Mitel MiContact Center Enterprise

OPEN APPLICATION SERVER - HANDLING FAULTS USER GUIDE

Release 9.3

Handling Faults Open Application Server – User Guide

Release 9.3 – February 2018

TROUBLESHOOTING

This document provides information to help identifying and solving problems in OAS.

EVENT VIEWER

Events logged by OAS components, can be viewed in the Windows Event Viewer.

If the Alarm Service is running, events are logged on the system with the Basic Services. Otherwise, they are logged on the system where the reporting component is running.

There are three types of events: Errors, Warnings and Information. A sample is shown in Figure 1 below.

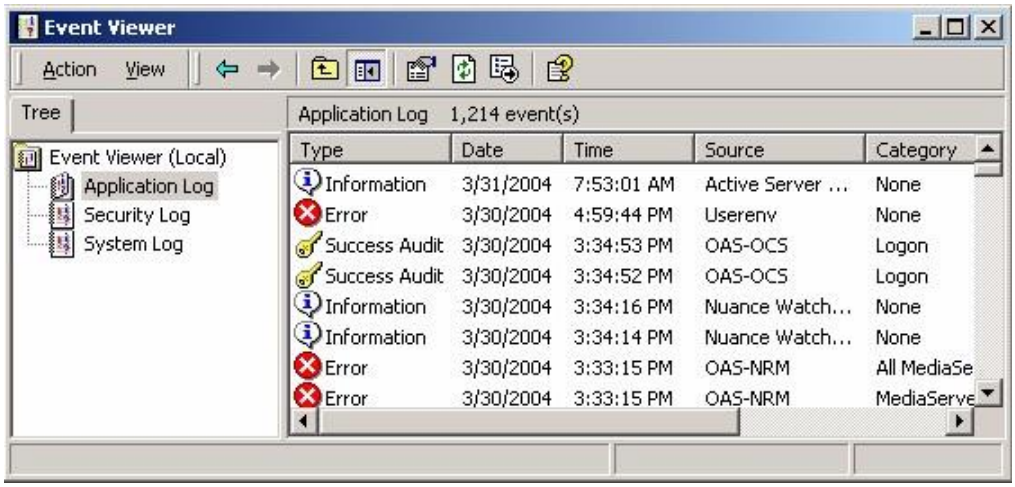

Figure 1: OAS Events logged in the Event Viewer

TRACE LOGS

When using OAS Maintenance Tool (OMT), tracing for OAS components can be turned on or off.

Logs are generated in binary format by default. Binary logs can be viewed using OasLogMonitor.exe, which is found in the directory <INSTALLDIR>\Mitel\OAS\bin.

Note: For the paths in the document containing <INSTALLDIR>, <INSTALLDIR>\ can be one of the following alternatives:

- Windows 2003 and Windows 2008, both 32bit (x86) C:Program Files\
- Windows 2008 R2 and other 64 bit OSs: C:Program Files (x86)\

Activating Trace for a component may degrade system performance under certain traffic conditions. Use Trace only when directed by Technical Support.

LOCATION OF THE LOGS

By default, Trace logs are located in the directory <INSTALLDIR>\Mitel\OAS\Traces. If this directory was changed during OAS installation, the path can be found in the Registry key DirectoryPath.

Note: In this document, all registry locations are described in short; HKLM = HKEY_LOCAL_MACHINE. Please expand before using, that is: HKLM\SOFTWARE\Mitel\OAS\OTS\DirectoryPath

Note: For Windows 2008 R2 and other 64 bit Operating Systems, all Registry key paths should start with HKLM\SOFTWARE\Wow6432Node\ instead of HKLM\SOFTWARE\.

NUMBER OF LOG FILES

The Trace Service will write the log into a number of trace files (100 files by default). When creating these files, the Trace Service will replace the oldest file with a new one so that the number of trace files does not exceed the maximum number of allowed files.

The number of Trace files is defined in the registry key: HKLM\SOFTWARE\Mitel\OAS\OTS\ MaxFiles

Note: Even if the number entered in the Registry is bigger than 255, the number of files will still be limited to 255 by the OAS trace service.

TEXT LOGS

Text logs can be obtained either by:

- Converting binary logs to text logs or directly generating text logs.

This can be done using BinTrace2Text.exe, located in <INSTALLDIR>\Mitel\OAS\bin directory.

OR

- Convert binary logs to text logs.

This is done by doing the following:

a. Stop the Trace Service ots.exe using OMT.

b. Configure Separator registry key for OTS as “$”. That is,

HKLM\SOFTWARE\Mitel\OAS\OTS "Separator"=string: $

c. Restart the Trace Service

d. Turn on tracing for components using OMT.

WINDOWS CRASH DUMPS

To enable Windows crash dumps, open up a Comand window in Administrator mode and issue the following command:

procdump -i -ma <Directory to store files>

The procdump.exe program is part of Microsoft Sysinternals and can be downloaded from here: https://docs.microsoft.com/en-us/sysinternals/downloads/procdump

For example to configure Windows to store the crash dumps in the folder C:\crash_dumps then issue the following command:

procdump -i -ma C:\crash_dumps

OAS MAINTENANCE TOOL

The status of OAS components can be viewed in the OAS Maintenance Tool (OMT). Different colored icons show the current status of a component.

When the OAS Maintenance Tool (OMT) is launched, the user may experience one of the following problems:

- Faulty SSS Connection
- Faulty OCS Connection
- Unauthorized access

FAULTY SSS CONNECTION

If SSS is not running, an error message is displayed, see Figure 2 below.

Mitel Daemon logs the event “SSS Faulty” in Event Viewer.

