Using Traces

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Understanding Traces

Cisco Unity Connection Serviceability traces help troubleshoot problems in the following ways:

- You can specify the log file parameters for each Unity Connection component, including the maximum number of log files and the maximum file size that can be created when you run traces for a component.

- You can enable micro traces and the level of micro-trace information that you want.

- You can enable macro traces (preselected groups of micro traces) and the level of macro-trace information that you want.

After you have configured the log files and enabled the traces, you collect trace log files in one of the following ways:

- Using the trace and log central option in the Real-Time Monitoring Tool (RTMT). For information, see the "Working with Trace and Log Central" chapter (in the "Tools for Traces, Logs, and Plug-Ins" part) of the Cisco Unified Real-Time Monitoring Tool Administration Guide at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html.

- Using the command line interface (CLI). For information, see the *Command Line Interface Reference Guide for Cisco Unified Communications Solutions* at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html.

Note Enabling macro or micro traces decreases system performance. Enable traces only for troubleshooting purposes.

Configuring Trace Log Files

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> **Note**   Before trace information can be written to the log files, you must enable micro traces or macro traces that provide the troubleshooting information in the areas that you select.

1. In Cisco Unity Connection Serviceability, select **Trace** > **Configuration**. The Trace Configuration page appears.

2. In the Server drop-down box, select the applicable Unity Connection or Cisco Business Edition server, and select **Go**.

3. From the Component drop-down box, select the component for which you want to configure trace log files, and select **Go**.

   The drop-down box displays all components (active and inactive).

4. In the Maximum No. of Files field, enter the maximum number of trace log files that is created for this component.

5. In the Maximum File Size field, enter the size limit (in megabytes) for the trace log files that is created for this component.

6. If you want to return to the default settlings, select **Set Default**. Otherwise, skip to the next step.

7. Select **Save**.

8. If you want the new trace log files to replace the old trace log files for this component, select **Restart Log Files**.

Enabling Micro Traces

Enable micro traces when you are troubleshooting problems with specific Cisco Unity Connection components. For example, if the Alert Central tool in Real-Time Monitoring Tool (RTMT) has notification errors, enable the Notifier trace. However, keep in mind that running traces can affect system performance and hard-disk space.

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> **Note**   Enabling micro traces decreases system performance. Enable traces only for troubleshooting purposes.

Step 1   In Cisco Unity Connection Serviceability, select **Trace** > **Micro Traces**.

The Micro Traces page appears.

Step 2   In the Server drop-down box, select the applicable Unity Connection or Cisco Business Edition server, and select **Go**.

Step 3   From the Micro Trace drop-down box, select the micro trace that you want to enable, and select **Go**.

Step 4   Under Micro-Trace Levels, check the check boxes for the micro-trace levels that you want to enable.

Step 5   Select **Save**.

Tip   You may need to enable traces in Cisco Unity Connection Serviceability and Cisco Unified Serviceability to troubleshoot Unity Connection issues. To troubleshoot Unity Connection components, enable traces in Cisco Unity Connection Serviceability. Similarly, to troubleshoot services that are supported in Cisco Unified Serviceability, enable traces in Cisco Unified Serviceability. For information on how to enable traces in Cisco Unified Serviceability, see the Cisco Unified Serviceability Administration Guide at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html.

Available Micro Traces

The Table 1: Micro Traces lists each micro trace that is available, a description of what it analyzes, and the filename of the trace log that it generates.

Table 1: Micro Traces

Micro Trace Name	What the Trace Analyzes	Filename of Trace Log
Arbiter	Conversations, ports, and call routing rules that are used for calls	diag_CuCsMgr_*.uc
AudioStore	The audio recording service used by web-based applications that use Media Player to playback or record audio streams	diag_Tomcat_*.uc
AxlAccess	Interaction with the AXL server to get and set phone-related properties	diag_Tomcat_*.uc
BulkAdministrationTool	Bulk Administration Tool that is used for creating, updating, and deleting multiple users or system contacts	diag_Tomcat_*.uc
CCL	The retrieval of meeting information for the calendaring feature	diag_CuCsMgr_*.uc diag_CuGalSvc_*.uc diag_Tomcat_*.uc
CDE	Conversation engine and conversation events	diag_CuCsMgr_*.uc
CDL	Information retrieval from the database	diag_CuCsMgr_*.uc diag_Tomcat_*.uc
CiscoPCA	The Cisco Personal Communications Assistant (Cisco PCA)	diag_Tomcat_*.uc

