform will go to faulty state. This alarm is usually caused by a software problem on the specific platform identified in the alarm report. To correct the cause of the alarm, review information from CLI log report. On the platform identified in this alarm report, restart the platform. If platform restart is not successful, reinstall the application for this platform, and then restart platform again. If necessary, reboot host machine the platform is located on. Then reinstall and restart all applications on this machine. If faulty state is a reoccurring event, then operating system or hardware may be defective. Contact Cisco TAC for assistance. It may also be helpful to gather information event/alarm reports that were issued before and after this alarm report. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Mate Rejected Changeover - Maintenance (7)

The Mate Rejected Changeover alarm (major) indicates that the mate rejected the changeover. The primary cause of the alarm is that the mate is not in a stable state. To correct the primary cause of the alarm, enter the status command to get information on the two systems in the pair (primary and secondary EMS, CA or FS). The secondary cause of the alarm is that the mate detects that it is faulty during changeover and then rejects changeover.

To correct the secondary cause of the alarm, check to see if the mate is faulty (not running), then perform the corrective action steps listed in the "Mate Side has Become Faulty - Maintenance (4)" section on page 7-77. Additionally, if both systems (local and mate) are still running, diagnose whether both instances are operating in stable state (one in active and the other in standby). If both are in a stable state, wait 10 minutes and try the "control" command again. If standby side is not in stable state, bring down the standby side and restart software using the "platform stop" and "platform start" commands. If software restart does not resolve the problem, or if the problem is commonly occurring, contact Cisco TAC. It may be necessary to reinstall software. Additional operating system or hardware problems may also need to be resolved. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

To continue troubleshooting the cause of the alarm, refer to Figure 7-1 if the forced switchover has been rejected by the secondary. Refer to Figure 7-2 if the primary failed to come up in the active state.

Figure 7-1   *Corrective Action for Maintenance Event (7) (Mate Rejected Changeover)*
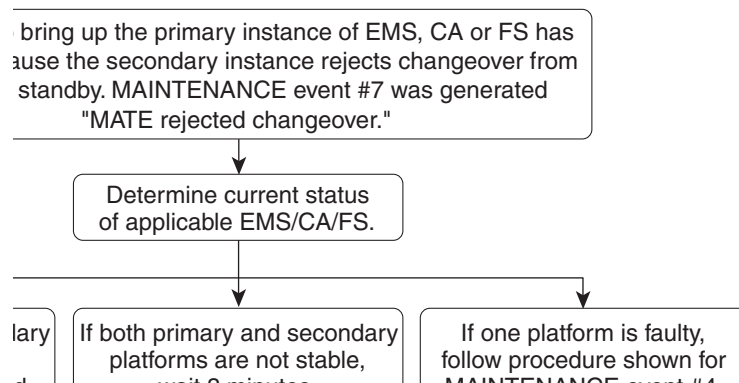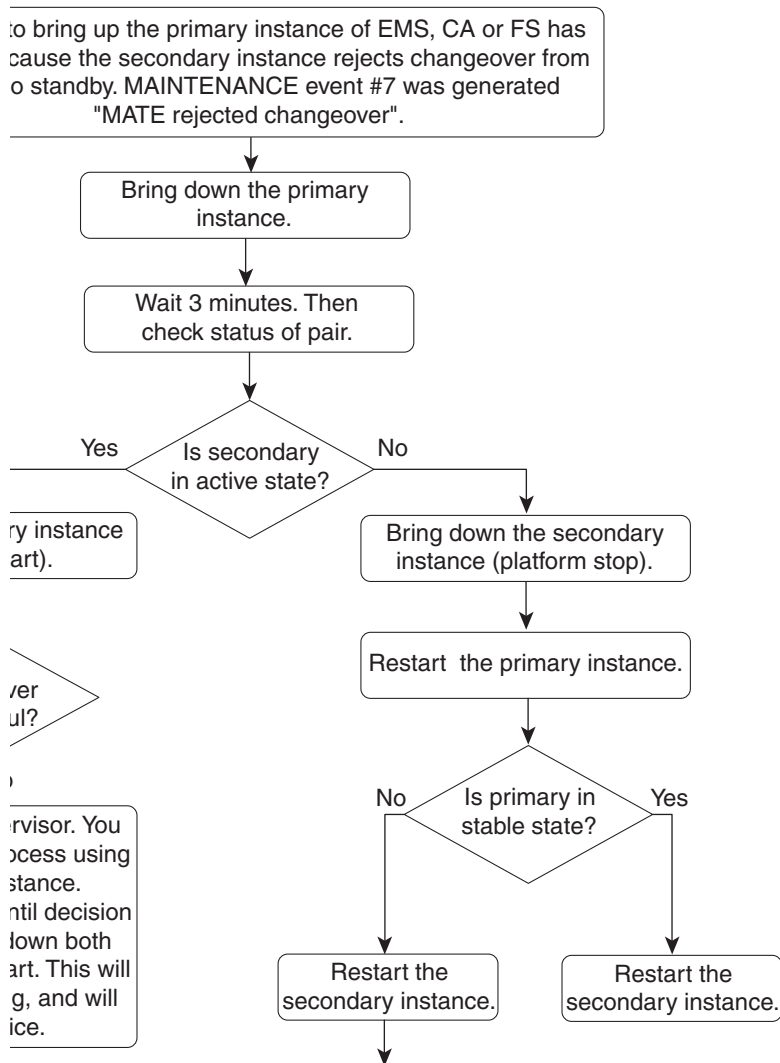   *Forced Switchover Rejected By Secondary*

