



CHAPTER 4

Call Processing Troubleshooting

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Introduction

This chapter provides the information needed for monitoring and troubleshooting call processing events and alarms. This chapter is divided into the following sections:

- [Call Processing Events and Alarms](#)—Provides a brief overview of each call processing event and alarm
- [Monitoring Call Processing Events](#)—Provides the information needed for monitoring and correcting the call processing events
- [Troubleshooting Call Processing Alarms](#)—Provides the information needed for troubleshooting and correcting the call processing alarms

For additional call processing routing and translation information, refer to the [Cisco BTS 10200 Softswitch Routing and Dial Plan Guide, Release 6.0.4](#).



Note

The following billing records are created when a call is rejected due to overload conditions:

- SS7 termination cause code 42
- Cable signaling stop event cause code “resource unavailable”

Calls rejected by the signaling adapter will not generate a billing record.

Call Processing Events and Alarms

This section provides a brief overview of the call processing events and alarms for the Cisco BTS 10200 Softswitch; the event and alarms are arranged in numerical order. [Table 4-1](#) lists all of the call processing events and alarms by severity.


Note

Refer to the [“Obtaining Documentation and Submitting a Service Request”](#) section on [page 1](#) for detailed instructions on contacting Cisco TAC and opening a service request.


Note

Click the call processing message number in [Table 4-1](#) to display information about the event.

Table 4-1 Call Processing Events and Alarms by Severity

Critical	Major	Minor	Warning	Information	Not Used
Call Processing (12)		Call Processing (11)	Call Processing (8)	Call Processing (1)	Call Processing (2)
		Call Processing (38)	Call Processing (16)	Call Processing (9)	Call Processing (3)
		Call Processing (41)	Call Processing (17)	Call Processing (13)	Call Processing (4)
			Call Processing (18)	Call Processing (14)	Call Processing (5)
			Call Processing (19)	Call Processing (15)	Call Processing (6)
			Call Processing (20)	Call Processing (42)	Call Processing (7)
			Call Processing (21)	Call Processing (46)	Call Processing (10)
			Call Processing (22)		
			Call Processing (23)		
			Call Processing (24)		
			Call Processing (25)		
			Call Processing (26)		
			Call Processing (27)		
			Call Processing (28)		
			Call Processing (29)		
			Call Processing (30)		
			Call Processing (31)		
			Call Processing (32)		
			Call Processing (33)		
			Call Processing (34)		
			Call Processing (35)		
			Call Processing (36)		
			Call Processing (37)		
			Call Processing (39)		
			Call Processing (40)		
			Call Processing (43)		
			Call Processing (44)		

Table 4-1 Call Processing Events and Alarms by Severity (continued)

Critical	Major	Minor	Warning	Information	Not Used
			Call Processing (45)		
			Call Processing (47)		

Call Processing (1)

Table 4-2 lists the details of the Call Processing (1) informational event. For additional information, refer to the “[Test Report—Call Processing \(1\)](#)” section on page 4-27.

Table 4-2 Call Processing (1) Details

Description	Test Report
Severity	Information
Threshold	10000
Throttle	0

Call Processing (2)

Call Processing (2) is not used.

Call Processing (3)

Call Processing (3) is not used.

Call Processing (4)

Call Processing (4) is not used.

Call Processing (5)

Call Processing (5) is not used.

Call Processing (6)

Call Processing (6) is not used.

Call Processing (7)

Call Processing (7) is not used.

Call Processing (8)

Table 4-3 lists the details of the Call Processing (8) warning event. To monitor and correct the cause of the event, refer to the “No Route Available for Called Number—Call Processing (8)” section on page 4-28.

Table 4-3 Call Processing (8) Details

Description	No Route Available for Called Number
Severity	Warning
Threshold	100
Throttle	500
Datawords	Orig Type (Trunk or S—ONE_BYTE Orig Sub or TG ID—EIGHT_BYTES Calling Party Number—STRING [20] Called Party Number—STRING [20]
Primary Cause	The call originated from a subscriber or trunk for a called party number that has no route available.
Primary Action	The data words in the event report indicate the parameters that need to be corrected. Refer to the office records for the subscriber.
Secondary Cause	Parameter(s) in the subscriber and/or dial-plan table are missing or incorrect for the dialed number.
Secondary Action	Determine whether the routing parameters (such as digit-string) were entered correctly in the subscriber and dial-plan tables.
Tertiary Action	If the called party is a subscriber, verify that the subscriber-type is listed as subscriber in the dial-plan table.
Subsequent Action	If the call is long distance using a presubscribed interexchange carrier (PIC), check that the PIC for this subscriber is properly provisioned in the dial-plan table. If necessary, edit these files using the change dial-plan or change subscriber command.

Call Processing (9)

Table 4-4 lists the details of the Call Processing (9) informational event. For additional information, refer to the “No Route Available for Carrier Dialed—Call Processing (9)” section on page 4-28.

Table 4-4 Call Processing (9) Details

Description	No Route Available for Carrier Dialed
Severity	Information
Threshold	100
Throttle	0
Datawords	Orig Type Trunk or S—ONE_BYTE Orig Sub or TG ID—EIGHT_BYTES Calling Party Number—STRING [20] Called Party Number—STRING [20] Carrier Code Dialed—STRING [20]
Primary Cause	No route is available for the interexchange carrier (IXC) dialed.
Primary Action	The data words in the event report indicate the parameters that need to be corrected. Refer to the office records for the carrier.
Secondary Cause	Parameter(s) in the carrier and/or route-grp table are missing or incorrect for the carrier.
Secondary Action	Determine whether the routing parameters were entered correctly in the carrier and/or route-grp tables.
Ternary Action	If the carrier-identification (ID) or route-grp-ID is not specified or is incorrect in the dial-plan table, enter the correct value. Use the change carrier or change route-grp command.

Call Processing (10)

Call Processing (10) is not used.

Call Processing (11)

Table 4-5 lists the details of the Call Processing (11) minor alarm. To troubleshoot and correct the cause of the alarm, refer to the “[Feature Server One Link Down—Call Processing \(11\)](#)” section on page 4-36.

Table 4-5 Call Processing (11) Details

Description	Feature Server One Link Down
Severity	Minor
Threshold	100
Throttle	0
Datawords	Interface Name—STRING [65] Interface IP Address—STRING [65]
Primary Cause	The hardware is broken.
Primary Action	Check the link interfaces.

Call Processing (12)

Table 4-6 lists the details of the Call Processing (12) critical alarm. To troubleshoot and correct the cause of the alarm, refer to the “[Feature Server Both Links Down—Call Processing \(12\)](#)” section on page 4-38.

Table 4-6 Call Processing (12) Details

Description	Feature Server Both Links Down
Severity	Critical
Threshold	100
Throttle	0
Datawords	Interface Name—STRING [65] Interface IP Address—STRING [65] Interface Name—STRING [65] Interface IP Address—STRING [65]
Primary Cause	The hardware is broken.
Primary Action	Check the link interfaces.

