Cisco Unified Web and E-Mail Interaction Manager Troubleshooting Guide

For Unified Contact Center Enterprise

Release 4.4(1)
May 2012
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Preface

- About This Guide
- Document Conventions
- Other Learning Resources
Welcome to Cisco® Interaction Manager™, multichannel interaction software used by businesses all over the world to build and sustain customer relationships. A unified suite of the industry’s best applications for web and email interaction management, it is the backbone of many innovative contact center and customer service helpdesk organizations.

Cisco Interaction Manager includes a common platform and one or both of the following applications:

- Cisco Unified Web Interaction Manager (Unified WIM)
- Cisco Unified E-Mail Interaction Manager (Unified EIM)

### About This Guide

Cisco Unified Web and E-Mail Interaction Manager Troubleshooting Guide describes recommended actions for the most common issues related to Unified EIM and WIM.

This guide is for installations that are integrated with Cisco Unified Contact Center Enterprise (Unified CCE).

After going through the information provided in this guide, if your problem is still not resolved, collect all the data and results mentioned for your problem, and open a service request with Cisco TAC. It is very important that you collect all the relevant log files, screenshots, reproductions steps, if possible, and provide those while opening the service request.

Troubleshooting training material is available on the Cisco website that can be used in addition to this guide: [http://docwiki.cisco.com/wiki/EIM/WIM_4.3(x)_Troubleshooting_Training](http://docwiki.cisco.com/wiki/EIM/WIM_4.3(x)_Troubleshooting_Training)

### Document Conventions

This guide uses the following typographical conventions.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Indicates</th>
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</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>Labels of items on the user interface, such as buttons, boxes, and lists. Or text that must be typed by the user.</td>
</tr>
<tr>
<td><em>Monospace</em></td>
<td>The name of a file or folder, a database table column or value, or a command.</td>
</tr>
<tr>
<td><em>Variable</em></td>
<td>User-specific text; varies from one user or installation to another.</td>
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*Document conventions*
Other Learning Resources

Various learning tools are available within the product, as well as on the product CD and our website. You can also request formal end-user or technical training.

Online Help

The product includes topic-based as well as context-sensitive help.

<table>
<thead>
<tr>
<th>Use</th>
<th>To view</th>
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<tbody>
<tr>
<td>🌐 Help button</td>
<td>Topics in <em>Cisco Unified Web and E-Mail Interaction Manager Help</em>; the Help button appears in the console toolbar on every screen.</td>
</tr>
<tr>
<td>F1 keypad button</td>
<td>Context-sensitive information about the item selected on the screen.</td>
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*Online help options*

Documentation

- The latest versions of all Cisco documentation can be found online at [http://www.cisco.com](http://www.cisco.com)

The document set contains the following guides:

- *Hardware and System Software Specification for Cisco Unified Web and E-Mail Interaction Manager*
- *Cisco Unified Web and E-mail Interaction Manager Installation Guide*
- *Cisco Unified Web and E-Mail Interaction Manager Browser Settings Guide*

**User guides for agents and supervisors**

- *Cisco Unified Web and E-Mail Interaction Manager Agent’s Guide*
- *Cisco Unified Web and E-Mail Interaction Manager Supervisor’s Guide*

**User guides for Knowledge Base managers and authors**

- *Cisco Unified Web and E-Mail Interaction Manager Author’s Guide*
User guides for administrators

- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Administration Console
- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Routing and Workflows
- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Chat and Collaboration Resources
- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Email Resources
- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Data Adapter
- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Reports Console
- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console
- Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Tools Console
Getting Started

- Pre-Requisites
- Using This Guide
- Important Things to Note
This chapter describes some important pre-requisites and guidelines on using this guide.

**Pre-Requisites**

- Before you start using this guide, make sure that you have familiarized yourself with the documents listed in the Documentation section on page 14.

**Using This Guide**

The information in the guide is presented in the following format:

- **Symptom:** First, the symptom of the problem is described. Examples are “Emails are not getting assigned to agents”, “Service unavailable message is displayed to chat customers”, etc.

- **Causes:** Next, the various factors that can cause the problem are described. For example, emails may not be assigned to agents because an alias has not been added to the Retriever Service instance; the “Service unavailable” message is displayed to chat customers when an entry point is not active, and so on.

- **Recommended actions:** Finally, for each cause, a set of actions that can be taken by to understand and solve the problem are listed. Recommended actions include making sure that components and objects in the system are configured properly, collecting and analyzing log files, etc.

If the problem is still not resolved after going through the Causes and Recommended actions, collect all the data and results mentioned for the problem, and open a service request with Cisco TAC. It is very important that you collect all the relevant log files, screenshots, reproductions steps, if possible, and provide those while opening the service request.

**Important Things to Note**

- If you are not sure about making the changes suggested in this guide, please do not proceed and contact Cisco TAC for assistance.

- Do not run any queries on the databases which will alter the information in the database. If you run into such conditions, please do not proceed and contact Cisco TAC for assistance.
Troubleshooting Tools

- List of Activity and Case Statuses
- List of Processes and Log Files
- Configuring Cleanup of Logs Folder
- Debugging Tools
- Tracing Levels for Troubleshooting Issues
- Cisco Interaction Manager and Unified CCE Integration Messages
This chapter describes common tools available for troubleshooting. Configuration procedures, if any, for these tools are also described here.

List of Activity and Case Statuses

Information about activity and case status, stored in the `egpl_casemgmt_activity` table, is useful for troubleshooting problems with activity routing. This section lists the values for activity status, activity substatus, activity type, activity subtype, activity mode, and case status.

Activity Status and Substatus

Activity status names are shown in bold type.

<table>
<thead>
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<th>Value</th>
<th>Activity status</th>
<th>Activity substatus</th>
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</tr>
<tr>
<td>5200</td>
<td>Pending</td>
<td></td>
</tr>
<tr>
<td>5300</td>
<td>Wrap up</td>
<td></td>
</tr>
<tr>
<td>5900</td>
<td>In progress</td>
<td></td>
</tr>
<tr>
<td>7000</td>
<td>Pre Completion</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>Activity status</td>
<td>Activity substatus</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>7100</td>
<td></td>
<td>Ready for email dispatch</td>
</tr>
<tr>
<td>7300</td>
<td></td>
<td>Email dispatch in progress</td>
</tr>
<tr>
<td>9000</td>
<td>Completed</td>
<td></td>
</tr>
<tr>
<td>9100</td>
<td></td>
<td>Done</td>
</tr>
<tr>
<td>9200</td>
<td></td>
<td>Abandoned</td>
</tr>
</tbody>
</table>

List of activity statuses and substatuses

**Activity Types and Subtypes**

Activity type names are shown in bold type.

<table>
<thead>
<tr>
<th>Value</th>
<th>Activity type</th>
<th>Activity subtype</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Email</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Web form</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Secure</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Permanent undeliverable</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Temporary undeliverable</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Reply</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Forward</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Compose</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Auto reply</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Auto acknowledge</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Group reply</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Redirect</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Undispatch</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Supervisory accept</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Supervisory reject</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Supervisory reattempt</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Chat Transcript</td>
<td></td>
</tr>
<tr>
<td>8000</td>
<td>Web Activity</td>
<td></td>
</tr>
<tr>
<td>8001</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>Chat</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>Activity type</td>
<td>Activity subtype</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>2001</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>Callback</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>Delayed Callback</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>Blended Collaboration</td>
<td></td>
</tr>
<tr>
<td>5000</td>
<td>Phone</td>
<td></td>
</tr>
<tr>
<td>5001</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>10000</td>
<td>Task</td>
<td></td>
</tr>
<tr>
<td>10001</td>
<td>General</td>
<td></td>
</tr>
</tbody>
</table>

List of activity types and subtypes

**Activity Modes**

<table>
<thead>
<tr>
<th>Value</th>
<th>Activity mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Inbound</td>
</tr>
<tr>
<td>200</td>
<td>Outbound</td>
</tr>
<tr>
<td>300</td>
<td>None</td>
</tr>
</tbody>
</table>

List of activity modes

**Case Status**

<table>
<thead>
<tr>
<th>Value</th>
<th>Case status</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Open</td>
</tr>
<tr>
<td>1</td>
<td>Closed</td>
</tr>
<tr>
<td>2</td>
<td>Ready for closure</td>
</tr>
</tbody>
</table>

List of case statuses
# List of Processes and Log Files

This section provides a list of processes available in the system. For each process, we list the name of the log file in which it records information.

<table>
<thead>
<tr>
<th>#</th>
<th>Component</th>
<th>Process name</th>
<th>Log file name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Installation program</td>
<td>Server_Name: eGainInstaller</td>
<td>eg_log_Server_Name_eGainInstaller.log</td>
</tr>
<tr>
<td>2.</td>
<td>Updater</td>
<td>Server_Name: upgrade-installer</td>
<td>eg_log_Server_Name_upgrade-installer.log</td>
</tr>
<tr>
<td>3.</td>
<td>Deployment Configuration Utility</td>
<td>Server_Name: eGConfigUtility</td>
<td>eg_log_Server_Name_eGConfigUtility.log</td>
</tr>
<tr>
<td>4.</td>
<td>Distributed Services Manager (DSM)</td>
<td>Services_Server_Name: DSMController</td>
<td>eg_log_Services_Server_Name_DSMController.log</td>
</tr>
<tr>
<td>5.</td>
<td>Distributed Services Manager (DSM)</td>
<td>Services_Server_Name: dsm-registry</td>
<td>eg_log_Services_Server_Name_dsm-registry.log</td>
</tr>
<tr>
<td>6.</td>
<td>Distributed Services Manager (DSM)</td>
<td>Services_Server_Name: HostController</td>
<td>eg_log_Services_Server_Name_HostController.log</td>
</tr>
<tr>
<td>7.</td>
<td>Distributed Services Manager (DSM)</td>
<td>Services_Server_Name: ServerMonitoring</td>
<td>eg_log_Services_Server_Name_ServerMonitoring.log</td>
</tr>
<tr>
<td>8.</td>
<td>Application server</td>
<td>Application_Server_Name: Application Server</td>
<td>eg_log_Application_Server_Name_ApplicationServer.log</td>
</tr>
<tr>
<td>9.</td>
<td>Agent Assignment service process</td>
<td>Services_Server_Name: agent-assignment-process</td>
<td>eg_log_Services_Server_Name_agent-assignment-process.log</td>
</tr>
<tr>
<td>10.</td>
<td>Alarm service process</td>
<td>Services_Server_Name: alarm-rules-process</td>
<td>eg_log_Services_Server_Name_alarm-rules-process.log</td>
</tr>
<tr>
<td>11.</td>
<td>Archive service process</td>
<td>Services_Server_Name: archive_process</td>
<td>eg_log_Services_Server_Name_archive_process.log</td>
</tr>
<tr>
<td>12.</td>
<td>Activity Pushback service process</td>
<td>Services_Server_Name: auto-pushback-process</td>
<td>eg_log_Services_Server_Name_auto-pushback-process.log</td>
</tr>
<tr>
<td>13.</td>
<td>Dispatcher service process</td>
<td>Services_Server_Name: dx-process</td>
<td>eg_log_Services_Server_Name_dx-process.log</td>
</tr>
<tr>
<td>14.</td>
<td>KB Import service process</td>
<td>Services_Server_Name: import-process</td>
<td>eg_log_Services_Server_Name_import-process.log</td>
</tr>
<tr>
<td>15.</td>
<td>Article Rating service process</td>
<td>Services_Server_Name: kb-article-rating-process</td>
<td>eg_log_Services_Server_Name_kb-article-rating-process.log</td>
</tr>
<tr>
<td>16.</td>
<td>Attachment service process</td>
<td>Services_Server_Name: kb-attachment-cs</td>
<td>eg_log_Services_Server_Name_kb-attachment-cs.log</td>
</tr>
<tr>
<td>17.</td>
<td>Report service process</td>
<td>Services_Server_Name: report-process</td>
<td>eg_log_Services_Server_Name_report-process.log</td>
</tr>
<tr>
<td>18.</td>
<td>Workflow Cache service process</td>
<td>Services_Server_Name: rules-cache-process</td>
<td>eg_log_Services_Server_Name_rules-cache-process.log</td>
</tr>
</tbody>
</table>
List of processes and log files

<table>
<thead>
<tr>
<th>#</th>
<th>Component</th>
<th>Process name</th>
<th>Log file name</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>Workflow Engine service process</td>
<td>Services_Server_Name: rules-process</td>
<td>eg_log_Services_Server_Name_rules-process.log</td>
</tr>
<tr>
<td>21.</td>
<td>Retriever service process</td>
<td>Services_Server_Name: rx-process</td>
<td>eg_log_Services_Server_Name_rx-process.log</td>
</tr>
<tr>
<td>22.</td>
<td>Scheduler service process</td>
<td>Services_Server_Name: scheduler-process</td>
<td>eg_log_Services_Server_Name_scheduler-process.log</td>
</tr>
<tr>
<td>23.</td>
<td>Cisco Interaction Manager Integration Wizard</td>
<td>File_Server_Name: ui_config</td>
<td>eg_log_File_Server_Name_ui_config.log</td>
</tr>
<tr>
<td>24.</td>
<td>EAAS service process</td>
<td>Services_Server_Name: EAAS-process</td>
<td>eg_log_Services_Server_Name_EAAS-process.log</td>
</tr>
<tr>
<td>25.</td>
<td>Listener service process</td>
<td>Services_Server_Name: Listener-process</td>
<td>eg_log_Services_Server_Name_Listener-process.log</td>
</tr>
<tr>
<td>26.</td>
<td>Not in use</td>
<td>knowledge_export</td>
<td>eg_log_knowledge_export.log</td>
</tr>
<tr>
<td>27.</td>
<td>Not in use</td>
<td>knowledge_import</td>
<td>eg_log_knowledge_import.log</td>
</tr>
<tr>
<td>28.</td>
<td>Not in use</td>
<td>Services_Server_Name: ss-article-rating-process</td>
<td>eg_log_Services_Server_Name_ss-article-rating-process.log</td>
</tr>
</tbody>
</table>

**Configuring Cleanup of Logs Folder**

Logging is a mechanism for capturing log messages as they are encountered while the product is running. For all the java processes running in the system, separate log files are created in the Logs folder on the file server and messages are logged in these individual files. As you use the product, the Logs folder accumulates log files. It is important to delete the old log files periodically to manage the size of your installation folder.

If you have applied Engineering Special (ES) 3 or higher, note that logging has been changed. In single and split server installations, all the log files are created on the file server. In distributed server installations, log files for the application server, messaging server, and services server processes are created on each of these servers and not on the file server.

By default the system creates log files of 5 MB each. When a log file reaches the maximum size (that is 5 MB), the current file is backed-up as “File_Name.log.<number starting from >” (for example, eg_log_V22W2_Application Server.log.1, eg_log_V22W2_Application Server.log.2, etc.) and a new log file is created. If you want to automatically delete the backed-up files after they have reached a certain number, you can set a property in the egpl_general.properties file. After the number of back-up copies for a log file reaches the specified number, the system starts deleting the oldest versions from the Logs folder.

**Important:** It is recommended that you set the value more than 50.

To configure the cleanup of logs folder:

1. On the file server, browse to Cisco_Home\eService\config.
2. Open the `egpl_general.properties` file in a text editor.

3. In the file, locate `logger.max.backup.index`. The current value of the property is set to 100. It is recommended that you set the value more than 50. After the number of versions of a log file reaches the specified number, the system starts deleting the oldest backed-up copy of the log file from the Logs folder. If you do not want to delete the old files, specify the value as -1, which means that the log files are never deleted from the `Cisco_Home\eservice\logs` folder.

4. Restart the Cisco Interaction Manager application for the changes to take effect.

### Debugging Tools

#### UI Debugging Tools

There are two UI debugging tools available. They are:

- Microsoft Script Debugger
- Cisco Interaction Manager Debugger

#### Microsoft Script Debugger

Microsoft Script Debugger allows you to debug client side and server side scripts.

Script debugging is turned off by default in Internet Explorer. Enable this tool when you see script errors while using the application. Once the tool is on, every time you see a script error, you are given an option to debug the problem. If you select the option, the tool points you to the exact line that is causing the problem in the code.

**To enable script debugging in Internet Explorer:**

1. Close all open Internet Explorer browser windows.
2. Restart Internet Explorer.
3. From the menu, select **Tools > Internet Options**.
4. In the Internet Options window, on the Advanced tab, go to the Browsing section. Make the following changes:
   a. Clear the **Disable script debugging (Internet Explorer)** option.
   b. Clear the **Disable script debugging (Other)** option.
   c. Select the **Display notification about every script error** option.
5. Close Internet Explorer.
6. Launch Internet Explorer and launch the application.
Cisco Interaction Manager Debugger

The Cisco Interaction Manager Debugger helps you debug the application when it hangs, or when the hour-glass cursor appears. Use this tool with Microsoft Script Debugger.

These are some important commands in the debugger:

- **Trace On**: Enables the tracing for all the jsp/servlet requests submitted from the User Interface (UI) framework.
- **Trace Off**: Turns off the request tracing.
- **Clear Trace**: Clears the generated trace.
- **Action Trace On**: Enables the tracing of all the logical action being submitted from the framework (Example of an action is selecting an email in the inbox which involves loading the reply, updating the information pane, fetching bookmarks, etc).
- **Action Trace Off**: Turns off the tracing of actions.
- **WaitandCall Trace On**: Lists all the WaitAndCall (Javascript function that waits for a condition to be met and then triggers a call to another javascript method) calls being executed in the UI framework. This is useful to see if there is any Javascript WaitAndCall that is getting executed infinitely.
- **WaitandCall Trace Off**: Turns off the WaitandCall tracing.
- **Display Page State**: Displays the loading state of the view file (notloaded/loading/complete).
- **Display loaded applets**: Displays the number of applets in a displayed view and the number of loaded applets.
- **Timer On**: Displays the time taken for each of the jsp/servlet requests in the timer window frame. Choose "Display Timer Log" in the "Timer log" drop down to view the logs.
- **Timer Off**: Turns off the time logging for requests.
- **View Client Cache**: Lists all the cached objects in the local Javascript cache. For example:
  - name=dateFormat value=M/d/yyyy
  - name=timeFormat value=h:mm:ss a
  - name=timeZone value=Asia/Calcutta
- **Context Menu On**: Enables context menu on right click.
- **Context Menu Off**: Disables context menu on right click.
- **Set Default Cursor**: Sets the mouse cursor to a default state from busy cursor state. This enables the user to perform actions in the browser window.
- **Display Failed Calls**: Displays a list of any failed jsp/servlet calls.
- **Display Timer Log**: Displays the frame that logs the time taken for each request.
- **Hide Timer Log**: Hides the frame that logs the time taken for each request.

**To troubleshoot with the Cisco Interaction Manager Debugger:**

1. Launch the application and log in to the console that is experiencing the problem.
2. Press CTRL + SHIFT + W to launch the debugger.
3. In the debugger window, configure the following options.
a. Select the debug command. If you choose the **Select** option, choose a command from the dropdown list. If you select the **Type** option, then provide the name of the object and operation you want to debug. The most useful debug commands are:

- Trace On
- Set Default Cursor
- Launch Global Debugger

b. In the **Timer log** field, select the option to hide or display the timer log.

4. Click the **Run** button to start debugging.

### Fiddler or HttpWatch

These tools can be used to gather HTTP trace on user desktops.

**HttpWatch:** This tool can be used for seamless monitoring and logging of the HTTP and HTTPS traffic from the users browser. There is a free version that can be used to capture information on the Customer Console. To view the details of the requests, responses etc., use the professional version.

**Fiddler:** Fiddler is a Web Debugging Proxy which logs all HTTP and HTTPS traffic between your computer and the Internet. It monitors all traffic from the desktop and not specific requests from a Unified EIM and WIM browser instance.

Both these tools can help you see:

- Real-time page and request level time charts showing performance bottlenecks.
- Low-level HTTP information such as headers, cookies, etc and millisecond accurate timings.
- The request parameters such as get and post.
- The response from the server.

### To troubleshoot with Fiddler or HttpWatch:

1. Download and install Fiddler or HttpWatch on the desktop where the issues are occurring.
   - [www.fiddler.com](http://www.fiddler.com)
   - [www.httpwatch.com](http://www.httpwatch.com)
2. Launch Internet Explorer and keep HttpWatch running for the browser instance. If you are using Fiddler, start Fiddler.
3. Access the application and recreate the issue.
4. The tools log all the requests that are being sent to the server. Analyze the output generated by these tools and look for following issues:
   a. Check for aborted or 4XX or 5XX requests for JSP or JS.
   b. Check for any network connection errors.
   c. Check the total time taken by JSP requests to fetch data from server.
5. After the issue is replicated, save the HTTP request trace to a file.
Sun Java Console

Sun Java Console provides useful information about issues related to the messaging applet. This is a useful tool when users do not receive internal messages or internal notifications, or agents or customers do not receive chat messages.

To enable Sun Java Console:
1. Go to Start > Control Panel.
2. Double-click Java.
3. In the Java Control Panel window, go to the Advanced tab, and make the following changes.
   a. In the Java console section, select Hide console.
   b. In the Miscellaneous section, select Place Java icon in system tray.

Server Side Tools

Capturing Thread Dumps and CPU Usage

This tool helps you collect thread dumps and CPU usage information on the messaging and application servers.

To capture the thread dumps and CPU usage information:
1. Access the JBoss JMX Management Console using the following link:
   http://Application_Server_Name:9001/jmx-console
2. On the page, search for jboss.system.
3. In the jboss.system section, click type=serverinfo.
4. On the page that opens, do the following:
a. Look for `java.lang.String listThreadCpuUtilization()` and click **Invoke** to save the output. Thread CPU utilization provides information about which threads on the server have consumed most of the CPU time. It helps in debugging situations when the application is not responsive, or when the server consumes a high percentage of processing power (CPU).

b. Look for `java.lang.String listThreadDump()` and click **Invoke** to save the output.

![Screenshot of MBean Inspector](image)

*Click the Invoke button*

### Capturing Thread Status for JBoss

This tool helps you collect thread status information for JBoss on the messaging and application servers.

**To capture the thread status:**

2. Validate that the number of **Busy** threads has not reached the **Max** threads.

![Sample thread status page](image)

**Tracing Levels for Troubleshooting Issues**


- Refer the *Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console* for the trace levels available in Unified EIM and WIM. For the Listener and EAAS processes log files, set the log level to **info** trace level. For all other processes, the trace level should be left at the default level that is the **error** level. These should be the default levels at which your application should run at all times.

**Cisco Interaction Manager and Unified CCE Integration Messages**

This section describes the system events and associated messages that are exchanged between various Cisco Interaction Manager and Unified CCE components through the respective interfaces. This section covers system events and message descriptions related to EAAS and MR communication, task routing, Listener and CTI Server communication (through the ARM interface), and Listener and CMB communication.
# EAAS and MR Communication Messages

## Communication Session Request and Response Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN_REQ</td>
<td>ICM requests EAAS to open and establish a communication session.</td>
<td>—</td>
<td>OPEN_REQ received</td>
<td>OPEN_REQ; Length = 20 bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>InvokeID = (2931140) Hex 002cb9c4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HeartbeatInterval = (5000) Hex 00001388</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MsgInterfaceRev = (1) Hex 00000001</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hostname: ggnd16</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VersionNumber:</td>
<td></td>
</tr>
<tr>
<td>OPEN_RESP</td>
<td>EAAS responds to the OPEN_REQ with this communication session acknowledgement.</td>
<td>OPEN_REQ send to MR PG sessionId=1 EAASInstanceId=100 8</td>
<td>OPEN_RESP; Length = 25 bytes</td>
<td>OPEN_RESP; Length = 25 bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Invoke ID = (2931140) Hex 002cb9c4</td>
<td>Invoke ID = (2931140) Hex 002cb9c4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prior Failure = (0) Hex 00000000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Status = (0) Hex 00000000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hostname:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VersionNumber: 7.0.0.0</td>
<td></td>
</tr>
<tr>
<td>HEARTBEAT_REQ</td>
<td>ICM sends a heartbeat request to EAAS to periodically check the connection of the communication session.</td>
<td>—</td>
<td>HEARTBEAT_REQ received</td>
<td>HEARTBEAT_REQ; Length = 22 bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Invoke ID = (2931140) Hex 002cb9c4</td>
<td></td>
</tr>
<tr>
<td>HEARTBEAT_RESP</td>
<td>EAAS responds to the HEARTBEAT_REQ with this positive heartbeat acknowledgement.</td>
<td>logOutgoingMessage (!)&lt;@&gt; MSG_TYP_HEARTE_BEAT RESP</td>
<td>HEARTBEAT_RESP; Length = 22 bytes</td>
<td>HEARTBEAT_RESP; Length = 22 bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Invoke ID = (2931141) Hex 002cb9c5</td>
<td></td>
</tr>
<tr>
<td>CLOSE_REQ</td>
<td>ICM requests for gracefully closing the communication session.</td>
<td>—</td>
<td>CLOSE_REQ to MR sessionId=1 EAASInstanceId=100 8</td>
<td>CLOSE_REQ; Length = 16 bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Invoke ID = (2931142) Hex 002cb9c6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Status: STATUS_ApplicationOffline</td>
<td></td>
</tr>
<tr>
<td>CLOSE_RESP</td>
<td>ICM or EAAS responds to the CLOSE_REQ with this communication session termination acknowledgement.</td>
<td>CLOSE_REQ</td>
<td>CLOSE_RESP; Length = 16 bytes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Invoke ID = (2931143) Hex 002cb9c7</td>
<td></td>
</tr>
</tbody>
</table>
## Task Routing Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEW_TASK</strong></td>
<td>EAAS sends this message to ask ICM for instructions on what to do with a new activity.</td>
<td>—</td>
<td>New-Task Message Sent. ActivityId=1091</td>
<td>NEW_TASK; Length = 156 bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DialogueID = (6) Hex 00000006</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SendSeqNo = (1) Hex 00000001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MRDomainID = (5006) Hex 0000138e</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PreviousTask = -1:-1:-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PreferredAgent = Undefined</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Service = (0) Hex 00000000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CiscoReserved = (0) Hex 00000000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ScriptSelector: CV_DN</td>
</tr>
<tr>
<td><strong>NEW_TASK_FAILURE_EVENT</strong></td>
<td>ICM sends this message to tell EAAS that ICM is not able to process the new activity at this time. EAAS can try again with another NEW_TASK message later.</td>
<td>NEW_TASK</td>
<td>NEW_TASK_FAILURE_EVENT received. EAAsInstanceId=1008</td>
<td>NEW_TASK_FAILURE_EVENT; Length = 12 bytes</td>
</tr>
<tr>
<td><strong>DO_THIS_WITH_TASK</strong></td>
<td>In response to a NEW_TASK request, this message identifies the agent to whom EAAS should assign the activity, or provides a label to EAAS.</td>
<td>NEW_TASK</td>
<td>DO_THIS_WITH_TASK received. EAAsInstanceId=1008</td>
<td>DO_THIS_WITH_TASK; Length = 145 bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DialogueID = (5) Hex 00000005</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SendSeqNo = (1) Hex 00000001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IcmTaskID = 149773.39519200: 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SkillGroup = (5196) Hex 0000144c</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Service = (5206) Hex 00001456</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Agent = (5168) Hex 00001430</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AgentInfo: Label: 1058</td>
</tr>
<tr>
<td><strong>TERMINATE_DIALOGUE_REQ</strong></td>
<td>EAAS requests ICM to cancel or terminate a previously established task dialogue.</td>
<td>—</td>
<td>MSG_TYP_TERMINATE_DIALOGUE_REQ</td>
<td>Send_ToRouter_TerminateDialogueReq:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TERMINATE_DIALOGUE_REQ CID=5014 PID=5001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TERMINATE_DIALOGUE_REQ CID=5014 PID=5001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DialogueID=1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DialogRelSeqNo=2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>InvokeID=10 Reason=28</td>
</tr>
<tr>
<td>Message</td>
<td>Description</td>
<td>Message is response to the message or request</td>
<td>Sample message logged in Cisco Interaction Manager Logs</td>
<td>Sample message logged in ICM or CMB Logs</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>TERMINATE_DIALOGUE_RESP</td>
<td>ICM sends this message to acknowledge the TERMINATE_DIALOGUE_REQ request from EAAS.</td>
<td>TERMINATE_DIALOGUE_RESP received. EAASInstanceId=1008</td>
<td>TERMINATE_DIALOGUE_RESP; Length = 16 bytes</td>
<td></td>
</tr>
<tr>
<td>REGISTER_VARIABLES_REQ</td>
<td>EAAS registers a request for access to the list of Call Variables and Extended Call Context variables.</td>
<td>—</td>
<td>logOutgoingMessage( ) &lt;@&gt; MSG_TYP_REGISTER_VARIABLES_REQ</td>
<td>MR_REGISTER_VARIABLES_RESP; Length = 106 bytes</td>
</tr>
<tr>
<td>REGISTER_VARIABLES_RESP</td>
<td>A response from ICM to EAAS to indicate success or failure of registering the ECC variables.</td>
<td>REGISTER_VARIABLES_REQ</td>
<td>logIncomingMessage( ) &lt;@&gt; MSG_TYP_REGISTER_VARIABLES_RESP</td>
<td>MR_REGISTER_VARIABLES_RESP; Length = 8 bytes</td>
</tr>
<tr>
<td>RUN_APPLICATION_SCRIPT_REQ</td>
<td>ICM instructs EAAS to run an application script known to the application instance.</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>RUN_APPLICATION_SCRIPT_RESULT</td>
<td>EAAS sends the results to ICM after it has executed the application script.</td>
<td>RUN_APPLICATION_SCRIPT_REQ</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>ROUTING_ENABLED_EVENT</td>
<td>ICM sends this message to EAAS when it is ready to perform media routing services.</td>
<td>—</td>
<td>logIncomingMessage( ) &lt;@&gt; MSG_TYP_ROUTING_ENABLED_EVENT</td>
<td>ROUTING_ENABLED_EVENT; Length = 0 bytes</td>
</tr>
<tr>
<td>ROUTING_DISABLED_EVENT</td>
<td>ICM sends this message to EAAS when it is not ready to perform media routing services.</td>
<td>—</td>
<td>logIncomingMessage( ) &lt;@&gt; MSG_TYP_ROUTING_DISABLED_EVENT</td>
<td>ROUTING_ENABLED_EVENT; Length = 0 bytes</td>
</tr>
</tbody>
</table>
## Communication Session Request and Response Messages

