

Configuring Unity Traces with MaestroTools.exe

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Introduction

When you are troubleshooting a Cisco Unity issue, it might be necessary to gather traces to help the Cisco Technical Support engineer diagnose the problem. This document explains how to use the Maestro Tools application to configure, gather, and format trace files for further debugging.

The Maestro Tools executable is located at the root of the Cisco Unity directory, usually C:\CommServer. In addition to the ability to turn on a trace for an entire feature, Maestro Tools lets you trace a specific component of a feature. This allows the Technical Support engineer to review only the related outputs and quickly interpret the trace.

Prerequisites

Requirements

Readers of this document should have knowledge of these topics:

- Cisco Unity administration
- How to use MaestroTools.exe

Components Used

The information in this document is based on these software versions:

- Cisco Unity 2.4 and 3.0

Note: In Cisco Unity 3.1 and later, there is a tool that you can use to configure and collect traces: Cisco Unity Diagnostics Tool. You can find more information on this tool under the Tools Depot on your Cisco Unity server and in the Cisco Unity Diagnostic Tool section of the Utilities documentation.

- Cisco Telephony Application Programming Interface (TAPI) Service Provider (TSP) trace version 1.0.0.32 and later

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Registry Settings

Registry settings control the output of trace files. The trace files are written to C:\CommServer\logs by default, but they can be written elsewhere, if you edit the path listed in this registry key:

```
/HKLM/Software/Active Voice/AvLogMgr/1.0/Output Path
```

By default, a single trace file is generated once a day. You can have the system generate a new trace file at set intervals, if you change the next registry key to an hourly value. The value of the key is the number of hours that any single trace file is generated. If set to 1, a trace file is generated every hour. If set to 3, a trace file is generated every 3 hours.

```
/HKLM/Software/Active Voice/Miu/1.0/Initialization/Cycle Diagnostics Logs
```

Traces can quickly use up a lot of disk space. Set the next registry key to the maximum amount of megabytes that the trace files are allowed to collectively consume. When they reach this limit, they will roll over and overwrite the oldest file.

```
/HKLM/Software/Active Voice/AvLogMgr/1.0/Max Diagnostic Megabytes Saved
```

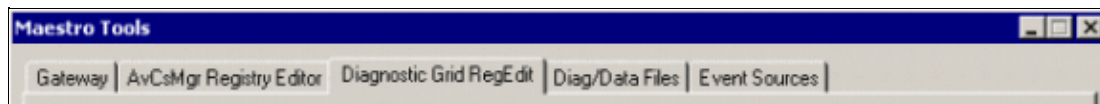
If you set the value of this key to 0, you disable this feature.



Caution: If you change the wrong registry key or enter an incorrect value, you can cause the server to malfunction. Before you edit the registry, confirm that you know how to restore it if a problem occurs. Note that a typical backup of the Cisco Unity server *does not* back up the registry. For additional information, refer to the "Restoring the Registry" Help topic in Regedit.exe or to the "Restoring a Registry Key" Help topic in Regedt32.exe. If you have any questions about how to change registry key settings, contact Cisco Technical Support.

Becoming Familiar with the MaestroTools Interface

The Maestro Tools interface contains five tabs:



For tracing, use the information in the Diagnostic Grid RegEdit and Diag/Data Files tabs primarily.