Micro Trace Name	What the Trace Analyzes	Filename of Trace Log
CML	The retrieval of messages from the Cisco Unity Connection message store; the retrieval of messages from an Exchange server (using IMAP) for using Text-to-Speech feature to read email messages	diag_CuCsMgr_*.uc diag_CuNotifier_*.uc diag_Tomcat_*.uc
Common	Low-level activities for components that are shared by Cisco Unity Connection services	<any>
ConfigData	Detection that configuration data has been updated in the database	<any>
ConvRoutingRules	The conversation to which the Arbiter routes calls	diag_CuCsMgr_*.uc
ConvSub	User activities and usage	diag_CuCsMgr_*.uc
CsEws	Exchange Web Services calls from Unity Connection to Exchange for single inbox, calendaring, and text-to-speech	diag_CuCsMgr_*.uc diag_CuMbxSync_*.uc
CsExchangeMbxLocator	Autodiscovery of Exchange mailboxes for single inbox, calendaring, and text-to-speech	diag_CuCsMgr_*.uc diag_CuMbxSync_*.uc
CsMalUmss	Access to the message store by the CML, Notifier, and IMAP server	diag_CuCsMgr_*.uc diag_Tomcat_*.uc
CsMbxSync	Single inbox synchronization	diag_CuMbxSync_*.uc
CsWebDav	Calendar activities in connection with Exchange	diag_CuCsMgr_*.uc diag_CuGalSvc_*.uc diag_Tomcat_*.uc
Cuals	The activities of the web services to add users	diag_Tomcat_*.uc
Cuca	The activities of Cisco Unity Connection Administration	diag_Tomcat_*.uc
CuCESync	Activity related with Survival Remote Site Voicemail (SRSV) processing.	diag_CUCESync_*.uc
CuCcmSynchronizationTasks	Synchronization of the user data from Cisco Unified CM	diag_Tomcat_*.uc
CuCmDbEventListener	Detection of changes in the Cisco Unified CM database	diag_CuCmDbEventListener_*.uc

Micro Trace Name	What the Trace Analyzes	Filename of Trace Log
CuCsMgr	Main Cisco Unity Connection process; starting and stopping Unity Connection	diag_CuCsMgr_*.uc
CuDbProxy	Database replication for Cisco Unity Connection clusters	diag_CuDbProxy_*.uc
CuEncrypt	Encryption (except for messaging) and the encryption audit logs	<any>
CuESD	The activities of Unity Connection external service diagnostic tools	diag_Tomcat_*.uc
CuFileSync	File replication for Unity Connection clusters	diag_CuFileSync_*.uc
CuGal	The retrieval of calendar and contact information from Exchange	diag_CuGalSvc_*.uc
CuImapSvr	Access to voice messages by IMAP clients	diag_CuImapSvr_*.uc
CuReplicator	Replication for digital networking **Note** We recommend that the Debug Traces and Debug Statistics micro-trace levels be enabled for no more than one hour because they can produce a large number of log entries.	diag_CuReplicator_*.uc
CuService	The activities of Cisco Unity Connection Serviceability	diag_Tomcat_*.uc
CuSlmSvr	The activities of Cisco Smart Software Licensing Services in Cisco Unity Connection	diag_CuSlmSvr_*.uc
CuSnmpAgt	The activities of the Connection SNMP subagent	diag_CuSnmpAgt_*.uc
DataSysAgentTasks	Data SysAgent tasks	diag_CuSysAgent_*.uc
DbEvent	Component notification of database changes	<any>
DPAPI	The activities of the diagnostic portal application programming interface web service	diag_Tomcat_*.uc

Micro Trace Name	What the Trace Analyzes	Filename of Trace Log
EWSNotify	Exchange EWS mailbox synchronization notifications	<date in the format yyyy_mm_dd>.stderrout.log.*
FailureConv	Activation of the Failure Conversation when a system error occurs	diag_CuCsMgr_*.uc
Feeder	In Intersite Networking, this micro trace checks the local site change-tracking database for directory changes and responds to poll requests from the remote site gateway Reader task

In HTTPS Networking, this micro trace checks the change-tracking database of local subtree in Feeder for directory changes and responds to poll requests from the remote location Reader task. | diag_Tomcat_*.uc |
| FeedReader | In Intersite Networking, this microtrace periodically polls the remote site gateway for any directory changes since the last poll interval.

