<Operations Support System Troubleshooting>

C H A P T E R **8**

Operations Support System Troubleshooting

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Introduction

This chapter provides the information needed for monitoring and troubleshooting operations support system (OSS) events and alarms. This chapter is divided into the following sections:

- Operations Support System Events and Alarms—Provides a brief overview of each operations support system event and alarm

- Monitoring Operations Support System Events—Provides the information needed for monitoring and correcting the operations support system events

- Troubleshooting Operations Support System Alarms—Provides the information needed for troubleshooting and correcting the operations support system alarms

Operations Support System Events and Alarms

This section provides a brief overview of the operations support system events and alarms for the Cisco BTS 10200 Softswitch; the event and alarms are arranged in numerical order. Table 8-1 lists all of the operations support system all of the 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 operations support system message number in Table 8-1 to display information about the event or alarm.

Table 8-1   Operations Support System (OSS) Events and Alarms by Severity

Critical	Major	Minor	Warning	Information	Not Used
OSS (23)	OSS (2)	OSS (5)	OSS (7)	OSS (1)	OSS (13)
	OSS (3)	OSS (8)	OSS (11)	OSS (16)	OSS (15)
	OSS (4)	OSS (9)	OSS (12)	OSS (17)	
	OSS (20)	OSS (20)	OSS (24)	OSS (18)	
	OSS (10)			OSS (19)	
	OSS (14)			OSS (21)	
	OSS (22)				

OSS (1)

Table 8-2 lists the of the Operations Support System (1) informational event. For additional information, refer to the "Test Report—Operations Support System (1)" section on page 8-16.

Table 8-2   Operations Support System (1) Details

Description	Test Report
Severity	Information
Threshold	10000
Throttle	0

OSS (2)

Table 8-3 lists the details of the Operations Support System (2) major alarm. To troubleshoot and correct the cause of the alarm, refer to the "Undefined Variable in Known Set—Operations Support System (2)" section on page 8-20.

Table 8-3   Operations Support System (2) Details

Description	Undefined Variable in Known Set
Severity	Major
Threshold	100
Throttle	0
Datawords	Module Name—STRING [40] Field Name—STRING [40] Field Value—STRING [64]
Primary Cause	No definition of a data column could be found in the database.
Primary Action	Contact Cisco Technical Assistance Center (TAC) for support.

OSS (3)

Table 8-4 lists the details of the Operations Support System (3) major alarm. To troubleshoot and correct the cause of the alarm, refer to the "Undefined Data Column Identification—Operations Support System (3)" section on page 8-21.

Table 8-4   Operations Support System (3) Details

Description	Undefined Data Column Identification
Severity	Major
Threshold	100
Throttle	0
Datawords	Noun—STRING [40] Data Column ID—STRING [40]
Primary Cause	The database does not contain the required data column that was requested through the Simple Network Management Protocol (SNMP) interface.
Primary Action	Contact Cisco TAC for support.

OSS (4)

Table 8-5 lists the details of the Operations Support System (4) major alarm. To troubleshoot and correct the cause of the alarm, refer to the "Request Handler Instantiation Error—Operations Support System (4)" section on page 8-21.

Table 8-5   Operations Support System (4) Details

Description	Request Handler Instantiation Error
Severity	Major
Threshold	100
Throttle	0
Datawords	User Name—STRING [40] Host—STRING [40] Subsystem—STRING [64]
Primary Cause	A resource limitation has prevented the creation of this object. This may be caused by a lack of memory or by a class path problem.
Primary Action	Contact Cisco TAC for support.

OSS (5)

Table 8-6 lists the details of the Operations Support System (5) minor alarm. To troubleshoot and correct the cause of the alarm, refer to the "Structured Query Language Error While Getting Statistics—Operations Support System (5)" section on page 8-21.

Table 8-6   Operations Support System (5) Details

Description	Structured Query Language Error While Getting Statistics (SQL Error While Getting Statistics)
Severity	Minor
Threshold	100
Throttle	0
Datawords	Statistics Category—STRING [40]
Primary Cause	An error occurred in accessing the Structured Query Language (SQL) database for statistical information in the SNMP subsystem. This may be caused by a schema error.
Primary Action	Contact Cisco TAC for support.