bring up the primary instance of EMS, CA or FS has
ause the secondary instance rejects changeover from
standby. MAINTENANCE event #7 was generated
"MATE rejected changeover."

↓

Determine current status
of applicable EMS/CA/FS.

↓

lary	If both primary and secondary	If one platform is faulty,
d	platforms are not stable,	follow procedure shown for
	wait 3 minutes	MAINTENANCE event #4

Figure 7-2   *Corrective Action for Maintenance Event (7) (Mate Rejected Changeover)*
                    Primary Failed To Come Up in Active State

Note The attempted changeover could be caused by a forced (operator) switch, or it could be caused by secondary instance rejecting changeover as primary is being brought up.

Mate Changeover Timeout - Maintenance (8)

The Mate Changeover Timeout alarm (major) indicates that the mate changeover timed out. The primary cause of the alarm is that the mate is faulty. This alarm is usually caused by a software problem on the specific mate platform identified in the alarm report. To correct the primary cause of the alarm, review information from CLI log report concerning faulty mate. On the mate platform identified in this alarm report, restart the platform. If mate platform restart is not successful, reinstall the application for this mate platform, and then restart mate platform again. If necessary, reboot host machine this mate platform is located on. Then reinstall and restart all applications on that machine.

Local Initialization Failure - Maintenance (9)

The Local Initialization Failure alarm (major) indicates that the local initialization has failed. The primary cause of the alarm is that the local initialization has failed. When this alarm event report is issued, the system has failed and the re-initialization process has failed. To correct the primary cause of the alarm, check that the binary files are present for the unit (Call Agent, Feature Server, Element Manager). If the files are not present, then re-install the files from the initial or the backup media. Then restart the failed device.

Local Initialization Timeout - Maintenance (10)

The Local Initialization Timeout alarm (major) indicates that the local initialization has timed out. The primary cause of this alarm is that the local initialization has timed out. When the event report is issued, the system has failed and the re-initialization process has failed. To correct the primary cause of the alarm, check that the binary files are present for the unit (Call Agent, Feature, Server, or Element Manager). If the files are not present, then re-install the files from initial or backup media. Then restart the failed device.

Process Manager: Process has Died - Maintenance (18)

The Process Manager: Process has Died alarm (minor) indicates that a process has died. The primary cause of the alarm is that a software problem has occurred. If problem persists or is reoccurring, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Process Manager: Process Exceeded Restart Rate - Maintenance (19)

The Process Manager: Process Exceeded Restart Rate alarm (major) indicates that a process has exceeded the restart rate. This alarm is usually caused by a software problem on the specific platform identified in the alarm report. Soon after this event is issued, one platform will go to faulty state. To correct the primary cause of the alarm, review the information from CLI log report. On the platform identified in this alarm report, restart the platform. If platform restart is not successful, reinstall the application for this platform, and then restart platform again. If necessary, reboot host machine this platform is located on. Then reinstall and restart all applications on this machine.

