



## CHAPTER 5

# Troubleshooting

---

Revised: July 2010, OL-23043-01

This chapter describes basic cadexceptions, debug actions, and network configuration procedures.

## Cadexceptions

The following basic cadexceptions can be returned. The numbers given in the sample code refer to the text in the explanation. The text is returned if the sample code is used.

**Error Message** No Error

**Explanation** This is a placeholder since 0 (zero) is not an error.

**Sample Code**

```
public static final int EM_NONE=0;
```

**Recommended Action** No action. Not an error.

**Error Message** CIS Error

**Explanation** This error is used for internal processing errors that can be related to ORB interaction or other runtime exceptions.

**Sample Code**

```
public static final int EM_ERROR=1;
```

**Recommended Action** Retry the command. If the problem persists, restart the Name Service and CORBA Adapter as described in the [“Modify the CORBA Network Configuration”](#) section.

**Error Message** CIS No Data

**Explanation** There was no data to return from a **show** command. This might not be a “real” error; however, it is cleaner to throw an exception than a NULL object.

**Sample Code**

```
public static final int EM_NODATA=2;
```

**Recommended Action** Verify that there is data for this particular Noun (id) by executing the same command using the CLI. Refer to the Cisco BTS 10200 Softswitch CLI Database for appropriate syntax.

**Error Message** User Security Error

**Explanation** A fault was found in the user security. This can result from an invalid login (password or username). This can also result from some internal error in the security system that caused a failure during an attempt to validate user identity.

**Sample Code**

```
public static final int EM_USERSEC=5;
```

**Recommended Action** Verify that the username and password are correct and valid for access to the BTS 10200. Cross-check by logging in to the CLI with the same username and password.

**Error Message** Permission Error

**Explanation** A command was attempted that failed the authorization tests for the command. The user does *not* have permission to execute this command.

**Sample Code**

```
public static final int EM_PERMISSION=6;
```

**Recommended Action** Verify that the user has the appropriate command privilege to execute the request. Cross-check by executing the same command using the CLI and the same user. Refer to the Cisco BTS 10200 Softswitch CLI Database for command privilege information.

**Error Message** Error Message: Block Error

**Explanation** All provisioning on the switch is blocked because the BTS 10200 is in a maintenance mode. The command might be perfectly well formed and the connection valid.

**Sample Code**

```
public static final int EM_BLOCK=7;
```

**Recommended Action** Try again later.

**Error Message** Linkage Error

**Explanation** The linkage failed.

**Sample Code**

```
public static final int EM_LINKAGE=10;
```

**Recommended Action** This is an installation error. Call Cisco TAC.

**Error Message** Exception In Initializer Error

**Explanation** The initialization failed.

**Sample Code**

```
public static final int EM_INIT=11;
```

**Recommended Action** Retry the command again. If the problem persists, restart the Name Service and CORBA Adapter as described in the [“Modify the CORBA Network Configuration”](#) section.

**Error Message** Class Not Found Exception

**Explanation** Class cannot be located

**Sample Code**

```
public static final int EM_NOTFOUND=12;
```

**Recommended Action** Verify that the CLASSPATH is set up and all jar files exist where specified in the CLASSPATH. The CLASSPATH is set up in /opt/BTScis/bin/cis3 and /opt/ems/bin/Runtime.sh on the EMS.

**Error Message** Illegal Access Exception

**Explanation** Class or initializer is not accessible.

**Sample Code**

```
public static final int EM_ACCESS=13;
```

**Error Message** Instantiation Exception

**Explanation** Thrown if this class represents an abstract class, an interface, an array class, a primitive type, or void; or if the instantiation fails for some other reason.

**Sample Code**

```
public static final int EM_INSTANCE=14;
```

**Recommended Action** Verify that the CLASSPATH is set up and all jar files exist where specified in the CLASSPATH. The CLASSPATH is set up in /opt/BTScis/bin/cis3 and /opt/ems/bin/Runtime.sh on the EMS.

