CHAPTER 4

Call Processing Troubleshooting

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Introduction

This chapter provides the information needed to monitor and troubleshoot 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 to monitor and correct Call Processing events.
- Troubleshooting Call Processing Alarms – Provides the information needed to troubleshoot and correct Call Processing alarms.

For additional call processing routing and translations information refer to the *Cisco BTS 10200 Softswitch Routing, Translations, and Dial Plan Guide*.

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 in numerical order. Table 4-1 lists all Call Processing events and alarms by severity.

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	INFO
CALLP (12)		CALLP (11)	CALLP (8)	CALLP (1)
		CALLP (38)	CALLP (16)	CALLP (9)
		CALLP (41)	CALLP (17)	CALLP (13)
			CALLP (18)	CALLP (14)
			CALLP (19)	CALLP (15)
			CALLP (20)	
			CALLP (21)	
			CALLP (22)	
			CALLP (23)	
			CALLP (24)	
			CALLP (25)	
			CALLP (26)	
			CALLP (27)	
			CALLP (28)	
			CALLP (29)	
			CALLP (30)	
			CALLP (31)	
			CALLP (32)	
			CALLP (33)	
			CALLP (34)	
			CALLP (35)	
			CALLP (36)	
			CALLP (37)	
			CALLP (39)	
			CALLP (40)	

CALLP (1)

For additional information, refer to the "Test Report - Call Processing (1)" section on page 4-21.

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

Note Call processing (CALLP) (2) through CALLP (7) are not used.

CALLP (8)

To monitor and correct the cause of the event, refer to the "No Route Available for Called Number - Call Processing (8)" section on page 4-21.

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	Call originates 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 what parameters that need to be corrected. Refer to office records for the subscriber.
SECONDARY CAUSE	Parameter(s) in the subscriber and/or dial-plan table are missing or incorrect for this dialed number.
SECONDARY ACTION	Determine whether the routing parameters (such as digit-string) were entered correctly in the subscriber and dial-plan tables.
TERNARY 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" commands.

CALLP (9)

For additional information, refer to the "No Route Available for Carrier Dialed - Call Processing (9)" section on page 4-21.

DESCRIPTION	No Route Available for Carrier Dialed
SEVERITY	INFO
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 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 are not specified, or are incorrect, in the dial-plan table, enter the correct values. Use the change carrier or change route-grp command.

Note CCALLP (10) is not used.

CALLP (11)

To troubleshoot and correct the cause of the alarm, refer to the "Feature Server One Link Down - Call Processing (11)" section on page 4-27.

DESCRIPTION	Feature Server One Link Down
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Interface Name - STRING [65] Interface IP Address - STRING [65]
PRIMARY CAUSE	Hardware is broken.
PRIMARY ACTION	Check the link interfaces.

CALLP (12)

To troubleshoot and correct the cause of the alarm, refer to the "Feature Server Both Links Down - Call Processing (12)" section on page 4-29.

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	Hardware is broken.
PRIMARY ACTION	Check the link interfaces.

CALLP (13)

For additional information, refer to the "Network Access Server Create Connection Error - Call Processing (13)" section on page 4-22.

DESCRIPTION	Network Access Server Create Connection Error
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
PRIMARY CAUSE	Pre-authentication failure.
PRIMARY ACTION	None

CALLP (14)

For additional information, refer to the "Network Access Server Authentication Failure - Call Processing (14)" section on page 4-22.

DESCRIPTION	Network Access Server Authentication Failure
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
PRIMARY CAUSE	The authentication, authorization, and accounting (AAA) server denied the request.
PRIMARY ACTION	Check the calling and called numbers.

CALLP (15)

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 4-22.

DESCRIPTION	Cable Modem Termination System Easily Recognizable Identification Not Found in Media Gateway Table
SEVERITY	INFO
THRESHOLD	100
THROTTLE	0
DATAWORDS	MGW-NAME - STRING [80]
PRIMARY CAUSE	Cable modem termination system (CMTS)/easily recognizable (ER) entry not found in the Media Gateway Table.
PRIMARY ACTION	Provision the CMTS-ER index in the Media Gateway Table.

CALLP (16)

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 4-22.

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.

CALLP (17)

To monitor and correct the cause of the event, refer to the "Invalid Route Index Used - Call Processing (17)" section on page 4-22.

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.

CALLP (18)

To monitor and correct the cause of the event, refer to the "Unable to Play Announcement - Call Processing (18)" section on page 4-23.

DESCRIPTION	Unable to Play Announcement
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Announcement Index - FOUR_BYTES
PRIMARY CAUSE	Announcement was not provisioned correctly.
PRIMARY ACTION	Provision announcement.