If faulty state is a commonly occurring event, then OS or hardware may be a problem. Contact Cisco TAC for assistance. It may also be helpful to gather information event/alarm reports that were issued before and after this alarm report.

Lost Connection to Mate - Maintenance (20)

The Lost Connection to Mate alarm (major) indicates that the keepalive module connection to the mate has been lost. The primary cause of the alarm is that a network interface hardware problem was occurred. Soon after this event is issued, one platform may go to faulty state. To correct the primary cause of this alarm, check whether the network interface is down. If so, restore network interface and restart the software. The secondary cause of the alarm is a router problem. If secondary cause of the alarm is a router problem, then repair router and reinstall.

Network Interface Down - Maintenance (21)

The Network Interface Down alarm (major) indicates that the network interface has gone down. The primary cause of the alarm is a network interface hardware problem. Soon after this alarm event is issued, one platform may go to faulty state. Subsequently system goes faulty. To correct the primary cause of the alarm, check whether the network interface is down. If so, restore network interface and restart the software.

Process Manager: Process Failed to Complete Initialization - Maintenance (23)

The Process Manager: Process Failed to Complete Initialization alarm (major) indicates that a PMG process failed to complete initialization. The primary cause of the this alarm is that the specified process failed to complete initialization during the restoral process. To correct the primary cause of the alarm, verify that the specified process's binary image is installed. If not, install it and restart the platform.

Process Manager: Restarting Process - Maintenance (24)

The Process Manager: Restarting Process alarm (minor) indicates the a PMG process is being restarted. The primary cause of the alarm is that a software problem process has exited abnormally and had to be restarted. If problem is recurrent, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Process Manager: Going Faulty - Maintenance (26)

The Process Manager: Going Faulty alarm (major) indicates that a PMG process is going faulty. The primary cause of the alarm is that the system has been brought down or the system has detected a fault. If the alarm is not due to the operator intentionally bringing down the system, then the platform has detected a fault and has shut down. This is typically followed by the Maintenance (3) alarm event. To correct the primary cause of the alarm, use the corrective action procedures provided for the Maintenance (3) alarm event. Refer to the "Local Side has Become Faulty - Maintenance (3)" section on page 7-77.

Process Manager: Binary Does not Exist for Process - Maintenance (40)

The Process Manager: Binary Does not Exist for Process alarm (critical) indicates that the platform was not installed correctly. The primary cause of the alarm is that the platform was not installed correctly. To correct the primary cause of the alarm, reinstall the platform.

Number of Heartbeat Messages Received is Less Than 50% of Expected - Maintenance (42)

The Number of Heartbeat Messages Received is Less Than 50% of Expected alarm (major) indicates that number of HB messages being received is less than 50% of expected number. The primary cause of the alarm is that a network problem has occurred. To correct the primary cause of the alarm, fix the network problem.

Process Manager: Process Failed to Come Up in Active Mode - Maintenance (43)

WThe Process Manager: Process Failed to Come Up in Active Mode alarm (critical) indicates that the process has failed to come up in active mode. The primary cause of the alarm is a software or configuration problem. To correct the primary cause of the alarm, restart the platform. If problem persists or is recurrent, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Process Manager: Process Failed to Come Up in Standby Mode - Maintenance (44)

The Process Manager: Process Failed to Come Up in Standby Mode alarm (critical) indicates that the process has failed to come up in standby mode. The primary cause of the alarm is a software or a configuration problem. To correct the primary cause of the alarm, restart the platform. If problem persists or is recurrent, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Application Instance State Change Failure - Maintenance (45)

The Application Instance State Change Failure alarm (major) indicates that an application instance state change failed. The primary cause of the alarm is that a switchover of an application instance failed because of a platform fault. To correct the primary cause of the alarm, retry the switchover and if condition continues, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Thread Watchdog Counter Expired for a Thread - Maintenance (47)

The Thread Watchdog Counter Expired for a Thread alarm (critical) indicates that a thread watchdog counter has expired for a thread. The primary cause of the alarm is a software error. No action is required, the system will automatically recover or shutdown.