<table>
<thead>
<tr>
<th>Message</th>
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<tr>
<td>OPEN_REQ</td>
<td>Listener requests the CTI Server to establish a communication session.</td>
<td>—</td>
<td>Sending OPEN_REQ</td>
<td>OPEN_REQ (InvokeID:0x1 VersionNumber:9 IdleTimeout:40 PeripheralID:0 ServiceMask:0xc00)</td>
</tr>
<tr>
<td>OPEN_CONF</td>
<td>CTI Server responds to the OPEN_REQ message with this communication session acknowledgement.</td>
<td>OPEN_REQ</td>
<td>OPEN_CONF message received – listenerInstanceId=1008</td>
<td>OPEN_CONF (InvokeID:0x1 ServiceMask:0xc00 MonitorID:0 PGStatus:NORMAL)</td>
</tr>
<tr>
<td>FAILURE_CONF</td>
<td>CTI Server responds to the OPEN_REQ message with negative communication session acknowledgement.</td>
<td>OPEN_REQ</td>
<td>OPEN_REQ Failed. Since session is already terminated so, NOT Closing the Session socket listenerInstanceId, invokeId, successFailureState</td>
<td>FAILURE_CONF (InvokeID:0x4864 Status:E_CTI_NO_ERROR)</td>
</tr>
<tr>
<td>HEARTBEAT_REQ</td>
<td>Listener sends a heartbeat request to the CTI Server periodically to check the connection of the communication session.</td>
<td>—</td>
<td>Sending HEARTBEAT_REQ</td>
<td>HEARTBEAT_REQ (InvokeID:0x4865 )</td>
</tr>
<tr>
<td>HEARTBEAT_CONF</td>
<td>CTI Server responds to the HEARTBEAT_REQ with this positive heartbeat acknowledgement.</td>
<td>HEARTBEAT_REQ</td>
<td>HEARTBEAT_CONF received and status updated in map for invokeId=402 isAlive=true listenerInstanceId = 2000</td>
<td>HEARTBEAT_RESP (InvokeID:0x4866)</td>
</tr>
<tr>
<td>CLOSE_REQ</td>
<td>Listener requests for gracefully closing the communication session.</td>
<td>—</td>
<td>CLOSE_REQ to MR sessionId=1 EAASInstanceId=2008</td>
<td>CLOSE_REQ (InvokeID:0x4864 Status:E_CTI_NO_ERROR)</td>
</tr>
<tr>
<td>CLOSE_CONF</td>
<td>CTI Server responds to the CLOSE_REQ message with this acknowledgement of termination of the communication session.</td>
<td>CLOSE_REQ</td>
<td>Received CLOSE_CONF</td>
<td>CLOSE_CONF (InvokeID:0x4864)</td>
</tr>
</tbody>
</table>
### Agent Reporting Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
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<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDIA LOGIN REQ</td>
<td>Listener sends agent login request to an MRD.</td>
<td>MEDIA_LOGIN_REQ</td>
<td>MEDIA_LOGIN_REQ, AgentId:1005, MRDId:5006</td>
<td>MEDIA_LOGIN_REQ (InvokeID:0x191 MRDID:5006 CMAgentID:5167 AgentMode:0 IsAvailable:False)</td>
</tr>
<tr>
<td>MEDIA LOGIN RESP</td>
<td>CTI Server response to the MEDIA_LOGIN_REQ message.</td>
<td>MEDIA_LOGIN_REQ</td>
<td>MEDIA_LOGIN_RESP, processing started. listenerInstanceId:10 08</td>
<td>MEDIA_LOGIN_RESP (InvokeID:0x191 ARMStatus:E_ARM_STAT_OK)</td>
</tr>
<tr>
<td>MEDIA LOGOUT IND</td>
<td>Listener reports agent logout from an MRD.</td>
<td>MEDIA_LOGIN_REQ</td>
<td>AGENT EVENT: MEDIA_LOGOUT_IND, AgentId:100,MRDId:5006</td>
<td>MEDIA_LOGOUT_IND (InvokeID:0x1af MRDID:5006 CMAgentID:5167 Reason:2)</td>
</tr>
<tr>
<td>MAKE_AGENT ROUTABLE IND</td>
<td>Listener reports that an agent can be made routable for MRD requests.</td>
<td>MEDIA_LOGIN_REQ</td>
<td>MAKE_AGENT_ROUTABLE_IND to ARM for agentId=1005</td>
<td>MAKE_AGENT_ROUTABLE_REQ (InvokeID:0x1af MRDID:5006 CMAgentID:5167,MaxTasks)</td>
</tr>
<tr>
<td>MAKE_AGENT NOT ROUTABLE REQ</td>
<td>Listener reports that an agent should be made not routable for MRD requests.</td>
<td>MEDIA_LOGIN_REQ</td>
<td>MAKE_AGENT_NOT_ROUTABLE_REQ to ARM armLoginDataArraySize= ARMAgentData</td>
<td>MAKE_AGENT_NOT_ROUTABLE_REQ (InvokeID:0x1ae MRDID:5006 CMAgentID:5167)</td>
</tr>
<tr>
<td>MAKE_AGENT NOT ROUTABLE RESP</td>
<td>CTI Server responds to the MAKE_AGENT_NOT_ROUTABLE_REQ message.</td>
<td>MAKE_AGENT_NOT_ROUTABLE_REQ</td>
<td>MAKE_AGENT_NOT_ROUTABLE_RESP, ARMStatus=E_ARM_STAT_OK listenerInstanceId:20 00</td>
<td>MAKE_AGENT_NOT_ROUTABLE_RESP (InvokeID:0x1ae ArmStatus : E_ARM_STAT_OK)</td>
</tr>
<tr>
<td>MAKE_AGENT READY IND</td>
<td>Listener reports that an agent has been made ready on an MRD.</td>
<td>MEDIA_LOGIN_REQ</td>
<td>MAKE_AGENT_READY_IND, MRDID:5006 CMAgentID:5167 MakeRoutable</td>
<td>MAKE_AGENT_READY_REQ (InvokeID:0x1af MRDID:5006 CMAgentID:5167)</td>
</tr>
<tr>
<td>MAKE_AGENT NOT READY REQ</td>
<td>Listener reports that an agent has been made “not ready” on an MRD.</td>
<td>MEDIA_LOGIN_REQ</td>
<td>MAKE_AGENT_NOT_READY_REQ, MRDID:5006 CMAgentID:5167 Reason:2</td>
<td>MAKE_AGENT_NOT_READY_REQ (InvokeID:0x1af ARMStatus:E_ARM_STAT_OK)</td>
</tr>
<tr>
<td>MAKE_AGENT NOT READY RESP</td>
<td>CTI Server responds to the MAKE_AGENT_NOT_READY_REQ message.</td>
<td>MAKE_AGENT_NOT_READY_RESP</td>
<td>MAKE_AGENT_NOT_READY_RESP, ARMStatus=E_ARM_STAT_OK listenerInstanceId:20 00</td>
<td>MAKE_AGENT_NOT_READY_RESP (InvokeID:0x1af ARMStatus:E_ARM_STAT_OK)</td>
</tr>
</tbody>
</table>
## Task Reporting Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFFER_TASK_IND</td>
<td>Listener reports that an agent has been offered a task. The agent is selected by IPCC/ICM.</td>
<td>OFFER_TASK_IND message Bytes written to Output stream for ActivityId=1006 InstanceId=2000</td>
<td>OFFER_TASK_IND (InvokeID:0x1a3 MRDID:5006 ICMAgentID:5167)</td>
</tr>
<tr>
<td>OFFER_TASK_EVENT</td>
<td>CTI Server acknowledges the specified agent has been reserved to handle the specified task.</td>
<td>OFFER_TASK_IND Incoming OFFER_TASK_EVENT pooled in executor for listenerInstanceId = 2000</td>
<td>OFFER_TASK_EVENT: PeripherID=5000 PeripherType=4 MRDomainID=5006</td>
</tr>
<tr>
<td>START_TASK_IND</td>
<td>Listener reports that an agent has started the task. The agent is selected by IPCC/ICM.</td>
<td>Executing START_TASK_IND for icmAgentId=5241, mrdId=5026, activityId=1006, interruptionState=0</td>
<td>START_TASK_IND (InvokeID:0x5b3e MRDID:5026 ICMAgentID:5241 12:06:07 SESSION 3: TaskID:150171/202/1ARMSkill GroupID:5240 ARMServiceID:N/A)</td>
</tr>
<tr>
<td>START_TASK_EVENT</td>
<td>CTI Server acknowledges that the specified agent has started handling the task.</td>
<td>START_TASK_IND Incoming START_TASK_EVENT pooled in executor for listenerInstanceId = 2000</td>
<td>START_TASK_EVENT: PeripherID=5000 PeripherType=4 MRDomainID=5026 12:06:07 Trace: TaskID=150171:202:1ARMSkill GroupID:5240 SkillGroupID=5240 12:06:07 Trace: ServiceID=5590960</td>
</tr>
<tr>
<td>START_APPLICATION_TASK_REQ</td>
<td>Listener reports that an agent has started the task. The agent is not selected by IPCC/ICM.</td>
<td>START_APPLICATION_TASK_REQ for icmAgentId=5241, mrdId=5026, activityId=1014, interruptionState=0, isBCTypeMRD=false</td>
<td>START_APPLICATION_TASK_REQ (InvokeID:0x5bad MRDID:5026 ICMAgentID:5241 12:22:48 SESSION 3: PreviousICMTaskID:150171/203/1ARMSkill GroupID:5240 ARMServiceID:N/A NumNamedVariables:1 NumNamedArrays:0 ScriptSelector:&quot;SS_Email_MRD&quot;</td>
</tr>
<tr>
<td>Message</td>
<td>Description</td>
<td>Message is response to the message or request</td>
<td>Sample message logged in Cisco Interaction Manager Logs</td>
</tr>
<tr>
<td>---------</td>
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<td>-----------------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>START_APPLICATION_TASK_RESP</td>
<td>CTI Server responds to the START_APPLICATION_TASK_REQ message.</td>
<td>START_APPLICATION_TASK_RESP</td>
<td>InvokeId for which START_APPLICATION_TASK_RESP is received&lt;br&gt;invokeId=582&lt;br&gt;listenerInstanceId=2000</td>
</tr>
<tr>
<td>PAUSE_TASK_IND</td>
<td>Listener reports that the agent has paused the task.</td>
<td>—</td>
<td>Executing PAUSE_TASK_IND for icmAgentId=5241, mrdId=5026, activityId=1007, interruptionState=0</td>
</tr>
<tr>
<td>PAUSE_TASK_EVENT</td>
<td>CTI Server acknowledges that the specified agent has temporarily suspended handling of the specified task.</td>
<td>PAUSE_TASK_IND</td>
<td>Incoming PAUSE_TASK_EVENT pooled in executor for listenerInstanceId = 2000</td>
</tr>
<tr>
<td>RESUME_TASK_IND</td>
<td>Listener reports that the agent has resumed the task.</td>
<td>—</td>
<td>Incoming PAUSE_TASK_EVENT pooled in executor for listenerInstanceId = 2000</td>
</tr>
<tr>
<td>RESUME_TASK_EVENT</td>
<td>CTI Server acknowledges that the specified agent has resumed handling the specified task after previously sending the PAUSE_TASK_IND message.</td>
<td>RESUME_TASK_IND</td>
<td>Incoming RESUME_TASK_EVENT pooled in executor for listenerInstanceId = 2000</td>
</tr>
<tr>
<td>WRAPUP_TASK_IND</td>
<td>Listener reports that the agent has started wrap-up work for a task.</td>
<td>—</td>
<td>WRAPUP_TASK_IND Send to Arm for activityId=1774 of ListenerInstanceId: 2000</td>
</tr>
<tr>
<td>WRAPUP_TASK_EVENT</td>
<td>CTI Server acknowledges that the specified agent is no longer actively handling the task but is doing wrap-up work related to the task.</td>
<td>WRAPUP_TASK_IND</td>
<td>Received WRAPUP_TASK_EVENT</td>
</tr>
<tr>
<td>Message</td>
<td>Description</td>
<td>Message is response to the message or request</td>
<td>Sample message logged in Cisco Interaction Manager Logs</td>
</tr>
<tr>
<td>---------------------------------</td>
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<td>-----------------------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>END_TASK_IND</td>
<td>Listener reports that the agent has ended the task.</td>
<td>—</td>
<td>END_TASK_IND message sent to ARM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ActivityId=102mSubType=0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>InstanceID=2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TaskID:159167/208/5ICMDisposition:38</td>
</tr>
<tr>
<td></td>
<td></td>
<td>END_TASK_IND</td>
<td>END_TASK_EVENT received with</td>
</tr>
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<td></td>
<td></td>
<td>ICMDisposition = 40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>for ICMTaskID = 315_159159_13</td>
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<td></td>
<td>END_TASK_EVENT</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>10:49:10 SESSION 2:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MRDID:5026 ICMAgentID:5241</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PreviousICMTaskID:-1/-1/-</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>10:49:10 SESSION 2:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MRDID:5026 ICMAgentID:5241</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>InstanceID=-1/-1/-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TaskID:159167/208/3ICMDisposition:40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ApplicationDisposition:0xfffffff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WrapupData:“”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ApplicationData:“”)</td>
</tr>
<tr>
<td>AGENT_MADE_NOT_ROUTABLE_EVENT</td>
<td>CTI Server notifies Listener that the agent is made not routable for the MRD.</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>AGENT_INTERRUPT_ADVISORY_EVENT</td>
<td>CTI Server notifies Listener that the agent has been interrupted by a non-interruptible task.</td>
<td>AGENT_INTERRUPT_ACCEPTED_IND</td>
<td>Message data for AGENT_INTERRUPT_ADVISORY_EVENT event</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ListenerInstanceId=2000, ICMAgentId=5613, MRDId=5035,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>interrupting MRDid=5034, interrupting InvokeId=44187</td>
</tr>
<tr>
<td>AGENT_INTERRUPT_ACCEPTED_IND</td>
<td>Listener reports acceptance of the interrupt.</td>
<td>—</td>
<td>Sending AGENT_INTERRUPT_ACCEPTED_IND message to ARM</td>
</tr>
</tbody>
</table>

### Agent Interruption Messages

<table>
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<tr>
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<tbody>
<tr>
<td>AGENT_INTERRUPT_ADVISORY_EVENT</td>
<td>CTI Server notifies Listener that the agent has been interrupted by a non-interruptible task.</td>
<td>AGENT_INTERRUPT_ACCEPTED_IND</td>
<td>Message data for AGENT_INTERRUPT_ADVISORY_EVENT event</td>
<td>AGENT_INTERRUPT_ADVISORY_EVENT InvokeID ,MRDID ,InterruptingMRDID ,ICMAgentID</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ListenerInstanceId=2000, ICMAgentId=5613, MRDId=5035,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>interrupting MRDid=5034, interrupting InvokeId=44187</td>
<td></td>
</tr>
<tr>
<td>AGENT_INTERRUPT_ACCEPTED_IND</td>
<td>Listener reports acceptance of the interrupt.</td>
<td>—</td>
<td>Sending AGENT_INTERRUPT_ACCEPTED_IND message to ARM</td>
<td>AGENT_INTERRUPT_ACCEPTED_IND InvokeID ,MRDID ,ICMAgentID</td>
</tr>
</tbody>
</table>
Session Synchronization Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGENT_INTERRUPT_UNACCEPTED_IND</td>
<td>Listener report non-acceptance of the interrupt.</td>
<td>—</td>
<td>Sending AGENT_INTERRUPT_UNACCEPTED_IND message to ARM</td>
<td>AGENT_INTERRUPT_UNACCEPTED_IND (InvokeID:0x6 MRDID:5036 ICMAgentID:5613)</td>
</tr>
<tr>
<td>AGENT_INTERRUPT_DONE_ADVISORY_EVENT</td>
<td>CTI Server notifies Listener that the interrupt has ended.</td>
<td>—</td>
<td>PRINT_STATE after receiving AGENT_INTERRUPT_DONE_ADVISORY_EVENT from ARM: IcmAgentID=5613 MrdId = 5034</td>
<td>AGENT_INTERRUPT_DONE_ADVISORY_EVENT (InvokeID ,MRDID ,ICMAgentID)</td>
</tr>
<tr>
<td>BEGIN_AGENT_INIT_IND</td>
<td>Listener reports that it will begin the agent and task resynchronization.</td>
<td>—</td>
<td>Sending BEGIN_AGENT_INIT_IND</td>
<td></td>
</tr>
<tr>
<td>Message</td>
<td>Description</td>
<td>Message is response to the message or request</td>
<td>Sample message logged in Cisco Interaction Manager Logs</td>
<td>Sample message logged in ICM or CMB Logs</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>AGENT_INIT_RESP</td>
<td>CTI Server responds to the AGENT_INIT_REQ message.</td>
<td>AGENT_INIT_REQ</td>
<td>Received AGENT_INIT_RESP</td>
<td>AGENT_INIT_RESP (InvokeID:0x4 ARMStatus:E_ARM_STAT_OK)</td>
</tr>
<tr>
<td>TASK_INIT_REQ</td>
<td>Listener report the state of the task. It is used when an IPCC/ICM TASKID has not yet been assigned to the task because the activity was generated when the CTI Server or Listener service was down.</td>
<td>—</td>
<td>TaskInitIndReq messages icmTaskId= 150172_201_1 mrdId= 5035 invokeId= 44187 icmAgentId= 5613 armSkillGroupID= 5612 armServiceId= -1 paused= 0 taskState= 2 offerDuration= 486 beginDuration= -1330424236 interruptDuration= 0 pauseDuration= 0 wrapDuration= 1330424279 appRouted= 0</td>
<td>TASK_INIT_REQ (PreviousICMTaskID:-1/-1/-1MRDID:5031 InvokeID:0x71 iCMAgentID:5719 ARMSkillGroupID:N/A ARMServiceID:N/A Paused:False TaskState:1 OfferDuration:0 NumTasks:0 AgentMode:0 MaxTaskLimit:1 iCMAgentID:5057 AgentAvailabilityStatus:0 AgentID:&quot;121&quot; AgentExtension:&quot; AgentInstrument:&quot; FltSkillGroupNumber:12134 BeginDuration:0 InterruptDuration:0 PauseDuration:0 WrapupDuration:0 FltSkillGroupID:5000 FltSkillGroupPriority:0 FltSkillGroupState:LOGOUT FltSkillGroupNumber:1224 FltSkillGroupID:5019 FltSkillGroupPriority:0 ApplicationRouted:False NumNamedVariables:0 NumNamedArrays:0 FltSkillGroupState:LOGOUT )</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TASK_INIT_RESP</td>
<td>CTI Server responds to the TASK_INIT_REQ message.</td>
<td>TASK_INIT_REQ</td>
<td>Received TASK_INIT_RESP</td>
<td>TASK_INIT_RESP (InvokeID:0x71 ARMStatus:E_ARM_STAT_0 TaskID:150175/59627100/0)</td>
</tr>
<tr>
<td>END_AGENT_INIT_IND</td>
<td>Listener reports the end of agent and task resynchronization.</td>
<td>—</td>
<td>Sending END_AGENT_INIT_IND</td>
<td>END_AGENT_INIT_IND (I) 13:05:11 Trace: SkTgtID=5241 SkGrpNo=0x659 SkGrpId=5234 NumLines=0 CurLine=-1 ClientStatus=0x1</td>
</tr>
</tbody>
</table>

**Listener and CMB Communication Messages**

**Connection Management Communication Messages**

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProviderInServiceEvent</td>
<td>Two way RMI connection between Listener and CMB server is established for sharing the messages between Listener and CMB.</td>
<td>—</td>
<td>ProviderInServiceEvent Received PROVIDER_CONNECT Complete. isDuplex=false peripheralId=5000 serverIPSideA=10.10.6.147 serverIPSideB=null acdQueueId=null providerConnectWaitTime=10 listenerInstanceId=2000</td>
<td>Notifying listeners java.util.Vector$<a href="mailto:1@1f8ffddac0m.cisco.ics.blender.blenderapi.ProviderInServiceEvent">1@1f8ffddac0m.cisco.ics.blender.blenderapi.ProviderInServiceEvent</a></td>
</tr>
<tr>
<td>ProviderOutOfServiceEvent</td>
<td>RMI Connection between Listener and CMB got terminated.</td>
<td>—</td>
<td>ProviderOutOfServiceEvent Received</td>
<td>Notifying listeners java.util.Vector$<a href="mailto:1@133770fcom.cisco.ics.blender.blenderapi.ProviderOutOfServiceEvent">1@133770fcom.cisco.ics.blender.blenderapi.ProviderOutOfServiceEvent</a></td>
</tr>
<tr>
<td>Message</td>
<td>Description</td>
<td>Message is response to the message or request</td>
<td>Sample message logged in Cisco Interaction Manager Logs</td>
<td>Sample message logged in ICM or CMB Logs</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>MediumInServiceEvent</td>
<td>RMI connection between CMB and CTI Server is established.</td>
<td>—</td>
<td>—</td>
<td>Sending Medium Event: Medium In Service[Reconnected]#Remote Medium on the Blender Bus</td>
</tr>
<tr>
<td>MediumOutOfServiceEvent</td>
<td>RMI Connection between CMB and CTI Server is broken.</td>
<td>—</td>
<td>—</td>
<td>Sending Medium Event: Medium Out Of Service[Connection Down]#Remote Medium on the Blender Bus</td>
</tr>
</tbody>
</table>

### Agent Management Communication Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AgentLoggedInEvent</td>
<td>Message from CMB to Listener for acknowledging the agent login request received by Listener.</td>
<td>Agent login request sent from Listener to CMB.</td>
<td>AgentLoggedInEvent Received - This event is not handled in listener agentname=ggns9_2 agentName=ggns9_2 icmAgentId=5021 terminalId=1742 peripheralId=5000 loginFlag=Agent:ggns9_2 Logged OutAddress:ggns9_2[63609732] listenerInstanceId=2000</td>
<td>Agent logged in: Agent:ggns9_2 Logged-In IdleAddress:ggns9_2[63609732] with Properties: {terminalPw=, terminal=1742}</td>
</tr>
<tr>
<td>AgentLoginSucceededEvent</td>
<td>Message from CMB to Listener to report that the agent is successful logged in to CMB.</td>
<td>Agent login request sent from Listener to CMB.</td>
<td>AGENT_LOGIN_TO_CMB_SUCCESSFUL userID = 1004 icmAgentId=5021 peripheralNumber=63609732 terminalId=1742 peripheralId=5000 loginCounter=1 bcType= true bcLoginFlag= false</td>
<td>&quot;Media Blender API Provider Connection_CCS_BAPI&quot; &quot;RMI TCP Connection(8463)-10.10.61.47&quot; &quot; - Received event Agent Signon Success#</td>
</tr>
<tr>
<td>Message</td>
<td>Description</td>
<td>Message is response to the message or request</td>
<td>Sample message logged in Cisco Interaction Manager Logs</td>
<td>Sample message logged in ICM or CMB Logs</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>AgentLoginFailedEvent</td>
<td>Message from CMB to Listener to report that the agent could not be logged in to CMB.</td>
<td>Agent login request sent from Listener to CMB.</td>
<td>—</td>
<td>TRACE CODE_MARKER Blender com.cisco.ics.blender.blenderapi.Provider &quot;Media Blender API Provider Connection_CCS_BAPI&quot; &quot;RMI TCP Connection(15192)-10.10.61.47&quot;&quot; - Received event Agent Signon Failed#</td>
</tr>
<tr>
<td>AgentLoggedOutEvent</td>
<td>Message from CMB to Listener to report that the agent is successful logged out from CMB.</td>
<td>1. Agent logged out from Phone. 2. Agent logged out of Cisco Interaction Manager.</td>
<td>AgentLoggedOutEvent Received. ggn9_2 agentName=ggn9_2 icmAgentId=5021 terminalld=1742 peripheralld=5000 lagent=Agent:ggn9_2 Logged OutAddress:ggn9_2[63609732] listenerInstanceId= 2000</td>
<td></td>
</tr>
<tr>
<td>AgentReadyEvent</td>
<td>Message from CMB to Listener to report that an agent is ready for phone.</td>
<td>Agent made available in Cisco Interaction Manager.</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>AgentNotReadyEvent</td>
<td>Message from CMB to Listener to report that an agent is not ready for phone.</td>
<td>Agent made unavailable in Cisco Interaction Manager.</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
## Session Management Communication Messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
</table>
| AgentJoinedSessionEvent | Message from CMB to Listener to report that the agent is associated with the session. | ▶ Agent joins a new blended collaboration session.  
▶ Agent joins a blended collaboration session that is transferred by another agent to the queue. | AgentJoinedSessionEvent Agent Joined event came from CMB for icmAgentId and agentname | Agent:ggns9_2 pool-4-thread-4” - Joining session Session [ID: |
<p>| AgentLeftSessionEvent  | Message from CMB to Listener to report that the agent has left the session.   | Agent transfers the blended collaboration activity to the queue.                                                | —                                                                           | —                                           |
| SessionAgentAddedEvent | Message from CMB to Listener to report that the agent has been added to the session. | Agent joins a blended collaboration session that is transferred by another agent to the queue.                | —                                                                           | —                                           |
| SessionAgentRemovedEvent | Message from CMB to Listener to report that the agent has been removed from the session. | Agent transfers the blended collaboration activity to the queue.                                                | —                                                                           | —                                           |
| SessionAssignedEvent   | Message from CMB to Listener to report that the session has been assigned to a specific agent. | Blended collaboration activity is routed through the Avaya switch to a logged in agent.                      | —                                                                           | —                                           |
| SessionDroppedEvent    | Message from CMB to Listener to report that a session has been dropped in CMB. | Listener sends a message to CMB to drop a session.                                                           | SessionDroppedEvent Received. activityId,mrdId,useLegacyACD, peripheralId,activityData, ActivityId &amp; value | About to send DropConnection_CCS_BA PI01322921636333 |</p>
<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
<th>Message is response to the message or request</th>
<th>Sample message logged in Cisco Interaction Manager Logs</th>
<th>Sample message logged in ICM or CMB Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SessionErrorEventCmdResp</td>
<td>Message from CMB to Listener to report that an error occurred in CMB while handling the session.</td>
<td>Any error in CMB for a blended collaboration activity will trigger this message.</td>
<td>SessionDroppedEvent CmdResp OR SessionErrorEventCmdResp: executePhoneTermination - activityId, mrdId,useLegacyACD, peripheralID,activityData,ActivityId &amp; value</td>
<td>—</td>
</tr>
<tr>
<td>SessionQueuedEvent</td>
<td>Message from CMB to Listener to report that a session has been queued in the Avaya switch for routing.</td>
<td>Listener sends a message to queue a session for Avaya routing.</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>SessionQueuingEvent</td>
<td>Message from CMB to Listener to report that a session is ready for queuing in the Avaya switch for routing.</td>
<td>Listener sends a message to queue a session for Avaya routing.</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>SessionTransferredEvent</td>
<td>Message from CMB to Listener to report that a session has been transferred from one agent to another.</td>
<td>Transfer blended collaboration activity.</td>
<td>SessionTransferredEvent Received activityId=1181 mrdId=5066 useLegacyACD=false peripheralID=5010 activityData=Property = ActivityId &amp; value = 1181</td>
<td>—</td>
</tr>
</tbody>
</table>
General Issues

- Installation Issues
- Login Issues
- Logout Issues
- User Interface Issues
Installation Issues

About Installation Logs

Logs generated during the installation process are typically created in the following location:
Cisco_Home\eservice\installation\

If the installer fails to detect the file system, the log file, eGPatchInstallerErr.log, is created in the following location: C:\Documents and Settings\Your_Username\Local Settings\Temp.