CALLP (19)

To monitor and correct the cause of the event, refer to the "Call Routed to Unprovisioned Subscriber - Call Processing (19)" section on page 4-23.

DESCRIPTION	Call Routed to Unprovisioned Subscriber
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Subscriber Index - FOUR_BYTES Directory Number Dia - STRING [20]
PRIMARY CAUSE	Subscriber was not provisioned correctly.
PRIMARY ACTION	Provision a subscriber.

CALLP (20)

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 4-23.

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	Trunk Group was not provisioned correctly in route.
PRIMARY ACTION	Verify route and trunk group provisioning.

CALLP (21)

To monitor and correct the cause of the event, refer to the "Call Released Due to Maximum Hop Counts Exceeded - Call Processing (21)" section on page 4-23.

DESCRIPTION	Call Released Due to Maximum Hop Counts Exceeded
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Calling Number - STRING [20] Called Number - STRING [20] Hop Count - FOUR_BYTES
PRIMARY CAUSE	Hops between destinations is excessive.
PRIMARY ACTION	Reduce number of hops between destinations.

CALLP (22)

To monitor and correct the cause of the event, refer to the "Trunk Group Index Read Failure - Call Processing (22)" section on page 4-23.

DESCRIPTION	Trunk Group Index Read Failure
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Trunk Group Index - FOUR_BYTES Call Index - FOUR_BYTES
PRIMARY CAUSE	Trunk Group Index could not be retrieved from call_data.
PRIMARY ACTION	Check provisioning.

CALLP (23)

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 4-23.

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	Destination termination is not provisioned as a subscriber.
PRIMARY ACTION	Check provisioning.

CALLP (24)

To monitor and correct the cause of the event, refer to the "Invalid Route for Subscriber Index - Call Processing (24)" section on page 4-24.

DESCRIPTION	Invalid Route for Subscriber Index
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Route - STRING [20] Subscriber Index - FOUR_BYTES
PRIMARY CAUSE	Route is not provisioned correctly for specified subscriber.
PRIMARY ACTION	Check provisioning.

CALLP (25)

To monitor and correct the cause of the event, refer to the "Invalid Route Group for Subscriber Routing - Call Processing (25)" section on page 4-24.

DESCRIPTION	Invalid Route Group for Subscriber Routing
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Route - STRING [20] Subscriber Index - FOUR_BYTES
PRIMARY CAUSE	Route group is not provisioned correctly for specified subscriber.
PRIMARY ACTION	Check provisioning.

CALLP (26)

To monitor and correct the cause of the event, refer to the "Invalid Trunk Group for Subscriber Routing - Call Processing (26)" section on page 4-24.

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	Trunk group is not provisioned correctly for specified subscriber.
PRIMARY ACTION	Check provisioning.

CALLP (27)

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 4-24.

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	Subscriber is not in the correct state.
PRIMARY ACTION	Check provisioning.

CALLP (28)

To monitor and correct the cause of the event, refer to the "Route Name Does Not Exist - Call Processing (28)" section on page 4-24.

DESCRIPTION	Route Name Does Not Exist
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Route Name - STRING [40]
PRIMARY CAUSE	Route is not correctly provisioned.
PRIMARY ACTION	Check provisioning.

CALLP (29)

To monitor and correct the cause of the event, refer to the "Routing Selection Failure - Call Processing (29)" section on page 4-24.

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	Route is not correctly provisioned.
PRIMARY ACTION	Check provisioning.

CALLP (30)

To monitor and correct the cause of the event, refer to the "Customer-Originated Trace Test Failed - Call Processing (30)" section on page 4-25.

DESCRIPTION	Customer-Originated Trace Test Failed
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Termination Index - FOUR_BYTES
PRIMARY CAUSE	Customer-originated trace (COT) test has failed.
PRIMARY ACTION	Contact Cisco for information on how to debug the problem further. (Contact Cisco Technical Assistance Center (TAC).)

Refer to the "Obtaining Documentation and Submitting a Service Request" section on page liii for detailed instructions on contacting Cisco TAC and opening a service request.

CALLP (31)

To monitor and correct the cause of the event, refer to the "Call Authorization Failure - Call Processing (31)" section on page 4-25.

DESCRIPTION	Call Authorization Failure
SEVERITY	WARNING
THRESHOLD	100
THROTTLE	0
DATAWORDS	Calling Number - STRING [20] Called Number - STRING [20]
PRIMARY CAUSE	Due to provisioning the call cannot be completed.
PRIMARY ACTION	Contact Cisco for more information. (Contact Cisco TAC.)