Call Processing (13)

Table 4-7 list the details of the Call Processing (13) informational event. For additional information, refer to the “[Network Access Server Create Connection Error—Call Processing \(13\)](#)” section on page 4-28.

Table 4-7 Call Processing (13) Details

Description	Network Access Server Create Connection Error (NAS CRCX Error)
Severity	Information
Threshold	100
Throttle	0
Primary Cause	A preauthentication failure has occurred.
Primary Action	None

Call Processing (14)

Table 4-8 lists the details of the Call Processing (14) informational event. For additional information, refer to the “[Network Access Server Authentication Failure—Call Processing \(14\)](#)” section on page 4-29.

Table 4-8 Call Processing (14) Details

Description	Network Access Server Authentication Failure (NAS Authentication Failure)
Severity	Information
Threshold	100
Throttle	0
Primary Cause	The authentication, authorization, and accounting (AAA) server denied the request.
Primary Action	Check the calling and called numbers.

Call Processing (15)

Table 4-9 lists the details of the Call Processing (15) informational event. For additional information, refer to the “[Cable Modem Termination System Easily Recognizable Identification Not Found in Media Gateway Table—Call Processing \(15\)](#)” section on page 4-29.

Table 4-9 Call Processing (15) Details

Description	Cable Modem Termination System Easily Recognizable Identification Not Found in Media Gateway Table (CMTS ER ID Not Found in MGW Table)
Severity	Information
Threshold	100
Throttle	0
Datawords	MGW-NAME—STRING [80]
Primary Cause	The cable modem termination system (CMTS) easily recognizable (ER) entry was not found in the Media Gateway Table.
Primary Action	Provision the CMTS-ER index in the Media Gateway Table.

Call Processing (16)

Table 4-10 lists the details of the Call Processing (16) warning event. To monitor and correct the cause of the event, refer to the “[Route Index Has No Trunk Group Assigned—Call Processing \(16\)](#)” section on page 4-29.

Table 4-10 Call Processing (16) Details

Description	Route Index has No Trunk Group Assigned
Severity	Warning
Threshold	100
Throttle	0
Datawords	Route Index—FOUR_BYTES
Primary Cause	A trunk group was not assigned to the given route.
Primary Action	Provision a trunk group for the associated route index.

Call Processing (17)

Table 4-11 lists the details of the Call Processing (17) warning event. To monitor and correct the cause of the event, refer to the [“Invalid Route Index Used—Call Processing \(17\)”](#) section on page 4-29.

Table 4-11 Call Processing (17) Details

Description	Invalid Route Index Used
Severity	Warning
Threshold	100
Throttle	0
Datawords	Route Index—FOUR_BYTES
Primary Cause	An invalid route index was used.
Primary Action	Correct the provisioning and assign a valid route index.

Call Processing (18)

Table 4-12 lists the details of the Call Processing (18) warning event. To monitor and correct the cause of the event, refer to the [“Unable to Play Announcement—Call Processing \(18\)”](#) section on page 4-29.

Table 4-12 Call Processing (18) Details

Description	Unable to Play Announcement
Severity	Warning
Threshold	100
Throttle	0
Datawords	Announcement Index—FOUR_BYTES
Primary Cause	An announcement was not provisioned correctly.
Primary Action	Provision the announcement.

Call Processing (19)

Table 4-13 lists the details of the Call Processing (19) warning event. To monitor and correct the cause of the event, refer to the “[Call Routed to Unprovisioned Subscriber—Call Processing \(19\)](#)” section on page 4-29.

Table 4-13 Call Processing (19) Details

Description	Call Routed to Unprovisioned Subscriber
Severity	Warning
Threshold	100
Throttle	0
Datawords	Subscriber Index—FOUR_BYTES Directory Number Dialed—STRING [20]
Primary Cause	A subscriber was not provisioned correctly.
Primary Action	Provision the subscriber.

Call Processing (20)

Table 4-14 lists the details of the Call Processing (20) warning event. To monitor and correct the cause of the event, refer to the “[No Route or Trunk Group Available to Route Call—Call Processing \(20\)](#)” section on page 4-30.

Table 4-14 Call Processing (20) Details

Description	No Route or Trunk Group Available to Route Call
Severity	Warning
Threshold	100
Throttle	0
Datawords	Calling Number—STRING [20] Called Number—STRING [20] Route Index—FOUR_BYTES Trunk Group ID—FOUR_BYTES
Primary Cause	A Trunk Group was not provisioned correctly in the route.
Primary Action	Verify the route and trunk group provisioning.

Call Processing (21)

Table 4-15 lists the details of the Call Processing (21) warning event. To monitor and correct the cause of the event, refer to the “[Call Released Due to Maximum Hop Count Exceeded—Call Processing \(21\)](#)” section on page 4-30.

Table 4-15 Call Processing (21) Details

Description	Call Released Due to Maximum Hop Count Exceeded
Severity	Warning
Threshold	100
Throttle	0
Datawords	Calling Number—STRING [20] Called Number—STRING [20] Hop Count—FOUR_BYTES
Primary Cause	The number of hops between destinations is excessive.
Primary Action	Reduce number of hops between destinations.

Call Processing (22)

Table 4-16 lists the details of the Call Processing (22) warning event. To monitor and correct the cause of the event, refer to the “[Trunk Group Index Read Failure—Call Processing \(22\)](#)” section on page 4-30.

Table 4-16 Call Processing (22) Details

Description	Trunk Group Index Read Failure
Severity	Warning
Threshold	100
Throttle	0
Datawords	Trunk Group Index—FOUR_BYTES Call Index—FOUR_BYTES
Primary Cause	The Trunk Group Index could not be retrieved from call data.
Primary Action	Check the provisioning.

Call Processing (23)

Table 4-17 lists the details of the Call Processing (23) warning event. To monitor and correct the cause of the event, refer to the “[Routing Error: Termination Is Not a Subscriber—Call Processing \(23\)](#)” section on page 4-30.

Table 4-17 Call Processing (23) Details

Description	Routing Error: Termination Is Not a Subscriber
Severity	Warning
Threshold	100
Throttle	0
Datawords	Termination Index—FOUR_BYTES Termination Type—FOUR_BYTES
Primary Cause	The destination termination is not provisioned as a subscriber.
Primary Action	Check the provisioning.

Call Processing (24)

Table 4-18 lists the details of the Call Processing (24) warning event. To monitor and correct the cause of the event, refer to the “[Invalid Route for Subscriber Index—Call Processing \(24\)](#)” section on page 4-30.

Table 4-18 Call Processing (24) Details

Description	Invalid Route for Subscriber Index
Severity	Warning
Threshold	100
Throttle	0
Datawords	Route—STRING [20] Subscriber Index—FOUR_BYTES
Primary Cause	The route is not provisioned correctly for the specified subscriber.
Primary Action	Check the provisioning.

Call Processing (25)

Table 4-19 lists the details of the Call Processing (25) warning event. To monitor and correct the cause of the event, refer to the “[Invalid Route Group for Subscriber Routing—Call Processing \(25\)](#)” section on page 4-30.