Symptom 1: “Unable to Create Database” Error During Installation

The Unified EIM and WIM installation fails and the following error message is displayed: Unable to create database.

Cause: No Disk Space on Database Machine

There is not enough disk space available on the database machines to install the Unified EIM and WIM databases.

Recommended actions:

1. Check the log file
Cisco_Home\eservice\installation\eg_log_Server_Name_eGainInstaller.log for the message recorded while running the installer. The message will be in the following format:

********** Exception while creating the database **********

2. Check the database machines and ensure that there is ample disk space available for creating data and log files for the Unified EIM and WIM databases.

Symptom 2: Unable to Start Unified EIM and WIM Windows Service

When the Cisco Service is started from the Windows Service panel, the following error message is displayed: Could not start the Cisco Service on Local computer. Error 1069: The service did not start due to logon failure.

Cause: Incorrect Domain User Name and Password Information

Incorrect domain user name or password was provided while installing Unified EIM and WIM.

Recommended actions:

1. On the machine where you are unable to start the application, access the Windows Services panel and do the following:
   a. Right-click the Cisco Service and select Properties.
b. In the Cisco Service Properties window go to the Log On tab and provide the Username and Password again.

c. Save the changes by clicking the OK button.

![Cisco Service Properties window](image)

*Change the log on parameters*

2. Start the Cisco Service.

**Symptom 3: Unable to Run Unified EIM and WIM Upgrade Installer**

Upgrade installer does not list installed components correctly in the Product Information window.

**Cause 1: Application Server not Listed in Product Information Window**

While running the upgrade installer on the application server, the upgrade installer does not identify the application server installed on that machine. The Product Information window shows the list of components installed on that server, but it does not list the application server.

This issue occurs if the correct application server is not recorded in the `Cisco_Home\eservice\config\egpl_cachedefaultconfig.properties` file.

**Recommended actions:**

1. On the file server, open the `Cisco_Home\eservice\config\egpl_cachedefaultconfig.properties` file.

2. Locate the property `discoveryaddress` and check the value of the property. The value should look like `Application_Server_Name1:12345;Application_Server_Name2:12346`, where the `Application_Server_Name` should match the name of the application server where you are unable to run the upgrade installer.

3. If the values do not match, collect all the logs from the `Cisco_Home\eservice\logs` folder and share the log files with Cisco TAC for further analysis.
Cause 2: Messaging Server not Listed in Product Information Window

While running the upgrade installer on the messaging server, the upgrade installer does not identify the messaging server installed on that machine. The Product Information window shows the list of components installed on that server, but it does not list the messaging server.

This issue occurs if the correct messaging server is not recorded in the Cisco_Home\eService\config\egpl_event.xml.

Recommended actions:
1. On the file server, open the Cisco_Home\eService\config\egpl_event.xml file.
2. Check the value of the attribute URL in the jmsserver node. It should point to the messaging server in the deployment.
3. If the value is not correct, collect all the logs from the Cisco_Home\eService\logs folder and share the log files with Cisco TAC for further analysis.

Cause 3: Services Server not Listed in Product Information Window

While running the upgrade installer on the services server, the upgrade installer does not identify the services server installed on that machine. The Product Information window shows the list of components installed on that server, but it does not list the services server.

This issue occurs if the correct value of the services server is not recorded in the master database.

Recommended actions:
1. Run the following query on the Unified EIM and WIM master database:
   ```sql
   select host_name, url, description from egpl_dsm_host
   ```
2. In the query results check the value of the host_name column for the following:
   - Host Controller
   - DSM Controller
   - RMI Registry Server
   - RMID Registry Server
   The value should match the services server name.
3. If the value is not correct, collect all the logs from the Cisco_Home\eService\logs folder and share the log files with Cisco TAC for further analysis.

Cause 4: Web Server not Listed in Product Information Window

While running the upgrade installer on the web server, the upgrade installer does not identify the web server installed on that machine. The Product Information window shows the list of components installed on that server, but it does not list the web server.

This issue occurs if the correct value of the web server is not recorded in the master database.
**Recommended actions:**

1. Run the following query on the Unified EIM and WIM master database:
   
   ```sql
   select host_name, url, description from egpl_dsm_host
   ```

2. In the query results check the value of the `host_name` column for the web server.
   The value should match the web server name.

3. If the value is not correct, collect all the logs from the `Cisco_Home\eService\logs` folder and share the log files with Cisco TAC for further analysis.

**Symptom 4: “Access Denied” Error While Running Upgrade Installer**

Upgrade installer fails while copying the installation files in the installation folder. The following error occurs:

*Access Denied.*

**Cause 1: Files Under the File Server Installation Folder are Read-Only**

**Recommended actions:**

1. Run the following command on the installation folder and get attributes of all files. Ensure that the files are not marked read-only.
   ```
   attrib /D /S *
   ```

2. If there are read only files, change the attributes of the file by executing the following command on the installation folder:
   ```
   attrib /D /S * -R
   ```

**Cause 2: Files Under the File Server Installation Folder are In Use**

This issue can occur if the application is still running, or if some of the files from the installation folder are open in a text editor.

**Recommended actions:**

1. Check if the Unified EIM and WIM application is running. If it is running, stop the application.

2. Check if there are any files open from the installation folder and close them.

3. Try to run the upgrade installer.
Login Issues

Overview

When a mapped agent logs into the Agent Console, the agent is authenticated in both Unified EIM and WIM and Unified CCE for all MRDs that the agent is associated with in Unified CCE. This ensures that once logged in, the agent can work on mail, chat and BC activities routed by Unified CCE from a single, unified, Agent Console.

This section describes the various issues that can occur at the time of login.

Symptom 1: “Login Not Successful to One or More MRDs” Error Message

The following error message is displayed to agents while logging in to Unified EIM and WIM and they are not able to log in to the application.

Your login is not successful to one or more media routing domains. Please contact an administrator for verification of agent configuration in Cisco Interaction Manager and ICM.

Caused: MRD Missing From Application Path Member List

An agent can be configured for multiple MRDs in Unified CCE. When an agent logs in through the Agent Console, the MEDIA_LOGIN_REQ message is sent for every configured MRD to Unified CCE through the Listener service. Each of these MEDIA_LOGIN_REQ messages should have a valid response for an agent to be able to login successfully. The MEDIA_LOGIN_RESP message returned with a failure for any of the MRDs will result in login failure.

Recommended actions:

1. Get the CTI server logs for the time at which the agent login failed. The MEDIA_LOGIN_RESP message will be observed with an appropriate ARMStatus message. The message in the log file will look like this:

   MsgType: MEDIA_LOGIN_RESP (InvokeID:0x24bb
   ARMStatus:E_ARM_STAT_LOGIN_NOT_ALLOWED_FOR_APP_PATH)
2. From the Unified CCE Configuration Manager check that the MRDs for all agents who are supposed to log in to Unified EIM and WIM are associated as Application Path Members to the Application Instance with which Unified EIM and WIM is integrated. For details on configuring these objects, see the *Cisco Unified Web and E-Mail Interaction Manager Deployment and Maintenance Guide*.

**Symptom 2: “ICM Login Timed Out.” Error Message Displayed on Login**

The following error message is displayed to agents while logging in to Unified EIM and WIM and they are not able to log in to the application.

*ICM login timed out. Please contact an administrator for verification of ICM and CTI server status, CMB connectivity, network connectivity or latency for ICM connections, and running state if Listener process and instance in Cisco Interaction Manager.*

*Error message displayed on login*

**Cause 1: Listener Service Process or Instance Not Running**

**Recommended action:**

- From the System Console, ensure that the Listener service process and instance are running. Start them if required.

**Cause 2: Media_Login_Resp Message not Returned Within Timeout Interval**

The Unified EIM and WIM login screen is designed to complete agent login within the configured timeout settings. If the responses from Unified CCE for \texttt{MEDIA\_LOGIN\_REQ}, or from CMB for Blended Collaboration agent login are delayed, the agent login is terminated in Unified EIM and WIM and the agent is not allowed to log in to the Agent Console.

This feature is governed by the \texttt{LISTENER\_MAX\_LOGIN\_WAIT\_TIME\_IN\_MILLISEC} property available in the *Cisco_Home\eService\config\ipcc\egicm_configuration.properties* file. The default value of this property is 30 seconds.

**Recommended actions:**

1. From the System Console, set the logging level for the Listener-process to INFO level. This level is required to view the messages the Listener service sends to ARM.
2. After changing the log levels, check the
   
   `Cisco_Home\eService\logs\eg_log_Services_Server_Name_Listener-process.log`
   
   file. Verify that the `MEDIA_LOGIN_REQ` message is sent for all configured MRDs to Unified CCE. A CMB login request must be sent for Blended Collaboration agents.

3. After the login time out failure message is seen by the agents, verify that a logout is triggered and the `MEDIA_LOGOUT_IND` message is sent for each MRD to Unified CCE to terminate the login. A logout message is sent to CMB if the agent is a Blended Collaboration agent. Check the
   
   `Cisco_Home\eService\logs\eg_log_Services_Server_Name_Listener-process.log`
   
   file. Here you see all `MEDIA_LOGOUT_IND` messages going to Unified CCE.

4. If the agents are continuously seeing the error message at the time of login, increase the value of the `LISTENER_MAX_LOGIN_WAIT_TIME_IN_MILLISEC` property in the
   
   `Cisco_Home\eService\config\ipcc\egicm_configuration.properties`
   
   file.

Further actions:

If none of the above mentioned recommended actions solve your problem, then collect the following information and send it to Cisco TAC.

- From the Cisco Interaction Manager File Server:
  - `Cisco_Home\eService\logs\eg_log_Services_Server_Name_Listener-process.log`
  - `Cisco_Home\eService\logs\eg_log_Application_Server_Name_ApplicationServer.log`
- CTI server and CMB logs.

Symptom 3: “Logout Now” Error Message Displayed on Login

The following error message is displayed to agents while logging in to Unified EIM and WIM and they are not able to log in to the application.

This action could not be completed because the system encountered a delay in getting data from the server. To ensure correct data, you will need to log out and then log in again. If you were working in a text editor and would like to save the information for use later, please copy it into another program and then click the Log Out Now button.

**Cause 1: Primary IPCC AW Database Not Configured Correctly**

If the deployment only has a primary IPCC Administration Workstation Database (AWDB) and the database is not running or not configured properly, this issue can occur.

**Recommended actions:**

1. Check the Application server log file for errors. The “DBConnectionException” log message is recorded in the
   
   `Cisco_Home\eService\logs\eg_log_Application_Server_Name_ApplicationServer.log`
   
   file when this issue occurs. For example, the log message will look like:

   ```
   com.egain.platform.framework.dataaccess.exception.DBConnectionException: 
   SQLState=08S01|SQLException is:The TCP/IP connection to the host ggns38, port
   ```
1433 has failed. Error: "connect timed out. Verify the connection properties, check that an instance of SQL Server is running."

2. Ensure that the primary IPCC AWDB database is up and running. Go to the database machine and from the Windows Service panel check if the SQL Server Agent and MSSQL services are running.

3. In the System partition (zero partition), go to the System Console and verify that the database properties are configured correctly. For details, see the “Configuring Database Details” section of the Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console.

Cause 2: Secondary IPCC AW Database Not Configured Correctly

If the deployment has a primary and secondary IPCC Administration Workstation Database (AWDB), and the primary database server becomes unavailable, the application is unable to connect to the secondary database if the secondary database is not running or is not configured properly.

Recommended actions:

1. Check the application server log file for errors. The primary and secondary AWDB connection failure log messages are recorded in the Cisco_Home\eService\logs\eg_log_Application_Server_Name_ApplicationServer.log file when this issue occurs. Notice the host names in the logs (host AWDB machine). There will be one stack trace from the primary and another for the secondary AWDB when the application tries to rollover from primary to secondary connection pools and fails. You will also see log messages like “Going to connect Secondary AWDB” indicating the rollover from the primary to the secondary database.

For example, the log message will look like:

2012-03-27 17:10:50.417 GMT+0530 <@> ERROR <@> [8241:RMI TCP Connection(11342)-10.10.61.62] <@> ProcessId:7040 <@> PID:1 <@> UID:12 <@>HttpSessionId: <@>com.cisco.ipcc.DataAdapterExecutor<@>executeBridge() <@> Going to connect Secondary AWDB. mLastTimeFailure=1332848450417 <@>

2. Ensure that the secondary IPCC AWDB database is up and running. Go to the database machine and from the Windows Service panel check if the SQL Server Agent and MSSQL services are running.

3. In the System partition (zero partition), go to the System Console and verify that the database properties are configured correctly. For details, see the “Configuring Database Details” section of the Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console.

Cause 3: IPCC AW Database Connection Pool Limit Exceeded

There is a limit to the number of connections that can be made to the IPCC AWDB. If this limit exceeds the configured limit, the JDBC calls to the IPCC AWDB will fail and operations will terminate.

Recommended actions:

1. Check the application server log file for errors. The log messages are recorded in the Cisco_Home\eService\logs\eg_log_Application_Server_Name_ApplicationServer.log file when this issue occurs. Notice the host names in the logs (host AWDB machine). There will be one stack trace for the primary and another for the secondary AWDB when the application tries to rollover from primary to secondary connection pools and fails. You will also see log messages such as “Going to connect Secondary AWDB” indicating the rollover from the primary to the secondary database.
For example, the log message will look like:

'com.egain.platform.framework.dataaccess.exception.NoConnectionAvailableException: No connection available in pool IPCC_MSSQL_POOL_1'

If the Listener Service server connection pool to Unified CCE AWDB is exhausted, the same logs are seen in the Cisco_Home\eService\logs\eg_log_services_server_Name_ListenerServer.log file.

2. Increase the number of maximum connections configured for the AWDB in the Cisco_Home\eService\config\dataaccess\egpl_ds_connpool.map.xml file. The Max Connection is defined in the MaxCapacity XML element. Increase the value for IPCC_MSSQL_POOL_1 (for primary AWDB) and IPCC_MSSQL_POOL_1 (if secondary AWDB is installed). For guideline about the value that should be set, see the Cisco Unified Web and E-Mail Interaction Manager Solution Reference Network Design Guide.

![Sample connpool map file](image)

Symptom 4: Agents Unable to Login

Agents are not able to log in to the Unified EIM and WIM application.

**Cause: Services Required for Successful Login Not Running**

To allow an integrated agent to successfully log in, the following services need to be up and running:

- CTIOS CTIOS1, CG1A, PG1A, PG2A in Unified CCE
- Listener Service in Unified EIM and WIM should be connected to CG-PG

If these services are not running or are not configured properly agents will not be able to log in.

**Recommended actions:**

1. From the ICM Service Control window, check if the following services are running:
   - Cisco ICM CTIOS CTIOS1
   - Cisco ICM CG1A
   - Cisco ICM PG1A
Cisco ICM PG2A

If they are not running, start them.

2. From the Unified EIM and WIM System Console, check if the Listener service process and instances are running. Their state should be **Running**. If they are not running, start them.

3. For Blended Collaboration, the Listener service should be connected to CMB. Check the Media Blender Administration page. It should not show any errors.

4. After fixing these issues, try to log in again.
Logout Issues

Overview
When a mapped agent logs out of the Unified EIM and WIM Agent Console, the agent should also be logged out of Unified CCE for all MRDs. If there is a failure in this process, activities may be assigned to agents who are not logged in to Unified EIM and WIM.

Symptom: Activities Routed to Logged Out Agents
Activities are getting routed to agents who are not logged in to the Unified EIM and WIM Agent Console.

Cause 1: Agent Logout Status not Updated in Unified CCE
When the agent’s session ends because the agent logs out of the Agent Console, or because of a permanent session timeout, the agent is logged out of Unified EIM and WIM, but a message to log out the agent is not sent to Unified CCE. As a result, Unified CCE keeps picking those agents for activity assignment. The agents are not assigned activities in Unified EIM and WIM. This can cause a task count mismatch for agents between Unified EIM and WIM and Unified CCE.

An agent’s session is permanently timed out when the agent is inactive for the time defined in the partition level setting Deletion Time Out. For details about the setting see, Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Administration Console.

Recommended actions:
1. From the System Console, set the logging level for the Listener-process to INFO level. This level is required to view messages the Listener service sends to ARM.
2. After changing the log levels, check the Cisco_Home\eService\logs\eg_log_Services_Server_Name_Listener-process.log file. Verify that the MEDIA_LOGOUT_IND message is sent for all configured MRDs to Unified CCE. After the agent’s session times out permanently, verify that the MEDIA_LOGOUT_IND message is going to Unified CCE to terminate the agent’s session.

Cause 2: Synchronization of Agent Login State Fails
Synchronization of agent login state between Unified CCE and Unified EIM and WIM goes out of synch when the MEDIA_LOGOUT_IND event is not reported to Unified CCE when the agent logs out from Unified EIM and WIM. Reporting fails because the agent is still shown as logged in within Unified CCE, but in Unified EIM and WIM, the agent has logged out. Agent logout from Unified EIM and WIM should trigger a MEDIA_LOGOUT_IND for logging out the agent from Unified CCE. Failure in sending the logout message to Unified CCE results in an incorrect agent state, and subsequent activity assignment to agent from Unified CCE continues.

Recommended actions:
1. From the System Console, set the logging level for the Listener-process to INFO level. This level is required to view messages the Listener service sends to ARM.
2. After changing the log levels, check the
Cisco_Home\eService\logs\eg_log_Services_Server_Name_LISTENER-process.log file.
Verify that the MEDIA_LOGOUT_IND message is sent for all configured MRDs to Unified CCE.

3. Check for any log message logged at the ERROR level. If there are any log messages logged at the ERROR
level, capture all the Listener process logs and send the log files to Cisco TAC.

**User Interface Issues**

**Symptom 1: Blank Consoles Displayed**

Unified EIM and WIM console loads and appears as **Done** in the status bar, however the applet doesn’t load
despite resizing the window. Unified EIM and WIM application consoles are loaded but display white screen.

**Recommended actions**

1. Check the JRE version on the agent desktop and make sure that the correct one is used.

2. Enable Java console logs from Control Panel > Java > Advanced tab > Java console and enable Show
console and recreate the problem. Check for applet loading exceptions in the console logs.

3. Click on CTRL+Shift+W to launch the debugger. Select **Display loaded applets** to check how many applets
are loaded in the console. Here is an example of the expected output. The loaded applets should not be less
than Num applets.

   Num Applets -> 1
   Num loaded applets -> 1

4. Close the browser instance, clear both browser and java cache, and log in to the application again.

**Further analysis:**

If the issue persists after logging in again,

1. Capture Java console logs and look for exceptions pertaining to the applet.

2. Capture the HttpWatch or Fiddler traces by performing the actions that lead to the white screen with
hourglass on the console. For details about these tools, see “Fiddler or HttpWatch” on page 26.

   a. Check for aborted or 4XX or 5XX requests for JSP or JS.

   b. Check for any network connection errors.

   c. Check the total time taken by JSP requests to fetch data from server.
Symptom 2: Hourglass Appears While Performing Certain Actions in Consoles

An hourglass appears while performing certain actions in the consoles.

Certain actions like clicking the Refresh button, using the spelling checker, clicking the Pull, Transfer, Send, Send and Complete buttons, etc. lead to the UI freezing. Sometimes these actions may take longer than usual.
**Cause 1: Agent Desktop Not Configured Properly**

The agent’s desktop is not configured according to the *Cisco Unified Web and E-Mail Interaction Manager System Requirements* and the *Cisco Unified Web and E-Mail Interaction Manager Browser Settings Guide*.

**Recommended Action**

- Follow these guides and validate that the agent’s desktop has the correct JRE and Internet Explorer versions, and that all the browser settings have been configured properly. If not, correct these and check if the issue is fixed after making these changes.

**Cause 2: Internet Explorer Browser Hangs**

When certain actions are performed by the user, the Internet Explorer browser hangs or freezes and the application does not recover from the freeze. The Internet Explorer browser process itself is hung and the application becomes unresponsive.

**Recommended actions**

1. Try to launch the UI debugger and choose the option **Set default cursor > Run**. This changes the cursor from the hour glass (which prevents any user clicks) to the default cursor. Try performing some actions in the console. This step helps establish if the browser instance itself is unresponsive or the Unified EIM and WIM console is unresponsive and can be recovered by setting the cursor to default.

2. If the UI debugger cannot be launched, close all the Internet Explorer browser instances, clear the browser cache, clear the Java JAR cache from **Control Panel > Java > General > Temporary Internet Files > Settings > Delete Files**, and log in to the application again.

**Cause 3: Other Applications on User Desktop Using High CPU**

Other applications running on the agent’s desktop are consuming high CPU. Because of this, Unified EIM and WIM application does not get enough CPU and the agent experiences slowness. The browser may hang.

**Recommended actions**

1. Start the Task Manager and check if the CPU usage for applications other than Unified EIM and WIM is higher than 75%.

2. Stop the application that is consuming high CPU and see if this resolves the issue.
**Cause 4: Other Applications on User Desktop Using High Memory**

Other applications running on the agent’s desktop are consuming the majority of available memory.

**Recommended actions**

1. Start the Task Manager and from the Performance tab check if the available memory is less than 100 MB.

2. Stop some applications running on the desktop and see if you can free up 100 MB memory.

**Cause 5: Application Using High CPU and Memory on User Desktop**

The Unified EIM and WIM application running on the user desktop is using high CPU and memory.

**Recommended actions:**

1. Start the Task Manager and check if the CPU usage of Unified EIM and WIM is higher than 75%. Check if the Memory usage of the Unified EIM and WIM IE process is more than 275 MB.

2. Refresh the Unified EIM and WIM console by clicking the **Refresh** button in the Console toolbar and see if the memory and CPU usage reduces.

3. Close all the Internet Explorer browser instances, clear the browser cache, clear the Java JAR cache from **Control Panel > Java > General > Temporary Internet Files > Settings > Delete Files** and log in to the application again.

**Further actions:**

Collect the following information and send the information to Cisco TAC.

1. Capture the HttpWatch or Fiddler traces by performing the actions that lead to the hourglass on the console.

2. Capture the following screen shots of the Windows task manager:
3. Capture the Internet Explorer version, JRE version (Control Panel > Java > General > About), and system configuration information from My Computer > Properties > General.

**Cause 6: Issues on Server Side**

If the slowness is not confined to a particular agent desktop, but is observed by all the users working on the application, there could be a server side issue that is causing the slowness.

**Recommended actions:**

1. Ensure that for the given load, the hardware meets the requirements described in the Cisco Unified Web and E-Mail Interaction Manager Solutions Reference Network Design Guide.

2. On the application server from where the user is logged in, validate if any processes other than the Unified EIM and WIM java process are taking up the memory or CPU. Stop such applications and see if it resolves the problem. As a general guideline, on the server, java processes should not be consuming more than 1.6 GB of virtual memory space.

If the deployment uses a load balancer, you can find the application server on which the user is logged in by using the following query. The query provides the name of the application server used by the user in the server_name column.

```sql
select b.user_id, u.user_name, a.license_id, a.product_name, a.module_name, a.license_policy, s.server_name, c.* from egpl_license_user_consumption c
inner join egpl_license_user_assignment b
on b.pkey = c.userlicense_key
inner join egpl_license a
on a.pkey = b.license_key
inner join egpl_user u
on b.user_id = u.user_id AND u.user_name = User_Name
left outer join egpl_server_status s
on c.server_key = s.pkey
```

Where `User_Name` is the user’s log in username.

**Cause 7: Database Issues**

If the slowness is not confined to a particular agent, and if the issue is not on the application server, then there is a possibility that there are some issues on the database.

**Recommended actions:**

1. Note if the application is generally slow or if there are any particular actions in the user interface that cause slowness.

2. Refer to the database troubleshooting guidelines for debugging this further. Look for DB queries that are taking a long time and if there are deadlocks on the database. See Database Issues on page 141.
Further Actions

If none of the recommended actions solve your problem, collect data using the following tools and send the information to Cisco TAC.

For details on running these tools, see “Troubleshooting Tools” on page 18.

1. Run the following tools and access the application again. If there are specific actions that are causing the browser to freeze, repeat the actions to recreate the problem and capture the information using these tools.
   - HttpWatch or Fiddler traces
   - UI debugger logs
   - JavaConsole logs
2. Also, send the log files: `eg_log_server_Name_Application Server.log` and `egpl_root_Server_Name.log`
3. If the hang is associated with a particular activity or user login, collect the audit trail for that activity or user from the database by running the following queries.
   ```sql
   select cast(dateadd(ss,event_date/1000,'1/1/1970')as datetime),* from egpl_event_history_case_mgmt where activity_id = ACTIVITY_ID order by event_date
   select cast(dateadd(ss,event_date/1000,'1/1/1970')as datetime),* from egpl_event_history_user where user_id = USER_ID order by event_date
   ```
4. Details of the tasks the user was performing in the console when the issue was observed.
5. If the issue is related to the application server or database, then do the following:
   - Collect the thread dump and the CPU usage for the JBoss application server where the slowness is being observed.
   - Collect the JBoss thread status for the application server.
Unified CCE Configuration Issues

- Overview
- Configuration Issues
Overview

Accurate Unified CCE and Unified EIM and WIM configurations are critical to the successful startup of integration services (i.e., Listener & EAAS), activity assignments, and task management. This section covers various failure scenarios that may arise due to missing or incorrect Unified CCE or Unified EIM and WIM configurations.

For more information about how the integration is configured and to understand the relationship between objects in Unified CCE and Unified EIM and WIM, see the Cisco Unified Web and E-Mail Interaction Manager Deployment and Maintenance Guide.

Configuration Issues

Symptom 1: Listener Instance Stuck in “Connecting to CTI server” State

While starting the Listener service instance from the System Console it is observed that the service stays in “Connecting to CTI server” status and the state does not change to “Running”.

Cause: Incorrect Application Path in ICM for the Peripheral Gateway (PG)

Application Path configuration is done through the ICM Configuration Manager for the PG that the Listener Instance uses to connect to the CTI server. The Listener instance is configured in the Unified EIM and WIM Administration Console and mapped to the intended PG. If the Application Path members for the Application Path configuration are modified after deployment, for example, configured for an incorrect PG in ICM (one that is not used in the Unified EIM and WIM Listener instance configuration), the Listener instance will not be able to connect to the CTI server. As a result, the Listener instance’s state in the user interface will be stuck in a Connecting state. When successfully connected to the CTI server, the correct state for Listener instance is Running.

If the Application Path configuration in ICM is incorrect, or missing, the OPEN_REQ request sent from the Listener Instance to the CTI server will be rejected with a FAILURE_CONF by the CTI server.
Recommended actions:

1. Verify that the Application Path in ICM is configured with the correct PG and has the right Application Path Members used for activity routing. Note that an Application Path Member is a Peripheral–MRD pair, and all combinations of Peripheral–MRD for the given PG must exist as Application Path Members for the given Application Path.

2. Ensure that the Listener instance in the Administration Console is configured to use the correct Agent PG for which the Application Path is configured in ICM. When configured correctly with the correct Agent PG, the Listener instance state will transition to Running.