Index Table Usage Exceeded Minor Usage Threshold Level - Maintenance (48)

The Index Table Usage Exceeded Minor Usage Threshold Level alarm (minor) indicates that the IDX table usage has exceeded the minor threshold crossing usage level. The primary cause of the alarm is that call traffic has exceeded design limits. To correct the primary cause of the alarm, verify that traffic is within the rated capacity. The secondary cause of the alarm is that a software problem requiring additional analysis has occurred. To correct the secondary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Index Table Usage Exceeded Major Usage Threshold Level - Maintenance (49)

The Index Table Usage Exceeded Major Usage Threshold Level alarm (major) indicates that the IDX table usage has exceeded the major threshold crossing usage level. The primary cause of the alarm is that call traffic has exceeded design limits. To correct the primary cause of the alarm, verify that traffic is within the rated capacity. The secondary cause of the alarm is that a software problem requiring additional analysis has occurred. To correct the secondary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Index Table Usage Exceeded Critical Usage Threshold Level - Maintenance (50)

The Index Table Usage Exceeded Critical Usage Threshold Level alarm (critical) indicates that the IDX table usage has exceeded the critical threshold crossing usage level. The primary cause of the alarm is that call traffic has exceeded design limits. To correct the primary cause of the alarm, verify that traffic is within the rated capacity. The secondary cause of the alarm is that a software problem requiring additional analysis has occurred. To correct the secondary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

A Process Exceeds 70% of Central Processing Unit Usage - Maintenance (51)

The A Process Exceeds 70% of Central Processing Unit Usage alarm (major) indicates that a process has exceeded the CPU usage threshold of 70 percent. The primary cause of the alarm is that a process has entered a state of erratic behavior. To correct the primary cause of the alarm, monitor the process and kill it if necessary.

The Central Processing Unit Usage is Over 90% Busy - Maintenance (53)

The The Central Processing Unit Usage is Over 90% Busy alarm (critical) indicates that the CPU usage is over the threshold level of 90 percent. The primary causes of the alarm are to numerous to determine. Try to isolate the problem and Call Cisco TAC for assistance. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

The Five Minute Load Average is Abnormally High - Maintenance (55)

The Five Minute Load Average is Abnormally High alarm (major) indicates the five minute load average is abnormally high. The primary cause of the alarm is that multiple processes are vying for processing time on the system, which is normal in a high traffic situation such as heavy call processing or bulk provisioning. To correct the primary cause of the alarm, monitor the system to ensure all subsystems are performing normally. If so, only lightening the effective load on the system will clear the situation. If not, verify which process(es) are running at abnormally high rates and provide the information to Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Memory and Swap are Consumed at Critical Levels - Maintenance (57)

> **Note**   Maintenance (57) is issued by the BTS 10200 system when memory consumption is greater than 95 percent (>95%) and swap space consumption is greater than 50 percent (>50%).

The Memory and Swap are Consumed at Critical Levels alarm (critical) indicates that memory and swap file usage have reached critical levels. The primary cause of the alarm is that a process or multiple processes have consumed a critical amount of memory on the system and the operating system is utilizing a critical amount of the swap space for process execution. This can be a result of high call rates or bulk provisioning activity. To correct the primary cause of the alarm, monitor the system to ensure all subsystems are performing normally. If so, only lightening the effective load on the system will clear the situation. If not, verify which process(es) are running at abnormally high rates and provide the information to Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

No Heartbeat Messages Received Through the Interface - Maintenance (61)

The No Heartbeat Messages Received Through the Interface alarm (critical) indicates that no HB messages are being received through the local network interface. The primary cause of the alarm that the local network interface is down. To correct the primary cause of the alarm, restore the local network interface. The secondary cause of the alarm is that the mate network interface on the same sub-net is faulty. To correct the secondary cause of the alarm, restore the mate network interface. The ternary cause of the alarm is network congestion.