Table 4-19 Call Processing (25) Details

Description	Invalid Route Group for Subscriber Routing
Severity	Warning
Threshold	100
Throttle	0
Datawords	Route—STRING [20] Subscriber Index—FOUR_BYTES
Primary Cause	The route group is not provisioned correctly for the specified subscriber.
Primary Action	Check the provisioning.

Call Processing (26)

Table 4-20 lists the details of the Call Processing (26) warning event. To monitor and correct the cause of the event, refer to the “[Invalid Trunk Group for Subscriber Routing—Call Processing \(26\)](#)” section on page 4-31.

Table 4-20 Call Processing (26) Details

Description	Invalid Trunk Group for Subscriber Routing
Severity	Warning
Threshold	100
Throttle	0
Datawords	Trunk Group Index—FOUR_BYTES Subscriber Index—FOUR_BYTES
Primary Cause	The trunk group is not provisioned correctly for the specified subscriber.
Primary Action	Check the provisioning.

Call Processing (27)

Table 4-21 lists the details of the Call Processing (27) warning event. To monitor and correct the cause of the event, refer to the [“Unable to Route: Blocked by Destination Subscriber Status—Call Processing \(27\)”](#) section on page 4-31.

Table 4-21 Call Processing (27) Details

Description	Unable to Route: Blocked by Destination Subscriber Status
Severity	Warning
Threshold	100
Throttle	0
Datawords	Subscriber Index—FOUR_BYTES Subscriber Status—STRING [20]
Primary Cause	The subscriber provisioning is not in the correct state.
Primary Action	Check the provisioning.

Call Processing (28)

Table 4-22 lists the details of the Call Processing (28) warning event. To monitor and correct the cause of the event, refer to the [“Route Name Does Not Exist—Call Processing \(28\)”](#) section on page 4-31.

Table 4-22 Call Processing (28) Details

Description	Route Name Does Not Exist
Severity	Warning
Threshold	100
Throttle	0
Datawords	Route Name—STRING [40]
Primary Cause	The route is not correctly provisioned.
Primary Action	Check the provisioning.

Call Processing (29)

Table 4-23 lists the details of the Call Processing (29) warning event. To monitor and correct the cause of the event, refer to the “[Routing Selection Failure—Call Processing \(29\)](#)” section on page 4-31.

Table 4-23 Call Processing (29) Details

Description	Routing Selection Failure
Severity	Warning
Threshold	100
Throttle	0
Datawords	Route Index—FOUR_BYTES Calling Number—STRING [20] Called Number—STRING [20]
Primary Cause	The route is not correctly provisioned.
Primary Action	Check the provisioning.

Call Processing (30)

Table 4-24 lists the details of the Call Processing (30) warning event. To monitor and correct the cause of the event, refer to the “[Customer-Originated Trace Test Failed—Call Processing \(30\)](#)” section on page 4-31.

Table 4-24 Call Processing (30) Details

Description	Customer-Originated Trace Test Failed (COT Test Failed)
Severity	Warning
Threshold	100
Throttle	0
Datawords	Termination Index—FOUR_BYTES
Primary Cause	A customer-originated trace (COT) test has failed.
Primary Action	Contact the Cisco Technical Assistance Center (TAC) for information on how to further debug the problem.

Call Processing (31)

Table 4-25 lists the details of the Call Processing (31) warning event. To monitor and correct the cause of the event, refer to the “[Call Authorization Failure—Call Processing \(31\)](#)” section on page 4-31.

Table 4-25 Call Processing (31) Details

Description	Call Authorization Failure
Severity	Warning
Threshold	100
Throttle	0
Datawords	Calling Number—STRING [20] Called Number—STRING [20]
Primary Cause	Due to incorrect provisioning the call cannot be completed.
Primary Action	Contact Cisco TAC for more information.

Call Processing (32)

Table 4-26 lists the details of the Call Processing (32) warning event. To monitor and correct the cause of the event, refer to the “[Country Code Dialing Plan Error—Call Processing \(32\)](#)” section on page 4-31.

Table 4-26 Call Processing (32) Details

Description	Country Code Dialing Plan Error
Severity	Warning
Threshold	100
Throttle	0
Datawords	Called Number—STRING [20] Dial Plan Index—FOUR_BYTES
Primary Cause	The country code was not found in the dial plan.
Primary Action	Check the provisioning.

Call Processing (33)

Table 4-27 lists the details of the Call Processing (33) warning event. To monitor and correct the cause of the event, refer to the “[Invalid Call—Call Processing \(33\)](#)” section on page 4-32.

Table 4-27 Call Processing (33) Details

Description	Invalid Call
Severity	Warning
Threshold	100
Throttle	0
Datawords	Calling Number—STRING [20] Called Number—STRING [20]
Primary Cause	The call could not be completed because the number entered was invalid.
Primary Action	Check the provisioning and the number dialed.

Call Processing (34)

Table 4-28 lists the details of the Call Processing (34) warning event. To monitor and correct the cause of the event, refer to the “[Dial Plan Information Not Found for Digits Received—Call Processing \(34\)](#)” section on page 4-32.

Table 4-28 Call Processing (34) Details

Description	Dial Plan Information Not Found for Digits Received
Severity	Warning
Threshold	100
Throttle	0
Datawords	Calling Number—STRING [20] Called Number—STRING [20] Dial Plan Index—FOUR_BYTES
Primary Cause	The call could not be completed because the number entered could not be located in the dial plan.
Primary Action	Check the provisioning and the number dialed.

Call Processing (35)

Table 4-29 lists the details of the Call Processing (35) warning event. To monitor and correct the cause of the event, refer to the “[Dial Plan Information for Test Call Not Found—Call Processing \(35\)](#)” section on page 4-32.

Table 4-29 Call Processing (35) Details

Description	Dial Plan Information for Test Call Not Found
Severity	Warning
Threshold	100
Throttle	0
Datawords	Dial Plan Index—FOUR_BYTES
Primary Cause	The test call could not be completed because the number entered could not be located in the dial plan.
Primary Action	Check the provisioning and the number tested.

Call Processing (36)

Table 4-30 lists the details of the Call Processing (36) warning event. To monitor and correct the cause of the event, refer to the “[Invalid or Unknown Nature of Address—Call Processing \(36\)](#)” section on page 4-32.

Table 4-30 Call Processing (36) Details

Description	Invalid or Unknown Nature of Address (Invalid or Unknown NOA)
Severity	Warning
Threshold	100
Throttle	0
Datawords	NOA Received—FOUR_BYTES Calling Number—STRING [20] Called Number—STRING [20]
Primary Cause	The nature of address (NOA) was incorrect in the dial plan.
Primary Action	Check the provisioning.

Call Processing (37)

Table 4-31 lists the details of the Call Processing (37) warning event. To monitor and correct the cause of the event, refer to the [“Call Failure—Call Processing \(37\)”](#) section on page 4-32.

Table 4-31 Call Processing (37) Details

Description	Call Failure
Severity	Warning
Threshold	100
Throttle	0
Datawords	Type of Call—FOUR_BYTES Calling Number—STRING [20] Called Number—STRING [20] Failure Indication—STRING [40]
Primary Cause	The call failed for the reason indicated in the Failure Indication dataword.
Primary Action	Contact Cisco TAC for more information.