Symptom 2: Listener Instance Stuck in “Connecting to CMB” State

Cause: Incorrect Cisco Media Blender Configuration for Listener Instance

Listener instance uses Cisco Media Blender for Blended Collaboration (BC) activity routing and task management. For a successful Listener Instance startup, this requires correct CMB configuration at the Listener instance level. Failure in the Listener instance being able to connect to CMB will consequently result in the failure of BC activity routing, and the state in the user interface displays Connecting CMB indefinitely.

The following configurations are required for CMB:

1. Agent PG, IP Side A, and Port Side A configurations need to be configured for the Listener Instance.
2. The properties file `IPSideA_PortSideA.properties` at `Cisco_Home\config\cmb` should have the same IPSideA and PortSideA values that are configured for the Listener instance.

3. CMB configurations must be updated in the `Collaboration.properties` file at `CMB_Install_Dir\CiscoMB\servlet\Properties\Blender`.

**Recommended Actions**

1. Verify if an alert message is shown in the CMB Administration Console indicating connectivity issues with the host (Listener instance).

2. When an incorrect file name is provided in the Listener instance configuration for CMB, the following popup is shown while trying to start the Listener instance:

   **CMB Configuration file is not available. Listener Instance cannot be started.**

   Verify that the IPSideA and PortSideA values provided in the CMB parameters configuration for the Listener Instance exactly match with the file name of the configuration file in `Cisco_Home\config\cmb`.

3. Verify the Remote Password and Local Password in the properties file, `Cisco_Home\config\cmb\ipaddress_port.properties`, in Cisco Interaction Manager. Note that the Remote Password provided in Cisco Interaction Manager should match the Local Password configured on the CMB server.

4. Verify and match the IP Address of the CMB server in the properties file, `Cisco_Home\config\cmb\IPSideA_PortSideA.properties`.

**Symptom 3: MR PIM Stuck on “Attempting to Connect to MR Application…”**

**Cause: MR PIM Port Does not Match EAAS Instance Port**

Incorrect MR PIM configuration in ICM or for the EAAS Instance can lead to connectivity issues between the MR PIM and EAAS, resulting in the following repetitive message in the MR PIM console: **Attempting to connect to MR application…**
Persistent message Attempting to connect to MR application...

In Unified EIM and WIM, the MR Connection Port for the EAAS instance is provided in the System Console at the partition level.

**MR Connection Port**

This is the port using which the EAAS server socket starts and the MR PIM will attempt to connect to the EAAS.

In ICM, the port number for MR PIM connection is provided by running/editing the ICM setup configuration for MR PG.
**Recommended actions:**

1. From the System Console, ensure that the EAAS service process and instance are running. Start them if required.

2. Ensure that the Hostname/IP address provided in the MR PIM console is the same server where the EAAS service is hosted, that is, the Cisco Interaction Manager services server.

3. Ensure that the MR PIM port number is the same as the port number configured for the EAAS instance.

4. Ensure that the port is free and available to use by MR PIM and EAAS.

5. Verify (from the MR logs) that an OPEN_REQ is sent from MR PIM to the EAAS, and that EAAS responded with OPEN_CONF. This ensures that the connectivity and communication are OK.
Retriever Issues

- Overview
- Email Retrieval Issues
- Email Parsing Issues
Overview

The retriever service is a mail client that fetches incoming emails into the application from POP3 or IMAP mail servers. A set number of emails, defined in the partition level setting Number of Emails to Retrieve, are fetched for each alias at a time. The default number is 10. Once emails are fetched into the application, an email activity is created in the database for each incoming email. Problems that the Retriever might encounter are described in this chapter.

For more information about the Retriever Service, see the Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console.

Email Retrieval Issues

Symptom 1: Agents Not Receiving Email

Emails are not being retrieved. This could happen for one of the following reasons.

Cause 1: Alias Not Added to Retriever Instance

The alias has not been added to a retriever instance. This will affect all agents who work on emails sent to the alias, as new emails will not be fetched from the mailbox for that particular alias. No emails from that alias will be seen in the system. If the email retrieval issue is sporadic, or if some agents have received emails sent to this alias, this is not the likely cause of the issue.

Recommended action:

- From the System Console, check if the alias has been added to a retriever instance.

  Whenever a new alias is created in a department from the Administration Console, the alias should be added to the retriever instance and the retriever instance must be restarted.

Cause 2: Retriever Service Not Running

The retriever service process and instance are not running. This will affect all email agents as no new emails are fetched into the system.

Recommended action:

- From the System Console, ensure that retriever processes and instances are running.
**Cause 3: Alias Not Configured Properly**

The alias is not configured properly or there is some problem with the alias. This will affect all email agents as no new emails are fetched into the system.

**Recommended actions**

1. Check the retriever log file for errors. The following log messages are recorded in the Cisco_Home\eService\logs\eg_log_Services_Server_Name_rx-process.log file when this issue occurs.

   If POP3 or IMAP server information is not correct, the following exception is logged:
   
   ```
   javax.mail.MessagingException: Connect failed;
   java.net.UnknownHostException: <POP3_Server>
   ```

   If the username or password is incorrect, the following exception is logged:
   
   ```
   javax.mail.AuthenticationFailedException: Logon failure: unknown user name or bad password
   ```

2. From the Administration Console, check the following alias configuration:
   
   a. Check the server information provided for the POP3 or IMAP server.
   
   b. Check the usernames and passwords set for the alias.
   
   c. Ensure that the alias is active. Emails are not retrieved from inactive aliases.

3. To check the validity of the alias details, do the following.

   For POP3 servers, do the following:
   
   a. Telnet to POP3 server using the following command (110 is the port number of the POP3 server):

   ```
   telnet Server_Name 110
   ```

   b. To check the login credentials, do the following:

   Type the following for the user name:
   ```
   User User Name
   ```

   c. Type the following for the password:

   ```
   Pass Password
   ```

   It should return OK if the login credentials are correct.

   For IMAP servers, do the following:
   
   a. Telnet to IMAP server using the following command (143 is the port number of the IMAP server):

   ```
   telnet Server_Name 143
   ```

   b. To check the login credentials, do the following:

   ```
   login User Name Password
   ```

   It should return OK LOGIN Completed if the login credentials are correct.
**Addition Information**

Instance Monitors are very useful while debugging such problems through the user interface. It displays useful information including the aliases configured in the instance, their states (Active, Inactive, Login failed, Disabled, or Connection Failed), the state of the instance, the start time, last run time, activities processed in the last run (in the last cycle), pending activities, and the throughput. From the System Console, configure and run monitors for the retriever instances. (See Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console for steps to create a monitor). Using the monitors, check the following attributes.

- Check when the retriever was last run (the Last Run Time attribute will give you this time). If this is more than a few minutes prior to the current time, it indicates that the instance is not running as expected. This could be due to a problematic email, or because the retriever has network connection problems.

- For the aliases configured for the retriever, check the state of the alias. It can be one of the following.
  - **Active**: The alias is set as active and is working fine.
  - **Inactive**: The alias is set as inactive from the Administration Console.
  - **Login failed**: Authentication failures while connecting to the mailbox. This may be due to wrong username or password entered while creating the alias.
  - **Disabled**: If there are consecutive authentication failures while connecting to the mailbox, the alias is disabled. In such a case the service stops attempting to connect to the mail server using that alias.
  - **Connection failed**: Not able to connect to the mail server. This can happen because of a number of reasons. Check the following:
    - First check the mail server hostname and IP address configured for the alias. The hostname may have been changed after the alias was configured, and the alias configuration may need to be updated from the Administration Console.
    - Second, check if the mail server is functioning normally.
    - If the mail server is up, then check if the POP3 or IMAP services are running on the mail server.

**Cause 4: Retriever Service Hangs**

The retriever service may hang if it does not receive a response from the Mail Server.

**Recommended action:**

1. Run the following query on the Master database to get the instance_id for the retriever instance:

   ```sql
   select instance_id from egpl_dsm_instance where instance_name like 'RxInstanceName'
   ``

   where `RxInstanceName` is the name of the retriever instance in the system.

2. Check the retriever log file for errors. The following log message is recorded in the
   ```
   Cisco_Home|eService|logs\eg_log_Services_Server_Name_rx-process.log
   ``

   file when this issue occurs.

   ```
   Rx Instance <instance_id> status is FALSE
   ```
3. Make sure that the value of the IO timeout setting for retriever is not more than 15 minutes (default retriever failover delay). The Rx.IOTimeOut setting is available in the 
   Cisco_Home\eService\config\egml_mailconfig.properties file (default value is 30000 milliseconds)
4. From the System Console, restart the retriever service process and instance.

Symptom 2: Administrator Gets “Large Email has Been Received” Notification

The following email notification is received by the email address defined in the partition setting TO: address for notifications from services:

   Subject: 
   eGain Retriever - large email has been received!!

   Content:
   Email was too large. It has not been retrieved from the mail server (it has been skipped).

   Email details:
   Addressed to: Original email TO addresses
   Sent by: Original email FROM address
   Email subject: Original email subject

Cause: Email Size is Larger Than 'Maximum Email Size' Setting

The retriever has the ability to skip or delete emails that are large in size, or have large attachments. The exact size is specified in the setting Maximum email size for Retriever. Such emails are either skipped or deleted from the POP3 server based on the action defined by the preference setting Action for large email.

Recommended Actions

1. Telnet to the mail server and check the size of the email by using the list command.
2. If you wish to retrieve the large email, go to the Administration Console and increase the value of the partition level setting Maximum email size for Retriever to be larger than the size of the email.
3. Restart retriever process and instance from the System Console.
Symptom 3: Attachments Missing From Emails

Attachments are missing from the incoming emails. Either the attachments do not show with the email, or they show as blocked attachments.

**Cause: Particular File Extensions are Blocked**

This could happen when particular file extensions are blocked for a department, and the department level settings are configured to delete such attachments or quarantine them.

**Recommended action:**

1. In the Administration Console, in the Tree pane, browse to Department_Name > Email > Blocked File Extensions. Check the list of blocked file extensions.
2. Check the department level setting Action on blocked attachments. If the value of the setting is Delete, then all the blocked attachments are deleted. If the value of the setting is Quarantine, then the attachments get saved at a different location and can be restored or deleted. In the Tree pane, browse to Department_Name > Email > Blocked File Extensions. From the List pane toolbar, click the Blocked attachments button, to see a list of activity IDs and files names of the blocked attachments. If required, restore the blocked attachments, or delete them.

Symptom 4: Emails Retrieved Very Slowly

**Cause 1: Database Slowness**

Emails are retrieved very slowly possible because of database slowness. If database queries take more than 10 seconds to execute, they are logged in to the Cisco_Home\eService\logs\eg_log_dal_connpool_services_server_rx-process.log file. Such entries indicate database slowness.

**Recommended Action**

- Refer to the Database troubleshooting guidelines to debug this further. See “Database Issues” on page 141.

**Cause 2: Services Server and POP3 Servers are on Different Networks**

Services Server and POP3 server are on different networks or in different geographies. The downloading of email content and attachments takes time in such cases, causing overall slowness.

**Recommended Action**

1. Run the following commands to check if there are connection issues:
   
   For POP3 servers, do the following:
   a. Telnet to POP3 server using the following command (110 is the port number of the POP3 server):
      ```
telnet Server_Name 110
      ```
   b. To login, do the following:
Type the following for the user name:

**User** [User Name]

c. Type the following for the password:

**Pass** [Password]

d. Run the following commands and see if the response is returned instantly. If not, it indicates the connection between the services server and POP3 server is slow.

To get status of number of messages:

**STAT**

To list messages along with their size:

**LIST**

For IMAP servers, do the following:

a. Telnet to IMAP server using the following command (143 is the port number of the IMAP server):

```
telnet Server_Name 143
```

b. To login, do the following:

```
login [User Name] [Password]
```

c. Run the following commands and see if the response is returned instantly. If not, it indicates the connection between the services server and IMAP server is slow.

```
SELECT INBOX
FETCH 1 full
```

The recommendation is to keep the Services Server and POP3 server in the same network and geography.

---

**Email Parsing Issues**

**Symptom 1: “Email Reading Failure” Notification Sent to Administrators**

When there are parsing failures while retrieving emails, a notification **Retriever - Email Reading Failure** is sent to the email address configured in the partition level setting **To: Address for Notifications From Services**.

**Cause: Retriever Unable to Parse Email**

This could happen because of one of the following reasons.

- Messages are not according to RFC 822 message standards. For example, **Content type** field is missing from the message header.
- Message ID is missing.
- There is no start boundary.
The mail header character set value is not recognized by Java Mail. For example, it contains characters like “iso 8859-1” where as the correct format is “iso-8859-1”.

When the retriever is unable to parse emails, emails are inserted in raw format in the
Cisco_Home\eService\storage\Partition_ID\mail\Exception Emails\RxExcepEmails.txt file.

**Recommended actions:**

1. Check the retriever log file for errors. The following log message is recorded in the
Cisco_Home\eService\logs\eg_log_Services_Server_Name_rx-process.log file when this issue occurs.
   - com.egain.mail.module.retriever.exception.FailedToParseEmailException

2. Collect the following files for the time when the parsing issues were faced and send the files to Cisco TAC for further analysis.
   - Cisco_Home\eService\logs\eg_log_Services_Server_Name_rx-process.log
   - Cisco_Home\eService\storage\1\mail\Exception Emails\RxExcepEmails.txt

**Symptom 2: Emails are Displayed in Plain Text**

Emails in rich text format are displayed in plain text. This happens for emails sent from Microsoft Outlook 2000.

**Cause: Retriever is Unable to Interpret File Format From MS Outlook 2000**

When the Rich Text format is used, Microsoft Outlook 2000 uses a propriety format called TNEF (Transport Neutral Encapsulation Format) to create such emails. Such emails have two parts - a plain-text part that contains the content of the email, and an encoded attachment (generally named Winmail.dat) which contains the formatting information. The retriever is only able to store the plain-text part of the email.

**Recommended action:**

There is a workaround for this in Microsoft exchange server.

- From the Protocol > POP3/IMAP > Message Format tab, enable the setting **Provide message body as HTML**.

  If this setting is enabled, the exchange server itself converts the Rich Text content of incoming emails into HTML, which the retriever is able to parse and save. This setting can either be configured as the default, applied to all aliases, or for each alias separately. This is specific to MS Exchange servers, and other mail servers may not have such a facility.
Dispatcher Issues

- Overview
- Setup and Performance Issues
- Email Dispatch Issues
Overview

The Dispatcher is a service that interacts with an SMTP or ESMTP server to send emails. This chapter discusses problems that the Dispatcher may encounter while trying to send outgoing emails.

To learn more about the Dispatcher service, see the *Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console.*

Setup and Performance Issues

Symptom 1: Dispatcher Service Hangs or Crashes

The Dispatcher service crashes or hangs. If this happens, no emails are sent out of the system. The service can hang because the system has insufficient memory.

Recommended action:

1. Check the dispatcher log file for errors. The following log message is recorded in the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log` file when this issue occurs.

   `Instance Failed. Exiting.. == > <dx_instance_id>, java.lang.OutOfMemoryError`

2. If emails with large content are sent out from the system, adjust the value of the partition level settings *Number of new emails to dispatch* and *Number of retry emails to dispatch* so that less number of emails are picked by the dispatcher. Use the following query to get the size of email contents of top 100 (default batch size of new activities) activities. This size doesn't include attachment sizes. Dispatcher also loads actual attachment content in memory only while sending email. If the total size of the email is 60-70 MB, contents of emails can be considered as large.

   ```sql
   SELECT sum(email.email_size) total_bytes
   FROM (SELECT top 100 a.activity_id, e.email_size
         FROM egml_casemgmt_activity a, egml_email e
         WHERE a.activity_id = e.activity_id
         AND a.activity_status = 7000) email
   ```

3. From the System Console, restart the Dispatcher service processes and instances.
Symptom 2: Unable to Connect to SMTP or ESMTP Server
Dispatcher service is not able to connect to the SMTP or ESMTP server.

Cause 1: SMTP or ESMTP Server Unavailable
If the SMTP or ESMTP server is unavailable, all emails that use this server are not dispatched.

Recommended action:
1. Check the dispatcher log file for errors. The following log message is recorded in the Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log file when this issue occurs.
   java.net.SocketTimeoutException: Read timed out
2. Start the SMTP or ESMTP server.
3. Start the SMTP service.

Cause 2: Connections to SMTP or ESMTP Server Exceed Maximum Number
Connections to the SMTP or ESMTP server have exceeded the maximum number of connections allowed for that server. Emails will not be sent out if the SMTP server does not allow to establish a connection. Typical errors that are seen are:
   > Mail Enable: 451 ESMTP MailEnable Service temporarily refused connection at 04/26/11 12:24:29 from IP (10.10.51.231) because the server is too busy.
   > MS Exchange: 421 4.7.1 - Connection Refused -- Too many connections
This is seen when “tar pitting” is enabled.

Recommended action:
   > Contact your IT administrator to increase the number of connections allowed for the Services Server. For more information on “tar pitting” see http://support.microsoft.com/kb/842851.

Cause 3: Connection Times Out
Intermittently, due to network problems the connection times out while connecting to the SMTP or ESMTP server.

Recommended action:
1. Check the dispatcher log file for errors. The following log message is recorded in the Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log file when this issue occurs.
   java.net.ConnectException: Connection refused:
If this exception is observed frequently, you can change the value in of the DX.SocketTimeout setting. If you do not want to increase this value, the Dispatcher will again try to connect and send emails in the next cycle after 30 seconds.
2. In the Cisco_Home\eService\config\dispatcher\egpl_dispatcherconfig.properties file, increase the value of the DX.SocketTimeout setting. The default value is 5 minutes. You can increase it up to 10 minutes.

3. Restart the Dispatcher Service process and instance after changing the setting.

### Email Dispatch Issues

#### Symptom: Emails Not Dispatched

Emails are not dispatched. If the system is configured to notify administrators when the activities that not dispatched reach a certain number, an email notification is sent by the system.

#### Cause 1: Incorrect SMTP or ESMTP Information

While configuring the alias in Unified EIM, incorrect server information is provided for the ESMTP or SMTP server. If this information is incorrect, all emails that use this server are not dispatched.

**Recommended action:**

1. Check the dispatcher log file for errors. The following log messages are recorded in the Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log file when this issue occurs.
   - For SMTP server: javax.mail.MessagingException: Unknown SMTP host x.x.x.x
   - For ESMTP server: javax.mail.AuthenticationFailedException (indicating username and password information is incorrect)

2. From the Administration Console, check the alias configuration. Check the protocol used, the name or IP address of the server, the username and password (for ESMTP server).

#### Cause 2: Port 25 Blocked on Services Server

The virus scanner or the firewall on the services server is blocking port 25. No outgoing emails are sent out if port 25 (default SMTP post) is blocked.

**Recommended action:**

1. Check the dispatcher log file for errors. The following log message is recorded in the Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log file when this issue occurs.

   javax.mail.MessagingException: Could not connect to SMTP host: x.x.x.x, port: 25;

2. Check the firewall or the virus scanner on the services server to ensure that port 25 is not blocked.
Cause 3: Services Server IP Address Blocked on SMTP Server

The email relay for the Services Server IP address is blocked on the SMTP server.

Recommended action:

1. Check the dispatcher log file for errors. The following log message is recorded in the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log` file when this issue occurs.
   - `javax.mail.MessagingException: Could not connect to SMTP host: x.x.x.x, port: 25, response: -1`
   
   The response: -1 differentiates this condition from the previous one.

2. If you find this exception, contact your Mail server administrator to unblock the services server IP address for sending emails.

Cause 4: Emails Considered as Spam by SMTP Server

Emails are refused by the SMTP server because they are considered spam emails, or they have attachments that are restricted at the server. If a particular email address or particular subject is configured as spam on the SMTP server, emails using this address or subject are not dispatched.

Recommended action:

1. Check the dispatcher log file for errors. The following log message is recorded in the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log` file when this issue occurs.
   - `554 Message refused`

2. If you find this exception, contact your IT administrator to remove the email address or subject from the spam list.

Cause 5: Attachments Considered as Malicious by SMTP Server

Emails contain attachments perceived as malicious by the SMTP server. Emails with malicious attachments are not sent out.

Recommended action:

1. Check the dispatcher log file for errors. The following log messages are recorded in the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log` file when this issue occurs.
   - `550-Restricted file-type in attachment`
   - `550-Potentially executable content. If you meant to send this file then please package it up as a zip file and resend it`

   Such emails are marked as permanently undispatchable.

2. If the attachments are valid, then contact your Mail Server administrator to remove such file extensions from the blocked file list. This will ensure that such attachments are not restricted in future. The earlier activity cannot be resubmitted for processing.
Cause 6: Email Size Exceeds Maximum Allowed Size

The server keeps rejecting emails higher than the allowed size. The allowed size is controlled by the partition level setting **Maximum body size for dispatcher**. Outgoing emails that are larger (content+attachments) than the maximum size allowed on the SMTP server are not sent out.

**Recommended action:**

1. Check the dispatcher log file for errors. The following log message is recorded in the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log` file when this issue occurs.
   - 552 Message size exceeds maximum permitted
2. Contact your IT administrator to increase the size limit of emails.

Cause 7: “Read” Permission not Granted on the Storage Directory

In this cases, all emails with attachments will not be sent out.

**Recommended actions:**

1. Check the dispatcher log file for errors. The following log message is recorded in the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log` file when this issue occurs.
   - java.io.FileNotFoundException: <attachment_file_name> (Access is denied)
2. On the file server, for the following folder, assign the read permission to the user account used to run the Unified EIM and WIM application: `Cisco_Home\eService\storage\1\mail\attachments`.

Cause 8: Relaying not Allowed for To Addresses of Emails

Emails are not sent out to email addresses to which relaying is not allowed.

**Recommended actions:**

1. Check the dispatcher log file for errors. The following log message is recorded in the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_dx-process.log` file when this issue occurs.
   - com.sun.mail.smtp.SMTPAddressFailedException: 550 5.7.1 Unable to relay for <TO_address>
2. If the email address is valid, ask your Mail Server administrator to allow relaying for problematic addresses.
Integration Services Issues

- Overview
- Listener Service Issues
- External Agent Assignment Service Issues
Overview

This chapter describes the steps that should be followed to induce problems related to the External Agent Assignment service (EAAS) and the Listener service.

Note: Skip this chapter if your Unified EIM and WIM system is not integrated with Unified CCE.

Listener Service Issues

Symptom 1: “CMB Configuration File Not Available” Error While Starting Listener Service Instance

The following error occurs while starting the Listener Service instance from the System Console:

CMB configuration file not available. Listener instance cannot be started.

Error while starting the listener service instance

Cause: CMB Configuration File Not Configured Properly

CMB properties used by the Listener instance to connect to CMB are configured in the CMB_Host_Port.properties file located at Cisco_Home\eService\config\cmb folder. While starting up, the Listener instance service looks for this file, and if this file is not present, the Listener instance startup will fail.

Recommended actions:

1. On the Unified EIM and WIM server browse to: Cisco_Home\eService\config\cmb and look for the following file: CMB_IP_address_Remote_Registry_Port.properties
2. Make sure that the file is present and it is configured properly.

You can do this by verifying that all the steps described in the “Configuring Cisco Media Blender” section of the Cisco Unified Web and E-Mail Interaction Manager Deployment and Maintenance Guide were followed correctly.
Symptom 2: “Listener Instance Cannot be started” Error While Starting Service Instance

The following error occurs while starting the Listener service instance:

Cisco Interaction Manager Listener Instance cannot be started. Failure in creating Agent PG connection.

Cause 1: Primary IPCC AW Database Not Configured Correctly

If the deployment only has a primary IPCC Administration Workstation Database (AWDB), and the database is not running or not configured properly, this issue can occur.

For recommended actions for this problem, see “Cause 1: Primary IPCC AW Database Not Configured Correctly” on page 52. In Step one, use the log file eg_log_Services_Server_Name_Listener-process.log.

Cause 2: Secondary IPCC AW Database Not Configured Correctly

If the deployment has a primary and secondary IPCC Administration Workstation Database (AWDB), and the primary database server becomes unavailable, the application is unable to connect to the secondary database if the secondary database is not running or is not configured properly.

For recommended actions for this problem, see “Cause 2: Secondary IPCC AW Database Not Configured Correctly” on page 53. In Step one, use the log file eg_log_Services_Server_Name_Listener-process.log.

Symptom 3: Listener Instance Stuck in “Connecting to CTI server” State

While starting the Listener service instance from the System Console it is observed that the service stays in “Connecting to CTI server” status and the state does not change to “Running”. As a result, agents are not able to log in to Unified EIM and WIM.

For cause and recommended actions, see “Symptom 1: Listener Instance Stuck in “Connecting to CTI server” State” on page 64.

Symptom 4: Listener Instance Stuck in “Connecting to CMB” State

While starting the Listener service instance from the System Console it is observed that the service stays in “Connecting to CTI server” status and the state does not change to “Running”. As a result, agents are not able to log in to Unified EIM and WIM.

For cause and recommended actions, see “Symptom 2: Listener Instance Stuck in “Connecting to CMB” State” on page 65.
External Agent Assignment Service Issues

Symptom 1: “Cannot Start EAAS Instance” Error While Starting Service Instance

The following error occurs while starting the External Agent Assignment Service (EAAS) instance:

```
Cannot start EAAS instance at specified port. Specify new port.
```

**Cause: Port Configured for EAAS is Already in Use**

The EAAS instance acts as a server to MR PIM clients. When the EAAS instance is started, it internally starts a socket server listening on a port specified through the MR Connection port settings configured through the EAAS instance properties from the System Console. If the specified port is not free at the services server, the EAAS instance startup will fail.

**Recommended actions:**

1. From the System Console, from the EAAS instance properties, note down the value of the **MR Connection Port** field.
2. Run the following command on the services server to verify that the **MR Connection Port** is free.
   ```
   netstat -an -p tcp
   ```
3. From the results of the command, check the list of the ports in the **Local Address** column. The ports should not match the **MR Connection Port** number.
4. If the port is in use, try using a different port in the EAAS instance and see if the service instance starts.

Symptom 2: “EAAS Did Not Start” Error While Starting Service Instance

The following error occurs while starting the External Agent Assignment Service (EAAS) instance:

```
EAAS Instance did not start since Expanded Call Variables are not registered properly. Please check whether Expanded Call Variables are configured properly and there is database connectivity between Cisco Interaction Manager and Admin Workstation.
```

**Cause 1: Primary IPCC AW Database Not Configured Correctly**

If the deployment only has a primary IPCC Administration Workstation Database (AWDB), and the database is not running or not configured properly, then this issue can occur.

For recommended actions for this problem, see “Cause 1: Primary IPCC AW Database Not Configured Correctly” on page 52. In Step one, use the log file `eg_log_Services_Server_Name_EAAS-process.log`. 
**Cause 2: Secondary IPCC AW Database Not Configured Correctly**

If the deployment has a primary and secondary IPCC Administration Workstation Database (AWDB), and the primary database server becomes unavailable, the application is unable to connect to the secondary database if the secondary database is not running or is not configured properly.

For recommended actions for this problem, see “Cause 2: Secondary IPCC AW Database Not Configured Correctly” on page 53. In Step one, use the log file `eg_log_Services_Server_Name_EAAS-process.log`. 
Email and Workflow Issues

- Overview
- Activity Routing Issues
Overview

When emails come in the system they are processed by workflows. They are routed to users, queues, or other departments based on the various rules configured in the workflow. This chapter describes the various workflow issues because of which activities get routed to the Exception Queue instead of their destination queue or user.

By default, an Exception queue is created in every department. Activities are routed to the Exception queue when one of the following conditions is met:

- There are no active inbound workflows in the department.
- A workflow faces an error while processing activities.
- The queue used in a workflow is made inactive. All the activities coming to the inactive queue are routed to the exception queue.
- Emails are bounced back.
- A new_task_failure message is returned by Unified CCE.

To learn more about workflows and routing, see the Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Routing and Workflows.

Activity Routing Issues

A Note About Routing

In integrated systems, activities of type=1 and sub_type=1 are the only activities processed by EAAS and sent to Unified CCE. If the start workflow is modified to allow emails which meet exception conditions such as undeliverable emails, out of office replies etc., these will remain in the integrated queue, and are not sent to Unified CCE since the sub_type of these emails is not 1.