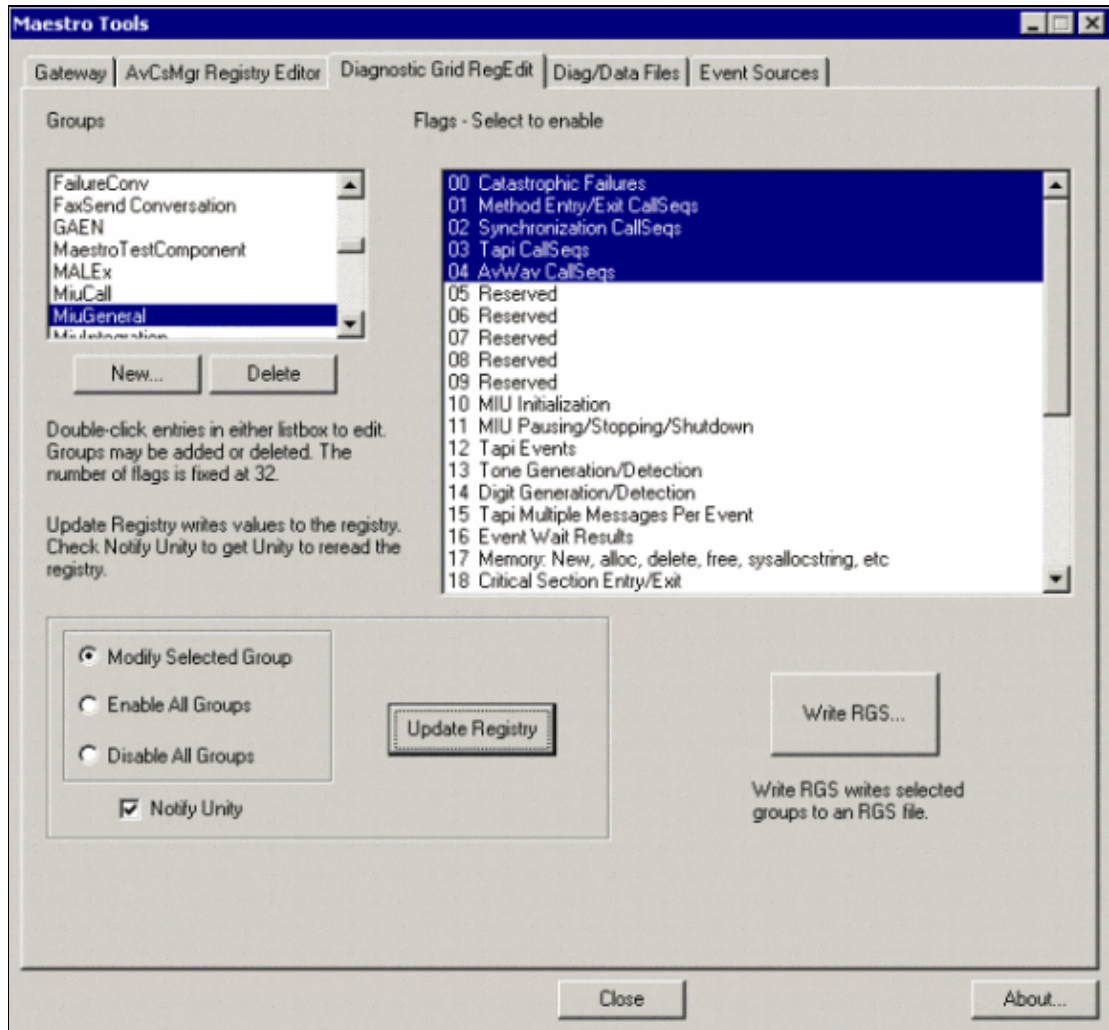
Note: Slight differences exist between the Maestro Tools interface in Cisco Unity 2.4.6 and the interface in Cisco Unity 3.0. These differences are acknowledged as the interface is discussed.

Diagnostic Grid RegEdit

Follow these instructions.

1. From the Maestro Tools main window, click the **Diagnostic Grid RegEdit** tab, to select the features and components to be traced.

This window appears:



The Groups list on the left side of the window is where you select the features to be traced.

2. Click an entry from the Groups list.

The right panel displays a list of traceable components.

For example, click **MiuGeneral** as shown in the previous screen.

3. From the Flags panel, select a feature or component. You can select multiple features and components at one time for tracing.

There is a general set of components that you should select when you set up traces. These are listed in the Minimum Trace Setting Requirements section of this document. The Cisco Technical Support engineer will provide additional components for you to select that pertain to the current issue.

4. After you have selected all pertinent components, verify that the **Notify Unity** check box is checked.

Note: Cisco Unity 3.0 does not have a Notify Unity option: The notification is automatic. In Cisco Unity 2.4.6, this option is necessary to notify Cisco Unity of changes in logging.

5. Verify that the **Modify Selected Group** radio button is selected.
6. Click the **Update Registry** button to activate the traces.
7. When you have gathered the traces, you can deselect the previously selected components and click **Update Registry**, to deactivate these options.