**Error Message** Security Exception

**Explanation** There is no permission to create a new instance.

**Sample Code**

```
public static final int EM_SECURITY=15;
```

**Recommended Action** Verify that the CORBA adapter is running as root. Verify by performing the following command on the EMS: `ps -ef | grep cis3` and not the user.

**Error Message** Invalid Request Exception

**Explanation** Request is not valid or cannot be initialized.

**Sample Code**

```
public static final int EM_REQUEST=16;
```

**Recommended Action** Verify that the XML request is syntactically correct according to the BTS 10200 standard.

**Error Message** Invalid Noun Exception

**Explanation** Command noun is not found or is invalid.

**Sample Code**

```
public static final int EM_NOUN=17;
```

**Recommended Action** Verify that the Noun (id) in the request is valid and correct for the current software release of the BTS 10200. Cross-check by executing the same command using CLI on the EMS. Refer to the Cisco BTS 10200 Softswitch CLI Database for syntax information.

**Error Message** Invalid Verb Exception

**Explanation** Command verb is not found or is invalid.

**Sample Code**

```
public static final int EM_VERB=18;
```

**Recommended Action** Verify that the Verb in the request is valid and correct for the current software release of the BTS 10200. Cross-check by executing the same command using the CLI on the EMS. Refer to the Cisco BTS 10200 Softswitch CLI Database for syntax information.

**Error Message** SQL Exception

**Explanation** Thrown if the database cannot be accessed, if the constraints are violated, if there is a conflict with another table, if there is a resource issue, or any other Oracle-related cause.

**Sample Code**

```
public static final int EM_DATABASE=19;
```

**Recommended Action** Verify that the relational databases are currently running on the EMSs. Verify by using the following commands:

1. `ps -ef | grep mysqld`. Verify there's a process running.
2. As root, perform a `nodestat` and verify that the Oracle database is running.

If either are not running, refer to the *Cisco BTS 10200 Operations and Maintenance Manual* to restart these processes.

**Error Message** Invalid Value Exception

**Explanation** A parameter value exceeds the range or some other restriction like text length or pick-list.

**Sample Code**

```
public static final int EM_VALUE=20;
```

**Recommended Action** Verify that all the values within the XML request conform to the restrictions for those values. Cross-check by executing the same command with the same values using the CLI.

**Error Message** Invalid Key Exception

**Explanation** An invalid key or token was used to describe some data value.

**Sample Code**

```
public static final int EM_KEY=21;
```

**Recommended Action** Verify that all keys and values within the XML request are valid. Cross-check by executing the same command with the same values using the CLI.

**Error Message** Missing Parameter Exception

**Explanation** One or more required parameters were not included in the command parameter data.

**Sample Code**

```
public static final int EM_PARAM=22;
```

**Recommended Action** Verify that all mandatory keys and values are valid. Cross-check by executing the same command with the same values using the CLI.

**Error Message** Session in Use

**Explanation** Indicates the user session is valid but busy.

**Sample Code**

```
public static final EM_SESS_INUSE = 23;
```

**Recommended Action** Try again later, as a command corresponding to this user session is already executing in BTS.

**Error Message** Session invalid

**Explanation** Indicates that the user is no longer logged into the system or the session key is not valid.

**Sample Code**

```
public static final EM_SESS_INVALID = 24;
```

**Recommended Action** Create a new session and then proceed with command execution using new session key.

## Modify the CORBA Network Configuration

In previous releases, the operator was asked for either an IP address or hostname. In this release, the CORBA Installation automatically selects VIP (Virtual IP) if the VIP is configured. Otherwise, the first Management IP address is selected. This requires adding the hostname on the client machine. The following procedure can also be used to modify the name usage in the BTS 10200. In most cases, it is better to change to an IP address to prevent name resolution issues in the client-side network.



**Note**

The hostname/IP address is used as part of the interoperable object reference (IOR) that is sent to the client side. That is why the name/IP address must resolve and route to the client.