Symptom 1: Activities Routed to Exception Queue

Activities are not processed by workflows and are routed to the Exception queue.

Cause 1: Inbound Workflow Does Not Exist

For a particular email alias, the inbound workflow is not configured correctly to route activities. It is also possible that the workflow does not exist.

Recommended actions

1. From the Administration Console, browse to Department_name > Workflows, and check to make sure that a workflow is configured for routing activities.
2. Check all the workflows in the department to see if a workflow exists for the alias. You can verify this by looking at the Start node of Inbound workflows.
3. If the workflow exists, make sure it is Active. You can check this from the General tab of the workflow.

4. If the workflow does not exist, create one.

**Cause 2: End Node in Inbound Workflow is an Inactive Workflow**

When one workflow is configured to route activities to another workflow, the workflows are chained together. For routing to occur properly, all the workflows in the chain need to be active. If the terminating node in the inbound workflow is another workflow that is not active, activities are routed to the Exception queue.

**Recommended actions:**

1. Check the Cisco_Home\eService\logs\eg_log_Services_Server_Name_rules-process.log file for a statement like "RulesEngine could not route to the chained workflow as the chained Workflow Name = <active inbound workflow name>”

2. If the log statement exists, log in to the Administration Console and in the inbound workflow, check if the chained workflow is selected in the Add existing workflow node.

3. If the chained workflow is not displayed in the Add existing workflow node, it means that the workflow was made inactive. Access the workflow and make it active.

**Cause 3: Transfer Node in Inbound Workflow is an Inactive Workflow**

When the workflow is configured to route activities to a workflow in another department, the Start workflow – transfer workflow needs to be made active in the other department. If the workflow is made inactive, activities are routed to the Exception queue.

**Recommended actions**

1. Check the Cisco_Home\eService\logs\eg_log_Services_Server_Name_rules-process.log file for statements like "RulesEngine could not Transfer this activity because there is no Active Transfer Workflow in that department: Workflow Name = <active inbound workflow name>”

2. If the log statement exists, log in to the Administration Console and in the inbound workflow, check if the workflow from the other department is selected in the Add existing department node.

3. If the workflow is not displayed in the Add existing department node, it means that the workflow was made inactive. Go to the other department, access the Start workflow – transfer workflow and make it active.

**Cause 4: Inactive Queue in Inbound Workflow**

A queue to which the workflow is expected to route activities has been made inactive and as a result activities are routed to the Exception queue.

**Recommended actions**

1. Check the Cisco_Home\eService\logs\eg_log_Services_Server_Name_rules-process.log file for statements like "Routing Engine failed to route to Queue <Queue name> as Queue is Inactive"
2. If the log statement exists, log in to the Administration Console and in the Workflows > Queue node, check if the queue used in the workflow is inactive.

3. Make the queue active and see if it solves the problem.

**Cause 5: Emails are Bounced Back**

When the retriever picks up an email, it checks it for delivery exception words and phrases configured in the system. If the email address or subject contains any of those words, the activity subtype is changed to **Email-permanent undeliverable** or **Email-temporary undeliverable**, based on the failure type configured for that word or phrase. The email activity is sent to the Exception queue by the Standard Start Workflow.

**Recommended actions:**

1. Run the following query on the `egpl_casemgmt_activity` table:
   ```sql
   select activity_sub_type from egpl_casemgmt_activity where activity_id=activity_ID
   ```
   Check the value in the `activity_sub_type` column. If the value is 4 or 5, it means that the email is considered as a bounced back email and it has been routed to the Exception Queue.

2. In the Administration Console, browse to Department_Name > Email > Email Delivery Exception. Check the list of email delivery exceptions to see if any of the words that are part of this list present in the “Subject” or the “From email address” fields of the email.

3. If you do not want the phrase to be considered for delivery exceptions, delete it from the list.

**Cause 6: Database Queries for Workflow Taking Long Time**

When the Workflow Engine service processes an email, the database queries for the workflow run over the allocated time, and the execution of such queries is cancelled. As a result, the workflow is unable to finish processing activities and routes them to the Exception queue.

The allocated time for the queries is defined in the `query_cut_off_time` property available in the `Cisco_Home\eService\config\egpl_master.properties` file.

**Recommended actions:**

1. Check the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_rules-process.log` file for log statement like “Deadlock inspector has cancelled the query”.

2. If such exceptions are observed, refer to the database troubleshooting guidelines. See Database Issues on page 141.

**Cause 7: NEW_TASK_FAILURES Message With Different Reason Codes**

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**Note:** Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

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When email activities are sent to Unified CCE by EAAS for routing, Unified EIM expects a **Do_This_With_Task** message with an available agent’s ID for successfully routing the email activity to an
agent. When Unified CCE does not send a Do_This_With_Task message but sends a New_Task_Failure message, emails are not routed to agents. Such emails get routed to the Exception queue.

New_Task from Unified EIM and WIM can fail due to issues in ICM router configurations. The reasons for failure can be identified from the New_Task_Failure message for the New_Task in the MR PG logs.

**Recommended actions:**

1. Run the following query on the Cisco Interaction Manager Active database:

   ```sql
   Select * from egpl_casemgmt_activity where activity_sub_status = 1 and assigned_to = -1
   ```

   It will give a list of email activities that are not assigned to any agent.

2. From the MR PG logs available in Unified CCE, look for the dialogueID for the activities you identified in Step 1. The message will look like this:

   ```plaintext
   Message = NEW_TASK; Length = 84 bytes
   DialogueID = (3) Hex 00000003 (the dialogueID is displayed in this line)
   SendSeqNo = (1) Hex 00000001
   MRDomainID = (5010) Hex 00001392
   PreviousTask = -1:-1:-1
   PreferredAgent = Undefined
   Service = (0) Hex 00000000
   CiscoReserved = (0) Hex 00000000
   ScriptSelector: SS_Email_MRD_Ravi
   ECC Variable Name: user.cim.activity.id Value: 1138 (the activity ID is displayed in this line)
   ```

3. In the same MR PG log file, search for the DialogueID you noted down in Step 2 and look for the NEW_TASK_FAILURE_EVENT message and the ReasonCode for the DialogueID. For example, the message will look like:

   ```plaintext
   Message = NEW_TASK_FAILURE_EVENT; Length = 12 bytes (the NEW_TASK_FAILURE_EVENT is displayed in this line)
   DialogueID = (3) Hex 00000003 (the dialogueID is displayed in this line)
   SendSeqNo = (1) Hex 00000001
   ReasonCode = (209) Hex 000000d1 (the ReasonCode is displayed in this line)
   ```

   Some of the common NEW_TASK_FAILURE reason code are described here. For details of the Reason code, refer to the "Reason Code" section of the document: Cisco MR Interface Specification.
   - Reason Code 205: ICM Times out before finding an agent. Verify the ICM scripts used for email routing for any unwanted wait nodes.
   - Reason Code 206: Invalid dialed number or script selector.
   - Reason Code 204: Invalid MRD ID. The MRD ID mentioned in the NEW_TASK message is not found in ICM.
These reason codes will help you identify the problems in Unified CCE. Fix these problems and see if new incoming activities are routed to agents.

Further Analysis

If none of the above mentioned recommended actions solve your problem, then collect data using the following tools and send the information to Cisco TAC.

1. Cisco_Home\eService\logs\eg_log_Services_Server_Name_rules-process.log
2. Cisco_Home\eService\logs\eg_log_Services_Server_Name_rules-cache-process.log
3. Get details of the notes attached to the activity from the egpl_notes table.
   
   ```
   select * from egpl_notes where note_of_id = Activity_ID
   ```
   
   Note: Value of the Note_of_ID column is the ID of the activity.

4. If possible, set the logging level of rules process to INFO. This level logging gives you information about the workflow executed on the activity as well the sequence of nodes and rules executed on the activity.

5. Collect the Audit trail of the activity by doing one of the following:
   
   ○ Search for the activity from Search window of the Agent Console.
   ○ Run the following query on egpl_event_history_case_mgmt table.

   ```
   select cast(dateadd(ss,event_date/1000,'1-1-1970') as datetime) as EVENT_TIME, * from egpl_event_history_case_mgmt where activity_id = Activity_ID order by event_date
   ```
   
   Note: Value of the Rule_ID column is the ID of the workflow applied on that activity.

6. Run the following queries and gather data using these queries:
   
   ○ Select * from egpl_casemgmt_activity where activity_id = Activity_ID
   ○ Select * from egml_email where activity_id = Activity_ID
   ○ Select * from egml_email_data where email_id = (select email_id from egml_email where activity_id = Activity_ID)

   ```
   select cast(dateadd(ss,event_date/1000,'1-1-1970') as datetime) as EVENT_TIME, * from egpl_event_history_case_mgmt where activity_id = Activity_ID order by event_date
   ```
   
   ○ Select * from egml_email_address where email_id = (select email_id from egml_email where activity_id = Activity_ID)
   ○ Select * from egml_email_attachment where email_id = (select email_id from egml_email where activity_id = Activity_ID)
   ○ Select * from egpl_workflow_association where workflow_id = (select workflow_id from egpl_workflow where workflow_name = 'Workflow_Name')
   ○ Select * from egpl_workflow_association_ex where workflow_id = (select workflow_id from egpl_workflow where workflow_name = 'Workflow_Name')
   ○ Select * from egml_mailhost

7. For Messaging Server issues, provide all logs from the Cisco_Home\eService\logs folder.

8. From Unified CCE, provide the MR PG logs.
Symptom 2: Activities Not Routed to Agents

Emails are getting created but are not getting assigned to agents. This could happen for the following reasons.

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

**Cause 1: Primary IPCC AW Database Not Configured Correctly**

The deployment only has a Primary IPCC Administration Workstation Database (AWDB) and the database is not running or is not configured properly, then this issue can occur.

For recommended actions for this problem, see “Cause 1: Primary IPCC AW Database Not Configured Correctly” on page 52.

**Cause 2: Secondary IPCC AW Database Not Configured Correctly**

If the deployment has a primary and secondary IPCC Administration Workstation Database (AWDB), and the primary database server becomes unavailable, the application is unable to connect to the secondary database if the secondary database is not running or is not configured properly.

For recommended actions for this problem, see “Cause 2: Secondary IPCC AW Database Not Configured Correctly” on page 53.

**Cause 3: IPCC AW Database Connection Pool Limit Exceeded**

There is a limit to the number of connections that can be made to the IPCC AWDB. If this limit exceeds the configured limit, the JDBC calls to the IPCC AWDB will fail and operations will terminate.

For recommended actions for this problem, see “Cause 3: IPCC AW Database Connection Pool Limit Exceeded” on page 53.

**Cause 4: ECC Variables Not Configured Properly**

This problem can happen because of issues with configuration of ECC variables and Call variables in Unified EIM and WIM and in Unified CCE.

ECC and Call variable are required for successful routing of activities. If ECC and Call variables are not correctly configured in Unified EIM and WIM and in Unified CCE, then activities will not be routed correctly to agents. Unified CCE can either completely reject the NEW_TASK_REQ messages for activities routing, or can route activities to incorrect agents if correct ECC and Call variables are not passed as part of NEW_TASK_REQ message.

**Recommended actions:**

1. There are four required ECC variables that need to be configured in Unified CCE for successful routing of activities. Find the names of these variables from the Cisco Interaction Manager configuration file Cisco_Home\cisco\eService\config\ipcc\egicm_ecc_variables_name.properties.
user.cim.activity.id
user.wim.customer.name
user.cisco.cmb
user.cisco.cmb.callclass

The NEW_TASK_REQ message will fail if any of these ECC variables are removed from the Unified CCE configuration or are modified in the Cisco Interaction Manager configuration file.

2. ECC variables defined in the configuration file are mapped to ECC variables configured in Unified CCE through the EGICM_CALL_VARIABLE table in the Active Database. The following configurations are required for email, chat, and blended collaboration routing:
   - Email: user.cim.activity.id ECC variable mapped to activity_id
   - Chat: user.cim.activity.id ECC variable mapped to activity_id
   - Blended Collaboration:
     - user.cim.activity.id ECC variable mapped to activity_id
     - user.cisco.cmb ECC variable mapped to cmb_param
     - user.cisco.cmb.callclass ECC variable mapped to cti_strategy

3. From the Administration Console, check if the correct ECC variable and Call variables are configured for the queue from which activities are not getting routed to the agents.

4. Compare the names of the ECC variables in Unified EIM and WIM and in Unified CCE. The names should match exactly.

5. If any ECC variable (other than the four required ECC variables mentioned in Step 1) is deleted and recreated with the same name in Unified CCE, then it needs to be remapped to queues in Cisco Interaction Manager from the Administration Console.

**Cause 5: Media Router of Unified CCE Unable to Connect to EAAS Instance**

MR PIM connects to EAAS instance using a socket connection. EAAS instance runs a socket server at a port specified through the MR Connection Port property of EAAS instance configuration and System Console. MR PIM socket connection requires an IP address and a port number through which the connection is established.

Incorrect application host configuration or MR port configuration in the Unified CCE will lead to the inability of Unified CCE to successfully connect to the EAAS Instance.

**Recommended actions:**

1. From the System Console, from the EAAS instance properties, note down the value of the MR Connection Port field.

2. In Unified CCE, from the Media Routing Configuration window, look at the value of the field Application Connection Port and make sure it matches the value you noted in Step 1.

3. In the same window, verify that the value of the Application Hostname[1] field is the host name or IP address of the Services Server of Cisco Interaction Manager. You can get the host name of the services server by running the command “hostname” from the command prompt.

4. If you changed the port number, start the EAAS process and instance to reinitialize the server socket with the port number configured as part of Step 2 above.
Cause 6: MRD Task Limit Met

The MRD task limit (also known as ICM Queue Depth) is the maximum number of active tasks that can be queued for the given MRD (awaiting assignment) at any given instance. If this task limit has been met, no more NEW_TASK requests will be sent to Unified CCE, until the total number of active tasks becomes less than the MRD task limit.

Recommended actions:
1. Increase the MRD task limit in Unified CCE based on anticipated influx of email activities.
2. Reduce the time specified in the ICM Script wait node. This ensures that the available agents are selected quickly, or the ICM Script is executed within a shorter time.
3. Increase the concurrent task limit of the agents. It allows them to work on higher number of activities at one time and ensure that more agents are available at any given time.
4. From the real-time view of the CTI server, ensure that the agent availability states are accurate.

Cause 7: ICM Script Selector not Configured Properly

An error in the configuration of ICM Script Selector in the Cisco Interaction Manager Administration Console (queue properties) or in Unified CCE will lead to activities not being redirected to the correct ICM Script, and will impact agent assignment.

Recommended actions:
1. Verify that the ICM Script Selector for the given MRD exists in Unified CCE, and has been associated with the Call Type, which in turn has been associated with the target ICM Script.
2. In Cisco Interaction Manager, verify that the queue that maps to the given MRD, has the same script selector selected.

Cause 8: ICM Script not Configured Properly

Errors in configuring the ICM Script will lead to routing of emails to unintended targets or no routing, both of which will impact agent assignment. Various issues in the ICM scripts can lead to failure in activity assignment.

Some commonly observed issues for ICM script are:
› Nodes of the script are not connected in accordance with intended routing.
› If wait nodes are present in the script, then (real time) activities queued in ICM after the wait period will be abandoned by Cisco Interaction Manager, based on watchdog time intervals in config/egicm_configuration.properties.
› Skill Groups configured in the ICM Script are not correctly associated with their respective MRDs in ICM.

Recommended actions:
1. Send an email activity into Cisco Interaction Manager and enable ICM Script monitor to trace the path of the activity after it reaches the ICM Script.
2. Ensure that the nodes of the ICM script are well connected, and that the flow of activities through the ICM script is as intended (using ICM script monitor). The ICM scripts can be validated using the “Validate Script” option. Also, the call can be traced using a Call Tracer.

3. Verify that there are no long waiting nodes. The time configured for the wait nodes should be lesser than the watchdog termination time interval in Cisco Interaction Manager.

4. Ensure that the MRD used for queuing an activity has respective Skill Groups included in the ICM Script as targets.

**Cause 9: Concurrent Task Limit of Agent Met**

The concurrent task limit of an agent per MRD is defined as the maximum number of concurrent activities that an agent can work on in that MRD. The agent concurrent task limit is set at the queue level in Cisco Interaction Manager (default=1). If this concurrent task limit is met, the agent will be unavailable for future assignment, until the agent load is lesser than the agent’s concurrent task limit.

**Recommended actions:**

1. Increase the concurrent task limit based on anticipated higher influx of emails.
2. Enable agents to work faster on existing/assigned emails.
3. Verify that the concurrent task limit in Cisco Interaction Manager matches what is seen from the real-time view of agent load in Unified CCE. If there is a concurrent task limit mismatch, report this to Cisco TAC.

**Cause 10: Media Class not Configured Properly**

The Media Class configured in Unified CCE must match the names configured in the Media Class property file in Cisco Interaction Manager (`Cisco_Home\config\ipcc\egicm_media_class_mappings.properties`). If the Media Classes don’t exist in Unified CCE or there is mismatch between the names configured in Unified CCE and Cisco Interaction Manager, NEW_TASK_FAILURE will be returned for activity routing requests.

**Recommended actions:**

1. Verify that the necessary Media Classes have been configured in Unified CCE. Ensure that the following four media classes (exact names) are configured in ICM:

   ```
   CIM_WIM
   CIM_EIM
   CIM_BC
   CIM_OUTBOUND
   ```

2. In Cisco Interaction Manager, open the Media Class properties file (`Cisco_Home\eService\config\ipcc\egicm_media_class_mappings.properties`), and ensure that the names match those configured in Unified CCE:

   ```
   Cisco_Voice = 9001
   CIM_WIM = 9002
   CIM_EIM = 9003
   CIM_BC = 9004
   ```
Symptom 3: Activities Routed to Incorrect Agents

**Note:** Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

**Cause: DO_THIS_WITH_TASK message with Label from ICM Media Router**

When email activities are sent to Unified CCE by EAAS for routing, Unified EIM expects a `Do_This_With_Task` message with an available agent’s ID for successfully routing the email activity to an agent. The `Do_This_With_Task` message should contain a valid ICM agent ID for email activity assignment. If no free agent is available for routing or the concurrent task limit of all the active agent is exceeded, the MR can respond to `New_Task` with `Do_This_With_Task` with no agent ID but with a Label. `Do_This_With_Task` message returned with a label triggers a NIPTA (Non ICM Picks The Agent) assignment and not the expected IPTA (ICM picks the agent) assignment. When Unified CCE does not send a `Do_This_With_Task` message but sends a `Do_This_With_Task` with a Label (without an agent ID), emails are not routed to correct agents.

**Recommended actions:**

1. Identify the MRD and Script Selector for which the `DO_THIS_WITH_TASK` message is returned with a LABEL. Obtain this information from the `NEW_TASK` message in Unified CCE.
2. Go to the ICM Configuration manager and select the Skill group explorer. Note down the corresponding skill groups for the specified MRD.
3. Go to the ICM Configuration manager and select the Agent explorer. Find the agent associated with the above identified skills groups.
4. Go to the ICM script editor and check the “IA” column. If this is 0, there is no available agent.
5. Verify the concurrent task limit of agents from the Administration Console. This is done from the Concurrent task limit tab of the queue. Consider increasing the concurrent task limit of the agents.

Symptom 4: Agent Unable to Create Outbound Emails

**Note:** Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

When the agent uses the F2 key to create an outbound email, the outbound email does not get created. The agent sees the following error message:

`You are not logged into an Outbound Media Routing Domain. Please contact your administrator for more details.`
Cause: Agent Not Configured For Outbound MRD

The agent who is trying to create the outbound email might not be configured for an outbound MRD. If that is the case, the agent will not be able to create outbound emails.

Recommended actions:

1. Run the following query on the active database to get the user ID of the agent who is not able to create outbound emails.
   
   ```sql
   Select user_id from egpl_user where user_name = User Name
   ```

2. Run the following query on the Active database:
   
   ```sql
   select * from egicm_user_outbound where user_id = User ID
   ```

   This query will tell which agent is logged in to the outbound MRD. For a logged in user, the `Login_flag` column will show the value 1.

3. From the ICM Configuration Manager, Agent Explorer, check if the agent is associated with an outbound MRD.

4. If the agent is not added to an outbound MRD, add the agent. From the Agent Console, try to create an outbound activity.

Symptom 5: Agent Sees Error About Completing Non-Interruptible Activities

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

When an agent tries to create an outbound activity, the following error message is displayed:
Please complete all non-interruptible activities before you attempt to create an outbound email activity.

Cause: Outbound MRD Interrupted for Agent

If the agent is working on non-interruptible activities like Blended Collaboration or Callback activities, the outbound MRD will be interrupted. When the agent is working on non-interruptible activities and he tries to create an outbound email, the Listener service instance checks the interruptibility state of the Outbound MRD and displays the error message to agent.

Recommended actions:
1. Run the following query on the active database to get the user ID of the agent who is getting this error message.
   
   ```sql
   Select user_id from egpl_user where user_name = 'User Name'
   ```

2. Run the following query on the active database to verify if blended collaboration, callback, or non-interruptible chat activities are assigned to the agent and they are still open.
   
   ```sql
   Select * from egpl_case_mgmt_activity where assigned = 'User ID' and activity_status!= 9000
   ```

   From the query results, locate the activities with `activity_sub_type` 2004, 2002, 2001. If there are any such open activities, it indicates that the outbound MRD will be interrupted and the user will not be allowed to create outbound emails.

3. Complete the blended collaboration, callback, or non-interruptible chat activities assigned to the agent from the Agent Console and try to create the outbound activity.

Symptom 6: Agent Sees Error About Maximum Number of Outbound Activities

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

When an agent tries to create an outbound activity, the following error message is displayed:

You have met the maximum permissible number of outbound activities that can exist in your inbox. Please complete some activities before you attempt this operation.
Cause: Agent Concurrent Task Limit Met

The concurrent task limit for each agent in the Outbound MRD is defined in the Queue configuration from the Administration Console. This concurrent task limit defines the maximum outbound activities an agent can create. If the agent has met the concurrent task limit for a particular queue, then he will not be able to create new outbound activities.

Recommended actions:

1. First, identify the queue for which the agent is not able to create outbound activities. For this, go to the Agent Explorer in ICM configuration manager, and then identify the Skill Groups with which the agent is associated.

2. Then go to the Skill Group Explorer in ICM configuration manager, and find out the MRDs with which these skill groups are associated. Identify the outbound MRD and it’s MRD ID from the list of MRDs. Outbound MRD will be the MRD which is associated with an Outbound Media Class.

3. Run the following query on the active database to get the name of the queue mapped to the outbound MRD.

   ```sql
   select queue_name from EGPL_ROUTING_QUEUE where queue_id = (select queue_id from egicm_queue where mrd_id = '<MRD_ID>')
   ```

4. Once you have identified the queue, find the concurrent task limit for the agent. You can check this from the Concurrent Task Limit tab of the queue properties from the Administration Console.

5. Match this concurrent task limit with the number of activities in the inbox of the agent. If the number of activities are equal to the concurrent task limit, compete some activities or increase the concurrent task limit allowed for a queue.

6. If you change the concurrent task limit for the queue, then log out and log in the agent again and see if he can create new activities.

Symptom 7: Email Activities Assigned After Long Delay

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.
Cause: OFFER_TASK_IND Message Sent After Delay

When a DO_THIS_WITH_TASK message is received for a NEW_TASK from Unified CCE, Unified CCE expects the OFFER_TASK_IND message within a configured time. If this message is not received from the Listener service instance in Unified EIM and WIM, Unified CCE makes the agent non routable and sends the AGENT_MADE_NOT_ROUTABLE_EVENT message to the Listener service instance. The Listener service sends the MAKE_AGENT_ROUTABLE message in response to make the agent routable immediately. All OFFER_TASK_IND messages sent during this time will be rejected from Unified CCE and FAILURE_RESP from Unified CCE will be received. Unified EIM and WIM Listener instance will enable the email activity for re-routing to Unified CCE.

If this scenario continues for many activities, the activities for which the OFFER_TASK_IND message was not received within a configured time, get assigned after a long delay.

**Recommended actions:**

1. Locate the AGENT_MADE_NOT_ROUTABLE_EVENT message in the CTI server logs. If this message is found, it indicates that the OFFER_TASK_IND message for the email activity would have been rejected at Unified CCE. Listener will immediately send the MADE_AGENT_ROUTABLE to Unified CCE.

2. In the CTI server logs, locate the FAILURE_RESP message. In the message, note down the DialogueID. In the CTI logs, look for the OFFER_TASK_IND message for the same dialogueID. This tells that a failure had occurred and it was recovered internally. From the OFFER_TASK_IND message, get the Task ID.

3. Use this Task ID to locate the previous New_task message in the MR PG logs. Note the activity ID mentioned in the New_Task message. Verify that there is another New_Task message with the same activity ID.

4. From the New_Task message get the MRD ID.

5. If this problem is happening continuously, check if there are any network connection issues between the various servers. If you find such issues, fix them and see if the problem is fixed.

6. If there are no network issues, find the MRD related to the MRD ID by running the following query on the Unified CCE AWDB.

   ```sql
   select * from t_Media_Routing_Domain where MRDomainID = MRD_ID
   ```

7. From the ICM Configuration Manager, from the Media List properties, increase the value of the Start timeout setting. When a DO_THIS_WITH_TASK message is received for a NEW_TASK from Unified CCE, Unified CCE expects the OFFER_TASK_IND message within this configured time.
Chat Issues

- Chat Assignment Issues
- Chat Session Issues
- Blended Collaboration Session Issues
This chapter describes recommended actions for the most common issues related to chat.

Chat Assignment Issues

Symptom 1: Delay in Chat Assignment

Chats are not assigned to agents instantly. Chats do get assigned, but there is some delay between the time the customer starts the session and the chat is assigned to an agent.

Cause 1: All Agents Have Reached Maximum Load

All agents who can service chats have reached their maximum load and no new chats can be assigned to the agents.

Recommended actions

1. From the Administration Console, check the value set for the department level setting Chat- User Max Load. Modify this if required.
2. From the Supervision Console, set up a monitor with the following attributes and validate that there are agents available to whom the chat activity can be assigned and the agent’s current load is less than the maximum allowed chat load.
   - For queue: Chat - Number in progress, Chat - Number not started, Chat - Number of agents available, Chat - Number unassigned.
   - For agent: User name, Chat - Available to handle, Chat - Number in progress, Chat - Number not started.

Sample chat monitor

Cause 2: Activities Pushed Back to Queue

The chat was assigned to an agent, but got pushed back to the queue. The product is designed such that if an agent does not select the chat activity within the time configured in the chat reassignment timeout setting, the chat is automatically pushed back to the queue so that it can be reassigned.
For integrated chats, the chat activity will get re-routed for agent assignment through EAAS. The current task for the activity will be ended in Unified CCE and the agent will be made unavailable in Unified CCE for any new chats till he explicitly makes himself available from the Agent Console.

**Recommended actions:**

1. Check the values of the following settings configured in the Cisco_Home\eService\config\live\eglv_liveconfig.properties file.
   - **ACTIVITY_START_ACK_TIMEOUT_IN_SEC:** The default value is 300 seconds.
   - **CUSTOMER_EVS_READY_TIMEOUT:** The default value is 1000 milliseconds.

2. Get the audit information for the activity by running the following query on the active database.

   ```
   select cast(dateadd(ss,event_date/1000,'1/1/1970')as datetime),* from egpl_event_history_case_mgmt where activity_id = <ACTIVITY_ID> order by event_date
   ```

   In the activity audit trail, check if there is an event object_operation 308. It indicates that the activity was pushed back to the queue before an agent selected it. This is the expected behavior and is meant to ensure that customers are not kept waiting endlessly for an agent.

Perform following additional tasks for integrated chats:

3. From the MR logs or from the egicm_activity table in the Cisco Interaction Manager Active database, identify the task ID for the activity which got pushed back to the queue. Run the following query on the active database to get the task ID:

   ```
   select Task_group_high+task_group_low+sequence_number as task_id from egicm_activity where activity_id = Activity_ID
   ```

4. Verify from the CTI server logs that there is an END_TASK_IND message for the task ID. Failure in sending the END_TASK_IND will lead to activity mismatch between Unified CCE and Unified EIM and WIM.

5. Agent should be made unavailable in Unified CCE by sending the MAKE_AGENT_NOT_ROUTABLE and MAKE_AGENT_NOT_READY massages to CTI server. Verify the same in the CTI server logs for the agent.