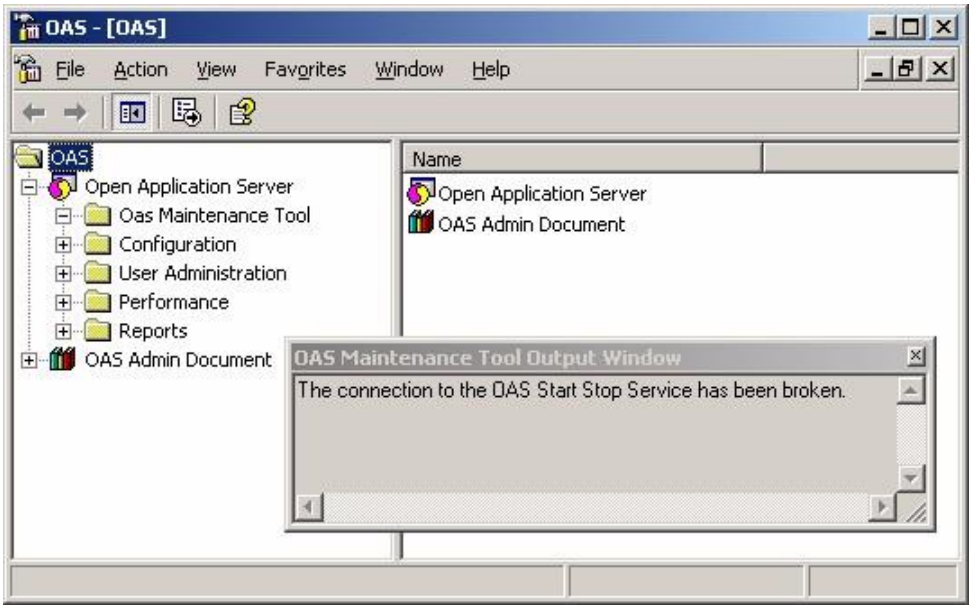

Figure 2: Connection between OMT and SSS is broken

To solve this, do the following:

1. Mitel Daemon should restart SSS automatically. Once SSS is restarted, Mitel Daemon logs a success audit, and SSS logs “In-Service” event in Event Viewer.
2. If SSS does not restart automatically, stop and start the Mitel Daemon Windows Service manually.
3. If SSS still does not start, verify that the registry key StartFlag DWORD value is set to 1, that is, HKLM\SOFTWARE\Mitel\Daemon\Servers\SSS "StartFlag"=dword:00000001.

Note: For Windows 2000 R2 and other 64 bit Operating Systems, all Registry key paths should start with HKLM\SOFTWARE\Wow6432Node\ instead of HKLM\SOFTWARE\.

FAULTY OCS CONNECTION

If the connection to OCS is faulty, the error message shown in Figure 3 below is displayed.

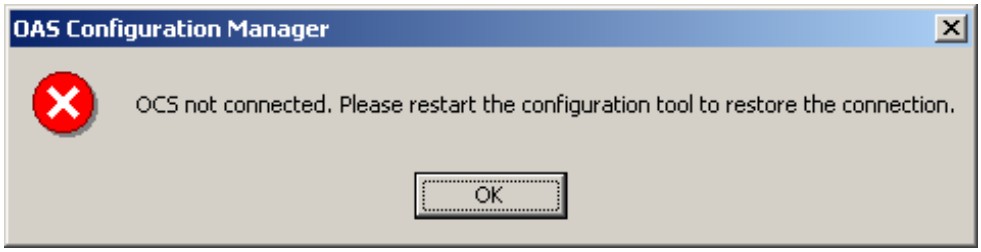

Figure 3: Tool cannot connect to OCS

The resolution procedure for OCS depends on if OCS is running or not.

If OCS is running

Do the following

1. Open the Task Manager and verify that the Mitel Daemon is running.
2. Verify that valid hosts are configured for the Basic Services.
3. Verify that the OCS host is configured correctly on the client system registry (that is, HKLM\SOFTWARE\Mitel\OAS\OCS\RepositoryDir).

If OCS is not running

Do the following:

1. Verify that the CommandLine registry is correctly set to the path of the OCS executable,that is HKLM\SOFTWARE\Mitel\Daemon\Servers\OCS\CommandLine.
2. Verify that an available TCP/IP port is configured in the server system registry (i.e., HKLM\SOFTWARE\Mitel\OAS\OCS\ocsportno).
3. If the Tool and Basic services are running on different systems, verify the value of the daemonportno registry key on both systems are the same. HKLM\SOFTWARE\Mitel\Daemon\daemonportno.

Note: For Windows 2000 R2 and other 64 bit Operating Systems, all Registry key paths should start with HKLM\SOFTWARE\Wow6432Node\ instead of HKLM\SOFTWARE\.

UNAUTHORIZED ACCESS

Connection to OCS will be denied if an unauthorized user of OAS tries to access the data. The error message shown in Figure 4 below is displayed.

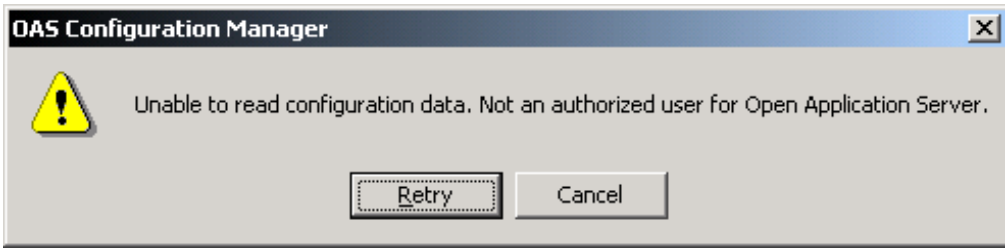

Figure 4: Access denied to unauthorized user

To solve this problem, do the following:

- Add the user as a member to the configured OAS Global Administrator Group.

OAS MAINTENANCE TOOL COMMANDS

Maintenance commands are entered in OMT by using the Execute Maintenance button. This button is available when the Debug mode is enabled.

Debug mode is disabled by default. By setting the value of the OMTDebug registry key to 1, the Maintenance commands are enabled. That is, HKLM\SOFTWARE\Mitel\OAS\SSS "OMTDebug"=dword:00000001.

Network Resource Manager

Right-click Network Resource Manager from the configuration tree. Point to All Tasks , click Execute Maintenance and a window will be displayed. Enter one of the commands listed below, and click Execute.