Determine the hostname or IP address that works best for the client side of the network and perform the following steps to modify the CORBA network configuration:

**Step 1** Edit the `/opt/BTSsmg/bin/jpm` file and modify the following entries to match the desired configuration. For example:

```
/sbin/ins3 <VIP or EMS Management IP or hostname> /sbin/ins3

/sbin/cis3_IIOP <VIP or EMS Management IP or hostname> <EMS Management IP #1>
< EMS Management IP #2> 2>&1 &

/sbin/cis3_SSLIOP <VIP or EMS Management IP or hostname> <EMS Management IP #1>
< EMS Management IP #2> 2>&1 &
```

**Step 2** In the directory `/opt/BTSsoorb/config/`. (a period (.) fully qualifies the domain directory), execute the `setConfig.sh` script. The XML configuration file is a bundled resource file in the OpenORB architecture. This command updates the JAR files with the modified `OpenORB.xml` file.

**Step 3** Get the process ID and kill the NameService program using the following commands:

```
ps -eaf | grep D_INS
kill -KILL <pid>
```

The NameService (INS) and CORBA Servant (CIS\_IIOP and CIS\_SSLIOP) programs restart automatically.

- Step 4** Terminate the Java children using the **ptree** and **kill** commands. Orphaned Java programs can cause unpredictable behavior.

## CORBA Cannot Connect to the BTS 10200

If CORBA cannot connect to the BTS 10200, client-side hostname resolution might be required to match what was configured in the Element Management System (EMS).

Perform the following steps to troubleshoot:

- Step 1** Verify that the IP/hostname used by the client (for CORBA connection) matches the IP/hostname in the `/opt/BTSmsg/bin/jpm` file:

```
/sbin/ins3 <VIP or EMS Management IP or hostname> /sbin/ins3
```

```
/sbin/cis3_IIOP <VIP or EMS Management IP or hostname> <EMS Management IP #1>  
< EMS Management IP #2> 2>&1 &
```

```
/sbin/cis3_SSLIOP <VIP or EMS Management IP or hostname> <EMS Management IP #1>  
< EMS Management IP #2> 2>&1 &
```

- Step 2** Add the following arguments to turn on **debug-trace** command to get the debug information on the client-side. These are the Java arguments:

```
-Dopenorb.debug.trace=DEBUG -Dopenorb.debug.level=HIGH
```

- Step 3** If the hostname of the EMS server does not resolve, an exception is thrown. If a default name was used such as “priems01” or “priems\_nms1”, these names do not resolve in the client network. Uninstall and then reinstall the CORBA package to modify the EMS to accept IP addresses.

## CORBA and EPOM Troubleshooting Steps

This section describes various procedures for troubleshooting CORBA with the Extensible Provisioning and Operations Manager (EPOM). This section requires a knowledge of UNIX and Java commands.



### Caution

EPOM cannot be co-resident with the EMS.

Perform the following steps when a problem is encountered:

- Step 1** Verify that the CORBA application is running.
- For non-secure CORBA, use the following command:
 

```
ps -eaf | grep CIS_IIOP
```
  - For secure CORBA, use the following command:

```
ps -eaf | grep CIS_SSLIOP
```

**Step 2** Check the logs for errors or clues.

- For non-secure CORBA, use the following command:

```
more /opt/ems/log/CIS.log
```

- For secure CORBA, use the following command:

```
more /opt/ems/log/CIS-SSL.log
```

**Step 3** Check the EPOM logs for errors or clues.

```
more var/opt/CSCOepom/logs
```

---

If you determine that the problem pertains to how the BTS 10200 CORBA services are configured, perform the following steps:

---

**Step 1** Ensure that the BTS 10200 hostname is provided in the CORBA configuration.

- If the hostname is provided, change it to the IP address of the BTS 10200 and restart the CORBA services on the BTS 10200.
- If the hostname is not provided, stop and reinstall the CORBA application before doing anything else.

**Step 2** Check if ports 683, 684, and 14001 are listening on the BTS 10200 server by using the following commands:

```
netstat -a |grep 683
netstat -a |grep 684
netstat -a |grep 14001
```



**Note**

Port 683 is used for non-secure CORBA communication, and port 684 is used for secure CORBA communication.