In HTTPS Networking, this microtrace periodically polls the remote location for any directory changes since the last poll interval. | diag_Tomcat_*.uc |
Google Workspace	All activities and functions related to synchronization of user mailbox at Gmail server and Unity Connection	diag_CuGSuiteSyncSrv_*.uc
LicenseClient	Functions related to license management	diag_CuCsMgr_*.uc
Logger	Writing traces logs and events	<any>
MessageEventService	Detection of arrival or deletion of messages	diag_Tomcat_*.uc
MiuAdm	Functions in Cisco Unity Connection Administration relating to testing voice messaging ports and generating certificates	diag_Tomcat_*.uc
MiuCall	The process between the Miu and conversations	diag_CuCsMgr_*.uc
MiuDatatbase	Media activities relating to accessing the database	diag_CuCsMgr_*.uc

Micro Trace Name	What the Trace Analyzes	Filename of Trace Log
MiuGeneral	Tracking calls through the phone user interface (TUI); call control functions; turning message waiting indicators (MWIs) on and off; notification and outdial functions; basic media or WAV file usage	diag_CuCsMgr_*.uc
MiuIO	Media or WAV file usage with TAPI (circuit-switched or Cisco Unified CallManager) integrations	diag_CuCsMgr_*.uc
MiuMethods	Handing of incoming calls; call control; turning messaging waiting indicators (MWIs) on and off; notification and outdial functions; media or WAV file usage	diag_CuCsMgr_*.uc
MiuSIP	SIP call control	diag_CuCsMgr_*.uc
MiuSIPStack	Low-level SIP interactions for call control	diag_CuCsMgr_*.uc
MiuSkinny	SCCP call control	diag_CuCsMgr_*.uc
MiuTranscode	Low-level media functions relating to transcoding	diag_CuCsMgr_*.uc
Mixer	Low-level activities relating to media and the Text-to-Speech feature	diag_CuMixer_*.uc
Monitor	Monitoring the status of voice messaging ports and call processing during a call; the server-side functions for displaying port status in Real-Time Monitoring Tool	diag_CuCsMgr_*.uc
MTA	Delivery of voice messages to the message store	diag_MTA_*.uc
Notifier	Notification of messages and selected events; turning message waiting indicators (MWIs) on and off	diag_CuCsMgr_*.uc diag_CuNotifier_*.uc
PCAMeetingPlace	Activities of the Cisco Personal Communications Assistant relating to MeetingPlace for the calendar feature	diag_Tomcat_*.u
PCAUnifiedCM	Activities of the Cisco Personal Communications Assistant relating to the Cisco Unified Communications Manager integration	diag_Tomcat_*.uc

Micro Trace Name	What the Trace Analyzes	Filename of Trace Log
PhoneManager	The management of IP phone applications	diag_CuCsMgr_*.uc
PhraseServer	The prompts that play and the user DTMF input; the logs are written to a file	diag_CuCsMgr_*.uc
PhraseServerToMonitor	The prompts that play and the user DTMF input; the logs are written to the monitor	diag_CuCsMgr_*.uc
ReportDataHarvester	Conversion of the content in the data log files to entries in the reports database	diag_CuReportDataHarvester_*.uc
ResourceLoader	Using the selected language in the GUI; filling strings with product or message information	<any>
ResourceManager	Monitoring and providing available resources to the Arbiter as needed	diag_CuCsMgr_*.uc
RoutingRules	Call routing decisions	diag_CuCsMgr_*.uc
RSS	RSS feeds that are used for checking voicemail from an RSS client	diag_Tomcat_*.uc
RulesEngine	Evaluation of personal call transfer rules for a user during a call	diag_CuCsMgr_*.uc diag_Tomcat_*.uc
SMTP	SMTP functions	diag_SMTP_*.uc
SocketPoolHelper	Socket connections to the IMAP server	<any>
SRM	Functions related to cluster management	diag_CuSrm_*.uc
SslInit	Initialization procedures for components that use OpenSSL	<any>
SttClient	Detects messages that need to be transcribed; attaches completed transcriptions to original messages	diag_MTA_*.uc
SttService	Communication between Cisco Unity Connection and the third-party external transcription service	diag_SttService_*.uc
SysAgent	System Agent component, which schedules system tasks that the administrator enters (such as resynchronizing MWIs)	diag_CuSysAgent_*.uc