Call Processing (38)

Table 4-32 lists the details of the Call Processing (38) minor alarm. To troubleshoot and correct the cause of the alarm, refer to the [“Release Cause 25 Exchange Routing Error Received—Call Processing \(38\)”](#) section on page 4-39.

Table 4-32 Call Processing (38) Details

Description	Release Cause 25 Exchange Routing Error Received
Severity	Minor
Threshold	100
Throttle	0
Datawords	CIC—FOUR_BYTES TGN-ID—FOUR_BYTES DPC—STRING [64] OPC—STRING [64]
Primary Cause	Received release (REL) with cause number 25.
Primary Action	Log and map the cause to number 31.

Call Processing (39)

Table 4-33 lists the details of the Call Processing (39) warning event. To monitor and correct the cause of the event, refer to the “[Test Call Blocked Due to Congestion or Isolation—Call Processing \(39\)](#)” section on page 4-33.

Table 4-33 Call Processing (39) Details

Description	Test Call Blocked Due to Congestion or Isolation
Severity	Warning
Threshold	100
Throttle	0
Datawords	CIC—TWO_BYTES TGN-ID—EIGHT_BYTES DPC—STRING [20] OPC—STRING [20]
Primary Cause	The initial address message (IAM) for test call was blocked due to congestion or isolation.
Primary Action	Correct the congestion or isolation problem and place the test call again from a remote system.

Call Processing (40)

Table 4-34 lists the details of the Call Processing (40) warning event. To monitor and correct the cause of the event, refer to the “[Interactive Voice Response Real Time Transport Protocol Session Fail—Call Processing \(40\)](#)” section on page 4-33.

Table 4-34 Call Processing (40) Details

Description	Interactive Voice Response Real Time Transport Protocol Session Fail (IVR RTP Session Fail)
Severity	Warning
Threshold	100
Throttle	0
Datawords	Route Guide ID—STRING [17] Trunk Group Index—FOUR_BYTES
Primary Cause	The interactive voice response (IVR) server is not ready, or the connection failed.
Primary Action	Check IVR server. The related route guide ID and trunk group index are provided if known at the time the event report is issued.

Call Processing (41)

Table 4-35 lists the details of the Call Processing (41) minor alarm. To troubleshoot and correct the cause of the alarm, refer to the [“Invite Message From Unauthorized Call Agent—Call Processing \(41\)” section on page 4-39](#).

Table 4-35 Call Processing (41) Details

Description	Invite Message From Unauthorized Call Agent (Invite Message From Unauthorized CA)
Severity	Minor
Threshold	100
Throttle	0
Datawords	Unauthorized Call Agent DN—STRING [128] Platform Name—STRING [32]
Primary Cause	The call-agent table is not configured properly.
Primary Action	Reconfigure the call-agent table to have the authorized call agent (CA).
Secondary Cause	A potential intrusion has occurred if the network-ID is mismatched from the local network.
Secondary Action	Configure the network to block the unauthorized network-ID.

Call Processing (42)

Table 4-36 lists the details of the Call Processing (42) informational event. For additional information, refer to “[Call Failed After Local Number Portability Query With Location Routing Number of This Cisco BTS 10200 and the Directory Number—Call Processing \(42\)](#)” section on page 4-33.

Table 4-36 Call Processing (42) Details

Description	Call Failed After Local Number Portability Query with Location Routing Number of This Cisco BTS 10200 and the Directory Number (Call Failed after LNP Query with LRN of this switch and the DN)
Severity	Information
Threshold	100
Throttle	0
Datawords	Calling Number—STRING [20] Called Number (GAP)—STRING [20] Location Routing Number (LRN)—STRING [20] Jurisdiction Information Parameter—STRING [20]
Primary Cause	The provisioning of the ported-in subscriber has not been completed.
Primary Action	Find out if the given DN has been provisioned correctly in the reporting Cisco BTS 10200. If there is an error in the LNP database (SCP) or other switch, then notify the appropriate administrators. Note that porting of the subscriber and DN from the donor switch to the recipient switch, and the associated updates of the Location Routing Number (LRN) in all the SCP databases, might not occur at exactly the same time. Therefore it must be expected that some call failures might occur until the porting process has completed at all network nodes. Once the porting process is completed, if mis-routing still occurs, then the listed actions should be taken to resolve the issue.
Secondary Cause	The LNP database (SCP) has an incorrect location routing number (LRN) for the given directory number (DN).

Call Processing (43)

Table 4-37 lists the details of the Call Processing (43) warning event. To monitor and correct the cause of the event, refer to the “[Call Processing Session Initiation Protocol Trigger Provisioning Error—Call Processing \(43\)](#)” section on page 4-33.

Table 4-37 Call Processing (43) Details

Description	Call Processing Session Initiation Protocol Trigger Provisioning Error (Call Processing SIP Trigger Provisioning Error)
Severity	Warning
Threshold	100
Throttle	0
Datawords	Calling Party Number—STRING [64] Called Party Number—STRING [64] Call ID- FOUR_BYTES OBCSM/TBCSM SIP Trigger—STRING [8]
Primary Cause	A provisioning data discrepancy between the Application Server (AS) and the Cisco BTS 10200 has occurred.
Primary Action	Modify the provisioning data either in the Cisco BTS 10200 or the AS.

Call Processing (44)

Table 4-38 lists the details of the Call Processing (44) warning event. To monitor and correct the cause of the event, refer to the “[Call Processing No Session Initiation Protocol Trigger Context Found—Call Processing \(44\)](#)” section on page 4-34.

Table 4-38 Call Processing (44) Details

Description	Call Processing No Session Initiation Protocol Trigger Context Found (Call Processing No SIP Trig Context Found)
Severity	Warning
Threshold	100
Throttle	0
Datawords	Calling Party Number—STRING [64] Called Party Number—STRING [64] Call ID- FOUR_BYTES Inbound Context String—STRING [64]
Primary Cause	An invalid service_ref in the SIP invite message coming from the AS has occurred.
Primary Action	Report the Cisco BTS 10200 and the AS with the received service_ref string to Cisco TAC.

Call Processing (45)

Table 4-39 lists the details of the Call Processing (45) warning event. To monitor and correct the cause of the event, refer to the [“Context In Call From Application Server Not Found—Call Processing \(45\)”](#) section on page 4-34.

Table 4-39 Call Processing (45) Details

Description	Context In Call From Application Server Not Found (Context in Call from App Server not Found)
Severity	Warning
Threshold	100
Throttle	0
Primary Cause	The Cisco BTS 10200 has received an invite from an AS which contains a context ID in the route header which is invalid. It may be that the AS has not properly returned the route header.
Primary Action	Get the AS to return the Cisco BTS 10200 route header correctly.
Secondary Cause	It is possible that the Cisco BTS 10200 cleared the call and removed the context before the AS returned an invite to the Cisco BTS 10200.
Secondary Action	Check timing for the calls returned to the Cisco BTS 10200 from the AS.