OSS (6)

Table 8-7 lists the details of the Operations Support System (6) major alarm. To troubleshoot and correct the cause of the alarm, refer to the

Table 8-7   Operations Support System (6) Details

Description	Structured Query Language Connection Error (SQL Connection Error)
Severity	Major
Threshold	100
Throttle	0
Datawords	Error Exception—STRING [64]
Primary Cause	The connection to the database timed out or the database server is not running. This alarm is generated in the SNMP subsystem.
Primary Action	Contact Cisco TAC for support.

OSS (7)

Table 8-8 lists the details of the Operations Support System (7) warning event. To monitor and correct the cause of the event, refer to the

Table 8-8   Operations Support System (7) Details

Description	Simple Network Management Protocol File Read Error (SNMP File Read Error)
Severity	Warning
Threshold	100
Throttle	0
Datawords	Filename—STRING [40]
Primary Cause	The Management Information Base (MIB) file is missing or locked from access by the SNMP subsystem.
Primary Action	Contact Cisco TAC for support.

OSS (8)

Table 8-9 lists the details of the Operations Support System (8) minor alarm. To troubleshoot and correct the cause of the alarm, refer to the "No Reply Received From Destination—Operations Support System (8)" section on page 8-21.

Table 8-9   Operations Support System (8) Details

Description	No Reply Received from Destination
Severity	Minor
Threshold	100
Throttle	5
Datawords	JMS Queue Name—STRING [40]
Primary Cause	This alarm is received when there is no response to a command line interface (CLI) command from the Call Agent platform.
Primary Action	If this Event Report is issued while the system is stable (that is, when there are no device failures) and the traffic is at or below the engineered level, then Cisco TAC technical support should be contacted to investigate the cause.
Secondary Action	If components of the system are in the process of failing or being restored while CLI commands are being issued, then this event report is informational and no further action is required.
Ternary Action	The traffic measurement reports can be checked to see if there is more traffic being handled than the engineered level. If this is the situation, then the traffic should be reduced or capacity should be added.

OSS (9)

Operations Support System (9) is not used.

OSS (10)

Table 8-10 lists the details of the Operations Support System (10) major alarm. To troubleshoot and correct the cause of the alarm, refer to the "Queue Processing Module Database Management Index Failed With Error—Operations Support System (10)" section on page 8-17.

Table 8-10   *Operations Support System (10) Details*

Description	Queue Processing Module Database Management Index Failed with Error (QAM DBM IDX Failed with Error)
Severity	Major
Threshold	50
Throttle	0
Datawords	Transaction ID—STRING [32] Sequence Number—EIGHT_BYTES Location Of Error—STRING [16] DBM Result—STRING [64]
Primary Cause	The queue processing module (QAM) is receiving an error because of a data mismatch between what is in the database management (DBM) index (IDX) and what is in the Element Management System (EMS) DB (Oracle).
Primary Action	View the Transaction Queue and execute an Audit on the failed table.
Secondary Cause	The DBM IDX is failing when attempting to perform an **SQL** command.
Secondary Action	Contact Cisco TAC.

OSS (11)

Table 8-11 lists the details of the Operations Support System (11) warning event. To monitor and correct the cause of the event, refer to the "Queue Processing Module Database Management Index Mismatch During Add or Delete—Operations Support System (11)" section on page 8-17.

Table 8-11   Operations Support System (11) Details

Description	Queue Processing Module Database Management Index Mismatch During Add or Delete (QAM DBM IDX mismatch during Add or Delete)
Severity	Warning
Threshold	100
Throttle	0
Datawords	Transaction ID—STRING [32] Sequence Number—EIGHT_BYTES Location Of Error—STRING [16] DBM Result—STRING [64]
Primary Cause	The QAM is received a warning that either an entry already exists in DBM IDX during an add or an entry is nonexistent during a delete operation.
Primary Action	None needed.

OSS (12)

Table 8-12 lists the details of the Operations Support System (12) warning event. To monitor and correct the cause of the event, refer to the "User Session Count Is Approaching Threshold Limit—Operations Support System (12)" section on page 8-18.

Table 8-12   Operations Support System (12) Details

Description	User Session Count is Approaching Threshold Limit
Severity	Warning
Threshold	100
Throttle	0
Datawords	Session Type - STRING [16] Session Maximum Limit - STRING [3] Session Current Usage - STRING [3] Session Usage Percentage - STRING [3]
Primary Cause	The user session usage has reached allowed limit.
Primary Action	Use **report client_session** command to view all log in sessions. Use **stop client_session** to remove stale sessions.