Micro Trace Name	What the Trace Analyzes	Filename of Trace Log
TaskRequest	Functions related to the Task Management tool	diag_CuSysAgent_*.uc
TextToSpeech	The activities of the Text to Speech feature	diag_CuCsMgr_*.uc
ThreadPool	The use of threads by the processor	<any>
TimerHelper	The timer used by the Conversation Manager component	<any>
TranscodeWeb	The web server audio format transcoding utilities that transcode the incoming audio streams into the audio format that Cisco Unity Connection uses	diag_Tomcat_*.uc
TRaP	Phone Record and Playback (TRaP), which lets clients use the phone as a recording and playback device	diag_CuCsMgr_*.uc diag_Tomcat_*.uc
UmssSysAgentTasks	Messaging tasks for the System Agent component	diag_CuSysAgent_*.uc
UnityAssistant	The activities of the Messaging Assistant web tool in the Cisco Personal Communications Assistant	diag_Tomcat_*.uc
UnityInbox	The activities of the Messaging Inbox web tool in the Cisco Personal Communications Assistant	diag_Tomcat_*.uc
UnityPCTR	The activities of the Cisco Unity Connection Personal Call Transfer Rules web tool in the Cisco Personal Communications Assistant	diag_CuCsMgr_*.uc
Video	The activities of Video call between Unity Connection and Cisco MediaSense through APIs.	diag_CuCsMgr_*.uc
VirtualQueue	Call queuing	diag_CuCsMgr_*.uc
VMREST	Interactions with Representational State Transfer (REST) API clients	• diag_Tomcat_*.uc • diag_tomcat-rest*.uc
VMWS	Interactions with voice messaging web services	diag_Tomcat_*.uc
VUI	The voice user interface	diag_CuCsMgr_*.uc

Enabling Macro Traces

Enable macro traces, which are preselected sets of micro traces, when you are troubleshooting general areas of Unity Connection functionality. For example, if there are MWI problems, enable the Traces for MWI Problems macro trace. However, keep in mind that running traces can affect system performance and hard-disk space.

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Caution   Enabling macro traces decreases system performance. Enable traces only for troubleshooting purposes.

Step 1   In Cisco Unity Connection Serviceability, select **Trace** > **Macro Traces**.

The Macro Traces page appears.

Step 2   In the Server drop-down box, select the applicable Unity Connection or Cisco Business Edition server, and select **Go**.

Step 3   Check the check box of the macro trace that you want to enable.

Step 4   Expand the macro trace, and check the check boxes for the levels that you want to enable.

Step 5   Select **Save**.

Tip   You may need to enable traces in Cisco Unity Connection Serviceability and Cisco Unified Serviceability to troubleshoot Unity Connection issues. To troubleshoot Unity Connection components, enable traces in Cisco Unity Connection Serviceability. Similarly, to troubleshoot services that are supported in Cisco Unified Serviceability, enable traces in Cisco Unified Serviceability. For information on how to enable traces in Cisco Unified Serviceability, see the Cisco Unified Serviceability Administration Guide at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html.

Available Macro Traces

Table 2: Macro Traces lists each macro trace that is available, a description of what it analyzes, and the filename of the trace log that it generates.

Table 2: Macro Traces

Macro Trace Name	What the Trace Analyzes	Filename of Trace Log
Call Flow Diagnostics	The flow of a call through Unity Connection	diag_CuCsMgr_*.uc
Message Tracking Traces	Message handing; the objects that handle messages from delivery to deletion	diag_CuSysAgent_*.uc diag_MTA_*.uc diag_CuCsMgr_*.uc diag_CuImapSvr_*.uc diag_Tomcat_*.uc
Call Control (Miu) Traces	Call control functions	diag_CuCsMgr_*.uc

Macro Trace Name	What the Trace Analyzes	Filename of Trace Log
Traces for MWI Problems	Turning message waiting indicators (MWIs) on and off	diag_CuCsMgr_*.uc diag_CuNotifier_*.uc
Traces for Other Notification Problems	Notification and outdial functions	diag_CuCsMgr_*.uc diag_CuNotifier_*.uc
Unity Startup	Unity Connection startup functions	diag_CuCsMgr_*.uc diag_CuNotifier_*.uc
Conversation Traces	Conversation usage	diag_CuCsMgr_*.uc
Voice User Interface/Speech Recognition Traces	Voice user interface (VUI)	diag_CuCsMgr_*.uc
Media (Wave) Traces	Media and WAV file usage	diag_CuCsMgr_*.uc diag_CuMixer_*.uc
Text to Speech (TTS) Traces	The Text to Speech (TTS) feature; also can log traces on other Cisco Unity Connection components that interact with TTS	diag_CuCsMgr_*.uc
Unity Connection Serviceability Web Service	The activity of Cisco Unified Serviceability	diag_Tomcat_*.uc
ViewMail for Outlook	The activity of Cisco Unity Connection ViewMail for Microsoft Outlook clients	diag_CuCsMgr_*.uc diag_CuImapSvr_*.uc diag_MTA_*.uc diag_Tomcat_*.uc
Digital Networking	Digital networking functions	diag_CuReplicator_*.uc
Single Inbox	Single inbox message synchronization	<date in the format yyyy_mm_dd>.stderrout. log.* diag_CuMbxSync_*.uc