Refer to the "Obtaining Documentation and Submitting a Service Request" section on page liii for detailed instructions on contacting Cisco TAC and opening a service request.

CALLP (32)

To monitor and correct the cause of the event, refer to the "Country Code Dialing Plan Error - Call Processing (32)" section on page 4-25.

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 provisioning.

CALLP (33)

To monitor and correct the cause of the event, refer to the "Invalid Call - Call Processing (33)" section on page 4-25.

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 provisioning and number dialed.

CALLP (34)

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 4-25.

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 provisioning and number dialed.

CALLP (35)

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 4-25.

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 provisioning and number tested.

CALLP (36)

To monitor and correct the cause of the event, refer to the "Invalid or Unknown Nature of Address - Call Processing (36)" section on page 4-26.

DESCRIPTION	Invalid or Unknown Nature of Address
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 provisioning.

CALLP (37)

To monitor and correct the cause of the event, refer to the "Call Failure - Call Processing (37)" section on page 4-26.

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 listed indication.
PRIMARY ACTION	Call Cisco for more information. (Contact Cisco TAC.)

Refer to the "Obtaining Documentation and Submitting a Service Request" section on page liii for detailed instructions on contacting Cisco TAC and opening a service request.

CALLP (38)

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 4-30.

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.

CALLP (39)

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 4-26.

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	Initial address message (IAM) for test call blocked due to congestion/isolation.
PRIMARY ACTION	Correct congestion/isolation problem and place test call again from remote system.

CALLP (40)

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 4-26.

DESCRIPTION	Interactive Voice Response Real Time Transport Protocol 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/or trunk group index are provided if known at the time the event report is issued.

CALLP (41)

To troubleshoot and correct the cause of the alarm, refer to the "INVITE Message From Unauthorized Call Agent - Call Processing (41)" section on page 4-30.

DESCRIPTION	INVITE Message From Unauthorized Call Agent
SEVERITY	MINOR
THRESHOLD	100
THROTTLE	0
DATAWORDS	Unauthorized Call Agent DN - STRING [128] Platform Name - STRING [32]
PRIMARY CAUSE	CALL-AGENT table is not configured properly.
PRIMARY ACTION	Reconfigure the CALL-AGENT table to have the authorized call agent (CA).
SECONDARY CAUSE	Potential intrusion if the network-ID mismatch from local-network.
SECONDARY ACTION	Configure the network to block this unauthorized network-ID.

Monitoring Call Processing Events

This section provides the information needed to monitor and correct Calling Processing events. Table 4-2 lists all Calling Processing events in numerical order and provides cross reference to each subsection in this section.

Table 4-2 Cisco BTS 10200 Softswitch Call Processing Events

Event Type	Event Name	Event Severity
CALLP(1)	Test Report - Call Processing (1)	INFO
CALLP(8)	No Route Available for Called Number - Call Processing (8)	WARNING
CALLP(9)	No Route Available for Carrier Dialed - Call Processing (9)	INFO
CALLP(11)	Feature Server One Link Down - Call Processing (11)	MINOR
CALLP(12)	Feature Server Both Links Down - Call Processing (12)	CRITICAL
CALLP(13)	Network Access Server Create Connection Error - Call Processing (13)	INFO
CALLP(14)	Network Access Server Authentication Failure - Call Processing (14)	INFO
CALLP(15)	Cable Modem Termination System Easily Recognizable Identification Not Found in Media Gateway Table - Call Processing (15)	INFO
CALLP(16)	Route Index has No Trunk Group Assigned - Call Processing (16)	WARNING
CALLP(17)	Invalid Route Index Used - Call Processing (17)	WARNING
CALLP(18)	Unable to Play Announcement - Call Processing (18)	WARNING
CALLP(19)	Call Routed to Unprovisioned Subscriber - Call Processing (19)	WARNING
CALLP(20)	No Route or Trunk Group Available to Route Call - Call Processing (20)	WARNING
CALLP(21)	Call Released Due to Maximum Hop Counts Exceeded - Call Processing (21)	WARNING
CALLP(22)	Trunk Group Index Read Failure - Call Processing (22)	WARNING
CALLP(23)	Routing Error: Termination is Not a Subscriber - Call Processing (23)	WARNING
CALLP(24)	Invalid Route for Subscriber Index - Call Processing (24)	WARNING
CALLP(25)	Invalid Route Group for Subscriber Routing - Call Processing (25)	WARNING
CALLP(26)	Invalid Trunk Group for Subscriber Routing - Call Processing (26)	WARNING
CALLP(27)	Unable to Route: Blocked by Destination Subscriber Status - Call Processing (27)	WARNING
CALLP(28)	Route Name Does Not Exist - Call Processing (28)	WARNING
CALLP(29)	Routing Selection Failure - Call Processing (29)	WARNING
CALLP(30)	Customer-Originated Trace Test Failed - Call Processing (30)	WARNING
CALLP(31)	Call Authorization Failure - Call Processing (31)	WARNING
CALLP(32)	Country Code Dialing Plan Error - Call Processing (32)	WARNING
CALLP(33)	Invalid Call - Call Processing (33)	WARNING
CALLP(34)	Dial Plan Information Not Found for Digits Received - Call Processing (34)	WARNING
CALLP(35)	Dial Plan Information for Test Call Not Found - Call Processing (35)	WARNING
CALLP(36)	Invalid or Unknown Nature of Address - Call Processing (36)	WARNING
CALLP(37)	Call Failure - Call Processing (37)	WARNING
CALLP(38)	Release Cause 25 Exchange Routing Error Received - Call Processing (38)	MINOR