---

**Step 3** Do a tail -f on the CIS.log on the BTS 10200 server.

```
tail -f /opt/ems/log/CIS.log
```



**Note**

EPOM log files can be found at /var/opt/CSCOepom/logs. Check for trace.log and localhost files on the EPOM server.

---

**Step 4** After clicking on the **Config** button on the EPOM GUI (you might need to click more than once):

```
netstat -a |grep 14001
netstat -a |grep 683
netstat -a |grep 684
```

**Step 5** Ensure that the username and password are the same as those you provided when you added the BTS 10200 inventory to EPOM. The username and password are optiuser/optiuser by default. Verify this by logging in to the system using the CLI.

---



# CORBA/EPOM Special Character Troubleshooting: Subscriber Commands

Table 5-1 shows the CORBA and EPOM responses to special characters in Subscriber commands.

**Table 5-1** CORBA and EPOM Responses to Special Characters

| Character        | Usage Example   | CORBA/EPOM Response  |
|------------------|---|--|
| ' (single quote) | <code>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe'</code> | <p><b>Error Message</b> BtsException: IDL:oam.sswitch.com/cad/CadExceptions:1.0, Invalid parameter value. name=Joe'; contains one of the following invalid characters: ('')</p> <p><b>Explanation</b> The single quote is a reserved character for delimiting strings. It is used this way in caller-ID messages to the MTA. A single quote cannot be used in a name because it causes an error in the MTA that is parsing the caller-ID message.</p>  |
| " (double quote) | <code>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe"</code> | <p><b>Error Message</b> org.omg.CORBA.UNKNOWN: Server Exception: Unregistered vendor exception #0 vmcid: 0x0 minor code: 0 completed</p> <p><b>Explanation</b> Invalid parameter value. name=Joe"; contains one of the following invalid characters: ("")</p> <p>The double quote is a reserved character for delimiting strings. It is used this way in caller-ID messages to the MTA. A single quote cannot be used in a name because it causes an error in the MTA that is parsing the caller-ID message.</p> |

Table 5-1 CORBA and EPOM Responses to Special Characters (continued)

| Character      | Usage Example  | CORBA/EPOM Response  |
|----------------|--|--|
| ; (semi-colon) | <p>Example 1:</p> <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe;;</pre> <p>Reply : Success: Transaction 914661109242987301 was processed.</p> <pre>btsadmin&gt;show subscriber id=x1-6-00-00-ca-ac-ef-98_02 ID=x1-6-00-00-ca-ac-ef-98_02 CATEGORY=INDIVIDUAL NAME=Joe STATUS=ACTIVE COUNTRY=USA PRIVACY=NONE RING_TYPE_DN1=1 TERM_ID=aaln/S1/1 MGW_ID=iad-11 PIC1=NONE PIC2=NONE PIC3=NONE GRP=N USAGE_SENS=Y SUB_PROFILE_ID=subpf1 TERM_TYPE=TERM IMMEDIATE_RELEASE=N TERMINATING_IMMEDIATE_REL=N SEND_BILLING_DN=N SEND_BDN_AS_CPN=N SEND_BDN_FOR_EMG=N</pre> <p>Example 2:</p> <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe;</pre> <p>Reply : Success: Transaction 914661178134430501 was processed.</p> <pre>btsadmin&gt;show subscriber id=x1-6-00-00-ca-ac-ef-98_02  ID=x1-6-00-00-ca-ac-ef-98_02 CATEGORY=INDIVIDUAL NAME=Joe STATUS=ACTIVE COUNTRY=USA PRIVACY=NONE RING_TYPE_DN1=1 TERM_ID=aaln/S1/1 MGW_ID=iad-11 PIC1=NONE PIC2=NONE PIC3=NONE GRP=N USAGE_SENS=Y SUB_PROFILE_ID=subpf1 TERM_TYPE=TERM IMMEDIATE_RELEASE=N TERMINATING_IMMEDIATE_REL=N SEND_BILLING_DN=N SEND_BDN_AS_CPN=N SEND_BDN_FOR_EMG=N</pre> <p>Reply : Success: Entry 1 of 1 returned.</p> | <p><b>Error Message</b> ID=x1-6-00-00-ca-ac-ef-98_02<br/> CATEGORY=INDIVIDUAL<br/> NAME=Joe;<br/> STATUS=ACTIVE<br/> COUNTRY=USA<br/> PRIVACY=NONE<br/> RING_TYPE_DN1=1<br/> TERM_ID=aaln/S1/1<br/> MGW_ID=iad-11<br/> PIC1=NONE<br/> PIC2=NONE<br/> PIC3=NONE<br/> GRP=N<br/> USAGE_SENS=Y<br/> SUB_PROFILE_ID=subpf1<br/> TERM_TYPE=TERM<br/> IMMEDIATE_RELEASE=N<br/> TERMINATING_IMMEDIATE_REL=N<br/> SEND_BILLING_DN=N<br/> SEND_BDN_AS_CPN=N<br/> SEND_BDN_FOR_EMG=N</p> <p>Reply : Success: Entry 1 of 1 returned.</p> <p><b>Explanation</b> In the first example, the two semicolons delimit only two null parameters. In the second example, the last parameter is a null parameter terminated by the &lt;enter&gt; key. The &lt;enter&gt; key always terminates the last parameter in the CLI.</p> <p>Semicolons can terminate a command without parameters between them. Placing the semicolons anywhere else causes the queue to hang.</p> |