1. Help (lists maintenance commands available for NRM).
2. Call (lists all the calls including the call and connection states).
3. Call <m> (lists remaining calls, starting from the serial number ‘m’).
4. Call <m><n> (lists ‘n’ calls, starting from the serial number ‘m’).
5. Del <p> (deletes a stuck call (call that was not properly processed) with CallID=’p’).
6. Del <p> <q> (deletes all calls starting from CallID=’p’ and ending with CallID=’q’).

See Figure 5 below for an example of a maintenance command.

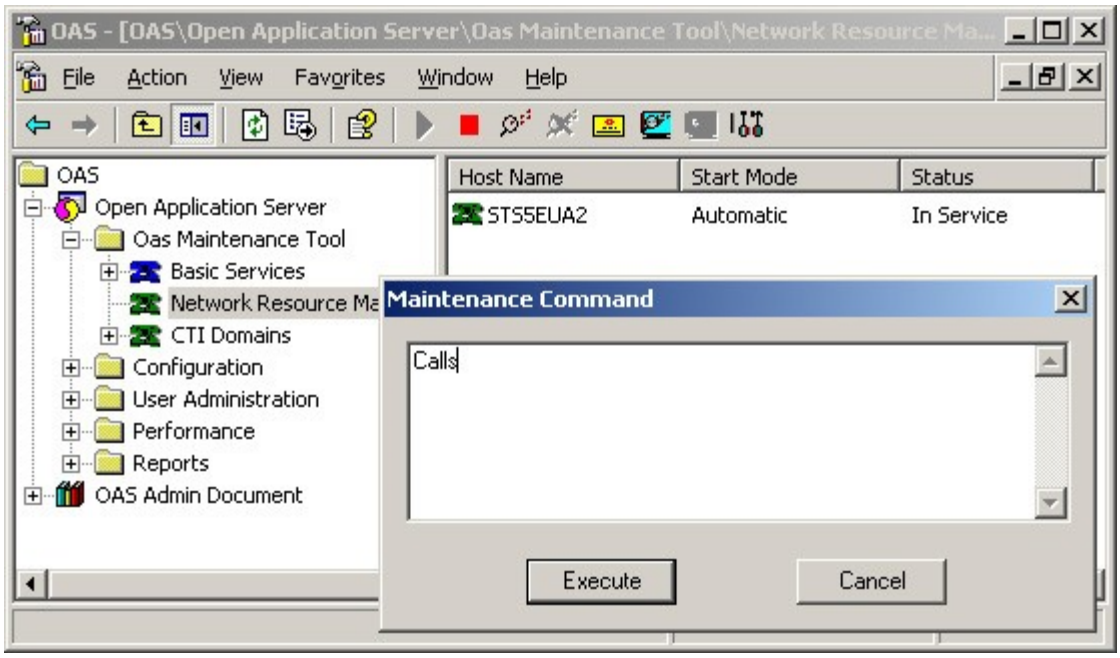

Figure 5: Executing a maintenance command

OAS CONFIGURATION TOOL

In this section troubleshooting for OAS configuration tool is described. OAS does not allow Language data in the medialib90.rep repository file to be modified manually. The data must always be modified using the Configuration Tool. If the medialib90.rep file is edited manually, the OAS will automatically strip the TTS information from the file, and an error event Languages Data Authentication Failed will be logged in Event Viewer under Application Log with Category OCS Faulty. The user can use the OAS configuration tool to re-enter the TTS information data. If it is not possible to re-enter lost data due to medialib90.rep file corruption, then follow the Resolution instructions in section ‘Cannot view configuration data’, section ‘Cannot access Performance Data’, and section ‘Maintenance Command displays incomplete results’ below.

CANNOT VIEW CONFIGURATION DATA

To resolve this problem, do the following:

1. Shut down the OAS system to resolve the problem. Use the binary OasShutdown.exe located in the <INSTALLDIR>\Mitel\OAS\bin directory to do this.
2. Undo the manual changes made to Language data in the medialib900.rep file.

RESTART MITEL DAEMON (THIS RESTARTS OAS)

If the manual changes cannot be undone or if the problem still exists, do the following:

1. Shut down OAS using OasShutdown.exe.
2. Delete medialib93.rep and oasdatacheck93.rep from the Repository directory.
3. Make copies of the backup files Medialib90.bck and oasdatacheck93.bck that were placed in the same directory during installation.
4. Rename the copies to oasdatacheck93.rep and medialib93.rep.
5. Change the file attribute of these two files to make them readable.
6. Restart Mitel Daemon (this will restart OAS).
7. Use the Configuration Tool to re-enter the user defined data, since the user defined language data is not recovered.

CANNOT ACCESS PERFORMANCE DATA

If a user tries to access Performance Data when the Performance Service is not running, the error message in Figure 6 below will be displayed.

Figure 6: Cannot access Performance Data

To solve this, do the following:

1. Close the Performance Snap-in, if open.
2. Start the Performance Data Service using OMT.
3. Open the Performance Snap-in.

MAINTENANCE COMMAND DISPLAYS INCOMPLETE RESULTS

The maintenance command displays a maximum of 64kb data. Due to this limit, if there are many stuck calls (calls that were not processed properly) in Network

Resource Manager, incomplete results may be displayed when the Call commands are invoked.

To solve this, and to view the complete results use the following commands:

1. Call <m> (lists remaining calls, starting from the serial number ‘m’).
2. Call <m><n> (lists ‘n’ calls, starting from the serial number ‘m’). See section ‘OAS Maintenance Tool Commands’ above for details.

RESOURCE ALLOCATION PROBLEMS

The ETP API tool (etpApiTool.exe) can be used to identify some of the causes for resource allocation failure. This executable is located in the<INSTALLDIR>\Mitel\OAS\bin directory.

The cause of the failure is specified by the returned error code and is presented along with resolutions in Table 1 below.