Call Processing (46)

Table 4-40 lists the details of the Call Processing (46) informational event. For additional information, refer to the [“Limit of Calls Allowed for the Pool Has Been Reached—Call Processing \(46\)”](#) section on page 4-34.

Table 4-40 Call Processing (46) Details

Description	Limit of Calls Allowed for the Pool Has Been Reached
Severity	Information
Threshold	100
Throttle	0
Datawords	Pool ID - STRING [32]
Primary Cause	Number of calls over all SIP trunk groups utilizing the pool exceeds size of the pool.
Primary Action	If situation persists, you may wish to resize the affected pool or you may need to do additional traffic engineering.

Call Processing (47)

Table 4-41 lists the details of the Call Processing (47) warning event. To monitor and correct the cause of the event, refer to the “[System Limit of Calls Allowed for Pools Has Been Reached—Call Processing \(47\)](#)” section on page 4-34.

Table 4-41 Call Processing (47) Details

Description	System Limit of Calls Allowed for Pools Has Been Reached
Severity	Warning
Threshold	100
Throttle	0
Primary Cause	The number of calls over all SIP trunk group pools exceeds the allowable system value.
Primary Action	If the situation persists, additional traffic engineering is needed.

Monitoring Call Processing Events

This section provides the information needed for monitoring and correcting call processing events. [Table 4-42](#) lists all of the call processing events in numerical order and provides cross-references to each subsection.


Note

Refer to the [“Obtaining Documentation and Submitting a Service Request”](#) section on [page 1](#) for detailed instructions on contacting Cisco TAC and opening a service request.

Table 4-42 Cisco BTS 10200 Call Processing Events

Event Type	Event Name	Event Severity
Call Processing (1)	Test Report—Call Processing (1)	Information
Call Processing (8)	No Route Available for Called Number—Call Processing (8)	Warning
Call Processing (9)	No Route Available for Carrier Dialed—Call Processing (9)	Information
Call Processing (11)	Feature Server One Link Down—Call Processing (11)	Minor
Call Processing (12)	Feature Server Both Links Down—Call Processing (12)	Critical
Call Processing (13)	Network Access Server Create Connection Error—Call Processing (13)	Information
Call Processing (14)	Network Access Server Authentication Failure—Call Processing (14)	Information
Call Processing (15)	Cable Modem Termination System Easily Recognizable Identification Not Found in Media Gateway Table—Call Processing (15)	Information
Call Processing (16)	Route Index Has No Trunk Group Assigned—Call Processing (16)	Warning
Call Processing (17)	Invalid Route Index Used—Call Processing (17)	Warning
Call Processing (18)	Unable to Play Announcement—Call Processing (18)	Warning
Call Processing (19)	Call Routed to Unprovisioned Subscriber—Call Processing (19)	Warning
Call Processing (20)	No Route or Trunk Group Available to Route Call—Call Processing (20)	Warning
Call Processing (21)	Call Released Due to Maximum Hop Count Exceeded—Call Processing (21)	Warning
Call Processing (22)	Trunk Group Index Read Failure—Call Processing (22)	Warning
Call Processing (23)	Routing Error: Termination Is Not a Subscriber—Call Processing (23)	Warning
Call Processing (24)	Invalid Route for Subscriber Index—Call Processing (24)	Warning
Call Processing (25)	Invalid Route Group for Subscriber Routing—Call Processing (25)	Warning
Call Processing (26)	Invalid Trunk Group for Subscriber Routing—Call Processing (26)	Warning

Table 4-42 Cisco BTS 10200 Call Processing Events (continued)

Event Type	Event Name	Event Severity
Call Processing (27)	Unable to Route: Blocked by Destination Subscriber Status—Call Processing (27)	Warning
Call Processing (28)	Route Name Does Not Exist—Call Processing (28)	Warning
Call Processing (29)	Routing Selection Failure—Call Processing (29)	Warning
Call Processing (30)	Customer-Originated Trace Test Failed—Call Processing (30)	Warning
Call Processing (31)	Call Authorization Failure—Call Processing (31)	Warning
Call Processing (32)	Country Code Dialing Plan Error—Call Processing (32)	Warning
Call Processing (33)	Invalid Call—Call Processing (33)	Warning
Call Processing (34)	Dial Plan Information Not Found for Digits Received—Call Processing (34)	Warning
Call Processing (35)	Dial Plan Information for Test Call Not Found—Call Processing (35)	Warning
Call Processing (36)	Invalid or Unknown Nature of Address—Call Processing (36)	Warning
Call Processing (37)	Call Failure—Call Processing (37)	Warning
Call Processing (38)	Release Cause 25 Exchange Routing Error Received—Call Processing (38)	Minor
Call Processing (39)	Test Call Blocked Due to Congestion or Isolation—Call Processing (39)	Warning
Call Processing (40)	Interactive Voice Response Real Time Transport Protocol Session Fail—Call Processing (40)	Warning
Call Processing (41)	Invite Message From Unauthorized Call Agent—Call Processing (41)	Minor
Call Processing (42)	Call Failed After Local Number Portability Query With Location Routing Number of This Cisco BTS 10200 and the Directory Number—Call Processing (42)	Information
Call Processing (43)	Call Processing Session Initiation Protocol Trigger Provisioning Error—Call Processing (43)	Warning
Call Processing (44)	Call Processing No Session Initiation Protocol Trigger Context Found—Call Processing (44)	Warning
Call Processing (45)	Context In Call From Application Server Not Found—Call Processing (45)	Warning
Call Processing (46)	Limit of Calls Allowed for the Pool Has Been Reached—Call Processing (46)	Information
Call Processing (47)	System Limit of Calls Allowed for Pools Has Been Reached—Call Processing (47)	Warning

Test Report—Call Processing (1)

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

No Route Available for Called Number—Call Processing (8)

The No Route Available for Called Number event functions as a warning that no route is available for the number called. The primary cause for the event is that the call originates from a subscriber or trunk for a called party number that has no route available. The Orig Type (1 byte), Orig Sub or trunk group (TG) ID (8 bytes), calling party number (20), and called party number (20) data words in the event report indicate the parameters that need to be corrected. Refer to office records for the subscriber. The secondary cause for the event is that parameters in the subscriber and/or dial-plan table are missing or incorrect for the number dialed. To correct any parameter error, determine whether the routing parameters (such as digit-string) were entered incorrectly in the subscriber and dial-plan tables. If the called party is a subscriber, verify that the subscriber-type is listed as a subscriber in the dial-plan table. If the call is long distance and a PIC is used, check that the PIC for this subscriber is properly provisioned in the dial-plan table. If necessary, edit these files using the **change dial-plan** or **change subscriber** command.

No Route Available for Carrier Dialed—Call Processing (9)

The No Route Available for Carrier Dialed event functions as a warning that no route is available for the dialed carrier. The primary cause for the event is that no route is available for the IXC dialed. The Orig Type (1 byte), Orig Sub or TG ID (8 bytes), calling party number (20), called party number (20), and carrier code dialed (20) data words in the event report indicate the parameters that need to be corrected. Refer to office records for the carrier. The secondary cause for the event is that parameters in the carrier and/or route-grp table are missing or incorrect for the carrier. Determine whether the routing parameters were entered correctly in the carrier and/or route-grp tables. If the Carrier-ID or Route-Grp-ID is not specified or is incorrect in the dial-plan table, enter the correct value. Use the **change carrier** or **change route-grp** command.