Table 5-1 CORBA and EPOM Responses to Special Characters (continued)

| Character   | Usage Example   | CORBA/EPOM Response   |
|---|---|---|
| % (percent sign)  | <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe%</pre>   | <p><b>Error Message</b> BtsException:<br/>IDL:oam.sswitch.com/cad/CadExceptions:1.0,<br/>Invalid parameter value. name=Joe%; Enter<br/>at least 1 character, but not more than 32<br/>characters.</p> <p><b>Explanation</b> The percent sign is a wildcard: for<br/>example, show subscriber id=x1-6-00% shows all<br/>subscribers whose id begins with x1-6-00. Thus<br/>the percent sign is a valid character for the<br/>subscriber noun, but is not valid when used with<br/>the add or change verbs.</p> |
| - (hyphen)  | <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe-</pre>   | <p><b>Error Message</b> Success: Transaction<br/>914661231396356901 was processed.</p> <p><b>Explanation</b> The hyphen is a valid character but<br/>impacts the way the caller id is displayed. Using<br/>this character is not recommended.</p>   |
| _ (under-<br>score)   | <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe_</pre>   | <p><b>Error Message</b> Failure: NAME cannot contain an<br/>_ character</p> <p><b>Explanation</b> The underscore is a valid character but<br/>impacts the way the caller id is displayed. Using<br/>this character is not recommended.</p>  |
| &   | <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe&amp;</pre><br><pre>Reply : Success: Transaction 914661254499435301 was processed.</pre>  | <p><b>Error Message</b> org.omg.CORBA.UNKNOWN: Server<br/>Exception: Unregistered vendor exception #0<br/>vmcid: 0x0 minor code: 0 completed</p> <p><b>Explanation</b> The ampersand is a reserved character<br/>in XML that causes this transaction to fail when<br/>you send it using XML over a CORBA interface.</p>   |
| @#\$\$^&*() {<br>  \ / < > , . : [ ] ~ !<br>(With<br>ampersand) | <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe!@#\$\$^&amp;*() {   \ / &lt; &gt; , . : [ ] ~</pre><br><pre>Reply : Success: Transaction 914661290390225701 was processed.</pre> | <p><b>Error Message</b> org.omg.CORBA.UNKNOWN: Server<br/>Exception: Unregistered vendor exception #0<br/>vmcid: 0x0 minor code: 0 completed.</p> <p><b>Explanation</b> The ampersand is a reserved character<br/>in XML that causes this transaction to fail when<br/>you send it using XML over a CORBA interface.</p>  |
| @#\$\$^*() {<br>  \ / < > , . : [ ] ~ !<br>(No<br>ampersand)    | <pre>btsadmin&gt;change subscriber id=x1-6-00-00-ca-ac-ef-98_02;name=Joe!@#\$\$^*() {   \ / &lt; &gt; , . : [ ] ~</pre>   | <p><b>Error Message</b> Successful</p> <p><b>Explanation</b> These characters are valid.</p>  |

# CORBA Operations Support System Events

This section provides the information that you need to monitor and correct Operations Support System events. Table 8-2 lists all Operations Support System events in numerical order and provides a cross reference to each subsection in this section.