OSS (13)

Operations Support System (13) is not used. It is reserved for future use.

OSS (14)

Table 8-13 lists the details of the Operations Support System (14) major alarm. To troubleshoot and correct the cause of the alarm, refer to the "User Session Count Exceeds Major Threshold Limit—Operations Support System (14)" section on page 8-22.

Table 8-13   Operations Support System (14) Details

Description	User Session Count Exceeds Major Threshold Limit
Severity	Major
Threshold	100
Throttle	0
Datawords	Session Type - STRING [16] Session Maximum Limit - STRING [3] Session Current Usage - STRING [3] Session Usage Percentage - STRING [3]
Primary Cause	The user session usage has reached maximum allowed limit.
Primary Action	Use the **report client_session** command to view all log in sessions. Use the **stop client_session** command to remove stale sessions.

OSS (15)

Operations Support System (15) is not used. It is reserved for future use.

OSS (16)

Table 8-14 lists the details of the Operations Support System (16) informational event. For additional information, refer to the "Session Has Been Removed by Session Control Policy—Operations Support System (16)" section on page 8-18.

Table 8-14   Operations Support System (16) Details

Description	Session Has Been Removed by Session Control Policy
Severity	Information
Threshold	100
Throttle	0
Datawords	Policy ID - STRING [64] Session Type - STRING [16] User ID - STRING [16] Session Key - STRING [20]
Primary Cause	Session has been removed by the session control policy.
Primary Action	This is an informational alert and no corrective action is necessary.

OSS (17)

Table 8-15 lists the details of the Operations Support System (17) informational event. For additional information, refer to the "Session Has Been Removed—Operations Support System (17)" section on page 8-18.

Table 8-15   Operations Support System (17) Details

Description	Session Has Been Removed
Severity	Information
Threshold	100
Throttle	0
Datawords	Session Type - STRING [16] User ID - STRING [16] Session Key - STRING [20]
Primary Cause	The session was removed since it was idle over the timeout limit.

OSS (18)

Table 8-16 lists the details of the Operations Support System (18) informational event. For additional information, refer to the "Invalid Session Request—Operations Support System (18)" section on page 8-18.

Table 8-16   Operations Support System (18) Details

Description	Invalid Session Request
Severity	Information
Threshold	100
Throttle	0
Datawords	User ID - STRING [16] Session Key - STRING [20] Request - STRING [256]
Primary Cause	The noun, verb, or parameters of the **request** command are not valid.
Primary Action	Check and correct the **request** command.

OSS (19)

Table 8-17 lists the details of the Operations Support System (19) informational event. For additional information, refer to the "Interface Is Active and Operational—Operations Support System (19)" section on page 8-18.

Table 8-17 Operations Support System (19) Details

Description	Interface is Active and Operational
Severity	Information
Threshold	100
Throttle	0
Datawords	Session Type - STRING [16]
Primary Cause	The application interface is active and operational.

OSS (20)

Table 8-18 lists the details of the Operations Support System (20) minor alarm. To troubleshoot and correct the cause of the alarm, refer to the "Interface Is Not Started or Is Not Operational—Operations Support System (20)" section on page 8-22.

Table 8-18 Operations Support System (20) Details

Description	Interface is not Started or is not Operational
Severity	Minor
Threshold	100
Throttle	0
Datawords	Session Type - STRING [16]
Primary Cause	The application interface has failed to start or is not operational.
Primary Action	Restart the application interface.

OSS (21)

Table 8-19 lists the details of the Operations Support System (21) informational event. For additional information, refer to the "Resource Reset—Operations Support System (21)" section on page 8-19.

Table 8-19   Operations Support System (21) Details

Description	Resource Reset
Severity	Information
Threshold	100
Throttle	0
Datawords	Resource Type - STRING [40] Resource Instance - STRING [40]
Primary Cause	The resource has been reset.

OSS (22)

Table 8-20 lists the details of the Operations Support System (22) major alarm. To troubleshoot and correct the cause of the alarm, refer to the "One Peer in the Realm Is Out of Contact—Operations Support System (22)" section on page 8-22.