Feature Server One Link Down—Call Processing (11)

The Feature Server One Link Down alarm (minor) indicates that one link to the feature server is down. To troubleshoot and correct the cause of the Feature Server One Link Down alarm, refer to the [“Feature Server One Link Down—Call Processing \(11\)”](#) section on page 4-36.

Feature Server Both Links Down—Call Processing (12)

The Feature Server Both Links Down alarm (critical) indicates that both links to the feature server are down. To troubleshoot and correct the cause of the Feature Server Both Links Down alarm, refer to the [“Feature Server Both Links Down—Call Processing \(12\)”](#) section on page 4-38.

Network Access Server Create Connection Error—Call Processing (13)

The Network Access Server Create Connection Error event functions as an informational alert that a network access server (NAS) create connection (CRCX) preauthentication has failed. The event is informational and no further action is required.

Network Access Server Authentication Failure—Call Processing (14)

The Network Access Server Authentication Failure event functions as an informational alert that a NAS authentication failure has occurred. The primary cause of the event is the AAA server denied the call request. Check the calling and called numbers.

Cable Modem Termination System Easily Recognizable Identification Not Found in Media Gateway Table—Call Processing (15)

The Cable Modem Termination System Easily Recognizable Identification Not Found in Media Gateway Table event functions as an informational alert that the CMTS ER ID was not found in the media gateway (MGW) table. The primary cause of the event is that the CMTS/ER entry was not found in the media gateway table. To correct the cause of the event, provision the CMTS-ER index in the media gateway table.

Route Index Has No Trunk Group Assigned—Call Processing (16)

The Route Index Has No Trunk Group Assigned event functions as a warning that the route index has no trunk group assigned. The primary cause of the event is that a trunk group was not assigned to the given route. To correct the cause of the event, provision a trunk group for the associated route index.

Invalid Route Index Used—Call Processing (17)

The Invalid Route Index Used event functions as a warning that an invalid route index is being used. The primary cause of the event is that an invalid route index is being used. To correct the cause of the event, correct the Cisco BTS 10200 provisioning by assigning a valid route index.

Unable to Play Announcement—Call Processing (18)

The Unable to Play Announcement event functions as a warning that an announcement was not played. The primary cause of the event is that the announcement was not provisioned correctly. To correct the primary cause of the event, check the provisioning of the announcement and, if necessary, correct the provisioning of the announcement.

Call Routed to Unprovisioned Subscriber—Call Processing (19)

The Call Routed to Unprovisioned Subscriber event functions as a warning that a call was routed to an unprovisioned subscriber. The primary cause of the event is that the subscriber account was not properly provisioned. To correct the primary cause of the event, provision the subscriber.

No Route or Trunk Group Available to Route Call—Call Processing (20)

The No Route or Trunk Group Available to Route Call event functions as a warning that there was no route or trunk group available to route a call. The primary cause of the event is that the trunk group in the route was not provisioned correctly. To correct the primary cause of the event, check and correct the route and trunk group provisioning.

Call Released Due to Maximum Hop Count Exceeded—Call Processing (21)

The Call Released Due to Maximum Hop Count Exceeded event functions as a warning that the call was released due to the maximum hop count being exceeded. The primary cause of the event is that the number of hops between the destinations is excessive. To correct the primary cause of the event, reduce the number of hops between the destinations.

Trunk Group Index Read Failure—Call Processing (22)

The Trunk Group Index Read Failure event functions as a warning that a trunk group index read failed. The primary cause of the event is that the trunk group index could not be retrieved from the call data. To correct the primary cause of the event, check and correct the Cisco BTS 10200 trunk group and call data provisioning.

Routing Error: Termination Is Not a Subscriber—Call Processing (23)

The Routing Error: Termination Is Not a Subscriber event functions as a warning that the destination termination is not a subscriber. The primary cause of the event is that the destination termination is not provisioned as a subscriber. To correct the primary cause of the event, check and correct the Cisco BTS 10200 subscriber termination provisioning.

Invalid Route for Subscriber Index—Call Processing (24)

The Invalid Route for Subscriber Index event functions as a warning that an invalid route was selected for the subscriber index. The primary cause of the event is that the route is not provisioned correctly for the specified subscriber. To correct the primary cause of the event, check and correct the Cisco BTS 10200 subscriber index provisioning.

Invalid Route Group for Subscriber Routing—Call Processing (25)

The Invalid Route Group for Subscriber Routing event functions as a warning that an invalid route group for the subscriber routing was selected. The primary cause of the event is that the route group is not provisioned correctly for the specified subscriber. To correct the primary cause of the event, check and correct the Cisco BTS 10200 route group provisioning.

Invalid Trunk Group for Subscriber Routing—Call Processing (26)

The Invalid Trunk Group for Subscriber Routing event functions as a warning that an invalid trunk group for the subscriber routing was selected. The primary cause of the event is that the trunk group is not provisioned correctly for the specified subscriber. To correct the primary cause of the event, check and correct the Cisco BTS 10200 trunk group provisioning.

Unable to Route: Blocked by Destination Subscriber Status—Call Processing (27)

The Unable to Route: Blocked by Destination Subscriber Status event functions as a warning that a call route was blocked by the destination subscriber status. The primary cause of the event is that the subscriber is not in the correct state. To correct the primary cause of the event, check and correct the Cisco BTS 10200 subscriber state provisioning.

Route Name Does Not Exist—Call Processing (28)

The Route Name Does Not Exist event functions as a warning that the requested route name does not exist. The primary cause of the event is that the route is not provisioned correctly. To correct the primary cause of the event, check and correct the Cisco BTS 10200 route provisioning.

Routing Selection Failure—Call Processing (29)

The Routing Selection Failure event functions as a warning that the routing selection failed. The primary cause of the event is that the route is not provisioned correctly. To correct the primary cause of the event, check and correct the Cisco BTS 10200 route provisioning.

Customer-Originated Trace Test Failed—Call Processing (30)

The Customer-Originated Trace Test Failed event functions as a warning that the COT test failed. The primary cause of the event is that the COT failed. To correct the primary cause of the event, contact Cisco TAC for information on how to debug the problem.

Call Authorization Failure—Call Processing (31)

The Call Authorization Failure event functions as a warning that the call authorization failed. The primary cause of the event is that a provisioning error is not allowing the call to be completed. To correct the primary cause of the event, contact Cisco TAC.

Country Code Dialing Plan Error—Call Processing (32)

The Country Code Dialing Plan Error event functions as a warning that a country code dialing plan error occurred. The primary cause of the event is that the country code was not found in the dial plan. To correct the primary cause of the event, check and correct the Cisco BTS 10200 dial plan provisioning.