Link Monitor: Interface Lost Communication - Maintenance (62)

The Link Monitor: Interface Lost Communication alarm (major) indicates that a interface has lost communication. The primary cause of the alarm is that the interface cable is pulled out or interface has been set to "down" using ifconfig command. To correct the primary cause of the alarm, restore the network interface. The secondary cause of the alarm is that the interface has no connectivity to any of the machines or routers.

Outgoing Heartbeat Period Exceeded Limit - Maintenance (63)

The Outgoing Heartbeat Period Exceeded Limit alarm (major) indicates that the outgoing HB period has exceeded the limit. The primary cause of the alarm is system performance degradation due to CPU overload or excessive I/O operations. To correct the primary cause of the alarm, identify the applications which are causing the system degradation via the CLI commands to verify if this is a persistent or on-going situation. Contact Cisco TAC with the gathered information. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Average Outgoing Heartbeat Period Exceeds Major Alarm Limit - Maintenance (64)

The Average Outgoing Heartbeat Period Exceeds Major Alarm Limit alarm (major) indicates that the average outgoing HB period has exceeded the major threshold crossing alarm limit. The primary cause of the alarm is system performance degradation due to CPU overload or excessive I/O operations. To correct the primary cause of the alarm, identify the applications which are causing the system degradation via the CLI commands to verify if this is a persistent or on-going situation. Contact Cisco TAC with the gathered information. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Disk Partition Critically Consumed - Maintenance (65)

The Disk Partition Critically Consumed alarm (critical) indicates that the disk partition consumption has reached critical limits. The primary cause of the alarm is that a process or processes is/are writing extraneous data to the named partition. To correct the primary cause of the alarm, perform a disk clean-up and maintenance on the offending system.

Disk Partition Significantly Consumed - Maintenance (66)

The Disk Partition Significantly Consumed alarm (major) indicates that the disk partition consumption has reached the major threshold crossing level. The primary cause of the alarm is that a process or processes is/are writing extraneous data to the named partition. To correct the primary cause of the alarm, perform a disk clean-up and maintenance on the offending system.

The Free Inter-Process Communication Pool Buffers Below Minor Threshold - Maintenance (67)

The The Free Inter-Process Communication Pool Buffers Below Minor Threshold alarm (minor) indicates that the number of free IPC pool buffers has fallen below the minor threshold crossing level. The primary cause of the alarm is that IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic. To correct the primary cause of the alarm, contact Cisco TAC immediately. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

The Free Inter-Process Communication Pool Buffers Below Major Threshold - Maintenance (68)

The The Free Inter-Process Communication Pool Buffers Below Major Threshold alarm (major) indicates that the number of free IPC pool buffers has fallen below the major threshold crossing level. The primary cause of the alarm is that IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic. To correct the primary cause of the alarm, contact Cisco TAC immediately. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

The Free Inter-Process Communication Pool Buffers Below Critical Threshold - Maintenance (69)

The The Free Inter-Process Communication Pool Buffers Below Critical Threshold alarm (critical) indicates that the number of free IPC pool buffers has fallen below the critical threshold crossing level. The primary cause of the alarm is that IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic. To correct the primary cause of the alarm, contact Cisco TAC immediately. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

The Free Inter-Process Communication Pool Buffer Count Below Minimum Required - Maintenance (70)

The The Free Inter-Process Communication Pool Buffer Count Below Minimum Required alarm (critical) indicates that the IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic. The primary cause of the alarm is that IPC pool buffers are not being freed properly by the application or the application is not able to keep up with the incoming IPC messaging traffic. To correct the primary cause of the alarm, contact Cisco TAC immediately. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Local Domain Name System Server Response Too Slow - Maintenance (71)

The Local Domain Name System Server Response Too Slow alarm (major) indicates that the response time of the local DNS server is too slow. The primary cause of the alarm is that the local DNS server is too busy. To correct the primary cause of the alarm, check the local DNS server.

External Domain Name System Server Response Too Slow - Maintenance (72)

The External Domain Name System Server Response Too Slow alarm (major) indicates that the response time of the external DNS server is too slow. The primary cause of the alarm is that the network traffic level is busy, or the nameserver is very busy. To correct the primary cause of the alarm, check the DNS server(s). The secondary cause of the alarm is that there is an daemon called monitorDNS.sh checking the DNS server every minute or so. It will issue alarm if it cannot contact the DNS server or the response is slow. But it will clear the alarm if later it can contact the DNS server.