Table 8-20   Operations Support System (22) Details

Description	One Peer in the Realm is Out of Contact
Severity	Major
Threshold	100
Throttle	0
Datawords	Peer Name - STRING [64] Realm Name - STRING [64]
Primary Cause	The communication between the Cisco BTS 10200 EMS system and the Home Subscriber Server (HSS) has experienced a problem or the HSS is experiencing a problem.
Primary Action	Investigate the network and the HSS.

OSS (23)

Table 8-21 lists the details of the Operations Support System (23) critical alarm. To troubleshoot and correct the cause of the alarm, refer to the "All Peers in the Realm Are Out of Contact—Operations Support System (23)" section on page 8-22.

Table 8-21   Operations Support System (23) Details

Description	All Peers in the Realm are Out of Contact
Severity	Critical
Threshold	100
Throttle	0
Datawords	Realm Name - STRING [64]
Primary Cause	The communication between the Cisco BTS 10200 EMS system and the HSS has experienced a problem, the HSS is experiencing a problem, or the network interface of the Cisco BTS 10200 is experiencing a problem.
Primary Action	Investigate the network, the HSS, and the network interface of the EMS.

OSS (24)

Table 8-22 lists the details of the Operations Support System (24) warning event. To monitor and correct the cause of the event, refer to the "User Log In Sessions Have Reached the User Session Limit—Operations Support System (24)" section on page 8-19.

Table 8-22   Operations Support System (24) Details

Description	User Log In Sessions have Reached the User Session Limit
Severity	Warning
Threshold	100
Throttle	0
Datawords	User ID - STRING [16] Adapter Type - STRING [16] Maximum Session Limit - STRING [3] Number of Denials - STRING [7]
Primary Cause	The user log in has been denied because the maximum session limit has been reached.
Primary Action	Use the **show user_session_limit** command to view the user session limit. Use the **change user_session_limit** command to change the user session limit.

OSS (25)

Table 8-23 lists the details of the Operations Support System (25) informational event. For additional information, refer to the "Event Keep Alive Checked—Operations Support System (25)" section on page 8-19.

Table 8-23   ***Operations Support System (25) Details***

Description	Event Keep Alive Checked
Severity	Information
Threshold	100
Throttle	0
Primary Cause	Not an issue if an event or alarm is sent out and received. No action is required if event or alarm is received. If event or alarm is *not* received periodically, then there is an issue with events and alarms or the SNMP system.
Primary Action	If events and alarms are not received capture the SNMP, EVT, EVT2, and OMS logs and restart the SNMP agent.

Monitoring Operations Support System Events

This section provides the information you need for monitoring and correcting operations support system events. Table 8-24 lists all of the operations support system 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 8-24   Cisco BTS 10200 Operations Support System Events

Event Type	Event Name	Event Severity
OSS (1)	Test Report—Operations Support System (1)	Information
OSS (2)	Undefined Variable in Known Set—Operations Support System (2)	Major
OSS (3)	Undefined Data Column Identification—Operations Support System (3)	Major
OSS (4)	Request Handler Instantiation Error—Operations Support System (4)	Major
OSS (5)	Structured Query Language Error While Getting Statistics—Operations Support System (5)	Minor
OSS (6)	Structured Query Language Connection Error—Operations Support System (6)	Major
OSS (7)	Simple Network Management Protocol File Read Error—Operations Support System (7)	Warning
OSS (8)	No Reply Received From Destination—Operations Support System (8)	Minor
OSS (10)	Queue Processing Module Database Management Index Failed With Error—Operations Support System (10)	Major
OSS (11)	Queue Processing Module Database Management Index Mismatch During Add or Delete—Operations Support System (11)	Warning
OSS (12)	User Session Count Is Approaching Threshold Limit—Operations Support System (12)	Warning
OSS (14)	User Session Count Exceeds Major Threshold Limit—Operations Support System (14)	Major
OSS (16)	Session Has Been Removed by Session Control Policy—Operations Support System (16)	Information
OSS (17)	Session Has Been Removed—Operations Support System (17)	Information
OSS (18)	Invalid Session Request—Operations Support System (18)	Information
OSS (19)	Interface Is Active and Operational—Operations Support System (19)	Information
OSS (20)	Interface Is Not Started or Is Not Operational—Operations Support System (20)	Minor
OSS (21)	Resource Reset—Operations Support System (21)	Information

Table 8-24   Cisco BTS 10200 Operations Support System Events (continued)