6. Check for activity re-routing. Verify that there is a new NEW_TASK request in MR logs for the same activity ID. Look for the activity ID in the NEW_TASK message. If there are two or more NEW_TASK messages with same activity ID, it means the activity has been re-routed.

**Cause 3: Problems With Customer Messaging**

A chat takes about 60 seconds to appear in the agent’s inbox. This could occur because the Customer Console runs into problems while establishing a connection with the Cisco Interaction Manager Messaging Server.

**Recommended actions:**

1. Check the values of the following setting configured in the Cisco_Home\eService\config\live\eglv_liveconfig.properties file.
   - **CUSTOMER_EVS_READY_TIMEOUT:** The default value is 1000 milliseconds.

2. Get the audit information for the activity by running the following query on the active database.
select cast(dateadd(ss,event_date/1000,'1/1/1970')as datetime),* from egpl_event_history_case_mgmt where activity_id = &ACTIVITY_ID& order by event_date

3. In the activity audit trail check if the time difference between the object_operation 1 (activity created) and object_operation 203/206 (loadbalanced or pulled) is exactly same as the value of the setting CUSTOMER_EVS_READY_TIMEOUT you noted down in step 1.

4. If possible, get the HTTP or Fiddler trace logs for the Chat Customer Console. For details on running these tools, see “Troubleshooting Tools” on page 18.

5. If you do not have the Http trace logs, get the access logs Application_Server_Name_access_log.Date.log for the chat activity. In a load balanced environment, you need to first identify the server where the customer or agent is connected. For details about collecting these logs, see Step 2 in “Further Actions” on page 106.

6. In the Http Trace or Access logs look for the request like:
   /system/LiveCustomerServlet.egain?dbgCmd=CustEVSReady&dbgSId=Activity_ID for the activity_id

7. If this request is missing for the chat activity, the activity will be assigned after a delay configured in the CUSTOMER_EVS_READY_TIMEOUT setting (page 105).

8. Create another chat to see if the assignment delay is resolved.

9. If the delay is consistent, use a different browser (Internet Explorer, Firefox, or Safari) to see if the delay is confined to any particular browser type.

Further Actions

If none of the above mentioned recommended actions solve your problem, then collect data using the following tools and send the information to Cisco TAC.

1. Get the HTTP or Fiddler trace logs for the Chat Customer Console. For details on running these tools, see “Troubleshooting Tools” on page 18.

2. Get the access logs Application_Server_Name_access_log.Date.log for the agent and the customer. In a load balanced environment, you need to first identify the server where the customer or agent is connected.

   To get the application server where the customer is connected to, run the following query on the active database and get the information from the attendee_home column.

   ```sql
   select activity_id,attendee_home from eglv_attendee where activity_id = Activity_ID and agent = 0
   ```

   To get the application server where the agent is connected to, run the following query on the active database and get the information from the attendee_home column.

   ```sql
   select activity_id,attendee_home from eglv_attendee where activity_id = Activity_ID and agent = 1
   ```

3. Get the eg_log_Application_Server_Name_ApplicationServer.log and egpl_root_Application_Server_Name.log log file for the agent and customers application server.

4. From Unified CCE, get the CTI Server and MR logs.

5. Run the following queries on the active database and get all the details for activities that are getting assigned after a delay.
Symptom 2: Chats Not Assigned to Agents

Chats are getting created but are not getting assigned to agents. This could happen for the following reasons.

Cause 1: Primary IPCC AW Database Not Configured Correctly

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

The deployment only has a primary IPCC Administration Workstation Database (AWDB) and the database is not running or is not configured properly, then this issue can occur.

For recommended actions for this problem, see “Cause 1: Primary IPCC AW Database Not Configured Correctly” on page 52.

Cause 2: Secondary IPCC AW Database Not Configured Correctly

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

If the deployment has a primary and secondary IPCC Administration Workstation Database (AWDB), and the primary database server becomes unavailable, the application is unable to connect to the secondary database if the secondary database is not running or is not configured properly.

For recommended actions for this problem, see “Cause 2: Secondary IPCC AW Database Not Configured Correctly” on page 53.
Cause 3: IPCC AW Database Connection Pool Limit Exceeded

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

There is a limit to the number of connections that can be made to the IPCC AWDB. If this limit exceeds the configured limit, the JDBC calls to the IPCC AWDB will fail and operations will terminate.

For recommended actions for this problem, see “Cause 3: IPCC AW Database Connection Pool Limit Exceeded” on page 53.

Cause 4: Queues Not Configured to Route Chats

The queue properties have not been configured properly to route chats to agents.

Recommended actions:

1. Identify the ID of the entry point from which activities have issues. You can do it by viewing the source of the entry point and searching for eglvepid=. The value for this property is the entry point ID. For example, in eglvheepid=1000, the entry point ID is 1000.

2. Get the queue used in the chat entry point by running the following query:

   ```sql
   select queue_name,EGLV_ENTRY_POINT.QUEUE_ID from EGLV_ENTRY_POINT,
   EGPL_ROUTING_QUEUE where entry_point_id = <<ENTRY_POINT_ID>> and
   EGPL_ROUTING_QUEUE.QUEUE_ID = EGLV_ENTRY_POINT.QUEUE_ID
   ```

3. In the Administration Console, browse to Administration > Department > Department_Name > Workflow > Queues, and for the queue, check the value in the Chat push routing method field. The value should be Load balanced. In the Relationships tab ensure that correct users and user groups are selected for receiving chats.

Cause 5: Queue Not Mapped to Correct MRD

The queue configured for routing chat activities in Unified WIM is not mapped to the correct MRD.

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

Recommended actions:

1. Launch the application. Log in as an administrator and go to the Administration Console.

2. Browse to Administration > Department > Department_Name > Workflow > Queues.

3. In the List pane, select the queue configured for chat activities.

4. In the Properties pane on the General tab, check the value configured in the Media Routing Domain field. The value should be set to a chat MRD.
**Cause 6: Agents Unavailable to Receive Chats**

The agent has not set the **Availability** setting correctly to receive chats.

**Recommended actions:**

1. From the Supervision Console, setup a monitor for the chat queue with the following attributes and validate that there are agents available to whom the chat activity can be assigned.
   - For queue: Chat - Number in progress, Chat - Number not started, Chat - Number of agents available, Chat - Number unassigned.
   - For agent: User name, Chat - Available to handle, Chat - Number in progress, Chat - Number not started

   ![Sample chat monitor](image)

2. From the Agent Console, check the availability setting of the agents.

**Cause 7: All Agents Have Reached Maximum Load**

All the agents who can service chats have reached their maximum load and no new chats can be assigned to the agents. As a result, chats are waiting in the queue for assignment.

**Recommended actions:**

- For recommended actions for this problem, see “**Cause 1: All Agents Have Reached Maximum Load**” on page 104.

**Cause 8: Script Error Occurs in the Agent Console**

Agents are unable to receive chats because some Internet Explorer script error occurs while logging in, or while chats are assigned to agents.

**Recommended Action**

1. Enable the script error notifications for Internet Explorer and login to the Agent Console again. For details on enabling script error notifications, see “**Troubleshooting Tools**” on page 18.
2. If the issue is consistent, collect the Script Debugger logs and screen shots of the Agent Console and send the information to Cisco TAC for further troubleshooting.

**Cause 9: Problems With Agent Assignment Service**

The activity is not assigned by the Agent Assignment Service to any agent even though the queue is configured properly, agents are available for receiving chats, and agents have not reached their maximum load.

**Recommended actions:**

1. Identify the ID of the entry point from which activities have issues. You can do it by viewing the source of the entry point and searching for `eglvepid=`. The value for this property is the entry point ID. For example, in `eglveepid=1000`, the entry point ID is 1000.

2. To find the activities that are not getting assigned to an agent for the entry point, run the following query on the active database:

```sql
select activity_id, assigned_to
from EGLV_ENTRY_POINT, EGPL_ROUTING_QUEUE, EGPL_CASEMGMT_ACTIVITY
where entry_point_id = Entry_Point_ID
and EGPL_ROUTING_QUEUE.QUEUE_ID = EGLV_ENTRY_POINT.QUEUE_ID
and EGLV_ENTRY_POINT.QUEUE_ID = EGPL_CASEMGMT_ACTIVITY.queue_id
and EGPL_CASEMGMT_ACTIVITY.activity_status = 4000
and EGPL_CASEMGMT_ACTIVITY.activity_sub_status = 4100
```

3. Validate that the activity has not been assigned to an agent from the activity audit in the database. If the `object_operation 203` event is not logged for this activity, it indicates that the activity was not assigned to any agent by the Agent Assignment service. To get the audit information for an activity, run the following query on the active database:

```sql
select cast(dateadd(ss,event_date/1000,'1/1/1970')as datetime),* from egl_event_history_case_mgmt where activity_id = Activity_ID order by event_date
```

4. From the System Console, stop and start the Agent Assignment service. Check if the chat assignment is working after the service is restarted.

**Cause 10: Problems With JMS Messaging**

There is some problem with messaging between the services server which hosts the Agent Assignment Service, and the application server.

**Recommended actions**

1. Identify the ID of the entry point from which chat activities are failing. You can do this by viewing the source of the entry point and searching for `eglvepid=`. The value for this property is the entry point ID. For example, in `eglveepid=1000`, the entry point ID is 1000.

2. To find the activities that are not getting assigned to an agent for the entry point, run the following query on the active database:

```sql
select activity_id, assigned_to
from EGLV_ENTRY_POINT, EGPL_ROUTING_QUEUE, EGPL_CASEMGMT_ACTIVITY
```
3. Validate that the activity has not been assigned to an agent from the activity audit in the database. If the `object_operation` 203 event is not logged for this activity, it indicates that the activity was not assigned to any agent by the Agent Assignment service. To get the audit information for an activity, run the following query on the active database:

```
select cast(dateadd(ss,event_date/1000,'1/1/1970')as datetime),* from egpl_event_history_case_mgmt where activity_id = Activity_ID order by event_date
```

4. Access the URL:
   
   `http://Application_Server_Name/system/web/view/platform/debug/liveaasmonitoring.jsp`

   a. In the Select API to view the details dropdown list, select `getassignedActivityDetailsForMonitoring[activityid]` and in the ActivityID field provide the ID of the activity.
b. If the debug JSP output indicates that the activity is assigned to a user, that is the `assignedTo` property displays a user ID, it means that the activity was assigned by the Agent Assignment Service but the Application Server failed to receive the assigned activity message.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ActivityInitInMills</td>
<td>1299757551336</td>
</tr>
<tr>
<td>ActivityId</td>
<td>1004</td>
</tr>
<tr>
<td>CustomerId</td>
<td>cust1003</td>
</tr>
<tr>
<td>mCaseId</td>
<td>1004</td>
</tr>
<tr>
<td>MostPreferredAgent</td>
<td>null</td>
</tr>
<tr>
<td>QueueId</td>
<td>1000</td>
</tr>
<tr>
<td>assignedTo</td>
<td>1000</td>
</tr>
<tr>
<td>CustomerHome</td>
<td>pmd206</td>
</tr>
<tr>
<td>lTransferred</td>
<td>0</td>
</tr>
<tr>
<td>LeadPreferredAgent</td>
<td>null</td>
</tr>
<tr>
<td>SLA</td>
<td>10000</td>
</tr>
<tr>
<td>Priority</td>
<td>9</td>
</tr>
</tbody>
</table>

*Check the assignedTo property*

5. JMS is not working. Check if there are any JMS related exceptions in the following log files:
   - `eg_log_Application_Server_Name_ApplicationServer.log`
   - `eg_log_Services_Server_Name_agent-assignment-process.log`

   Look for the following messages:
   - `org.jboss.mq.SpyJMSException: Exiting on IOE; - nested throwable:` (java.net.SocketTimeoutException: Read timed out)
   - `org.jboss.mq.SpyJMSException: Cannot send a message to the JMS server; - nested throwable:` (java.io.IOException: Client is not connected)
   - `org.jboss.mq.SpyJMSException: Exiting on IOE; - nested throwable:` (java.net.SocketException: Connection reset)
   - `javax.naming.CommunicationException [Root exception is java.rmi.ConnectException: Connection refused to host:<Messaging Server>`
   - `org.jboss.mq.SpyJMSException: No pong received; - nested throwable:` (java.io.IOException: ping timeout.)
   - `Error in publishing message to destination:`
   - `Failed to publish message to destination:`
   - `Failed to Subscribe to JMS destination`
   - `Error in creating messageObject for destination`
   - `Exception in refreshHandles()`
   - `OnException invoked on connection`
   - `Failed to establish Connection on attempt number:`
Cause 11: Problems With Event Messaging

It could also happen that the activity was assigned to the agent by the Agent Assignment Service, but there was some problem with event messaging because of which the activity did not appear in the agent’s inbox.

Recommended actions:

1. Identify the ID of the entry point from which activities are not appearing in the agent’s inbox. You can do it by viewing the source of the entry point and searching for `eglvepid=`. The value for this property is the entry point ID. For example, in `eglveepid=1000`, the entry point ID is 1000.

2. To find the activities that are assigned to an agent for the entry point, run the following query on the active database:

   ```
   select activity_id, assigned_to
   from EGLV_ENTRY_POINT, EGPL_ROUTING_QUEUE, EGPL_CASEMGMT_ACTIVITY
   where entry_point_id = Entry_Point_ID
   and EGPL_ROUTING_QUEUE.QUEUE_ID = EGLV_ENTRY_POINT.QUEUE_ID
   and EGLV_ENTRY_POINT.QUEUE_ID = EGPL_CASEMGMT_ACTIVITY.queue_id
   and EGPL_CASEMGMT_ACTIVITY.activity_status = 5000
   ```

3. Validate that the activity has been assigned to an agent from the activity audit in the database. If the `object_operation 203` event is logged for this activity, it indicates that the activity was not assigned to any agent by the Agent Assignment service. To get the audit information for an activity, run the following query on the active database:

   ```
   select cast(dateadd(ss,event_date/1000,'1/1/1970')as datetime),* from egpl_event_history_case_mgmt where activity_id = Activity_ID order by event_date
   ```

4. In case the activity is already assigned to the user as per the activity audit, get the `user_id` from the activity audit and check for polling requests from the Agent Console to the Application Server, and check the response code for these requests. This can be checked from Fiddler or Http trace if available, or from the agent’s Application Server access logs. For details about the access logs, see “Further Actions” on page 106. For using the Fiddler or Http tools, see “Troubleshooting Tools” on page 18.

   Look for:

   Format: GET
   `/system/mr_pushlet.egain?user_id=1%24<<user_id>>&partition_id=1&topic_name=&command=poll&client_type=js&client_conn_type=non-persistent&auth_key=&domain=null&cnt<<cnt>>&estr=CB<<no>>&poll_wait_time=30000&p생활 freq=500&recovery=false&timestamp=1282511583&6`

5. From the Agent Console, log out and log in again. If the assigned chat activity appears, check if the chat message exchange between the agent and customer is working by sending a few chat messages.

6. If the chat message exchange is not working check if the instant messaging is working. To check this, do the following:

   a. Log in to Agent Console and from the Console toolbar check if the Messages button is not blinking. and check the Messages window to make sure there are no unread messages.
b. Now, send a message to this user from another user login and check if the Messages button blinks instantly indicating an instant message has arrived.

If the Messages button blinks instantly, it indicates that instant messaging is working.

Further actions

If none of the above mentioned recommended actions solve your problem, then collect data using the following tools and send the information to Cisco TAC.

- Collect all the information listed in “Further Actions” on page 106 and send it to Cisco TAC.
- Also, get the eg_log__service_server_name_agent-assignment-process.log file.

Chat Session Issues

Symptom 1: Error Message Displayed When Chat Agent Logs In

Agents get the following message after log in: The system encountered an error and was unable to process chat activities. Please logout and log back in.

This error occurs when the Agent Console takes more than 150 seconds (two and a half minutes) to load.

Recommended actions:

1. Check the following guides and validate that the agent’s desktop has the correct JRE, and Internet Explorer version, and all the browser settings have been configured properly. If not, correct these and check if the issue is fixed after making these changes.
   - Cisco Unified Web and E-Mail Interaction Manager System Requirements
   - Cisco Unified Web and E-Mail Interaction Manager Browser Settings Guide

2. Log out and log in again and confirm that in the next login the agent does not get the same message.

3. If the issue is consistent, collect all the information listed in “Further Actions” on page 106 and send it to Cisco TAC.
Symptom 2: Service Unavailable Message Displayed

When a customer tries to initiate a chat, the customer sees the service unavailable template. This could happen because of one of the following reasons.

Cause 1: Entry Point Not Active

If the entry point is not active, customers will not be able to start chat sessions.

Recommended actions:

1. Identify the ID of the entry point from which activities have issues. You can do it by viewing the source of the entry point and searching for `eglvepid=`. The value for this property is the entry point ID. For example, in `eglveepid=1000`, the entry point ID is 1000.

2. Run the following query for the entry point ID identified in Step 1:

   ```sql
   select * from eglv_entry_point where entry_point_id = Entry_point_ID
   ```

3. In the query results, check the value in the column `is_active`. If the value is 0 it indicates that the entry point is not active. Get the entry point name from the query results.

4. In the Administration Console, browse to Administration > Department > Department_Name > Entry Point, and check if the entry point is active. If not, make the entry point active.

Cause 2: Agents Not Available

Agents are not available to receive chats.

Recommended actions:

1. In the Administration Console, browse to Administration > Department > Department_Name > Entry Point, and check if the agent availability is required for creating chats for this entry point.

2. For the queue used in the entry point, check if load balancing has been enabled for chats. This can be checked from the Queue node in the Administration Console. For load balanced queues, check if correct users and user groups are selected in the Relationships tab. Using monitors from the Supervision Console, check if at least one of the agents selected in the Relationships tab for chat is logged in and available for chats.

3. If agents are required to pull activities from queues, then make sure that agents have correct permissions on the chat queues. This can be checked from the queue, user, or user group properties from the Administration Console. Using monitors from the Supervision Console, check if at least one agent with pull permissions on the chat queue is logged in and available for chat.

   From the Supervision Console, setup a monitor for the chat queue with the following attributes:

   - For queue: Chat - Number in progress, Chat - Number not started, Chat - Number of agents available, Chat - Number unassigned.
For agent: User name, Chat - Available to handle, Chat - Number in progress, Chat - Number not started

Sample chat monitor

Cause 3: Agent Assignment Service Not Started

The Agent Assignment Service for chat is stopped or is experiencing a problem.

Recommended actions:

- From the System Console, stop and start the Agent Assignment service. Check if the problem is resolved after the service is restarted.

Cause 4: EAAS Service Not Started

The EAAS service is stopped or is having a problem.

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

Recommended actions:

- From the System Console, stop and start the EAAS process and instance. Check if the problem is resolved after the service is restarted.

Cause 5: EAAS Not Connected to Media Router

The EAAS service is not able to connect to the media router.

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.
**Recommended actions:**


2. From the Unified CCE Connection Monitor page, from the **Connection State** column for the EAAS service, check if the link is down or up.

**Further actions**

If none of the above mentioned recommended actions solve your problem, then collect the following log files and send the information to Cisco TAC.

- `eg_log_Service_Server_Name_agent-assignment-process.log`
- `eg_log_Application_Server_Name_ApplicationServer.log`
- `egpl_root_Application_Server_Name.log` for all application servers

**Symptom 3: Customers see “System Cannot Assign an Agent to the Request”**

Customers get the following error message when they start a chat session: 

```
System cannot assign an agent to the request.
```

**Note:** Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

**Cause: No Chat Agents Logged in to Unified EIM and WIM**

A chat request enters the Unified EIM and WIM application through an entry point. Every entry point is associated with a queue that is in turn mapped to an ICM Media Routing Domain (MRD) and a script selector (that is used to identify the ICM script to route the chat). Integrated agents are associated with one or more MRDs in Unified CCE. If no agents associated with an integrated MRD are logged into Unified EIM and WIM, the chat activity will be abandoned. Consequently, chat assignment will fail.

**Recommended actions:**

1. To find the activities that are not assigned to an agent, run the following query on the active database:

   ```sql
   select activity_id from egpl_casemgmt_activity where activity_sub_status=2001 and assigned_to = -1
   ```

2. On the Unified CCE server, navigate to the MR PG logs, and verify that a `NEW_TASK` message exists for each of the failed chat activities. Note the dialog ID in the `NEW_TASK` message and locate the `NEW_TASK_FAILURE` message for the same dialog ID in the MR PG logs. When EAAS instance receives this `NEW_TASK_FAILURE` from MR PG, the chat activities will be closed without assignment.

3. Identify the MRD ID and Script Selector for which the `NEW_TASK` message was sent. This information can be obtained from the `NEW_TASK` message.
4. In ICM Configuration Manager, navigate to the Skill Group explorer. Note down the corresponding skill groups for the MRD identified in Step 3.

5. Navigate to the Agent explorer. Note the agents associated with the skills group identified in Step 4. From the ICM Script Editor, check the “IA” column (this column indicates availability). If the value is 0 for all agents, then there are no available agents.

6. Have the agents login to Unified EIM and WIM and make sure they are available for chat.

Symptom 4: “Lines are Busy” Message Displayed to Chat Customers

After the customer starts a chat session, the “Lines are busy” message is displayed in the customer’s chat window.

Note: Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

Cause 1: Chat Activity Abandoned by the Watchdog Thread

The EAAS Instance has a component called Watchdog to track the NEW_TASK messages sent to MR PG. The Watchdog keeps a count of the time that has elapsed since the NEW_TASK message for an activity was sent to MR PG without the Do_This_With_Task message being received. If no Do_This_With_Task message is received within the configured time, the Watchdog will terminate the NEW_TASK message by sending the TERMINATE_DIALOG_BOX message to MR PG. It will in turn close the chat activity in Unified EIM and WIM by abandoning it without assignment.

The chat watchdog interval is specified in the CHAT_WATCHDOG_INSEC property in the Cisco_Home\eService\config\ipcc\egicm_configuration.properties file. If a chat activity remains in the Unified CCE queue for more than this duration, the watchdog thread identifies that the chat has exceeded its queuing period, and it abandons the activity. The activity is tagged as abandoned in the system and the customer is displayed the “Lines are busy” message.

Recommended actions:

1. Access the MR PG logs on the Unified CCE server.
2. In the log file search for the TERMINATE_DIALOGUE_REQ messages. A TERMINATE_DIALOGUE_REQ message is sent from the EAAS instance to the MR PG (via the MR interface) for the activity ID for which the NEW_TASK message is sent from EAAS to MR, but no DO_THIS_WITH_TASK message is received from MR. These type of activities are considered as abandoned and watchdog terminate them by sending the TERMINATE_DIALOGUE_REQ message to MR for the dialog ID for which the NEW_TASK message was sent.

For example, the message will look like:

Message = TERMINATE_DIALOGUE_REQ; Length = 16 bytes
DialogueID = (2) Hex 00000002
SendSeqNo = (2) Hex 00000002
InvokeID = (2) Hex 00000002
Reason = (22) Hex 00000016
3. Note the dialog ID of the `TERMINATE_DIALOGUE_REQ` and locate the `NEW_TASK` message with the same dialog ID. Note the activity ID for which this `NEW_TASK` message was sent for reference. Using the activity ID, identify the ICM script which is executed for the `NEW_TASK`.

4. Check if there are wait nodes with long wait time configured in this ICM script, which may exceed the chat watchdog time interval configured in the `CHAT_WATCHDOG_INSEC` property in the<ref>Cisco_Home\eService\config\ipcc\egicm_configuration.properties</ref> file. If long wait nodes are present, reduce the time on the wait nodes to be less than or equal to the chat watchdog time interval. Alternatively, consider increasing the chat watchdog time interval in the property file to be greater than or equal to the wait node.

**Cause 2: All Integrated Chat Agents Have Reached Their Concurrent Task Limit**

In Unified EIM and WIM, the concurrent task limit for every agent is defined in the Queue properties in the Administration Console. This value is specified at a per MRD level indicating how many activities a given agent can work on concurrently. If this value has been met, then the agent will not receive any new activities until the current load is reduced.

**Recommended actions:**

1. In the ICM Script Editor, open the real time table for a skill group, and compare the number of calls in progress for agents with the column that tells the concurrent task limit for agents.

2. If both these values are the same, you must consider increasing the concurrent task limit of the agents from the Queue properties in the Administration Console of Unified EIM and WIM. Agents would need to log out and log back in for the changes to take effect.

**Symptom 5: Wait Template Not Displayed to Chat Customers**

The system might be configured in a way that Unified CCE sends a `RUN_APPLICATION_SCRIPT_REQ` message from the Media Router to EAAS to run a script (to show a custom template) on the Chat Customer Console before the chat assignment happens. EAAS fetches details of the script template from a Unified EIM and WIM configuration file, based on the script name in the `RUN_APPLICATION_SCRIPT_REQ` message, and then publishes this template on the Chat Customer Console. If the file is not configured properly, the wait template is not displayed to the customer and the customer is shown the message “Waiting for agent assignment.”

**Note:** Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.

**Cause: Incorrect Tags Configured in DRASR Configuration File**

The configuration file, `<Cisco_Home\eService\config\ipcc\egicm_message_map.xml>`, includes attributes such as the script name, that are used by the `RUN_APPLICATION_SCRIPT_REQ` message. The script name configured in this file must exactly match the script name configured in Unified CCE. If the names do not match, the `RUN_APPLICATION_SCRIPT_REQ` message from the Unified CCE MR PG will not result in the display of the custom wait template on the Chat Customer Console.
For details about configuring Dynamic Run Application Script Request (DRASR) see the “Configuring Dynamic Messages for Integrated Chats” section in the Cisco Unified Web and E-Mail Interaction Manager Deployment and Maintenance Guide.

**Recommended actions:**

1. Verify that the ICM Script is configured to send a `RUN_APPLICATION_SCRIPT_REQ` message to the EAAS instance.
   a. The names provided in the ICM Configuration Manager > Network VRU Script List, should match the names provided in the `egicm_message_map.xml` file.
   b. In the ICM Script, the Run External Script node should be configured with the correct script name. In addition to the script name, verify the validity of this DRASR script.

2. Verify that this script name is also configured in the `eService\config\ipcc\egicm_message_map.xml` file.

3. Search the `RUN_APPLICATION_SCRIPT_REQ` message in the MR PG logs. The dialog ID of the message must be the same as that of the `NEW_TASK` message for the chat activity request.
   For example, the message can look like:
   
   `17:05:39 pg2A-pim1 Trace: PG->Application: Message = RUN_APPLICATION_SCRIPT_REQ; Length = 156 bytes
   DialogueID = (2) Hex 00000002
   SendSeqNo = (1) Hex 00000001
   InvokeID = (41) Hex 00000029
   ScriptID: google
   ECC Variable Name: user.cim.activity.id
   Value: 1028`

4. Verify that there is a successful response in the form of `RUN_APPLICATION_SCRIPT_RESULT` message from EAAS to the `RUN_APPLICATION_SCRIPT_REQ` message. This can be located in the MR PG logs by searching the same dialog ID that was sent for the `RUN_APPLICATION_SCRIPT_REQ` message. Verify the `ScriptResult` field in the `RUN_APPLICATION_SCRIPT_RESULT` message. If the `ScriptResult` value is 1, it implies that the script was executed successfully. If the `ScriptResult` value is 0, it implies that EAAS failed to execute the script.
   For example, a failed `RUN_APPLICATION_SCRIPT_RESULT` message will look like:

   `Message = RUN_APPLICATION_SCRIPT_RESULT; Length = 16 bytes
   DialogueID = (1) Hex 00000002
   SendSeqNo = (2) Hex 00000002
   InvokeID = (15) Hex 000000f
   ScriptResult = (0) Hex 00000000`
Symptom 6: Customer Chat Status Changes to “Slow but still connected”

A yellow triangle, indicating that the customer is “Slow but still connected”, is displayed against the chat activity in the Agent Console. This could happen because of connectivity issues between the application server and the Chat Customer Console.

The chat status in the Agent Console indicates the health of the connection between the application and the customer browser. In case of network connectivity issues between the customer browser and application server, the status of the chat is changed in the Agent Console from Green (Good connection) to Yellow (Slow but still connected).