Invalid Call—Call Processing (33)

The Invalid Call event functions as a warning that an invalid call was attempted. The primary cause of the event is that the call could not be completed because the number entered was invalid. To correct the primary cause of the event, check and correct the Cisco BTS 10200 provisioning. Additionally, check the number dialed to verify that it is a valid number.

Dial Plan Information Not Found for Digits Received—Call Processing (34)

The Dial Plan Information Not Found for Digits Received event functions as a warning that the number entered could not be located in the dial plan. The primary cause of the event is that the call could not be completed because the number entered could not be located in the dial plan. To correct the primary cause of the event, check and correct the Cisco BTS 10200 dial plan provisioning. Additionally, check the number dialed to verify that it is a valid number.

Dial Plan Information for Test Call Not Found—Call Processing (35)

The Dial Plan Information for Test Call Not Found event functions as a warning that the test call could not be completed. The primary cause for the event is that the test call could not be completed because the number entered could not be located in the dial plan. To correct the primary cause of the event, check and correct the Cisco BTS 10200 dial plan provisioning. Additionally, check the number tested to verify that it is a valid number.

Invalid or Unknown Nature of Address—Call Processing (36)

The Invalid or Unknown Nature of Address event functions as a warning that the NOA was invalid or incorrect. The primary cause of the event is that the NOA was incorrect in the dial plan. To correct the primary cause of the event, check and correct the Cisco BTS 10200 dial plan provisioning.

Call Failure—Call Processing (37)

The Call Failure event functions as a warning that the placed call failed. The primary cause of the event is that the call failed for the reasons indicated in the data words. To correct the primary cause of the event, check the data words type of call (4 bytes), calling number (20), called number (20), and failure indication (20). Once the data words are checked, contact Cisco TAC to resolve the failure indicated.

Prior to contacting Cisco TAC, collect a billing-record for the failed call using the following:

```
report billing-record orignumber=<string>
```

Release Cause 25 Exchange Routing Error Received—Call Processing (38)

The Release Cause 25 Exchange Routing Error Received alarm (minor) indicates that a release with cause number 25 occurred because an exchange routing error was received. To troubleshoot and correct the cause of the Release Cause 25 Exchange Routing Error Received alarm, refer to the [“Release Cause 25 Exchange Routing Error Received—Call Processing \(38\)”](#) section on page 4-39.

Test Call Blocked Due to Congestion or Isolation—Call Processing (39)

The Test Call Blocked Due to Congestion or Isolation event functions as a warning that the test call was blocked due to congestion or isolation in the network. The primary cause of the event is that the IAM for test call was blocked due to congestion or isolation. To correct the primary cause of the event, correct the congestion or isolation problem and place test call again from remote system.

Interactive Voice Response Real Time Transport Protocol Session Fail—Call Processing (40)

The Interactive Voice Response Real Time Transport Protocol Session Fail event functions as a warning that the IVR Real Time Transport Protocol (RTP) session failed. The primary cause of the event is that the IVR server is not ready, or the connection failed. To correct the primary cause of the event, check IVR server. The related route guide ID and/or trunk group index are provided if known at the time the event report is issued

Invite Message From Unauthorized Call Agent—Call Processing (41)

The Invite Message From Unauthorized Call Agent alarm (minor) indicates that a invite message was received from an unauthorized CA. To troubleshoot and correct the cause of the Invite Message From Unauthorized Call Agent alarm, refer to the [“Invite Message From Unauthorized Call Agent—Call Processing \(41\)”](#) section on page 4-39.

Call Failed After Local Number Portability Query With Location Routing Number of This Cisco BTS 10200 and the Directory Number—Call Processing (42)

The Call Failed after Local Number Portability Query With Location Routing Number of This Cisco BTS 10200 and the Directory Number event serves as an information alert that the provisioning of a ported-in subscriber has not been completed. To correct the primary cause of the event, verify whether the given DN has been provisioned correctly in the reporting Cisco BTS 10200. If there is an error in the LNP database (SCP) or in another switch, notify the appropriate administrators. Note that porting of the subscriber and DN from the donor switch to the recipient switch, and associated updates of the Location Routing Number (LRN) in all the SCP databases, might not all occur at exactly the same time. Therefore it must be expected that some call failures might occur until the porting process has completed at all network nodes. If you think the porting process is complete but mis-routing still occurs, take the above actions to resolve the issue. The secondary cause of the event is that the LNP database (SCP) has an incorrect LRN for the given DN.

Call Processing Session Initiation Protocol Trigger Provisioning Error—Call Processing (43)

The Call Processing Session Initiation Protocol Trigger Provisioning Error event serves as warning that a provisioning data discrepancy between the Application Server and the Cisco BTS 10200 has occurred. To correct the cause of the event, modify the provisioning data either in the Cisco BTS 10200 or the Application Server.

Call Processing No Session Initiation Protocol Trigger Context Found—Call Processing (44)

The Call Processing No Session Initiation Protocol Trigger Context Found event serves as a warning that there is an invalid "service_ref" string in the SIP INVITE message coming from the Application Server. To correct the cause of the event, report the Cisco BTS 10200 and the Application Server with the received "service_ref" string to Cisco TAC.

Context In Call From Application Server Not Found—Call Processing (45)

The Context In Call From Application Server Not Found event serves as a warning that a Cisco BTS 10200 has received an invite from an application server which contains a context ID in the route header which is invalid. It may be that the Application Server has not properly returned the route header. Additionally, it is possible that the Cisco BTS 10200 has cleared the call and removed the context before the application server returned an invite message to the Cisco BTS 10200. To correct the cause of the event, get the application server to correctly return the Cisco BTS 10200 route header back to the Cisco BTS 10200 and check timing for the calls returned to the Cisco BTS 10200 from the application server.

Limit of Calls Allowed for the Pool Has Been Reached—Call Processing (46)

The Limit of Calls Allowed for the Pool Has Been Reached event serves as an information alert that the number of calls over all SIP trunk groups utilizing the pool exceeds size of the pool. If the situation persists, you may wish to resize the affected pool or you may wish to do additional traffic engineering.

System Limit of Calls Allowed for Pools Has Been Reached—Call Processing (47)

The System Limit of Calls Allowed for Pools Has Been Reached event serves as a warning that the number of calls over all SIP trunk group pools exceeds allowable system value. If the situation persists, additional traffic engineering is needed.

Troubleshooting Call Processing Alarms

This section provides the information you need to monitor and correct call processing alarms. [Table 4-43](#) lists all of the call processing alarms in numerical order and provides cross-references to each subsection.

**Note**

Refer to the [“Obtaining Documentation and Submitting a Service Request”](#) section on page 1 for detailed instructions on contacting Cisco TAC and opening a service request.

Table 4-43 Cisco BTS 10200 Call Processing Alarms

Alarm Type	Alarm Name	Alarm Severity
Call Processing (11)	Feature Server One Link Down—Call Processing (11)	Minor
Call Processing (12)	Feature Server Both Links Down—Call Processing (12)	Critical
Call Processing (38)	Release Cause 25 Exchange Routing Error Received—Call Processing (38)	Minor
Call Processing (41)	Invite Message From Unauthorized Call Agent—Call Processing (41)	Minor

Feature Server One Link Down—Call Processing (11)

The Feature Server One Link Down alarm (minor) indicates that one link to the feature server is down. The primary cause of the alarm is that the link interface hardware is broken. To correct the primary cause of the alarm, check the link interface hardware and, if necessary, reconnect or replace. The secondary cause of the alarm is that the link interface state is operationally down. To correct the secondary cause of the alarm, check the operational state of the link.