Table 1 Error Codes and Resolutions

ERROR CODE	INDICATES	RESOLUTION
GENERIC_SYSTEM _RESOURCE_AVAILABILITY	The resource is not configured in OAS. Media Server is not running.	Use Configuration Tool to configure the required resource for the Media Server. Start the Media Server.
LICENSE_NOT_AVAILABLE	License was not available for the requested resource. An alarm is also logged in the Event Viewer.	Contact Mitel Technical Support.
RESOURCE_SERVER_LOADED	Number of channels may be insufficient.	If licenses are available, configure additional channels for the media board in the Media Server configuration.
INVALID_DESTINATION	The Access Code for the Switch is incorrectly configured.	Refer to the MX-ONE Configuration section for more details on access codes.

Note: There is a known limitation of OAS which does not allow resource reallocation for a call if the Media Server to which this call is connected is restarted.

HOW TO TRACE A CALL

A specific call can be tracked in the OAS Trace logs to see what happened with that call, start by finding out the CallID 'n' for the active or stuck call you want to track.

1. Use the ETP API Tool (etpapitool.exe) to take a snapshot of the BVD. The snapshot will provide the CallID.

1. Use the Call maintenance commands to list calls with the CallIDs. Refer to section 'OAS Maintenance Tool Commands' above for more details.

2. Search for the pattern UCALL(n), where 'n' is the CallID, in the trace logs.

Note: The logs have information that can guide the user to the general area of the problem. For a detailed analysis the logs should be provided to the OAS Technical Support.

INSTALL OR UNINSTALL FAILS

The Microsoft Windows Installer (MSI) makes several entries in the system registry when OAS software is installed. If, for some reason, the installation fails, the user can use the MSI Cleanup Utility program (msicuu.exe) that is on the Installation media in the \Other directory.

Once installed, the Cleanup utility will list all the programs that were installed using MSI. Delete Open Application Server. This program will clean OAS specific entries from the Registry. The user still has to manually delete files and Registry entries depending on if MiCC Enterprise was installed or not.

MICC ENTERPRISE NOT INSTALLED

To manually delete files and Registry entries when MiCC Enterprise is not installed, do the following:

1. Delete the top level Mitel directory including all the subdirectories: <INSTALLDIR>\Mitel
2. If you choose non-default locations for Trace files, Repository files, or Repository Backup files you have to delete those directories.
3. Delete the EricssonShare directory: C:\Program Files\Common Files\EricssonShare
4. Delete the following registry keys:
   - HKLM\SOFTWARE\Mitel
   - HKLM\SYSTEM\CurrentControlSet\Services\Daemon
   - HKLM\SYSTEM\CurrentControlSet\Services\OASCleanerService
   - HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\SharedDlls\
   - C:\Program Files\Common Files\EricssonShare*.dll
   - Remove the Mitel\OAS\Bin and EricssonShare entries from the PATH environment variable
5. Remove the OAS environment variable.
6. Delete the Start Menu shortcut: C:\Documents and Settings\All Users\Start Menu\Programs\Mitel\OAS

MICC ENTERPRISE INSTALLED

To manually delete files and Registry entries when MiCC Enterprise is installed, do the following:

1. Delete the top level OAS directory including all the subdirectories. <INSTALLDIR>\Mitel\OAS
2. If you chose non-default locations for Trace files, Repository files, or Repository Backup files you will have to delete those directories.
3. Delete the registry keys:
   - HKLM\SOFTWARE\Mitel\OAS
   - HKLM\SYSTEM\CurrentControlSet\Services\Daemon
   - HKLM\SYSTEM\CurrentControlSet\Services\OASCleanerService
4. Decrement by one, the SharedCount value in:
   - HKLM\SOFTWARE\Mitel\Daemon
   - HKLM\SOFTWARE\Mitel\OASEventChannelServer
5. Decrement by one, the data value in each entry for:
   - HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\SharedDlls\
   - C:\Program Files\Common Files\EricssonShare*.dll

Note: For Windows 2008 R2 and other 64 bit Operating Systems, all Registry key paths should start with HKLM\SOFTWARE\Wow6432Node\ instead of HKLM\SOFTWARE\.

6. Remove the Mitel\OAS\Bin entry from the PATH environment variable
7. Remove the OAS environment variable
8. Delete the Start Menu shortcut:
   - C:\Documents and Settings\All Users\Start Menu\Programs\Mitel\OAS

HOW THE MEDIA CONTAINER PATH IS CONSTRUCTED

Media objects (files) are stored in media containers (directories) located in a Media Server. See document Play Messages for information on how to construct the path.

NUANCE SOFTWARE

Troubleshooting information can be collected through the Trace Log and Nuance call logging and Configuration dump.

TRACE LOG

Nuance Trace log is a helpful tool used to troubleshoot ASR and TTS problems. The log should not be turned on without first consulting OAS technical support.

To start the Nuance log, do the following:

1. Enter config.LoggingLevel=ALL in the file nuance-resources.site located in Nuance Data directory.
2. The Nuance Watcher Daemon must be restarted for this change to take effect.

The default log file location is %SYSTEM%\system32\logs. This location can be changed by adding config.LogFileRootDir=<new path> in the above mentioned file.

NUANCE CALL LOGGING AND CONFIGURATION DUMP

When experiencing ASR or TTS problems, Nuance provides ways of getting detailed trace logs and recordings of user interaction with the ASR engine.

NUANCE CALL LOGGING

To do recognition tuning it may be necessary to turn on call logging to analyze caller utterances. This is turned on programmatically in the Recognize request API. All utterances and utterance logs are stored under the %OAS%\Logs directory.

An example of the log directory structure is as follows:

...\2017\10October\04\16-59-55-bt-scott2-7

The general format is:

...\<year>\<month(number and text)>\<day>\<time- stamp-machine name-call id>, where the call id is the OAS Universal Call ID.

By default, the caller utterances are recorded in sphere format, which Microsoft Windows Media Player does not support. The Nuance command line utility playwav.exe can be used to play back these files. The following is an example of playing back utt1.wav in Windows console:

cd C:\Program Files\Mitel\OAS\Logs\2017\04April\19\15-57-16-STS5EUA1-4

...\Mitel\OAS\Logs\2017\04April\19\15-57-16-STS5EUA 1-4>playwav utt01.wav

To get more information on this utility, open a Windows Console and enter playwav without any parameters.