Event Type	Event Name	Event Severity
OSS (22)	One Peer In The Realm Is Out of Contact—Operations Support System (22)	Major
OSS (23)	All Peers in the Realm Are Out of Contact—Operations Support System (23)	Critical
OSS (24)	User Log In Sessions Have Reached the User Session Limit—Operations Support System (24)	Warning
OSS (25)	Event Keep Alive Checked—Operations Support System (25)	Information

Test Report—Operations Support System (1)

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

Undefined Variable in Known Set—Operations Support System (2)

The Undefined Variable in Known Set alarm (major) indicates that no definition of a data column could be found in the database. To troubleshoot and correct the cause of the Undefined Variable in Known Set alarm, refer to the "Undefined Variable in Known Set—Operations Support System (2)" section on page 8-20.

Undefined Data Column Identification—Operations Support System (3)

The Undefined Data Column Identification alarm (major) indicates that the database does not contain the required data column that was requested through the SNMP interface. To troubleshoot and correct the cause of the Undefined Data Column Identification alarm, refer to the "Undefined Data Column Identification—Operations Support System (3)" section on page 8-21.

Request Handler Instantiation Error—Operations Support System (4)

The Request Handler Instantiation Error alarm (major) indicates that the creation of the request handler object has failed. To troubleshoot and correct the cause of the Request Handler Instantiation Error alarm, refer to "Request Handler Instantiation Error—Operations Support System (4)" section on page 8-21.

Structured Query Language Error While Getting Statistics—Operations Support System (5)

The Structured Query Language Error While Getting Statistics alarm (minor) indicates that an error occurred during the access of the SQL database for statistical information in the SNMP subsystem. To troubleshoot and correct the cause of the Structured Query Language Error While Getting Statistics alarm, refer to the "Structured Query Language Error While Getting Statistics—Operations Support System (5)" section on page 8-21.

Structured Query Language Connection Error—Operations Support System (6)

The Structured Query Language Connection Error alarm (major) indicates that the connection to the database timed out or the database server is not running. To troubleshoot and correct the cause of the Structured Query Language Connection Error alarm, refer to the "Structured Query Language Connection Error—Operations Support System (6)" section on page 8-21.

Simple Network Management Protocol File Read Error—Operations Support System (7)

The Simple Network Management Protocol File Read Error event serves as a warning that the requested MIB file is missing or locked from access by the SNMP subsystem. To correct the primary cause of the event, contact Cisco TAC.

No Reply Received From Destination—Operations Support System (8)

The No Reply Received From Destination alarm (minor) indicates that no reply was received from the destination. To troubleshoot and correct the cause of the No Reply Received From Destination alarm, refer to the "No Reply Received From Destination—Operations Support System (8)" section on page 8-21.

Queue Processing Module Database Management Index Failed With Error—Operations Support System (10)

The Queue Processing Module Database Management Index Failed With Error alarm (major) indicates that the QAM is receiving an error because of a data mismatch between the information that is in the DBM IDX and the information that is in the EMS database (Oracle). To troubleshoot and correct the cause of the Queue Processing Module Database Management Index Failed With Error alarm, refer to the "Queue Processing Module Database Management Index Failed With Error—Operations Support System (10)" section on page 8-22.

Queue Processing Module Database Management Index Mismatch During Add or Delete—Operations Support System (11)

The Queue Processing Module Database Management Index Mismatch During Add or Delete event serves as a warning that the QAM has received a warning that either an entry already exists in DBM IDX during an add operation or an entry is nonexistent during a delete operation. No further action is required.

User Session Count Is Approaching Threshold Limit—Operations Support System (12)

The User Session Count Is Approaching Threshold Limit event serves as a warning that the user session count is approaching the threshold limit. The primary cause of the warning event is that the user session count usage has reached the allowed limit. To correct the primary cause of the warning event, use the **report client_session** command to view all log in sessions. Use the **stop client_session** command to remove stale sessions.

User Session Count Exceeds Major Threshold Limit—Operations Support System (14)

The User Session Count Exceeds Major Threshold Limit alarm (major) indicates that the user session count has exceeded the major threshold limit. To troubleshoot and correct the cause of the User Session Count Exceeds Major Threshold Limit alarm, refer to the "User Session Count Exceeds Major Threshold Limit—Operations Support System (14)" section on page 8-22.