External Domain Name System Server not Responsive - Maintenance (73)

The External Domain Name System Server not Responsive alarm (critical) indicates that the external DNS server is not responding to network queries. The primary cause of the alarm is that the DNS servers or the network may be down. To correct the primary cause of the alarm, check the DNS server(s). The secondary cause of the alarm is that there is an daemon called monitorDNS.sh checking DNS server every minute or so. It will issue alarm if it cannot contact the DNS server or the response is slow. But it will clear the alarm if later it can contact the DNS server.

Local Domain Name System Service not Responsive - Maintenance (74)

The Local Domain Name System Service not Responsive alarm (critical) indicates that the local DNS server is not responding to network queries. The primary cause of the alarm is that the local DNS service may be down. To correct the primary cause of the alarm, check the local DNS server.

Mate Time Differs Beyond Tolerance - Maintenance (77)

The Mate Time Differs Beyond Tolerance alarm (major) indicates that the mate differs beyond the tolerance. The primary cause of the alarm is that time synchronization not working. To correct the primary cause of the alarm, change the UNIX time on the Faulty or Standby side. If the change is occur on the Standby, stop platform first.

Average Outgoing Heartbeat Period Exceeds Critical Limit - Maintenance (82)

The Average Outgoing Heartbeat Period Exceeds Critical Limit alarm (critical) indicates that the average outgoing HB period has exceeded the critical limit threshold. The primary cause of the alarm is that the CPU is overloaded. To correct the primary cause of the alarm, shutdown the platform.

Swap Space Below Minor Threshold - Maintenance (83)

The Swap Space Below Minor Threshold alarm (minor) indicates that the swap space has fallen below the minor threshold level. The primary cause of the alarm is that too many processes are running. To correct the primary cause of the alarm, stop the proliferation of executables (processes-scripts). The secondary cause of the alarm is that the /tmp or /var/run are being over-used. To correct the secondary cause of the alarm, cleanup the file systems.

Swap Space Below Major Threshold - Maintenance (84)

The Swap Space Below Major Threshold alarm (major) indicates that the swap space has fallen below the major threshold level. The primary cause of the alarm is that too many processes are running. To correct the primary cause of the alarm, stop the proliferation of executables (processes/shell-procedures). The secondary cause of the alarm is that the /tmp or /var/run are being over-used. To correct the secondary cause of the alarm, cleanup the file systems.

Swap Space Below Critical Threshold - Maintenance (85)

The Swap Space Below Critical Threshold alarm (critical) indicates that the swap space has fallen below the critical threshold level. The primary cause of the alarm is that too many processes are running. To correct the primary cause of the alarm, restart the Cisco BTS 10200 Softswitch software or reboot system The secondary cause of the alarm is that the /tmp or /var/run are being over-used. To correct the secondary cause of the alarm, cleanup the file systems.

System Health Report Collection Error - Maintenance (86)

The System Health Report Collection Error alarm (minor) indicates that an error occurred while collecting System Health Report. The primary cause of the alarm is that an error occur while collecting the System Health Report. To correct the primary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Status Update Process Request Failed - Maintenance (87)

The Status Update Process Request Failed alarm (major) indicates that the status update process request failed. The primary cause of the alarm is that the "status" command is not working properly. To correct the primary cause of the alarm, verify that the "status" command is working properly via CLI.

Status Update Process Database List Retrieval Error - Maintenance (88)

The Status Update Process Database List Retrieval Error alarm (major) indicates that the status update process DB had a retrieval error. The primary cause of the alarm is the Oracle DB is not working properly. To correct the primary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Status Update Process Database Update Error - Maintenance (89)

The Status Update Process Database Update Error alarm (major) indicates that the status update process DB had an update error. The primary cause of the alarm is that the MySQL DB on the EMS is not working properly. To correct the primary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Disk Partition Moderately Consumed - Maintenance (90)

The Disk Partition Moderately Consumed alarm (minor) indicates that the disk partition is moderately consumed. The primary cause of the alarm is that a process or processes is/are writing extraneous data to the named partition. To correct the primary cause of the alarm, perform a disk clean-up and maintenance on the offending system.