Note: The Failed to Notify CommSvr error message appears, if you use the wrong account to log in to Windows. Maestro Tools must be run from the account from which Cisco Unity logs in. If this applies to you, log out of Windows and log back in under the account with which Cisco Unity logs in.

Note: The settings are preserved. Rebooting the server does not deactivate the traces.

Minimum Trace Setting Requirements

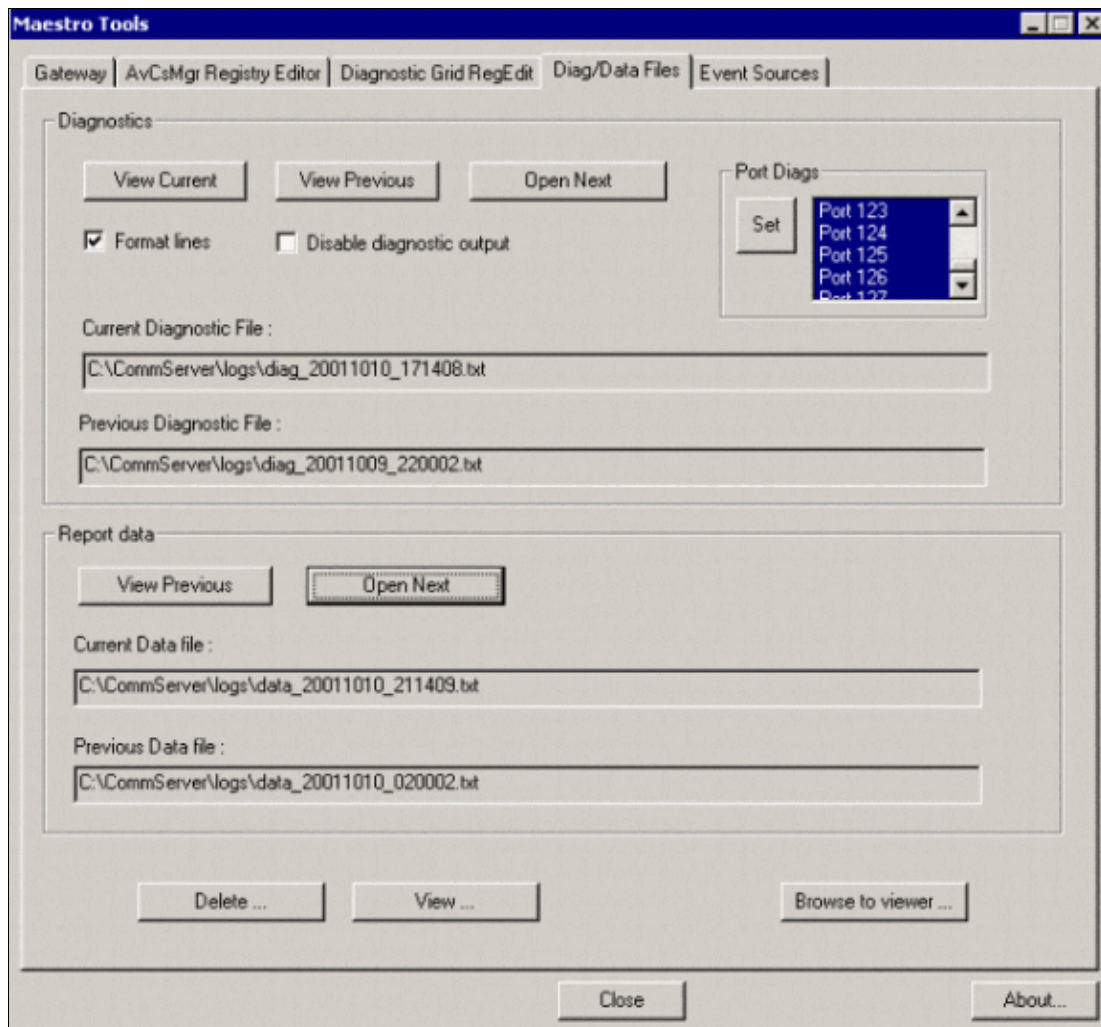
This table lists the common components that must be selected before you collect the traces. The Technical Support engineer will provide additional components to select that pertain to the specific issue.