Note: One call may result in one or more call logging directories since media ports may be deallocated and reallocated multiple times during a call. In fact, call logs for a particular call may end up on up several machines in a multiple media server configuration

NUANCE CONFIGURATION DUMP

To help debugging ASR and TTS problems on start-up the Media Server dumps the Nuance parameter configuration to the file %OAS%\NuanceConfig_ms_startup.log. This file is overwritten on each restart of the media server and should be included with other traces files sent in for debugging.

ERROR SYMPTOMS

This section describes error symptoms.

CHANGING SYSTEM CLOCK STOPS TTS

This happens sometimes because Nuance Vocalizer uses a dispatcher that operates on a wall-clock basis. If system clock on the machine that runs Nuance Watcher Daemon has to be changed and this problem occurs after that, all TTS servers running on that machine must be restarted.

To restart the TTS servers, open go to http://<HostName or IP Address of the Watcher Daemon>:7080 and click the Restart buttons on the rows with nutts-server Process Type.

Restarting the Nuance Watcher Daemon or simply restarting the server machine can also restart TTS servers. To restart Nuance Watcher, go to ControlPanel\Administrative Tools\Services and select the service named Nuance Watcher Daemon and click Restart.

RECOGNIZE FUNCTION DOES NOT WORK

Verify that the RecServer is running, and that it is configured with the same ASR Packages configured in OAS.

Refer to document Nuance 9.0 Software Installation for instructions on how to view the RecServer status and configuration.

Refer to document OAS Software Configuration for instructions on how to view and configure the ASR Packages.

The initialization time for RecServer depends on the size and number of the packages. By default, Media Server waits 60 seconds for RecServer to start. If that is not enough, the default time out value can be changed by specifying the -

rcengine_timeout <number of seconds> parameter in the General tab of the Media Server Configuration window. For example, -rcengine_timeout 120 will change the time out value to 2 minutes.

Note: To make sure the initialization time out does not expire before -rcengine_timeout, a Nuance internal parameter vrs.Initial- izationTimeoutMs has been added into ems_extra_parameters.txt to extend the default value of VRecServer initialization. This parameter should not be changed.

RECSERVER WILL NOT START

The most common reason for the Recserver not to start is when the Package is incorrectly configured in OAS. The following are common errors:

- The path to the package file must contain no spaces (this is a Nuance restriction), and it is not allowed to use the 8.3 short name format (an OAS restriction on the use of the tilde).
- The Packages configured in OAS do not match those loaded by Nuance RecServer. This can be verified by comparing the package names in OAS configuration, with those showing when browsing http://<RecServerHost>:7080 (substitute <RecServerHost> with the host name where the RecServer resides). For more information on how to browse the Nuance Services, see the document ASR and TTS Overview.

Note: This package mismatch will cause the Recognize function to fail with Error Cause 10.

- The grammar name in one package conflicts with the grammar name in another package. For example, both package A and B contain a grammar with the same name. In this case, Recserver cannot start. You have to rename the grammar name in one of the packages and then recompile the package.
- The configuration for the package is the path to the package direc- tory not the fully-qualified name of the package (see the example below).

For example the package C:\nuance\v9.0.0\sample-pack- ages\voice-mail is incorrectly configured as C:\nuance\v9.0.0\sample-packages\voice-mail.grammar. Error is logged in the trace file as

ERROR:NuancePackageConfigImpl::NuancePackageConfigImpl: Specified package (c:\nuance\v9.0.0\sample-packages\voice-mail.grammar ') is not a directory

This problem can be verified in one of the following ways:

- Check the OAS logs. Media Server logs an error in the Trace logs, indicating that the Nuance Package Configuration is faulty.
- Turn on detailed Nuance logging. Specify the parameters config.LoggingLevel=INFO and config.LogFile- RootDir=c:\temp\NuanceLogs in the Additional Information field in the General Data window of the Media Server, using the Configuration Tool (see Figure 7 below).

Note: Leave a blank space between the two parameters.

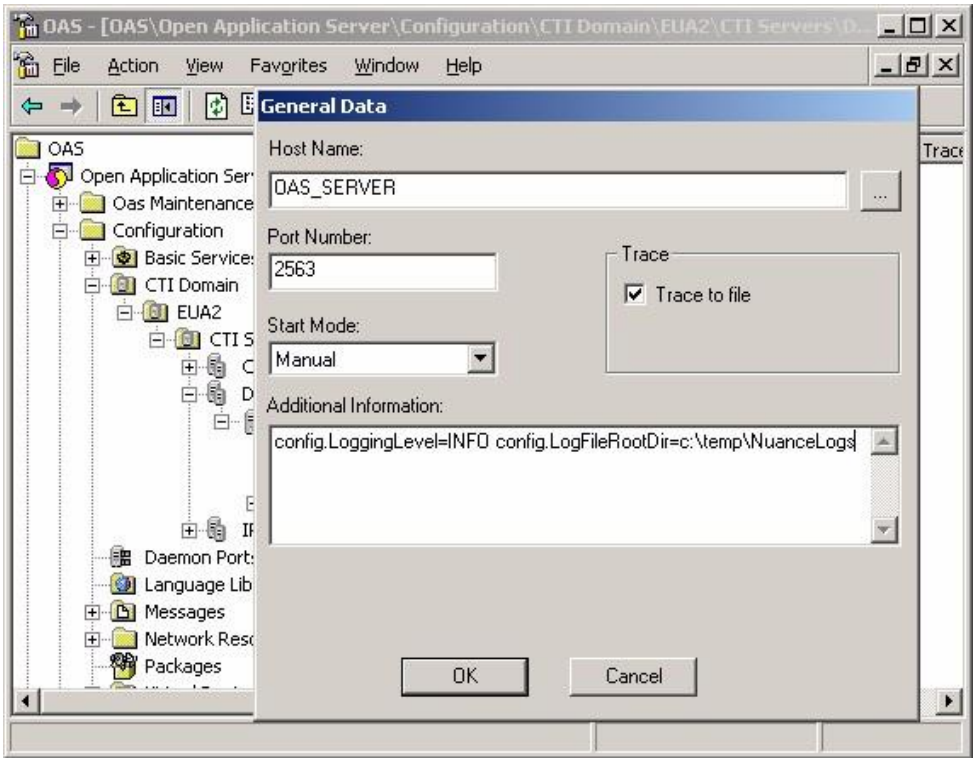

Figure 7: Turning on detailed Nuance Logging

- The Media Server has to be restarted for the changes to take effect. The log file is generated in the directory configured for config.LogFileRootDir. One of the first lines of the log file (unknown_proc_log_current) will indicate if there were problems loading the package. Be sure to remove these logging parameters when normal operations have resumed. Refer to document ASR and TTS Overview for more details on configuration of ASR and TTS components.