**Table 5-2** *CORBA Session Manageability OSS Events*

| Event Type | Event Name  | Event Severity |
|------------|---|----------------|
| OSS 12     | User Session Count is Approaching Threshold Limit (OSS 12)  | WARNING        |
| OSS 14     | User Session Count Exceeds Major Threshold Limit (OSS 14)   | MAJOR          |
| OSS 16     | Session Has Been Removed by Session Control Policy (OSS 16) | INFO           |
| OSS 17     | Session Has Been Removed (OSS 17)                           | INFO           |
| OSS 19     | Interface Is Active and Operational (OSS 19)                | INFO           |
| OSS 20     | Interface Is Not Started or Not Operational (OSS 20)        | MINOR          |
| OSS 21     | Resource Reset (OSS 21)                                     | INFO           |

## User Session Count Is Approaching Threshold Limit (OSS 12)

The “User Session Count is approaching Threshold Limit” warning event indicates that the number of CORBA login sessions is over 90 percent of the maximum number of logins allowed. Remove idle or long duration sessions using the **stop client-session** command to reduce the number of active sessions. You should also check the number of users in the `/opt/BTScis/etc/bts.properties` file and set it to a higher value to increase the maximum limit. (The maximum number of users has a hard limit of 50.)

## User Session Count Exceeds Major Threshold Limit (OSS 14)

The “User Session Count Exceeds Major Threshold Limit” alarm indicates that the maximum number of CORBA login sessions has been reached and no new users can log in. Remove idle or long duration sessions using the **stop client-session** command to reduce the number of active sessions. You should also check the number of users in the `/opt/BTScis/etc/bts.properties` file and set it to a higher value to increase the maximum limit. (The maximum number of users has a hard limit of 50.)

Alternatively, you can use the **add ems-session-control-policy** command to add control policies and to remove any long running CORBA sessions. After taking these actions, try the CORBA login again.

## Session Has Been Removed By Session Control Policy (OSS 16)

The “Session has been removed by Session Control Policy” information event indicates that a CORBA session was removed for violating a control policy. Inspect the event contents in the policy id. Adjust the policy using the **change ems-session-control-policy** command as needed.

## Session Removed But No OOS (16) Returned

If a CORBA session is removed but no OSS(16) event was returned, the session may have been idle for too long. Check the CORBA log file to verify if the “Removing idle user session from the server. Session Detail:” message appeared at the time the session was removed. Adjust the `idle.timeout` in `/opt/BTScis/etc/bts.properties` file to a higher value if needed.

## Session Has Been Removed (OSS 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.

## Interface Is Active and Operational (OSS 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 Not Operational (OSS 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.

## Resource Reset (OSS 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.

## Error Messages

The following error messages can be returned. The number given in the sample code refers to the text in the explanation. The text is returned if the sample code is used.

**Error Message** Password Aging Warning

**Explanation** This exception indicates that the user's password will expire in a few days. Login is successful.

**Sample Code**

```
public static final int EM_PW_WARN = 3;
```

**Recommended Action** This exception is informational. The login was successful. No action to take. If desired, change the password using the `loginResetPassword()` API instead of the `loginWithStatus()` API to log in and change the password.

**Error Message** Password Expired Error

**Explanation** This exception indicates that the user's password has expired. Login was rejected.

**Sample Code** `public static final int EM_PW_EXP = 4;`

**Recommended Action** Change the password using the `loginResetPassword()` API to log in and change the password.

## Alarms

The following alarms might be returned by this feature.