Session Has Been Removed by Session Control Policy—Operations Support System (16)

The Session Has Been Removed by Session Control Policy event serves as an information alert that the session has been removed by the session control policy. The event is informational and no further action is necessary.

Session Has Been Removed—Operations Support System (17)

The Session Has Been Removed event serves as an information alert that the session has been removed. The primary cause of the informational alert is that the session was removed because it was idle over the timeout limit.

Invalid Session Request—Operations Support System (18)

The Invalid Session Request event serves as an information alert that the noun, verb, or parameters of the **request** command are not valid. To correct the primary cause of the Invalid Session Request event, check and correct the **request** command.

Interface Is Active and Operational—Operations Support System (19)

The Interface Is Active and Operational event serves as an informational alert that the application interface is active and operational. The event is informational only and no further action is required.

Interface Is Not Started or Is Not Operational—Operations Support System (20)

The Interface Is Not Started or Is Not Operational alarm (minor) indicates that an application interface has failed to start or is not operational. To troubleshoot and correct the cause of the Interface Is Not Started or Is Not Operational alarm, refer to the "Interface Is Not Started or Is Not Operational—Operations Support System (20)" section on page 8-22.

Resource Reset—Operations Support System (21)

The Resource Reset event serves as an informational alert that the resource has been reset. The event is informational only and no further action is required.

One Peer In The Realm Is Out of Contact—Operations Support System (22)

The One Peer In The Realm Is Out of Contact alarm (major) indicates that the communication between the Cisco BTS 10200 EMS system and the HSS has experienced a problem or the HSS is experiencing a problem. To troubleshoot and correct the cause of the One Peer in the Realm is Out of Contact alarm, refer to the "One Peer in the Realm Is Out of Contact—Operations Support System (22)" section on page 8-22.

All Peers in the Realm Are Out of Contact—Operations Support System (23)

The All Peers in the Realm Are Out of Contact alarm (critical) indicates that the communication between the Cisco BTS 10200 EMS system and the HSS has experienced a problem, or the HSS is experiencing a problem, or the network interface of the Cisco BTS 10200 is experiencing a problem. To troubleshoot and correct the cause of the All Peers in the Realm are Out of Contact alarm, refer to the "All Peers in the Realm Are Out of Contact—Operations Support System (23)" section on page 8-22.

User Log In Sessions Have Reached the User Session Limit—Operations Support System (24)

The User Log In Sessions Have Reached the User Session Limit event serves as a warning that the user log in has been denied because the maximum session limit has been reached. To correct the cause of the warning, use the **show user_session_limit** command to view the user session limit and use the **change user_session_limit** command to change the user session limit.

Event Keep Alive Checked—Operations Support System (25)

The Event Keep Alive Checked event serves as an informational alert. There is not an issue if an event is sent out and received. No action is required if event is received. If an event is *not* received periodically, then there is an issue with events and alarms or the SNMP system. If events or alarms are not received, capture the SNMP, EVT, EVT2, and OMS logs and restart the SNMP Agent.

Troubleshooting Operations Support System Alarms

This section provides the information you need for monitoring and correcting operations support system alarms. Table 8-25 lists all of the operations support system 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 8-25   Cisco BTS 10200 Operations Support System Alarms

Alarm Type	Alarm Name	Alarm Severity
OSS (2)	Undefined Variable in Known Set—Operations Support System (2)	Major
OSS (3)	Undefined Data Column Identification—Operations Support System (3)	Major
OSS (4)	Request Handler Instantiation Error—Operations Support System (4)	Major
OSS (5)	Structured Query Language Error While Getting Statistics—Operations Support System (5)	Minor
OSS (6)	Structured Query Language Connection Error—Operations Support System (6)	Major
OSS (8)	No Reply Received From Destination—Operations Support System (8)	Minor
OSS (10)	Queue Processing Module Database Management Index Failed With Error—Operations Support System (10)	Major
OSS (14)	User Session Count Exceeds Major Threshold Limit—Operations Support System (14)	Major
OSS (20)	Interface Is Not Started or Is Not Operational—Operations Support System (20)	Minor
OSS (22)	One Peer in the Realm Is Out of Contact—Operations Support System (22)	Major
OSS (23)	All Peers in the Realm Are Out of Contact—Operations Support System (23)	Critical

Undefined Variable in Known Set—Operations Support System (2)

The Undefined Variable in Known Set alarm (major) indicates that no definition of a data column could be found in the database. The primary cause of the alarm is that there was no definition of a data column that could be found in the database. To correct the primary cause of the alarm, contact Cisco TAC for support.