CANNOT MIX TTS AND VOICE PROMPTS

Media server does not support mixing TTS and Voice prompts in the same Play, Collect Digits or Recognize service requests, though simultaneously allocating TTS and non-TTS player is allowed.

Play, Collect Digits and Recognize requests return the error code. MS_INVALID_PLAY_LIST when TTS and Voice Prompts are mixed.

See the *Play Messages* document for details.

OAS RESULT AND ERROR CODES

Some of the events traced in the OAS Trace logs have completion codes or error codes logged. CSTA Universal Failure events contain an error code which identifies the reason for the failure. In section 'Universal Failure Error Codes Descriptions' below, error codes that may be included in Media Services universal failure events are described.

Media Services completion and failure events contain result or errors codes which indicate the reason for the completion of failure of those Media Services. These result and error codes are listed in the section 'Media Event Completion (MEC) Codes Description' below.

UNIVERSAL FAILURE ERROR CODES DESCRIPTIONS

The table below describes the error codes that are returned in a Universal Failure event. A Universal Failure event is returned in response to a Service Request which failed to start.

Table 2 OAS Error Codes

Error Code:	**31, GENERIC_SYSTEM_RESOURCE_AVAILABILITY**	
	Condition 1:	cstaMonitorDevice request is made immediately after NRM module has just started. This can happen when NRM is configured for non-Dynamic monitoring.
	Remedy:	Repeat the request after a few seconds.
	Condition 2:	Allocate Resource request fails. OAS could not find a media server configured with the list of resources specified in the Resource Allocation request.
	Remedy:	Check that all Media Servers are running and that at least one of the Media Servers has all requested resources configured, and that this Media Server hardware supports the required resources (for example, if ASR resource is required, the Dialogic board type must support ASR).
	Condition 3:	Make Predictive Call request failed due to missing deflection group configuration.
	Remedy:	Check in the OAS Configuration that the Deflection Group is configured in the CTI domain.
Error Code	**34, RESOURCE_OUT_OF_SERVICE**	
	Condition:	Allocate Resource Request Failed.
	Cause:	OAS is not able to connect the call to a Media Server.
	Remedy:	Check that all Media Ports are operational.

Error Code:	**2001, BAD_PARAMETER**
Condition:	Failed Allocate Resource Request due to invalid Resource Handle Parameter.
Cause:	Caller dropped the call.
Error Code:	**2003, EMPTY_PLAY_LIST**
Condition:	Play Request failed.
Cause:	A Play request was send to OAS with an empty play list.
Error Code:	**2004, INTERNAL_ERROR**
Condition 1:	Call Transfer from an Analog failed due to Dialogic call progress analysis failure.
Remedy:	Verify that extension number to which call is being transferred is operational. If error occurs frequently contact Mitel Technical Support.
Condition 2:	Join Call Operation failed.
Remedy:	Join call will fail if one of the parties drops the call while this request is pending. If error occurs frequently contact Mitel Technical Support.
Condition 3:	Split Call Operation failed.
Remedy:	Split call will fail if one of the parties drops the call while this request is pending. If error occurs frequently contact Mitel Technical Support.
Condition 4:	Recognize Request failed due to Speech engine internal error.
Remedy:	If error occurs frequently contact Mitel Technical Support.
Error Code:	**2008, INVALID_MAX_NUMBER_DIGITS**
Condition:	Collect Digits Operation failed.
Cause:	The number of digits specified in the request exceeds the maximum allowed value.
Remedy:	The Maximum number of digits in Collect Digits Request has to be with in the range of 1-24.
Error Code:	**2012, INVALID_PLAY_LANGUAGE**
Condition:	Allocate Resource Request Failed.
Cause 1:	The language ID specified in Allocate Resource Request in invalid.
Remedy 1:	Check OAS Configuration for valid values.
Cause 2:	The language ID specified in Allocate Resource Request belongs to another Tenant.
Remedy 2:	Check OAS Configuration for valid values.

Error Code:	**2013, INVALID_PLAY_LIST**
Condition:	Play Request Failed.
Cause:	Play request includes invalid object in play list.
Remedy:	Do not mix TTS and non-TTS objects in the same request. Check format of Play List elements.
Error Code:	**2017, NO_RESOURCE_ALLOCATED**
Condition:	A Media Service (Play, Recognize, etc) failed.
Cause:	Resources needed to carry out the Media Service request not allocated.
Remedy:	Make sure that proper resources are allocated. For example, a Collect Digits Request requires a Signal Detector, and may also require a Player or TTS Player to be allocated if the service plays recorded prompts or a Text message.
Error Code:	**2018, RESOURCE_NOT_AVAILABLE**
Condition:	Allocate Resource Request failed
Cause:	The resource(s) specified in Allocate Resource Request is not available.
Remedy:	Media Server configuration must include the type of resources that can be allocated in that Media Server, for example a speech recognition resource.
Error Code:	**2020, UNKNOWN_MEDIA_PORT**
Condition:	Media Service Requested.
Cause:	Call not connected to a Media Port.
Remedy:	Allocate Resource before requesting media services.
Error Code:	**2021, WRONG_MEDIA_PORT_STATE**
Condition:	A Media Service was requested while the Media Port is not ready.
Cause:	A Media Port cannot service requests while it is either executing a previous request or when the call is Joined to another call. The only exception is when the request is to Reallocate or Deallocate Resource while a Media Service is in Progress or, Clear or Split a Joined call.
Remedy:	Wait until previous service request completes, or call is no longer joined to another call.
Error Code:	**2023, INVALID_MAX_DURATION**
Condition:	Record Request failed.
Cause:	The maximum duration in Record Request is not in the supported