Component	Description
MiuGeneral 0-4	Controls what information gets printed to the Event Log when the Message Interface Unit (MIU) encounters a serious failure. Note: These diagnostics should always be enabled, even if you are not getting traces for a problem. Otherwise, the MIU will not write failures to the Event Log.
MiuGeneral 12	Enables diagnostics for various messages that the MIU receives from TAPI.
MiuGeneral 16	Enables diagnostics for the MIU s internal synchronization.
MiuIO 11	Enables diagnostics for the Play/Record operations at a high level.
MiuIO 14	Enables diagnostics for Wave operations at a lower level by tracing each call from the MIU into the AvWav component.
MiuMethods 14	Enables diagnostics for the MIU s line object.
MiuMethods 18	Enables diagnostics for the MIU s interface to TAPI.

Diag/Data Files

The Diag/Data Files tab, shown in this example, has two areas of information: Diagnostics and Report Data. The Diagnostics area is most pertinent to tracing.

Note: This is a screen from Cisco Unity 2.4.6.



The Current Diagnostic File field displays the current open trace file. The Previous Diagnostic File field displays the previous trace file.

To generate a new trace, follow these instructions.

1. Check the **Format Lines** checkbox.
2. Uncheck the **Disable Diagnostic Output** checkbox.
3. Click **Open Next** to close the current file and open a new one.

This provides the Technical Support engineer with a fresh trace from which to work.

4. After you have recreated the problem, click **Open Next** again to close that trace file and open a new one.
5. To format the trace file you just created, click **View Previous**.

Note: When you click any of the View buttons, a *Missing or Unknown Application* error message may be generated. This occurs only because the location of Wordpad and Notepad changed between Windows NT and Windows 2000. Maestro Tools is hard-coded with the Windows NT location. To change the default location, click **Browse to Viewer** at the bottom of the window and select your text editor of choice.

6. At the Sort the File prompt, select **No Sort**, then click **OK**.

The file opens in Notepad.

7. Save the file and send it to the Technical Support engineer.

Note: A copy of the trace file is created in the same directory as the rest of the traces. The file name format is different from the rest of the traces, in that "_fmttd" is appended to the file name; for example, diag_XXXXXX_YYYYYY_fmttd.

The previous screen was captured from Cisco Unity 2.4.6. In Cisco Unity 3.0, the file name appears similar to diag_servicename_XXXXXX_YYYYYY.text, where *servicename* is the Cisco Unity service that generates the trace (for example, AvCsMgr or AvDSGlobalCatalog). The **View Current** and **View Previous** buttons in the Diagnostics area only format AvCsMgr-generated trace files. Click **View** at the bottom of the window to format logs generated by other services.

Note: The log files are Cisco Unity-build specific. Therefore, it is important that you format the files on the same machine from which the logs are generated. To format any other trace files in the system, click **View** at the bottom of the window and follow the same steps in this section.

Capturing Skinny Traces

TSP traces can be configured to debug the Skinny messages passed between the Cisco Unity voice mail ports and Cisco CallManager. Skinny traces are necessary to troubleshoot any problem with communication or connectivity between the Cisco Unity and Cisco CallManager systems.

To determine the Cisco Unity-CM or AV-Cisco TSP version in use, follow these instructions.

1. Browse to the WinNT\System32 directory.
2. Right-click the **Avskinny.tsp** file and choose **Properties**.
3. In the Properties window, click the **Version** tab.

The Cisco Unity-CM or AV-Cisco TSP version number is shown in the File Version field.

This table lists the Cisco Unity or TSP versions and their log locations.