**Recommended action**

1. Get the access logs `Application_Server_Name_access_log.Date.log` for the chat activity. In a load balanced environment, you need to first identify the server where the customer or agent is connected. For details about collecting these logs, see Step 2 in “Further Actions” on page 106. In the log files search for logs specific to the activity ID where the customer status is changed to “Slow but still connected”. Validate if the following request is repeated (every 30 seconds) for the entire duration of the chat.

   ```
   "POST /system/LiveCustomerServlet.egain?dbgCmd=Conn&dbgSId=<<Activity_id>>&dbgInf=A(H(C(dis0s1c1e1ap0)))"
   ```

   If you do not see this request, then it indicates that the customer browser has some connection issues to the application. Check the network connectivity on customer side.

2. Turn on Fiddler or HttpTrace for the Customer Console. Create another chat and see if the issue persists for the subsequent chat as well. Look for any network related errors in the requests flowing from the Chat Customer Console.

**Further analysis**

- If the issue is consistent, collect all the information listed in “Further Actions” on page 106 and send it to Cisco TAC.

Symptom 7: Chat Messages Not Delivered to Agents or Customers

Agents or customers do not receive messages sent during the chat session.

**Cause 1: Connection Issues to Application Server**

This problem could happen because of connectivity issues between the application server and the Agent Console or the Chat Customer Console.

**Recommended actions**

1. From the Agent Console, complete the chat activity and see if the lost messages are seen in the chat transcript available from the Completed folder.

   If the messages are not seen in the chat transcript of the completed chat, it indicates that there are network connectivity issues to the application server.
2. Turn on Fiddler or HttpTrace for the Agent or Customer Console, where the issue is occurring. Create another chat and see if the issue persists for the subsequent chat as well. Look for any error responses for the requests being sent out.

3. **Further analysis**
   - If the issue is consistent, collect all the information listed in “Further Actions” on page 106 and send it to Cisco TAC.
   - Also, get the `eg_log_service_server_name_agent-assignment-process.log` file.

**Cause 2: Problems With Event Messaging**

This issue could occur because of a problem with event messaging because of which messages do not appear in the agent’s inbox.

**Recommended actions:**
- For recommended actions for this problem, see “Cause 11: Problems With Event Messaging” on page 113.

**Further analysis**
- If the issue is consistent, collect all the information listed in “Further Actions” on page 106 and send it to Cisco TAC.
- Also, get the `eg_log_service_server_name_agent-assignment-process.log` file.

**Blended Collaboration Session Issues**

--- **Note:** Skip this section if your Unified EIM and WIM system is not integrated with Unified CCE.---

**Symptom 1: “System Cannot Assign an Agent to the Request” Error**

The following error occurs when the customer starts a blended collaboration session: **System Cannot Assign an Agent to the Request.**

**Cause 1: No Blended Collaboration Agents Logged**

The blended collaboration activity assignment fails if blended collaboration agents are not logged in to the Unified EIM and WIM Agent Console and the Cisco Agent Desktop.
Recommended actions:

» For recommended actions for this problem, see “Cause: No Chat Agents Logged in to Unified EIM and WIM” on page 117.

Cause 2: Entry Point Not Active

The blended collaboration activity assignment fails if the chat entry point is not active.

Recommended actions:

» For recommended actions for this problem, see “Cause 1: Entry Point Not Active” on page 115.

Cause 3: EAAS Service Not Started

The blended collaboration activity assignment fails if the EAAS service is not started.

Recommended actions:

» For recommended actions for this problem, see “Cause 4: EAAS Service Not Started” on page 116.

Cause 4: Blended Collaboration Activity Abandoned by the Watchdog Thread

The EAAS Instance has a component called Watchdog to track the NEW_TASK messages sent to MR PG. The Watchdog keeps a count of the time that has elapsed since the NEW_TASK message for an activity was sent to MR PG without the DO_THIS_WITH_TASK message being received. If no DO_THIS_WITH_TASK message is received within the configured time, the Watchdog will terminate the NEW_TASK message by sending the TERMINATE_DIALOG_BOX message to MR PG. It will in turn close the BC activity in Unified EIM and WIM by abandoning it without assignment.

The chat watchdog interval is specified in the BC_WATCHDOG_INSEC property in the Cisco_Home\eService\config\ipcc\egicm_configuration.properties file. If a blended collaboration activity remains in the Unified CCE queue for more than this duration, the watchdog thread identifies that the activity has exceeded it’s queuing period, and it abandons the activity. The activity is tagged as abandoned in the system and the customer is displayed the error message.

Recommended actions:

1. Access the MR PG logs on the Unified CCE server.
2. In the log file search for the TERMINATE_DIALOGUE_REQ messages. A TERMINATE_DIALOGUE_REQ message is sent from the EAAS instance to the MR PG (via the MR interface) for the activity ID for which the NEW_TASK message is sent from EAAS to MR, but no DO_THIS_WITH_TASK message is received from the MR. These type of activities are considered as abandoned and watchdog terminate them by sending the TERMINATE_DIALOGUE_REQ message to MR for the dialog ID for which the NEW_TASK message was sent.

For example, the message will look like:

Message = TERMINATE_DIALOGUE_REQ; Length = 16 bytes
DialogueID = (2) Hex 00000002
SendSeqNo = (2) Hex 00000002
InvokeID = (2) Hex 00000002
Reason = (22) Hex 00000016

3. Note the dialog ID of the TERminate_DIALOGUE_REQ and locate the NEW_TASK message with the same dialog ID. Note the activity ID for which this NEW_TASK message was sent for reference. Using the activity ID, identify the ICM script which is executed for the NEW_TASK.

4. Check if there are wait nodes with long wait time configured in this ICM script, which may exceed the blended collaboration watchdog time interval configured in the BC_WATCHDOG_INSEC property in the Cisco_Home\eService\config\ipcc\egicm_configuration.properties file. If long wait nodes are present, reduce the time on the wait nodes to be less than or equal to the blended collaboration watchdog time interval. Alternatively, consider increasing the blended collaboration watchdog time interval in the property file to be greater than or equal to the wait node.

**Cause 5: Incorrect ACD Queue Configuration**

The ACD queue properties are not configured correctly for the Listener service instance, or the Routing Type for the entry point used for blended collaboration activities is not configured correctly.

**Recommended actions:**

1. From the Unified EIM and WIM System Console check the properties of the Listener service instance. From the CMB Parameters field, open the CMB Parameters window and check if the correct ACD queue is configured.

2. From the Unified EIM and WIM Administration Console check the properties of the entry point used for blended collaboration activities. Make sure that the value selected in the Subactivity field is Blended Collaboration and the value selected in the Routing Type field is Automatic Call Distributor.

**Cause 6: Incorrect CMB Messaging From CMB to Listener**

The CMB messages have to be delivered in the correct sequence from CMB to the Listener service instance for the assignment and termination of the Blended Collaboration activities to happen successfully. If the correct messages are not sent in the right order, the Blended Collaboration activities will not get assigned to the agents.

**Recommended actions:**

1. Check if CMB is connected to the Listener service instance. You can check this by looking at the State of the Listener service instance from the System Console. If Listener is successfully connected to CMB, the status will be Running. If it is not connected, the status will be Connecting CMB.

2. From the CMB Admin Console, check if CMB is successfully connected to the CTI server.

3. Check the Cisco_Home\eService\logs\eg_log_Services_Server_Name_Listener-process.log file for the SessionErrorEvent message from CMB to the Listener service instance for the failed activity. For example, the log message will look like: SessionErrorEvent occurred in CMBSession with ActivityId:2090

**Cause 7: Incorrect CMB Server Configuration**

The ACD queue properties are not configured correctly for the Listener service instance, or the Routing Type for the entry point used for blended collaboration activities is not configured correctly. 
Recommended actions:

- From the Unified EIM and WIM System Console check the properties of the Listener service instance. From the CMB Parameters field, open the CMB Parameters window and check if the correct Peripheral Name, IP Side A, and Port Side A are configured. In the Peripheral Name field, make sure you have selected the correct Agent PG. In the IP Side A and Port Side A provide the correct CMB server details. For details, see the “Preparing Cisco Media Blender for the Integration” section in the Cisco Unified Web and E-Mail Interaction Manager Deployment and Maintenance Guide. Also see “Cause: Incorrect Cisco Media Blender Configuration for Listener Instance” on page 65.

### Cause 8: Blended Collaboration Agent Not Logged in to BC MRD

Agents can be assigned BC activities only if they belong to skill groups associated with the BC MRDs. If the successfully logged in agents are not receiving incoming BC activities, check the agents’ association with BC MRD. Listener instance sends the MEDIALOGIN_REQ message for each MRD to the CTI server as a login request. Unified CCE should respond with the MEDIALOGIN_RESP response message with ARMStatus = E_ARM_STAT_OK, indicating successful login of agents to BC MRD.

**Recommended actions:**

1. Check if the blended collaboration agent is successfully logged in to the BC MRD. From the ICM Script Editor, check the IA and Log columns. If the value is 0, it indicates that the agent is not logged in or not available.

2. From the CTI server logs, check if a successful response was returned for a MEDIALOGIN_REQ message. For the MEDIALOGIN_REQ message, get the InvokeID and for that InvokeID check the MEDIALOGIN_RESP.

For example, the MEDIALOGIN_REQ message will look like:

```
MsgType:MEDIALOGIN_REQ (InvokeID:0x6a MRDID:5006 ICMAgentID:5020
AgentMode:0 IsAvailable:False
16:52:31 cg1A-ctisvr SESSION 6: MaxTaskLimit:1 AgentInfo:"1000")
```

16:52:31 cg1A-ctisvr Trace: ProcessMediaLoginReq - sessionID 6

And, the MEDIALOGIN_RESP will look like:

```
16:52:31 cg1A-ctisvr SESSION 6: MsgType:MEDIALOGIN_RESP (InvokeID:0x6a
ARMStatus:E_ARM_STAT_OK)
```

3. Check if the agent is successfully logged in to CMB. Open the CMB Administration Console and verify the Agent signon success count. The Agent signon success count in CMB should reflect the total BC agents logged in the system.

4. On the Unified EIM and WIM file server, access the Cisco_Home\eService\logs\eg_log_Services_Server_Name_Listener-process.log file. Verify that the AgentJoinedSession message is sent from CMB to Unified EIM and WIM. For deployments using ACDs, check for the message SessionAssignedEvent.

5. Check if the agent’s IP phone is properly disconnected or not busy during the routing. Check if the phone is connected to the call manager. You will see the phone number flashing if it connected successfully.

6. Make the agent logout and log back in.
Symptom 2: Chat Not Terminated When Phone Call Ends

A successfully assigned blended collaboration activity can be terminated through chat completion or when the phone call ends. The end of the phone call is triggered in Unified CCE whereas the chat completion is triggered from Unified EIM and WIM. The chat-to-phone and phone-to-chat terminations for a blended collaboration activity are governed by the `acceptdrop` setting in CMB. If the value of the property `acceptdrop` is not configured properly, it can happen that when the phone call ends, the chat activity does not get terminated.

Cause: Incorrect Configuration in ACD.ciscocti.properties File

The `acceptdrop` property is not correctly configured in the `ACD.ciscocti.properties` file.

Recommended actions:

1. On the Cisco Media Blender server machine, navigate to the `CiscoMB\servlet\Properties\Blender\ACD.ciscocti.properties` file. Check the value of the `acceptdrop` property. If phone to chat and chat to phone termination is required, the value of the property should be set to `True`.

2. On the Unified EIM and WIM file server, access the `Cisco_Home\eService\logs\eg_log_Services_Server_Name_Listener-process.log` file. Verify that the `AgentLeftSessionEvent` message is sent from CMB to Unified EIM and WIM. For deployments using ACDs, check for the message `SessionDroppedEvent`.

3. Check the status of the chat from the Agent Console. It should be “Chat Exited.”

4. Verify that CMB and Unified EIM and WIM are properly connected.
Archive Issues

- Overview
- Archive Jobs Issues
- Purge Jobs Issues
Overview

Data is stored in the active database. With time, the size of the data usually increases to a point where it begins to affect the performance of the system. 40 GB should be considered the maximum limit for the size of the active database, after which we recommend archiving to avoid performance issues. Hence, it is important that data, which is not in use anymore, is stored somewhere other than the active database.

Archiving is a systematic process which moves data from the active database to the archive database. Periodic archiving helps to keep the size of the active database within prescribed levels, thereby improving the performance of the system.

The list of tables that are archived are available in the Cisco_Home\eService\config\archive\egpl_arch_tablelist.properties file.

To learn more about archiving, see the Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Administration Console.

Archive Jobs Issues

Symptom 1: Scheduled Archive Jobs Do Not Run

The archive jobs do not run on schedule. This could happen because of one of the following reasons.

Cause 1: Archive Service Not Running

The Archive service is not running. This service is required to be running for archiving to happen.

Recommended action:

› From the System Console, check if the Archive service process and instance is running. If the service is not running, start the instance and process and see if this solves the problem.

Cause 2: Failed Jobs Exist in Application

There is a failed job in some department in the partition.

Recommended action:

1. Check for failed jobs in all departments by running the following query on the active database:
   ```
   select a.job_name,b.department_name from egpl_arch_job a, egpl_department b
   where a.last_run_status = -1 and a.department_id = b.department_id
   ```

   If there are any failed jobs, the query will return the name of the job that has failed and the name of the department to which the job belongs.

2. From the Administration Console, browse to the department and restart the failed jobs.
Cause 3: Stopped Jobs Exist in Department

There is a stopped job in the department.

Recommended action:

1. Check for stopped jobs in all departments by running the following query on the active database:

   ```
   select c.job_name, b.department_name from egpl_arch_job_run a, egpl_department b, egpl_arch_job c
   where a.run_status = 2
   and a.department_id = b.department_id
   and a.job_id = c.job_id and a.department_id = c.department_id
   ```

   If there are any stopped jobs, the query will return the name of the job that is stopped and the name of the department to which the job belongs.

2. From the Administration Console, browse to the department and restart all stopped jobs.

Further Analysis

If none of the above mentioned recommended actions solve your problem, then collect the following data and send the information to Cisco TAC.

1. In the `Cisco_Home\eService\config\egpl_archiverconfig.properties` file, set the value of the property `archive.debug.log` to `true`.

2. In the `Cisco_Home\eService\config\egpl_log4j.xml` file, change the threshold value for logger root from `ERROR` to `INFO`.

   ```xml
   <appenders>
   <appenders class="com.cisco.platform.util.logging.appenders.RollingFileAppender" name="root">
   <param name="File" value="egpl_root_\{HOST_NAME\}.log"/>
   <param name="MaxBackupIndex" value="1"/>
   <param name="MaxFileSize" value="50K"/>
   <layout class="com.cisco.platform.util.logging.PatternLayout">
   <param name="Pattern" value="standard"/>
   </layout>
   </appenders>
   ```

   Sample xml file

3. From the System Console, change the logging level for the archive process to `TRACE`.

4. After making the changes explained in Steps 1-3, reproduce the problem again and collect the following data and log files.

5. Send the following log files:

   - `eg_log_server_Name_archieve-process.log`
   - `egpl_root_server_Name.log`

6. Run the following query on the active database and send the results.

   ```sql
   > select job_id from egpl_arch_job with (nolock) where job_name like '
   > %ArchiveJob%' and status=-1
   > select job_run_id from egpl_arch_job_run with (nolock) where
   ```
job_id=<get the job_id from above query> and run_status=-1
> select batch_id from egpl_arch_job_run_batch with (nolock) where
job_run_id=<get the job_run_id from above query> and run_status=-1
> select * from egpl_arch_batch_step with (nolock) where
batch_id=<batch_id from above query>

Symptom 2: Archive Jobs Fail

Archive jobs stop running and they show in Failed status in the Administration Console.

To verify that failed jobs exist in the system, run the following query:

```sql
select a.job_name, b.department_name from egpl_arch_job a, egpl_department b
where a.last_run_status = -1 and a.department_id = b.department_id
```

This could happen because of one of the following reasons.

**Cause 1: Database Users do not Have Correct Permissions**

If the Cisco database users for the Active Database and the Reports Database do not have the DBO permissions on the databases, the archive jobs will fail.

**Recommended action:**

1. Check the archive log file for errors. The following log message is recorded in the Cisco_Home\eService\logs\eg_log_Services_Server_Name_archive-process.log file when this issue occurs.
   
   Login failed

2. Contact your database administrator and ask him to check if the Cisco database users for the Active Database and the Reports Database have the DBO permissions on the databases.

3. If the permissions are not assigned, make the required changes.

4. From the System Console, restart the Archive service process.

5. From the Administration Console, restart the failed job and see if it runs successfully.

**Cause 2: Archive Database Unable to Connect to Active Database**

The Archive Database is not able to connect to the Active Database, and as a result the archive jobs are failing. This issue will be experienced only when the Active Database and the Archive Database are on different machines.

**Recommended action:**

1. Check if the Active Database machine is able to connect to the Archive Database machine. You can check this by doing the following:
   
   a. On Active database server machine, open the Windows Command window.
b. Type `telnet Archive database server machine 1433`. You should be able to connect to the Archive Database. Port 1433 is the MS SQL server port on which you are connecting. For example, `telnet ArchiveDB 1433`.

c. Similarly, run the command `telnet Active database server machine 1433` from the file server. For example, `telnet ActiveDB 1433`.

d. If you are not able to connect, there might be network connection problems. Contact your IT administrator to get the network problem fixed.

2. If network connection is fine, run the following query on the active database to check if the database link is working properly.

```
Select * from [Archive.DB.Link, partition_ID]. egpl_casemgmt_case
```

You can get the value for `Archive.DB.Link, partition_ID` from the `Cisco_Home\service\config\egpl_archiverconfig.properties` file.

3. If the link is broken, do the following:

a. Connect to the Active Database server with a user who has administrator credentials.

b. In the SQL Server Enterprise Manager, browse to `Server Objects > Linked Server > Archive Database Link` you got in Step 2 from the `egpl_archiverconfig.properties` file.

c. Right-click the link and select `properties > Security`.

d. In the window that opens, check the following:

   - **Local login:** This should be the user name of the active database user.
   - **Remote login:** This should be the user name of the archive database user.
   - **Remote password:** This should be the password of the archive database user.

e. Correct the credentials, if they are incorrect. The database user names and passwords should be the same as provided at the time of installation Cisco Interaction Manager.

f. Next, right-click the `Archive Database Link` and select `Server Options`.

g. In the window that opens, check the following:

   - **Collation Compatible:** This should be set to `false`.
   - **Data Access, RPC, RPC Out, User Remote Collation:** These should be set to `true`.
   - **Collation Name:** This property should be blank.
   - **Connection Timeout, Query Timeout:** These should be set to `0` (zero).

h. After making these changes, run the following query again to check if the link is working now.

```
Select * from [Archive.DB.Link, partition_ID]. egpl_casemgmt_case
```

4. From the System Console, restart the Archive service process.

5. From the Administration Console, restart the failed job and see if it runs successfully.

**Cause 3: Archive Service Not Restarted After Adding Custom Attributes**

All archive jobs in the application start failing. This issue is observed because archive jobs are not restarted after adding custom attributes from the Tools Console. When a custom attribute is added, the active database changes, but the archive database is not updated with the latest attribute information. To update the archive database, the
Archive service process and instance needs to be restarted. If you do not do that, the archive jobs will keep failing.

**Recommended action:**
1. Check the archive log file for errors. The following log message is recorded in the 
   $\text{Cisco\_Home}\text{\textbackslash eService\textbackslash logs\textbackslash eg\_Log\_Services\_Server\_Name\_archive\_process.log}$ file when this issue occurs.
   
   column mismatch or too many columns or columns <column> not present in ArchiveDB table
2. From the System Console, restart the Archive service process and instance.
3. From the Administration Console, restart the failed archive job and see if it runs successfully.

**Cause 4: Transaction Logs are Full**

If the transaction logs for the archive database is full, archive jobs will not run.

**Recommended action:**
1. Check the archive log file for errors. The following log message is recorded in the 
   $\text{Cisco\_Home}\text{\textbackslash eService\textbackslash logs\textbackslash eg\_Log\_Services\_Server\_Name\_archive\_process.log}$ file when this issue occurs.
   
   The transaction log for database <ArchiveDB> is full.
2. Contact your database administrator and ask him to check if the transaction logs file is full. If that is the case, the Database Administrators will need to increase the size allocated for this file. The database administrator can also choose to shrink the transaction logs file on regular basis. For details about performing these tasks, you can also look at the Microsoft documentation.
3. From the System Console, restart the Archive service process and instance.
4. From the Administration Console, restart the failed archive job and see if it runs successfully.

**Cause 5: Archive Database is Full**

If the archive database is full, archive jobs will not run.

**Recommended action:**
1. Check the archive log file for errors related to database size 
   $\text{Cisco\_Home}\text{\textbackslash eService\textbackslash logs\textbackslash eg\_Log\_Services\_Server\_Name\_archive\_process.log}$.
2. Contact your database administrator to check if the Archive Database is full. If this is the problem, purge the data by running Purge jobs from the Administration Console. If you cannot run Purge jobs, consider increasing the size allocated to the database.
3. Contact your database administrator to check if the disk on which you have stored the archived data files is full. If this is the problem, increase the disk space.
4. From the System Console, restart the Archive service process and instance.
5. From the Administration Console, restart the failed archive job and see if it runs successfully.
Further Analysis

If none of the above mentioned recommended actions solve your problem, then you need to collect additional data and send the information to Cisco TAC. For details, see “Further Analysis” on page 129.

Purge Jobs Issues

Symptom 1: Purge Jobs Do Not Run

The Purge jobs do not run on schedule.

To validate this check the purge schedule time. Look for the settings purge.start.time.1 and purge.end.time.1 in the Cisco_Home\eService\config\egpl_archiverconfig.properties file.

If the current time of the Services Server is within the purge schedule time, then the Purge job should run, but it is not running. It could happen because of one of the following reasons.

Cause 1: Archive Service Not Running

The Archive service is not running. This service is required to be running for purge to happen.

Recommended action:

- From the System Console, check if the Archive service process and instance is running. If the service is not running, start the instance and process and see if this solves the problem.

Cause 2: Failed Purge Jobs Exist in Application

There is a failed job in some department in the partition.

Recommended action:

1. Check for failed jobs in all departments by running the following query on the active database:

   ```sql
   select c.job_name, b.department_name from egpl_arch_job_run a, egpl_department b, egpl_arch_job c
   where a.run_status = -11
   and a.department_id = b.department_id
   and a.job_id = c.job_id and a.department_id = c.department_id
   
   If there are any failed jobs, the query will return the name of the job that has failed and the name of the department to which the job belongs.
   
   2. From the Administration Console, browse to the department and restart the failed purge job.
Further Analysis

If none of the above mentioned recommended actions solve your problem, then you need to collect additional data and send the information to Cisco TAC. For details, see “Further Analysis” on page 129.
Reports

Issues

- Overview
- Setup and Performance Issues
- Report Run and Schedule Issues
- Report Results Issues
Overview

A report contains historical data, recorded by the system and built from summarization jobs, about a particular facet of your service organization.

Reports are created from templates—all templates are available in the Reports Console, and three of them are also available in the Agent Console.

Customers who are using Microsoft SQL Enterprise version have a separate Reports Database. The separate Reports Database can be on same server as the Active Database or on a different machine. Separating the reports database helps to speed up interactive application performance by removing resource-intensive report summarization and report generation tasks from the active database. Such resource-intensive tasks are run on the Reports Database.

To learn more about reports, see the Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Reports Console.

Setup and Performance Issues

Symptom 1: Unable to Run Reports

On running a report, the ‘Generating…’ screen is displayed indefinitely.

Cause: Out of Memory Error Causes Reports Service to Fail

This issue is observed when the Reports service fails because of an out of memory error.

Recommended actions:

1. In the following log files, search for “OutOfMemory”. If the problem exists, you need to increase the JVM size for the Report service process.
   - Cisco_Home\eService\logs\eg_log_Services_Server_Name_report-process.log
   - Cisco_Home\eService\logs\eg_log_Application_Server_Name_Application Server.log

2. Open the Cisco_Home\eService\config\egpl_dsm.xml in a text editor.

3. Search for </JVMPrams> and after it, add the following:

   </JVMPrams>

   <default>-Xmx128m</default>

   <Report_Process_Name>-256m</Report_Process_Name>

   </JVMPrams>

   Where Report_Process_Name is the name of the report process for which you want to increase the JVM size. To get the name of the report process, log in to System Partition and go to System Console. Navigate to the folder System > Shared Resources > Services > General > Report. Select the folder Report to view the details, including the name, of all the report processes in the List pane.
4. Restart the application.

**Symptom 2: Data Not Moved from Active Database to Reports Database**

Base data replication from the Active Database to the Reports Database does not happen, or it has not happened till the latest date and time. This issue is specific to customers using SQL Enterprise version.

**Cause: Specific Problems With Replication Script**

Some problems that can occur are:

- Replication script execution is not scheduled in populate summary jobs, or the jobs are not active.
- Replication script execution failed with SQL error. For example, PK violation etc.
- Replication script is running successfully but skipping few rows from some tables.

**Recommended actions**

1. Run the following query on the reports database to check if the summarization jobs ran successful.