Table 4-2 Cisco BTS 10200 Softswitch Call Processing Events (continued)

Event Type	Event Name	Event Severity
CALLP(39)	Test Call Blocked Due to Congestion or Isolation - Call Processing (39)	WARNING
CALLP(40)	Interactive Voice Response Real Time Transport Protocol Session Fail - Call Processing (40)	WARNING
CALLP(41)	INVITE Message From Unauthorized Call Agent - Call Processing (41)	MINOR

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 there is no route 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 (one byte), Orig Sub or trunk group (TG) ID (eight bytes), calling party number (20), and called party number (20) data words in the event report indicate what 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 using a 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** commands.

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

The No Route Available for Carrier Dialed event functions as a warning that is no route available for the dialed carrier. The primary cause for the event is that no route is available for the IXC dialed. The Orig Type (one byte), Orig Sub or TG ID (eight 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 are not specified, or are incorrect, in the dial-plan table, enter the correct values. 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 4-27.

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 4-29.

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) pre-authentication 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 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 Softswitch 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 verify that the announcement is provisioned correctly.

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. The 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, verify the route and trunk group provisioning.

Call Released Due to Maximum Hop Counts Exceeded - Call Processing (21)

The Call Released Due to Maximum Hop Counts Exceeded event functions as a warning that the call was released due to the maximum hop counts 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 Softswitch 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 Softswitch 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 Softswitch 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 Softswitch 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 Softswitch 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 Softswitch 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 Softswitch 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 Softswitch 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 test failed. To correct the primary cause of the event, contact Cisco TAC for information on how to debug the problem. Refer to the "Obtaining Documentation and Submitting a Service Request" section on page liii for detailed instructions on contacting Cisco TAC and opening a service request.

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 an provisioning error is not allowing the call to be completed. To correct the primary cause of the event, contact Cisco TAC. Refer to the "Obtaining Documentation and Submitting a Service Request" section on page liii for detailed instructions on contacting Cisco TAC and opening a service request.

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 Softswitch 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 Softswitch provisioning. Additionally, check the number dialed.

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 Softswitch dial plan provisioning. Additionally, check the number dialed.

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 Softswitch dial plan provisioning. Additionally, check the number tested.

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 Softswitch 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 (four 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. Refer to the "Obtaining Documentation and Submitting a Service Request" section on page liii for detailed instructions on contacting Cisco TAC and opening a service request.

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 4-30.

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. The primary cause of the event is that the IAM for test call was blocked due to congestion/isolation. To correct the primary cause of the event, correct 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 4-30.

Troubleshooting Call Processing Alarms

This section provides the information needed to monitor and correct Calling Processing alarms. Table 4-3 lists all Calling Processing alarms in numerical order and provides cross reference to each subsection in this section.

Table 4-3 Cisco BTS 10200 Softswitch Call Processing Alarms

Alarm Type	Alarm Name	Alarm Severity
CALLP(11)	Feature Server One Link Down - Call Processing (11)	MINOR
CALLP(12)	Feature Server Both Links Down - Call Processing (12)	CRITICAL
CALLP(38)	Release Cause 25 Exchange Routing Error Received - Call Processing (38)	MINOR
CALLP(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 the 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
        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, 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/products/sw/iosswrel/ps1835/products_command_reference_chapter09186a00800874c4.html#wp1018148

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 the 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/products/sw/iosswrel/ps1835/products_command_reference_chapter09186a00800874c4.html#wp1018148

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 4-25 for additional troubleshooting information.

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. 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.