Internet Protocol Manager Configuration File Error - Maintenance (91)

The Internet Protocol Manager Configuration File Error alarm (critical) indicates that IPM configuration file has an error. The primary cause of the alarm is a IPM configuration file error. To correct the primary cause of the alarm, check the IPM configuration file (ipm.cfg) for incorrect syntax.

Internet Protocol Manager Initialization Error - Maintenance (92)

The Internet Protocol Manager Initialization Error alarm (major) indicates that the IPM process failed to initialize correctly. The primary cause of the alarm is that IPM failed to initialize correctly. To correct the primary cause of the alarm, check the "reason" dataword to identify and correct the cause of the alarm.

Internet Protocol Manager Interface Failure - Maintenance (93)

The Internet Protocol Manager Interface Failure alarm (major) indicates that an IPM interface has failed. The primary cause of the alarm is that IPM failed to create logical interface. To correct the primary cause of the alarm, check the "reason" dataword to identify and correct the cause of the alarm.

Inter-Process Communication Input Queue Entered Throttle State - Maintenance (97)

The Inter-Process Communication Input Queue Entered Throttle State alarm (critical) alarm indicates that the thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is using up too much of the IPC memory pool resource. The primary cause of the alarm is that the indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is using up too much of the IPC memory pool resource. To correct the primary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Inter-Process Communication Input Queue Depth at 25% of Its Hi-Watermark - Maintenance (98)

The Inter-Process Communication Input Queue Depth at 25% of Its Hi-Watermark alarm (minor) indicates that the IPC input queue depth has reached 25 percent of its hi-watermark. The primary cause of the alarm is that the indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is at 25% of the level at which it will enter the throttle state. To correct the primary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Inter-Process Communication Input Queue Depth at 50% of Its Hi-Watermark - Maintenance (99)

The Inter-Process Communication Input Queue Depth at 50% of Its Hi-Watermark alarm (major) indicates that the IPC input queue depth has reached 50 percent of its hi-watermark. The primary cause of the alarm is that the indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is at 50% of the level at which it will enter the throttle state. To correct the primary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Inter-Process Communication Input Queue Depth at 75% of Its Hi-Watermark - Maintenance (100)

The Inter-Process Communication Input Queue Depth at 75% of Its Hi-Watermark alarm (critical) indicates that the IPC input queue depth has reached 75 percent of its hi-watermark. The primary cause of the alarm is that the indicated thread is not able to process its IPC input messages fast enough, hence the input queue has grown too large and is at 75% of the level at which it will enter the throttle state. To correct the primary cause of the alarm, contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.

Switchover in Progress - Maintenance (101)

The Switchover in Progress alarm (critical) indicates that a system switchover is progress. This alarm is issued when a system switchover is in progress either due to manual switchover (via CLI command), failover switchover, or automatic switchover. No action needs to be taken, the alarm is cleared when switchover is complete. Service is temporarily suspended for a short period of time during this transition. The primary cause of the alarm is that a system switchover occurred either due to manual switchover (via CLI command), failover or automatic switchover. No action need to be taken, the alarm is cleared itself when switchover is complete. The service is temporarily suspended for a short period of time during this transition.

Thread Watchdog Counter Close to Expiry for a Thread - Maintenance (102)

The Thread Watchdog Counter Close to Expiry for a Thread alarm (critical) indicates that the thread watchdog counter is close to expiry for a thread. The primary cause of the alarm is that a software error has occurred. No further action is required, the Cisco BTS 10200 Softswitch system will automatically recover or shutdown.

Central Processing Unit is Offline - Maintenance (103)

The Central Processing Unit is Offline alarm (critical) indicates that the CPU is offline. The primary cause of the alarm is operator action. To correct the primary cause of the alarm, restore CPU or contact Cisco TAC. Refer to the "Obtaining Technical Assistance" section on page xxxviii for detailed instructions on contacting Cisco TAC and opening a service request.