```sql
select * from egplr_scheduled_task_status
```

2. Check if there is any error in the `EGMNT_ERRORS` table on the reports database. The stored procedure `usp_plr_mnt_data_move` is executed after every 30 minutes as part of the SQL job on the active database to move data from certain tables to the reports database. If any of the steps fail, it logs the error in the `EGMNT_ERRORS` table with details such as the error number, error message, table name, version, and create date of the table row.

3. Check the history of the populate job on the reports database and see if there is any failure for the step:

```sql
mnt_data_move_populatesmy_eGReportsDB>
```

4. Validate counts for data in the Active Database and match with replicated counts on the reports Database. Open the SP `usp_plr_mnt_data_move` on the Reports DB and see the tables involved for which insert statements are present in that SP. Check if counts are matching for these tables in the Active Database and the Reports Database.

**Report Run and Schedule Issues**

**Symptom 1: Reports Notifications not Sent Out**

Email notifications for reports are not sent out to the users.

**Cause: Invalid SMTP Server Settings**

**Recommended action:**

1. From the Reports Console check if the correct email addresses are provided for the notifications.
2. From the Administration Console check if the value of the partition level setting Notification mails SMTP Server is configured correctly.

**Symptom 2: “Report service not running” Error While Running Reports**

While running reports, the user sees a “Report service not running” error.

**Recommended action:**

- In the system partition, from the System Console, start the Report service.

**Symptom 3: “No Data Found” Message**

When a user runs a report, the report result shows “No data found” error or all columns show zero counts.

**Cause: Summarization Job not Completed for Specified Date**

This can happen when summarization is not completed for that report until the date for which report is run.

**Recommended actions**

1. Check the status of populate jobs on the Active Database or Reports Database (whichever applies) and confirm that all the steps are in completed state that is, ‘Done’. Also, check the job history and see if any errors had occurred.

2. Check the status and lastrun_datetime for each script in the egplr_scheduled_task_status table on the Active Database or Reports Database. The status should be done and the lastrun_datetime should be close to the current date and time with the maximum lag of half hour. (101 script would be always behind by 7 days). The report SP and the output table can be obtained from the EGPL_RPT_TEMPLATES table available in the Cisco Interaction Manager Active database.

3. Check for any error logged in the EGPL_RPT_JOB_ERRORLOG table in the Active Database or Reports Database by the stored procedure executed as part of the job.

4. If your deployment has a separate Reports Database, check if the replication of event data is completed to the latest time. Replication script is always run first before all populate SPs. See, “Symptom 2: Data Not Moved from Active Database to Reports Database” on page 137.

**Symptom 4: Error While Viewing Report Results**

When a user runs a report, the report result window shows a message “An error occurred while running report...”.

Report generation process is a two step process:

1. The reports SP runs and loads the data in the output table. There can be some SQL errors while this SP is executed. Failure can happen when the reports SP takes a long time to execute, and after a configured time (by default, 10 minutes), the SP execution is cancelled.
2. Second stage is the generation of the output file (.jprint) by the Reports service and population of the reports UI page with the data from the output table. This is done with the help of Jasper (third party tool).

**Recommended actions**

1. Check the disk space available on the File Server. Because of disk space issues, the Reports service may not have been able to generate output file in the Cisco_Home\eservice\reports\1\history\report_template_id folder.

2. Check the following log files for reports related errors:
   - eg_log_Server_Name_report-process.log
   - eg_log_Server_Name_ApplicationServer.log
   - egpl_root_Server_Name.log

3. Look for the “Failed to LOAD…” error message in the reports log file. The cause of stored procedure failure is logged along with the error. It is also logged in the EGPL_RPT_ERRORLOG table. This error can occur because of two reasons:
   a. SQL error occurs while SP execution. Debug the stored procedure.
   b. If the logs show the following error for that report ID, then the SP execution was terminated because it was taking a long time to execute.

   ```
   Failed to LOAD data for Report Generation Task with Report Id:12339 & Run Id:20627. <@> [Microsoft][SQLServer 2000 Driver for JDBC]The operation was cancelled at the user's request.
   ```

4. Look for “Failed to FILL…” text in the reports log file. Check if that message is occurring always when that report is run. If yes, then the Jasper files need to be debugged. Contact Cisco TAC to seek help on debugging this issue.

5. Look for ‘Failed to LOAD…’ error message in the reports log file. The reason why the stored procedure failed along with this error message is recorded in the log file and in the EGPL_RPT_ERRORLOG table. The “Failed to load” error generally occurs when a SQL error is encountered while executing the reports SP. Contact Cisco TAC to seek help on debugging this issue.

**Report Results Issues**

**Symptom: Mismatch in Reports Data**

Reports count does not match with the real time data/monitors based on some user analysis for some specific column.

Reports counts should not be compared with real time data/monitors counts as the reports always show historical data with a lag of at least half an hour due to the summarization process schedule. Most of the time comparison of reports counts with real time data is not a valid comparison.

Incorrect counts may also be displayed if certain events were missing due to manual updates being made to tables in the DB, for example, to change state of activities.
**Recommended actions:**

1. Review the *Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to Reports Console* with the customer to clarify the discrepancy on definitions for the columns.

2. Contact Cisco TAC for help in debugging this issue.
Database Issues

- Overview
- Database Slowness Issues
Overview

This chapter outlines common issues in the application’s databases. The impact of these issues is usually felt in the overall performance of the system.

Database Slowness Issues

Symptom: Application Slows Down

Cause 1: Inadequate Disk Space

Inadequate disk space on the database server can cause the application to slow down. As a general guideline, there should be at least a 100 GB of free space.

Recommended actions:

1. Check the hard disk space available on the drive where MSSQL database is installed. Make sure that there is at least a 100 GB of free space.

2. If there is not enough free disk space, shrink the database to release the unused space.

   Run the following query to shrink the SQL server tempdb, and the Unified EIM and WIM active, master, archive, and reports databases.

   ```
   use Database_Name
   go
   dbcc shrinkdatabase(n'Database_Name')
   go
   ```

3. If the required disk space is not freed by this process, consider upgrading the hard disk.

Caause 2: Antivirus Running on Database Server

The application will slow down if the antivirus runs during peak hours. To ensure that virus and malware scanning software on the servers do not interfere with the performance of the application, certain folders and files must be excluded from continuous virus scanning. Since no files are downloaded to these locations from the internet, it is safe to exclude these directories from virus scanning.

Recommended actions:

- For details of the files and folders that you need to exclude from the virus scanner, see the “Configuring Virus Scanning Exclusions” section in the Cisco Unified Web and E-Mail Interaction Manager Installation Guide.
Cause 3: Other Applications on the Database Machine Using Disk Space

Ensure that the database server resources are available exclusively for the Unified EIM and WIM application.

Recommended actions:

› Uninstall or move the applications that are sharing the resources to free the disk space.

Cause 4: Transaction Logs are Full

Transaction log file settings are not set to auto growth and hence few big SQL operations make the transaction log file full. As a result, SQL cannot write any more transactions.

Recommended actions:

1. Run the following query on the Unified EIM and WIM active, master, reports, and archive databases to get the log file names and the size of the log files.

   ```sql
   SELECT name, max_size
   FROM sys.database_files
   WHERE type_desc LIKE 'LOG'
   ```

   If the max_size of the log file is -1 or 268435456 (2 terabyte), then you do not need to change the maximum log file size.

2. To change the maximum size of the log file to unlimited, run the following query:

   ```sql
   USE [master]
   GO
   ALTER DATABASE [DATABASE_NAME] MODIFY FILE (NAME = N'LOG_FILE_NAME', MAXSIZE = UNLIMITED)
   GO
   ```

3. Run the following query to shrink the transaction log file. The size of the log file will be reset to 5 MB.

   ```sql
   USE [DATABASE_NAME]
   GO
   DBCC SHRINKFILE (N'LOG_FILE_NAME', 5)
   GO
   ```

4. You should also schedule a SQL maintenance job to backup the transaction log file at regular intervals.
Cause 5: Database Queries Taking Long Time to Run

If some queries take too long to run, it will slow the database.

Recommended Actions:

1. Access the query timeout log file from the location Cisco_Home\eService\logs\eg_log_query_timeout.log on the file server and look for queries that are taking a long time to run and the frequency of these occurrences.
   a. Search for the text “Time taken by Query (ms)” in the log file. This tells how many milliseconds the query took to execute.
   b. Look for the query name “Query Name:” and the Query text “Query Text:” corresponding to the queries that are taking a long time to run.

2. Validate if the hardware configuration meets the numbers recommended in the Cisco Unified Web and E-Mail Interaction Manager Solution Reference Network Design Guide.

3. Do the following to check if the SQL server is configured properly.
   a. Run the following query to check if the MSSQL edition is correct.
      ```sql
      select @@version
      ```
   b. Run the following queries to find out the minimum and maximum memory allocated to the MS SQL database.
      ```sql
      EXEC sys.sp_configure N'min server memory (MB)'
      EXEC sys.sp_configure N'max server memory (MB)'
      ```
      If the values do not match the numbers recommended in the Cisco Unified Web and E-Mail Interaction Manager Solution Reference Network Design Guide, run the following queries to change the numbers.
      ```sql
      exec sys.sp_configure n'max server memory (mb)', n'Maximum_Size'
      go
      reconfigure with override
      go
      ```
   c. Check the database properties. Click on the database, right-click and select Options and make sure Auto Update Statistics is set to True.

4. Do the following to check if the indexes are up to date.
   a. Run the following script to identify the indexes that are fragmented:
      ```sql
      Find_Fragmented_Indexes.sql
      ```
      If the script returns any results, it indicates that there are indexes which are fragmented.
   b. Run the following script to rebuild the indexes: Rebuild_Index.sql

5. Run the following query to check if Snapshot Isolation is enabled.
   ```sql
   select name,is_read_committed_snapshot_on from sys.databases where name = 'Database_Name'
   ```
   The value 0 in the is_read_committed_snapshot column indicates that Snapshot Isolation is disabled. The value 1 indicates that it is enabled.
   If the Snapshot Isolation is disabled, run the following query to enable it.
alter database Database_Name set single_user with rollback immediate;
alter database Database_Name set read_committed_snapshot on;
alter database Database_Name set multi_user;

6. Run the following query to find out the queries that are blocked:

```sql
SELECT * FROM sys.sysprocesses
WHERE blocked <> 0
```

From the output of this query, get the SPID of the blocked process to find out the actual query causing the block. Run the following query using the SPID:

```sql
DBCC inputbuffer (SPID)
```

The `Eventinfo` column of the query results will display the query that is blocked. Provide this information to Cisco TAC for further analysis.

7. Collect the SQL profiler trace information and provide this information to Cisco TAC for further analysis.

Do the following:

a. Open the SQL profiler from the Start > Program > Microsoft SQL Server 2005 > Performance Tools > SQL Server Profile.

b. Using the File > Template > Import Template menu option, import the template file provide to you by Cisco TAC.

c. Run the trace by creating a new trace file and select the template, and save the trace file.

8. Enable deadlock traces to identify which queries are causing deadlocks. Do the following:

a. Run the following query to enable deadlock traces:

```sql
dbcc traceon (1222,1204,-1)
```

b. Run the following query to verify that the `dbcc` tracing is turned on from the query analyzer:

```sql
dbcc tracestatus (-1)
```

The error log file will be generated at the following location `MSSQL_Home\MSSQL\LOG`. This file has all the queries that are blocking and causing the deadlock. Send this file to Cisco TAC for further analysis.

c. Search the log files in the `Cisco_Home\eService\logs` folder for the term `deadlock`. If you find that such log messages exist, share the log files with Cisco TAC.

9. Use the Windows Performance Monitor Tool and capture the performance counters for the following parameters. Save the output to a file and send it to Cisco TAC.

- SQLServer:Buffer Manager > Buffer cache hit ratio
- SQLServer:General Statistics > User Connections
- SQLServer:Locks(_Total) > Number of Deadlocks/sec
- SQLServer:Memory Manager > Connection Memory (KB)
- SQLServer:Memory Manager > Target Server Memory (KB)
- SQLServer:Memory Manager > Total Server Memory (KB)
- System > Processor Queue Length
- Memory > % Committed Bytes In Use
- Memory > Available MBytes
- Memory > Pages/sec
- PhysicalDisk\% Idle Time
- PhysicalDisk(_Total) > Avg. Disk Queue Length
- PhysicalDisk(_Total) > Avg. Disk sec/Read
- PhysicalDisk(_Total) > Avg. Disk sec/Write
- Processor(_Total) > % Processor Time
- Process(sqlservr) > Private Bytes
Appendix: Properties

Files

egpl_ds_connpool_map.xml

Location: Cisco_Home\eService\config\dataaccess\egpl_ds_connpool_map.xml

Properties:

- **ipcc_mssql_pool_1**: Used for primary AWDB configurations. Failure to configure this property will disable the primary–secondary switch over capabilities of the application.
- **ipcc_mssql_pool_2**: Used for secondary AWDB configurations. Failure to configure this property will disable the primary–secondary switch over capabilities of the application.
- **MaxCapacity**: The data access layer creates a pool of database connections in each process that are reused to improve the performance of database operations. This property determines the maximum number of connections that are stored in the pool.

callclassmapping.properties

Location: Cisco_Home\eService\config\ipcc\callclassmapping.properties

This file is used for mapping the CTI Strategy to the callclass variable. The same call variable should be set in the CMB File server, in

```
CMB_INSTALL_DIR\servlet\Properties\Blender\ACD.ciscocti.properties.
```

This configuration is required only for Legacy ACD configurations.

egicm_configuration.properties

Location: Cisco_Home\eService\config\ipcc\egicm_configuration.properties

Properties:

- **max_retry_count**: Number of retries to be done for an email activity when `Terminate_dialog_Resp` arrives. Currently this is not handled, since there is no scope of sending `Terminate_dialog_req` for email activities.
heart_beat_network_buffer: This calculates the duration (network buffer heartbeat interval) for which EAAS should wait for a heartbeat before terminating the connection with MR PG.

non_realtime_activity_fetch_time_in_millisecs: Determines the duration for a DB ping for fetching the email activity.

web_callback_cutoff_insec: Determines the interval of starvation (over higher priority activities) for web callback. This figure will always be calculated in seconds.

be_cutoff_insec: Determines the interval of starvation (over higher priority activities) for blended collaboration. This figure will always be calculated in seconds.

chat_cutoff_insec: Determines the interval of starvation (over higher priority activities) for chat. This figure will always be calculated in seconds.

email_cutoff_inhrs: Determines the interval of starvation (over higher priority activities) for email. This figure will always be calculated in hours.

threshold_delay_time_insec: When EAAS goes down, this determines if a delayed callback needs to be processed.

chat_watchdog_insec: Determines watchdog termination interval in seconds for chat. Start time for watchdog is calculated when an activity gets queued at EAAS.

bc_watchdog_insec: Determines watchdog termination interval in seconds for blended collaboration. Start time for watchdog is calculated when an activity gets queued at EAAS.

mr_max_number_of_request_processor_threads: Size of the EAAS thread pool that sends message to ICM.

mr_max_number_of_response_processor_threads: Size of EAAS thread pool that processes responses from ICM.

mr_socket_timeout_in_millisecs: Socket timeout for MR-PG EAAS connection.

time_to_clean_dialed_number_cache_in_sec: Setting to identify when to cleanup stale cache of Script Selector ID and Dialed Name mapping.

Listener configuration parameters

Location: Cisco_Home\eService\config\ipcc\egicm_configuration.properties

Properties:

- listener_heartbeat_interval_in_millisecs: HeartBeat interval for HeartBeatMonitor.
- listener_max_heartbeat_attempts: Maximum heartbeat response verification attempts made by HeartBeatMonitor before declaring a failure.
- listener_max_login_wait_time_in_millisecs: Maximum wait time for all agent login requests, responses from Listener to ARM and CMB.
- listener_arm_conn_recovery_constant: Multiplication factor defining the wait time before making the next attempt to connect to ARM during the connection failure.
- listener_socket_time_out_in_millisecs: Listener to ARM socket timeout.
- listener_close_conf_wait_time_in_millisecs: Waiting time for the CLOSE_REQ response from ARM.
> **listener_open_conf_wait_time_in_millisecs:** Waiting time for the OPEN_CONF response from ARM.
> **listener_nipta_thread_iteration_period_insec:** Iteration frequency for NIPTA thread.
> **mrd_login_failure_notification:** Configuration for agent login failure on MRD.
> **ui_notification_on_failure:** Configuration for MRD failure notification on UI.
> **listener_supervisory_thread_iteration_period_insec:** Iteration frequency for Supervisory Activities Assignment thread.
> **make_agent_not_ready_reason_code:** This goes as reason code with MAKE_AGENT_NOT_READY_REQ.
> **listener_nipta_thread_sleep_duration_insec:** This goes as reason code with LISTENER_NIPTA_THREAD_SLEEP_DURATION_INSEC.
> **listener_publish_agent_interruptibility_message:** Setting to trigger ICM interruptibility related message alerts to pop-up in the Agent Console.

### CMB Configuration Parameters

**Location:** Cisco_Home\eService\config\ipcc\egicm_configuration.properties

**Properties:**

- **listener_num_threads_for_cmb_to_listener_event_executor:** Executor thread pool size for CMB to Listener Executor.
- **listener_num_threads_for_listener_to_cmb_event_executor:** Executor thread pool size for Listener to CMB Executor.
- **listener_num_threads_for_priority_event_executor:** Executor thread pool size for priority event from Listener to ARM executor. For example, agent login event.
- **listener_num_threads_for_arm_event_executor:** Executor thread pool size for internal event executor.

### egicm_ecc_variables_name.properties

This file contains names of ECC Variables used for Blended Collaboration and Callback queues. Structure of this file is ECC variable name = unique identifier in the Cisco Interaction Manager Code.

---

**Important:** This file should not be modified.

---

**Location:** Cisco_Home\eService\config\ipcc\egicm_ecc_variables_name.properties

**Properties:**

- `user.cim.activity.id = 1`
- `user.wim.customer.name = 2`
- `user.cisco.cmb = 3`
- `user.cisco.cmb.callclass = 4`
**egicm_media_class_mappings.properties**

This file contains mappings of ICM Media Classes. It is an important file and most of the entries in this file are non-editable. Depending on the configuration, only names of CIM_WIM, CIM_EIM and CIM_BC can be changed. Note that 9001... IDs cannot be changed as they are used in the application. Also note that 9001 corresponds to Cisco_Voice, 9002 corresponds to CIM_WIM, 9003 corresponds to CIM_EIM and 9004 corresponds to CIM_BC. This hard coding of media type with ID is constant and is used in the product as it is and should not be changed.

The only items that can be changed in this file are the corresponding Media Class Names.

**Location:** `Cisco_Home\eService\config\ipcc\egicm_media_class_mappings.properties`

**Properties:**
- `Cisco_Voice = 9001`
- `CIM_WIM = 9002`
- `CIM_EIM = 9003`
- `CIM_BC = 9004`
- `CIM_OUTBOUND = 9005`

**egicm_message_map.xml**

This file contains values used for Dynamic Run Application Script Request (DRASR). DRASR allows you to display wait messages with dynamic text (such as expected wait time) to customers while chat requests are being processed by the Unified WIM and Unified CCE integrated systems. You can use ECC variables, call variables, and application strings to display the dynamic content. For details about configuring DRASR, see the “Configuring Dynamic Messages for Integrated Chats” section in the *Cisco Unified Web and E-Mail Interaction Manager Deployment and Maintenance Guide*.

**Location:** `Cisco_Home\eService\config\ipcc\egicm_message_map.xml`

**Properties:**
- `<Script_Name isURL="yes/no" isViewPort="yes/no"> This is test message </Script_Name>`

**ipcc_general.properties**

**Location:** `Cisco_Home\config\ipcc\ipcc_general.properties`

**Properties:**
- `listener_autopush_back_enable`: By default auto-pushback is enabled for integrated chats. Set the value to false to disable auto-pushback for integrated chat agents. The change takes effect for all departments in the installation. Restart the Listener service process and instance for the changes to take effect. For details about restarting the service, see the *Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console*. 
egpl_archiverconfig.properties

This file contains properties for the Archive service.

Location: `Cisco_Home\eService\config\egpl_archiverconfig.properties`

**Important:** After updating any property, you need to restart the archive service process and instance.

Properties:

- **max.transaction.attempts:** Number of times the system retries to execute a query when a database deadlock occurs during an archive or purge job. After the maximum number is reached, an exception is logged in the archive process log file in the `Cisco_Home\logs` folder and the job is marked as failed. Do not set the value lower than 2 or higher than 5.

- **batch.size:** Number of cases and activities that are included in each batch for archive and purge jobs. Do not set the value lower than 2000 or higher than 5000.

- **purge.start.time.1:** The time when the purge jobs start. This time is specified in the format HH:MM:SS and the timezone is decided based on the timezone set on the services server. When a purge job runs, it puts additional load on the system.

- **purge.end.time.1:** The time when the purge jobs stop. The purge job will complete the batch it is processing. The remaining activities and cases are picked for purging when the next purge job is run. The time is specified in the format HH:MM:SS and the timezone is decided based on the timezone set on the services server.

egpl_general.properties

Location: `Cisco_Home\eService\config\egpl_general.properties`

Properties:

- **logger.max.backup.index:** Number of backup copies of the log files to be saved. The default value is set to 100. After the number of versions of a log file reach the specified number, the system starts deleting the oldest backed-up copy of the log file from the Logs folder. If you do not want to delete the old files, specify the value as -1, which means that the log files are never deleted from the `Cisco_Home\Service\logs` folder.

egpl_cachedefaultconfig.properties

This file contains properties for the Distributed Cache Manager.

Location: `Cisco_Home\eService\config\egpl_cachedefaultconfig.properties`

**Important:** While updating port numbers, make sure you provide a unique port number for each property.
Properties:

- **discoveryaddress**: When data cached in the memory of application servers is updated from the UI, the changes are communicated to all the application servers. This property defines the port number on which the Cache Manager in each application server listens for changes to the cached data. Values for each application server are separated by a semicolon (;) and the port number and the application server names are separated by a colon (:). While updating the property, only the port numbers should be changed, and not the application server names. After updating this property, restart the application.

- **DSMController.cache.port**: The port number used by the Cache Manager for the DSMController JVM. This port is also used by the application server JVM to communicate with the DSMController. After updating this property, you need to restart the services server.

- **HostController.cache.port**: The port number used by the Cache Manager for the HostController JVM. This port is also used by the application server JVM to communicate with the HostController. After updating this property, you need to restart the services server.

- **ServiceController.cache.port**: The port number used by the Cache Manager for the ServiceController JVM. After updating this property, you need to restart the services server.

- **DSMServices.cache.port**: The starting port number from where the DSMController starts assigning ports to the services as they are started. For example, if the starting value is set to 25003, and retriever is the first service that starts, then port 25003 is assigned to the service. If the next service to start is dispatcher, port 25004 is assigned to dispatcher. Likewise, as services get started, the subsequent port numbers are assigned to the services. A system can have around 15 services running at a time, so make sure that the next 20 ports are not used for any other property. After updating this property, you need to restart the services server.

---

**egpl_dsm.xml**

This file contains properties for the Distributed Service Manager.

Location: \Cisco_Home\eService\config\egpl_dsm.xml

Properties:

- **JVMParams**: The memory allocated to the DSM processes in the system. By default, 128 MB (megabytes) is assigned to all the services.

---

**egpl_event.xml**

This file contains properties for the messaging server.

Location: \Cisco_Home\eService\config\egpl_event.xml

Properties:

- **retryCount**: Number of times the DSM processes try to reconnect to the messaging server after a connection failure. The retry is done after the time interval defined in the `reSubPingInterval` property. The value of this property should not be set less than 100.
- **reSubFailureNotifyAttemptCount**: Number of failed retries (DSM processes trying to reconnect to the messaging server after a connection failure) after which a notification is sent to the email address specified in the partition level setting **To: address for notifications from services**.

### egpl_master.properties

**Location**: `Cisco_Home\eService\config\egpl_master.properties`

**Properties**:

- **query_cut_off_time**: Monitor the queries that are taking a long time to execute. This information is useful for debugging and troubleshooting purposes. Any time a query takes longer to execute than the time specified in this property, a message is logged in the `Cisco_Home\logs\eg_log_query_timeout.log` file. Details, such as, the user ID of the user who initiated the query, the name of the query, the time taken by the query, etc. are logged.

---

**Important**: After updating this property, you need to restart the component you want to troubleshoot.

### egml_mailconfig.properties

This file contains properties for the retriever service.

**Location**: `Cisco_Home\eService\config\egml_mailconfig.properties`

**Properties**:

- **Rx.NumEmailPending**: Monitor the number of pending emails in the alias’ mailbox on the mail server. Once the number exceeds the value defined in this property, a notification is sent to the email address specified in the partition level setting **To: address for notifications from services**. The interval at which these notifications are sent is defined in the property **Rx.NotificationInterval**.

- **Rx.NotificationStrings.File**: The location of the strings used for sending retriever notifications. If you want notifications in a language other than English, then modified this path. For example, for Japanese strings, it should be `\l10n|ja|jp|ml|retriever\`. To get paths for other languages, check the following folder on the file server: `Cisco_Home\eService\l10n`

- **Rx.NotificationInterval**: When the number of pending emails in the mailbox exceed the number defined in the `Rx.NumEmailPending` property, an email notification is sent to the email address specified in the partition level setting: **To: address for notifications from services**. The time interval, in minutes, at which notifications are sent out is defined in this property.

- **Rx.DeleteMsgNotificationInterval**: When the retriever is unable to retrieve a problematic email that results in a loss of connection to the mail server, it starts skipping the email in subsequent cycles and sends a notification to the email address specified in the partition level setting **To: address for notifications from services**. The time interval, in minutes, at which notifications are sent is defined in this property. Notifications are sent until the problematic email is deleted from the mail server.
- **Rx.AliasDisableInterval**: The time, in milliseconds, for which the retriever waits to make a disabled alias active. If an alias gets disabled because of authentication failure, then the retriever tries to make it active after the specified time interval by changing the status of the alias to **Active**. After the alias is made active, if the problem persists, the retriever again disables the alias for the time specified here. This process is repeated until the problem is fixed.

- **Rx.Folder.<Partition_Id>.<Alias_Id>=<Folder_path>**: By default (for the POP3 and IMAP mail servers) the retriever retrieves emails from the main **Inbox** folder. For IMAP mail servers, you can choose to retrieve emails from a sub-folder under the inbox folder.

- **Rx.Debug**: This property is used to debug the mail server connectivity issues. When the property is enabled (set to 1), all the POP3 or IMAP commands used by the retriever to communicate with the mail server are logged in the `Cisco_Home\eService\logs\egpl_root_Services_Server_Name.log` file.

- **Reply.AddressBook.EmailAddresses.Count**: The number of email addresses displayed in the address book in the Reply pane. By default 100 addresses are listed in the address book. The recommended maximum value is 500. If the value is set to more than 500, then the response time to load the address book will be more.

### egpl_dispatcherconfig.properties

This file contains properties for the dispatcher service.

**Location**: `Cisco_Home\eService\config\dispatcher\egpl_dispatcherconfig.properties`

**Properties**:

- **Dx.NumEmailPending**: Monitor the number of activities waiting to be dispatched. Once the number exceeds the value defined in this property, a notification is sent to the email address specified in the partition level setting **To: address for notifications from services**. The interval at which these notifications are sent is defined in the **Dx.NotificationInterval** property.

- **Dx.AgeEmailPending**: Monitor the age of activities (in minutes) waiting to be dispatched. Once the age of activities exceeds the value defined in this property, a notification is sent to the email address specified in the partition level setting **To: address for notifications from services**. The interval at which these notifications are sent is defined in the **Dx.NotificationInterval** property.

- **Dx.NotificationStrings.File**: The location of strings used for sending dispatcher notifications. If you want notifications in the any language other than English, then modify this path. For example, for Japanese strings, it should be `l10n|ja|jp|ml|dispatcher`. To get paths for other languages, check the following folder on the file server: `Cisco_Home\eService\l10n`

- **Dx.NotificationInterval**: When the number of pending emails for dispatch exceed the number defined in the **Dx.NumEmailPending** property, an email notification is sent to the email address specified in the partition level setting **To: address for notifications from services**. The interval, in minutes, at which notifications are sent out by the dispatcher is defined in this property.

- **Dx.Debug**: This property is used to debug the mail server connectivity issues. When the property is enabled (set to 1), all the SMTP or ESMTP commands used by the dispatcher to communicate with the mail server are logged in the `Cisco_Home\eService\logs\egpl_root_V21W1.log` file.
### eglv_liveconfig.properties

After changing these property, restart the Agent Assignment Service process and instance for standalone chats.

Restart the Listener service process and instance for the changes to take effect for integrated chats. For details about restarting these services, see the *Cisco Unified Web and E-Mail Interaction Manager Administrator’s Guide to System Console*.

**Location:** `Cisco_Home\eService\config\live\eglv_liveconfig.properties`

**Properties:**

- **mark_agent_unavailable_on_ack_failure:** This property defines if the agent should be made unavailable after a chat has been pushed back automatically from the agent’s inbox. By default this property is disabled. Change the value to `true` to enable the property. The change takes effect for all departments in the installation.

- **activity_start_ack_timeout_in_sec:** This property determines when a chat activity is pushed back automatically from an agent’s inbox. If an agent does not click on a new chat in the time configured in this property, the chat is pushed back automatically to the queue from where it can be routed to other agents. The change takes effect for all departments in the installation. The default value is 120 seconds.

### egpl_routingconfig.properties

**Location:** `Cisco_Home\eService\config\egpl_routingconfig.properties`

**Important:** After updating any property, restart the workflow engine service processes and instances.

**Properties:**

- **routing.NumActivityPendingForWorkflowProcessing:** Monitor the number of activities waiting to be processed by workflows. This does not include the activities that are waiting to be assigned. Once the number exceeds the value defined in this property, a notification is sent to the email address specified in the partition level setting **To:** address for notifications from services. The interval at which these notifications are sent is defined in the `routing.NotificationInterval` property.

- **routing.AgeActivityPendingForWorkflowProcessing:** Monitor the age of activities, in minutes, waiting to be processed by workflows. This does not include the activities that are waiting to be assigned to users. Once the age of activities exceeds the value defined in this property, a notification is sent to the email address specified in the partition level setting **To:** address for notifications from services. The interval at which these notifications are sent is defined in the `routing.NotificationInterval` property.

- **routing.ErrorStateDuration:** Monitor the activities that went in error state in the time duration (in minutes) specified in this property. Once the activities meet the criteria, a notification is sent to the email address specified in the partition level setting **To:** address for notifications from services. The interval at which these notifications are sent is defined in the `routing.NotificationInterval` property.

- **routing.NumErrorActivity:** Monitor the number of activities that are in error state, that is the activities that are routed to the Exception Queue because of some routing issues. This does not include the activities manually transferred to the Exception Queue by users. Once the number exceeds the value defined in this
property, a notification is sent to the email address specified in the partition level setting **To: address for notifications from services**. The interval at which these notifications are sent is defined in the `routing.NotificationInterval` property.

- **routing.NotificationStrings.File**: The location of strings used for sending workflow notifications. If you want notifications in a language other than English, then change this path. For example, for Japanese strings, it should be `l10n|ja|jp|pl|routing|`. To get paths for other languages, check the following folder on the file server: `Cisco_Home\eService\l10n`.

- **routing.NotificationInterval**: The time interval (in minutes) after which notifications are sent out for workflows. An email notification with details such as, number of pending activities, age of pending activities, number activities in error state, and activities moved to the Exception Queue because of workflow failure is sent to the address specified in the partition level setting **To: address for notifications from services**.