To check the operational state of the interface link and the physical condition of the interface link. Proceed as follows:

- Step 1** Check status of the interface using one of the methods below. (If the **kstat** command in Example 1 does not provide an output, try the **ndd** commands in example 2.)

Example 1:

```
mssol-ca0-a# kstat hme:0:hme0:link_up
module: hme                instance: 0
name:   hme0                class:   net
       link_up              1
```

```
mssol-ca0-a# kstat qfe:0:qfe0:link*
module: qfe                instance: 0
name:   qfe0                class:   net
       link_duplex          2
       link_up              1
```

```
mssol-ca0-a# kstat qfe:0:qfe0:ifspe*
module: qfe                instance: 0
name:   qfe0                class:   net
       ifspeer              100000000
```

Example 2:

```
# ndd -set /dev/eri instance 0
# ndd -get /dev/eri link_status
1
# ndd -get /dev/eri link_mode
1
# ndd -get /dev/eri link_speed
1
```

- Step 2** Verify the following settings:
- Duplex should be 1 (full duplex)
 - Link_up or link_status should be 1 (operational)
 - Link mode should be 1 (no auto negotiation).
- Step 3** Verify call agent and switch interfaces are both set to full duplex no auto negotiation.
- Step 4** Verify link speed is hard-coded to the same value on both ends.
- Step 5** Check for any errors pertaining to the interface in `/var/adm/messages*` file.
- Step 6** Check operational status of Ethernet interface(s) on switch side as follows:

```
admin up /line protocol up
```

Step 7 Check statistics for Ethernet interface(s) on the call agent side while looking for any abnormal queue/input/output errors/collisions. For example, to check stats on bge0 interface:

```
# netstat -i -I bge0
```

```
Ipkts Ierrs Opkts Oerrs Collis Queue
```



Note The packets queued (Queue) that cannot be transmitted should be 0. If not, it is possible that a cable or Ethernet interface is defective.



Note The input errors (Ierrs) and the output errors (Oerrs) should be close to 0. High input errors could indicate that the network is saturated, host overload, or physical network problem. High output errors could indicate a saturated local network or a bad physical connection.

Step 8 Check statistics for ethernet interface(s) on the switch side. Look for abnormal input/output errors, cyclic redundancy check (CRC), frame errors. For a description of the output of “show interface fast ethernet”, refer to:

http://www.cisco.com/en/US/customer/docs/ios/12_2/interface/command/reference/irfshoin.html

Step 9 Paste the output of “show interfaces” to the Cisco output interpreter for further analysis of the interfaces.

<https://www.cisco.com/cgi-bin/Support/OutputInterpreter/home.pl>

Step 10 Check the physical cable, the cable connectors, and the cable connections.

Feature Server Both Links Down—Call Processing (12)

The Feature Server Both Links Down alarm (critical) indicates that both links to the feature server are down. The primary cause of the alarm is that the link interface hardware is broken. To correct the primary cause of the alarm, check the link interface hardware and, if necessary, reconnect or replace. The secondary cause of the alarm is that the link interface state is operationally down. To correct the secondary cause of the alarm, check the operational state of the link.

To check the operational state of the interface links and the physical condition of the interface links, proceed as follows:

- Step 1** Check status of the interfaces using one of the methods below. (If the **kstat** command in Example 1 does not provide an output, try the **ndd** commands in example 2.)

Example 1:

```
mssol-ca0-a# kstat hme:0:hme0:link_up
module: hme                instance: 0
name:  hme0                class:  net
      link_up              1

mssol-ca0-a# kstat qfe:0:qfe0:link*
module: qfe                instance: 0
name:  qfe0                class:  net
      link_duplex          2
      link_up              1

mssol-ca0-a# kstat qfe:0:qfe0:ifspe*
module: qfe                instance: 0
name:  qfe0                class:  net
      ifspeed              100000000
```

Example 2:

```
# ndd -set /dev/eri instance 0
# ndd -get /dev/eri link_status
1
# ndd -get /dev/eri link_mode
1
# ndd -get /dev/eri link_speed
1
```

- Step 2** Verify the following settings:
- Duplex should be 1 (full duplex).
 - Link_up or link_status should be 1 (operational).
 - Link mode should be 1 (no auto negotiation).
- Step 3** Verify call agent and switch interfaces are both set to full duplex no auto negotiation.
- Step 4** Verify link speed is hard-coded to the same value on both ends.
- Step 5** Check for any errors pertaining to the interface in `/var/adm/messages*` file.
- Step 6** Check operational status of ethernet interface(s) on switch side as follows:

```
admin up /line protocol up
```

- Step 7** Check statistics for ethernet interface(s) on the call agent side while looking for any abnormal queue/input/output errors/collisions. For example, to check stats on bge0 interface:

```
# netstat -i -I bge0

Ipkts Ierrs Opkts Oerrs Collis Queue
```



Note The packets queued (Queue) that cannot be transmitted should be 0. If not, it is possible that a cable or ethernet interface is defective.



Note The input errors (Ierrs) and the output errors (Oerrs) should be close to 0. High input errors could indicate that the network is saturated, host overload, or physical network problem. High output errors could indicate a saturated local network or a bad physical connection.

- Step 8** Check statistics for ethernet interface(s) on the switch side. Look for abnormal input/output errors, CRC, frame errors. For a description of the output of “show interface fast ethernet”, refer to:
http://www.cisco.com/en/US/customer/docs/ios/12_2/interface/command/reference/irfshoin.html
- Step 9** Paste the output of “show interfaces” to the Cisco output interpreter for further analysis of the interfaces.
<https://www.cisco.com/cgi-bin/Support/OutputInterpreter/home.pl>
- Step 10** Check the physical cable, the cable connectors, and the cable connections.

Release Cause 25 Exchange Routing Error Received—Call Processing (38)

The Release Cause 25 Exchange Routing Error Received alarm (minor) indicates that a release with cause number 25 occurred because an exchange routing error was received. The primary cause of the alarm is that a REL message with cause number 25 was received. To correct the primary cause of the alarm, log and map the cause. Refer to “[Call Authorization Failure—Call Processing \(31\)](#)” section on [page 4-31](#) for additional troubleshooting information.

Invite Message From Unauthorized Call Agent—Call Processing (41)

The Invite Message From Unauthorized Call Agent alarm (minor) indicates that an invite message was received from an unauthorized CA. The primary cause of the alarm is that the Call-Agent Table is not configured properly. To correct the primary cause of the alarm, reconfigure the Call-Agent table to have the authorized CA listed. The secondary cause of the alarm is that a potential intrusion occurred if the Network-ID mismatch is from the local-network. To correct the secondary cause of the alarm, configure the network to block this unauthorized Network-ID.