	range.
Remedy:	Specify a value between 0 and 600000 ms (10 minutes).
Error Code:	**2004, INVALID_MEDIA_OBJECT_ENCODING_TYPE**
Condition:	Record Request failed.
Cause:	Format in Record Request is not supported.
Remedy:	Check document Play Messages for supported formats.
Error Code:	**2025, INVALID_MEDIA_OBJECT**
Condition:	Play Request or Record Request failed.
Cause:	-Cannot open file to play. -Cannot open file to record to (either bad file name or media container). -Invalid TTS Media Object file. -Wrong Call ID in Split Call Request.
Remedy:	Verify above parameters (file names, call ID's etc)
Error Code:	**2026, INVALID_MIN_DURATION**
Condition:	Record Request failed
Cause:	The silence threshold in Record Request is not in the supported range
Remedy:	Specify a value between 0 and 600000 ms (10 minutes)
Error Code:	**2027, INVALID_SILENCE_THRESHOLD**
Condition:	Record Request failed
Cause:	The minimum duration in Record Request is not in the supported range
Remedy:	Specify a value between 0 and 600000 ms (10 minutes)
Error Code:	**2028, MEDIA_OBJECT_DOES_NOT_EXIST**
Condition:	Media Object failed.
Cause:	Media Object does not exist or is a "Read Only" file
Remedy:	Verify that Media Object to be deleted exists and is not a "Read Only" file
Error Code:	**2040, RESPONSE_TIMEOUT**
Condition:	Any request sent to OAS
Cause:	One of the OAS components did not respond within a certain timeout to the request. That module may be out of service or too busy

Remedy:	Using the OAS Management tool, check whether any OAS components are out of service. If not, verify CPU load and/or Network load.
Error Code:	**2041, INVALID_CALL_STATE**
Condition:	Reconnect Call Request or Clear Call Request failed.
Cause:	Reconnect Call Request received but no call was held or the call was dropped already; Call ID in Clear Call Request is invalid.
Error Code:	**2042, LICENSE_NOT_AVAILABLE**
Condition:	Allocate Resource Request.
Cause 1:	License not available for one or more of the resources requested (for example Media Ports, TTS or ASR ports, languages, and so on).
Remedy 1:	Use OAS Maintenance tool to view the number of licenses installed in the System and the numbers available. Additional license may be necessary.
Cause 2:	One or more tenants have dedicated/reserved all available licenses. And no more are available to either the System or for the Tenant.
Remedy 2:	Use OAS Maintenance tool to view the licenses for the NRM. View the Tenant Licenses to determine which are dedicated, reserved and consumed. Tenants may not be able to acquire enough licenses due to lack of licenses from NLM. If the System tenant cannot acquire licenses, additional licenses may be required or Tenant licenses must be reduced in allow free licenses in the Shared License Pool.
Error Code:	**2043, DEFLECT_ASSOCIATE_DATA_FAILED**
Condition:	Deflect Call with tagged associate data failed.
Cause:	MX-ONE could not handle the request.
Remedy:	Check MX-ONE alarms and faulty signals.
Error Code:	**2044, RESOURCE_SERVER_LOADED**
Condition:	Resource Allocation failed.
Cause:	No Media Ports available.
Remedy:	Wait for a Media Port to become free, or add more Media Ports.
Error Code:	**2045, EMPTY_DTMF_LIST**
Condition:	Send DTMF Request failed
Cause:	DTMF list is empty in Send DTMF Request
Error Code:	**2046, INVALID_NUMBER_OF_RESULTS**
Condition:	Recognize Request failed

	Cause: The number of results in Recognize Request is out of range
	Remedy: Make sure that the number of results required is between 1 and 5

MEDIA EVENT COMPLETION (MEC) CODES DESCRIPTION

In Table 3 below the result codes that are returned after a Media Service Request has completed successfully or when it has failed are described.

Table 3 Result Codes

RESULT CODE	CONDITION
1, ETP_MEC_COMPLETED	Cause: Requested media service completed successfully
2, ETP_MEC_DETECTED_DIGIT	Cause: During a Collect Digits Request, the Play function was interrupted by DTMF digit detection
3, ETP_MEC_DTMF_LIST_TOO_LONG	Condition: Number of digits in a Send DTMF digits request is larger than allowed
	Cause: The maximum allowed DTMF digits to send is 20 digits
4, ETP_MEC_FAILED	Condition: Speech Recognition request failed due to speech server problems
	Cause: The Speech server (Nuance services) is possibly overloaded
	Remedy: If problem persists, restart the speech server and OAS Media Servers
8, ETP_MEC_INITIAL_TIMEOUT	Cause: Collect Digits timed out before first digit was detected
9, ETP_MEC_INTER_DIGIT_TIMEOUT	Cause: Collect Digits timed out after first digit was detected but before all digits were detected.
10 ETP_MEC_INTERNAL_ERROR	Cause: Exception received from Nuance after recognition started. Got Recognize Acknowledged event from Nuance with error code other than "Unknown Grammar" and "ASR not available"
11 ETP_MEC_INTERRUPTED_BY_DIGIT	Cause: Speech Recognition request was interrupted by DTMF digit detection.
12 ETP_MEC_INTERRUPTED_BY_WORD	Condition: Recognize request.
	Cause: Play request interrupted by caller barge-in.
15 ETP_MEC_INVALID_ELEMENT_IN_DTMF_LIST	Condition: Send DTMF Digits request.
	Cause: One or more invalid digits to be generated (any digits other than "0123456789#*" are considered