Cisco Unity Version	TSP Version	Log Location
2.4(6.x)	Between 1.0.0.28 and 3.0(4)	Must use dbmon.exe or tspmon.exe; logs write to dbmon.txt or tspmon.log AvCsMgr diagnostic files
	6.0(1)	
3.0(x)	3.0(2) or earlier	Must use dbmon.exe or tspmon.exe; logs write to dbmon.txt or tspmon.log
3.0(1) and 3.0(2)	3.0(3) or later	Logs write to diag_svchost_XXXXXX_YYYYYY.txt
	6.0(1) or later	Logs write to diag_svchost_XXXXXX_YYYYYY.txt
3.0(3)+ and 3.1(X)	3.0(3) or later	Logs write to diag_AvSkinnyTsp_XXXXXX_YYYYYY.txt
	6.0(1) or later	Logs write to diag_AvSkinnyTsp_XXXXXX_YYYYYY.txt

To set Skinny traces, follow these instructions.

Note: See the Setting Skinny Traces using DBMON or TSPMON section of this document for special instructions for DBMON or TSPMON.

Note: For more information on how to modify log file locations in Cisco Unity, refer to Modifying the Default Location for Log Files in Cisco Unity.

1. Confirm that the clocks on Cisco Unity and Cisco CallManager are synchronized.
2. On the Cisco Unity server, in Windows Explorer, choose **CommServer > MaestroTools.exe**.
3. Click the **Diagnostic Grid Reedit** tab.
4. In the Groups window, select **SkinnyTSP**.
5. In the Flags window, enable all diagnostics flags that are not listed as Reserved or Not Available, except for KeepAlive Messages 23.
6. After you have selected all pertinent components, verify that the **Notify Unity** check box is checked.

Note: Cisco Unity 3.0 does not have a Notify Unity option; the notification is automatic. In Cisco Unity 2.4.6, this option is necessary to notify Cisco Unity of changes in logging.

7. Verify that the **Modify Selected Group** radio button is selected.
8. Click **Update Registry** to activate the traces.
9. Reproduce the problem.
10. After the problem has been reproduced, browse to the CommServer\logs directory.
11. Locate the TSP log file(s).

TSP log file names in Cisco Unity 3.0(3) and later contain the suffix *AvCiscoTSP*. TSP log file names in Cisco Unity 3.0(2) and earlier contain the suffix *Svchost*.

12. Copy the AvCiscoTSP or Svchost log file(s) and send them to Cisco Technical Support, along with the MIU diagnostic log and the Cisco CallManager trace file.
13. Disable all diagnostic flags set in Step 5, except for SysConfig 10–12, MiuCall 15, and MiuGeneral 0–4. If you disable MiuGeneral 0–4, the MIU does not write any failures to the Event log.

Setting Skinny Traces using DBMON or TSPMON

To learn how to set Skinny traces using DBMON or TSPMON, review the information below.

Note: For some Cisco Unity versions, the Technical Support engineer might provide you with a special application called dbmon.exe or tspmon.exe. Each utility captures trace outputs. TSPMON also writes the diagnostics to the current command window, which is helpful for real-time troubleshooting. TSPMON can also be enabled through Windows Terminal Services; DBMON cannot.

Using DBMON

DBMON must be run from a command prompt on the server console. Copy the application to your system and just before you reproduce the problem issue this command:

```
dbmon.exe > dbmon.txt
```

This routes all tracing output from the application to a file in the same directory as dbmon.exe. After the problem has been reproduced, press **Ctrl + C** to stop the application. Send the dbmon.txt file to your Technical Support engineer.

Using TSPMON

TSPMON must be run from a command prompt on the server console. If the TSP is version 3.0(3) or 3.0(4), set HKLM\Software\Active Voice\AvSkinny\LogMgr Enabled = 0 in the registry and restart Cisco Unity before you use TSPMON. Copy the application to your system and just before you reproduce the

problem issue this command:

```
tsmmon
```

This routes all tracing output from the application to a file called tsmmon.log in the same directory as tsmmon.exe. After the problem has been reproduced, press **X** to stop the application. *Do not* use **Ctrl + C**, or you lose the last few lines of diagnostics. Send the tsmmon.log file to your Technical Support engineer.

Related Information

- **Cisco Unity Diagnostic Tool**
 - **Modifying the Default Location for Log Files in Cisco Unity**
 - **Voice Technology Support**
 - **Voice and IP Communications Product Support**
 - **Recommended Reading: Troubleshooting Cisco IP Telephony**
 - **Technical Support & Documentation – Cisco Systems**
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