Undefined Data Column Identification—Operations Support System (3)

The Undefined Data Column Identification alarm (major) indicates that the database does not contain the required data column that was requested through the SNMP interface. The primary cause of the alarm is that the database does not contain the required data column that was requested via the SNMP interface. To correct the primary cause of the alarm, contact Cisco TAC for support.

Request Handler Instantiation Error—Operations Support System (4)

The Request Handler Instantiation Error alarm (major) indicates that the creation of the request handler object has failed. The primary cause of the alarm is that a resource limitation has prevented the creation of this object. A lack of memory or a class path problem may cause the alarm. To correct the primary cause of the alarm, contact Cisco TAC for support.

Structured Query Language Error While Getting Statistics—Operations Support System (5)

The Structured Query Language Error While Getting Statistics alarm (minor) indicates that an error occurred during access of the SQL database for statistical information in the SNMP subsystem. The primary cause of the alarm is that an error occurred in accessing the SQL database for statistical information in the SNMP subsystem. The alarm may result from a schema error. To correct the primary cause of the alarm, contact Cisco TAC for support.

Structured Query Language Connection Error—Operations Support System (6)

The Structured Query Language Connection Error alarm (major) indicates that the connection to the database timed out or the database server is not running. The primary cause of the alarm is that the connection to the database timed out or the database server is not running. The alarm is generated in the SNMP subsystem. To correct the primary cause of the alarm, contact Cisco TAC for support.

No Reply Received From Destination—Operations Support System (8)

The No Reply Received From Destination alarm (minor) indicates that no reply was received from the destination. The alarm is received when there is no response to a CLI command from the Call Agent platform. If this alarm is issued while the system is stable (that is, when there are no device failures) and the traffic is at or below the engineered level, then Cisco TAC technical support should be asked to investigate the cause. If components of the system are in the process of failing or being restored while CLI commands are being issued, then this alarm is informational and no further action is required. The traffic measurement reports can be checked to see if there is more traffic being handled than the engineered level. If this is the situation, then the traffic should be reduced or capacity should be added.

Queue Processing Module Database Management Index Failed With Error—Operations Support System (10)

The Queue Processing Module Database Management Index Failed With Error alarm (major) indicates that the QAM is receiving an error because of a data mismatch between the information that is in DBM IDX and the information that is in the EMS database (Oracle). The primary cause of the alarm is that the QAM is receiving an error because of a data mismatch between what is in the DBM IDX and what is in the EMS db (oracle). To correct the primary cause of the alarm, view the Transaction Queue and execute an Audit on the failed table. The secondary cause of the alarm is that the DBM IDX is failing when attempting to perform an **SQL** command. To correct the secondary cause of the alarm, contact Cisco TAC.

User Session Count Exceeds Major Threshold Limit—Operations Support System (14)

The User Session Count Exceeds Major Threshold Limit alarm (major) indicates that the user session count has exceeded the major threshold limit. The primary cause of the alarm is that the user session usage has reached maximum allowed limit. To troubleshoot and correct the primary cause of the alarm, use the **report client_session** command to view all log in sessions. Use the **stop client_session** command to remove stale sessions.

Interface Is Not Started or Is Not Operational—Operations Support System (20)

The Interface Is Not Started or Is Not Operational alarm (minor) indicates that application interface has failed to start or is not operational. To troubleshoot and correct the cause of the alarm, restart the application interface.

One Peer in the Realm Is Out of Contact—Operations Support System (22)

The One Peer in the Realm Is Out of Contact alarm (major) indicates that the communication between the Cisco BTS 10200 EMS system and the HSS has experienced a problem or the HSS is experiencing a problem. To troubleshoot and correct the cause of the alarm, investigate the network and the HSS.

All Peers in the Realm Are Out of Contact—Operations Support System (23)

The All Peers in the Realm Are Out of Contact alarm (critical) indicates that the communication between the Cisco BTS 10200 EMS system and the HSS has experienced a problem, or the HSS is experiencing a problem, or the network interface of the Cisco BTS 10200 is experiencing a problem. To troubleshoot and correct the cause of the alarm, investigate the network, the HSS, and the network interface of the EMS.