RESULT CODE	CONDITION
	invalid).
	Remedy: Check the DTMF string in Send DTMF Request and make sure no invalid digits are specified.
16 ETP_MEC_INVALID_MEDIA_OBJECT_ENCODING_TYPE	Condition: Record request
	Cause: File encoding format is not supported in Record Request.
	Remedy: Check the file extension and/or encoding type in Record Request.
17 ETP_MEC_INVALID_MEDIA_OBJECT	Condition: Play or Record request failed
	Cause: Cannot open file to play or cannot open file to record to (either bad file name or media container).
	Remedy: Check the file specified in Play Request exist or if it is a Record Request, make sure the file is not read only and/or the correct media container path is set
21 ETP_MEC_INVALID_DATE	Condition: Media request which includes a Play function failed
	Cause: Invalid date format specified in Play parameters list
	Remedy: Make sure the date format specified in Play parameters list is correct
23 ETP_MEC_INVALID_TIME	Condition: Media request which includes a Play function failed
	Cause: Invalid time format specified in Play parameters list
	Remedy: Make sure the time format specified in Play parameters list is correct
25 ETP_MEC_INVALID_PLAY_ELEMENT	Condition: Play request failed
	Cause: One of the elements in the play list is not of a supported type
	Remedy: Check the OAS Technical Play Message guide for a list of the supported types (for example Date, Duration, Sound file, TTS file, etc)
29 ETP_MEC_MEDIA_OBJECT_ALREADY_EXISTS	Condition: Record request failed.
	Cause: The file to record already exists and the Record Request specifies that file should not be overwritten.
	Remedy: Either delete or rename the existing file, or turn on the overwrite flag in Record Request.

RESULT CODE	CONDITION
30 ETP_MEC_MEDIA_OBJECT_DOES_NOT_EXIST	Cause: File specified in Delete Media Object Request does not exist.
33 ETP_MEC_PLAY_FAILED	Condition: A Media Service Request such as Collect Digits or Recognize did not execute because the Play function failed.
	Cause: Check the Play Failed event that preceded this event for the reason why the Play function failed.
37 ETP_MEC_MAXIMUM_DIGITS	Cause: Maximum digits received during digit collection.
38 ETP_MEC_MAXIMUM_DURATION	Cause: Record ended because it reached maximum duration
40 ETP_MEC_MINIMUM_DURATION	Cause: Record failed because recorded less than the minimum duration specified.
42 ETP_MEC_RESOURCE_REALLOCATION	Cause: A Media Service request was terminated because of a resource reallocation request.
44 ETP_MEC_SUCCESSFUL	Cause: A Media Service request started successfully.
45, ETP_MEC_TERMINATION_DIGIT	Condition: Collect Digit request ended
	Cause: The Termination digit was detected
47 ETP_MEC_RECOGNITION_REJECTED	Condition: Speech recognition rejected by the recognition server.
	Cause: Utterance not recognizable due to low confidence score.
	Remedy: Check to see if the utterance is in the grammar.
48 ETP_MEC_TIMEOUT	Condition: Resource allocation failed
	Cause: Call could not be connected to a Media Server
	Remedy: Check Media Port connection to the MX-ONE are all operational
51 ETP_MEC_INVALID_VOCABULARY_ID	Condition: Recognition Request failed
	Cause: Unknown grammar specified in Recognition Request
	Remedy: Make sure the recognition package loaded contains the grammar specified in Recognition Request
52 ETP_MEC_STOPPED	Condition: Recognition Request failed
	Cause: The play function in this request has failed.
	Remedy: A Play Failed Event should have been

RESULT CODE	CONDITION
	sent prior to this message. Check that event for the particular reason why the play failed.
54 ETP_MEC_NO_SPEECH	Cause: No speech timeout during the recognition.
55 ETP_MEC_TOO_MUCH_SPEECH	Cause: Speech recognition timers expired before caller stops talking.
56 ETP_MEC_RECOGNITION_TOO_SLOW	Condition: Recognition server too slow to interpret utterances
	Cause: - Recognition server is too busy processing requests from other clients. -Recognition Packages are too large. -Network connection between client and server is experiencing problems -Server CPU overloaded.
	Remedy: Verify CPU Load, and Network connections.
57 ETP_MEC_SPEECH_TOO_EARLY	Cause: Speech started before Recognition started or before the prompt finished playing and barge-in was not allowed.
59 ETP_MEC_CLOSE_MEDIA_OBJECT_FAILED	Condition: Record Request failed.
	Cause: Cannot close the recorded file.
	Remedy: Check for problems in file system on the server.
71 ETP_MEC_ASR_LICENSE_NOT_MATCH	Condition: Speech Recognition failed.
	Cause: The ASR license Tier requested in the Resource Allocation Request does not match the recognition result. For example a Tier A: “” was requested in the Resource Allocation Request, and the Recognition result returned was in the Tier B: “One Unique Item” or Tier C: “ More than one Unique Item” format.
	Remedy: User should check the ASR grammar or if grammar is fine then should consider upgrading ASR license
72 ETP_MEC_ASR_NOT_AVAILABLE	Condition: Recognize request failed
	Cause: ASR Resource is not available. Nuance Service not started
	Remedy: Restart the Nuance services and the Media Servers
73 ETP_MEC_DISCONNECT	Cause: Media Service request ended or failed due to call disconnection

IT AND SECURITY ISSUES

This section details all network share points created and any registry key or NTFS permissions changes made by the OAS installation program.

SERVER INSTALLATION

User Rights

To install, the logged on user must be a local administrator.

Registry Permission Changes

During installation, `HKEY_LOCAL_MACHINE\Software\Mitel\OAS` and sub-keys are created. The installer modifies the registry permissions on the created keys to be full control.

Share Points and Permissions

Assuming a complete installation is done, the share points listed in Table 4 Share Points and Permissions are created.

Table 4: Share Points and Permissions

SHARE NAME	PURPOSE	SUBDIRECTORY	PERMISSIONS		
			SET BY INSTALLATION		REQUIREMENTS
			SHARE	NTFS	
root_container	Contains .rul files, system prompt files and user prompt files used by OAS for media services	–	Read/Change	Default	Read/ Change for all users to the system where the OAS is installed.
UserPromptPath	Contains User-defined prompt files	\root_container	Read/Change	Default	Read/ Change for all users to the system where the OAS is installed.