### OSS (12)

To monitor and correct the cause of the event, refer to the “[User Session Count Is Approaching Threshold Limit \(OSS 12\)](#)” section.

|                |  |
|----------------|--|
| DESCRIPTION    | User Session count is approaching threshold limit  |
| SEVERITY       | WARNING  |
| THRESHOLD      | 100  |
| THROTTLE       | 0  |
| DATAWORDS      | Session Type—STRING [16]<br>Session Maximum Limit—STRING [3]<br>Session Current Usage—STRING [3]<br>Session Usage Percentage—STRING [3]      |
| PRIMARY CAUSE  | The user session usage has reached allowed limit.  |
| PRIMARY ACTION | Use the <b>report client_session</b> command to view all login sessions. Use the <b>stop client_session</b> command to remove idle sessions. |

### OSS (14)

To monitor and correct the cause of the event, refer to the “[User Session Count Exceeds Major Threshold Limit \(OSS 14\)](#)” section.

|             |  |
|-------------|--|
| DESCRIPTION | User session count exceeds major threshold limit |
| SEVERITY    | MAJOR  |
| THRESHOLD   | 100  |
| THROTTLE    | 0  |

|                |  |
|----------------|--|
| DATAWORDS      | Session Type—STRING [16]<br>Session Maximum Limit—STRING [3]<br>Session Current Usage—STRING [3]<br>Session Usage Percentage—STRING [3]      |
| PRIMARY CAUSE  | The user session usage has reached allowed limit.  |
| PRIMARY ACTION | Use the <b>report client_session</b> command to view all login sessions. Use the <b>stop client_session</b> command to remove idle sessions. |

## OSS (16)

To monitor and correct the cause of the event, refer to the “[Session Has Been Removed By Session Control Policy \(OSS 16\)](#)” section.

|                |   |
|----------------|---|
| DESCRIPTION    | Session has been removed by Session Control Policy  |
| SEVERITY       | INFO  |
| THRESHOLD      | 100   |
| THROTTLE       | 0   |
| DATAWORDS      | Policy ID—STRING [64]<br>Session Type—STRING [16]<br>User ID—STRING [16]<br>Session Key—STRING [20] |
| PRIMARY CAUSE  | Session has been removed by Session Control Policy.   |
| PRIMARY ACTION | N/A.  |

## OSS (17)

To monitor and correct the cause of the event, refer to the “[Session Has Been Removed \(OSS 17\)](#)” section.

|             |                          |
|-------------|--------------------------|
| DESCRIPTION | Session Has Been Removed |
| SEVERITY    | INFO                     |
| THRESHOLD   | 100                      |
| THROTTLE    | 0                        |

|                |  |
|----------------|--|
| DATAWORDS      | Session Type - STRING [16]<br>User ID - STRING [16]<br>Session Key - STRING [20] |
| PRIMARY CAUSE  | The session was removed since it was idle over the timeout limit.                |
| PRIMARY ACTION | N/A.   |

## OSS (19)

To monitor and correct the cause of the event, refer to the [“Interface Is Active and Operational \(OSS 19\)”](#) section.

|                |  |
|----------------|--|
| DESCRIPTION    | Interface is Active and Operational                  |
| SEVERITY       | INFO   |
| THRESHOLD      | 100  |
| THROTTLE       | 0  |
| DATAWORDS      | Session Type - STRING [16]                           |
| PRIMARY CAUSE  | The application interface is active and operational. |
| PRIMARY ACTION | N/A.   |

## OSS (20)

To monitor and correct the cause of the event, refer to the [“Interface Is Not Started or Not Operational \(OSS 20\)”](#) section.

|                |  |
|----------------|--|
| 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)

To monitor and correct the cause of the event, refer to the [“Resource Reset \(OSS 21\)”](#) section.

|                |  |
|----------------|--|
| DESCRIPTION    | Resource Reset   |
| SEVERITY       | INFO   |
| THRESHOLD      | 100  |
| THROTTLE       | 0  |
| DATAWORDS      | Resource Type - STRING [40]<br>Resource Instance - STRING [40] |
| PRIMARY CAUSE  | The resource has been reset.                                   |
| PRIMARY ACTION | N/A.   |

