Mitel MiContact Center Enterprise Tenanting

Description

RELEASE 9.5

NOTICE

MiContact Center Enterprise Tenanting – Description
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INTRODUCTION

A tenanted solution is when a system can be divided into multiple tenants but is managed by the same MiCC Enterprise system. Tenanting allows a single MiCC Enterprise and Open Application Server (OAS) system to concurrently host several customers, where each customer is referred to as a tenant. System resources are shared among tenants; they are allocated to each individual tenant by an Administrator. Each tenant will only be able to view contact center resources assigned to their specific tenant. See Figure 1 for an overview.

This document summarizes the necessary procedures and considerations for setting up a tenanted environment. References to documents that contain specific instructions are also included.

Note: Installation instructions in section Installation on page 16 and section OAS Installation assume a new customer environment where OAS and the MiCC Enterprise suite reside on the same server.

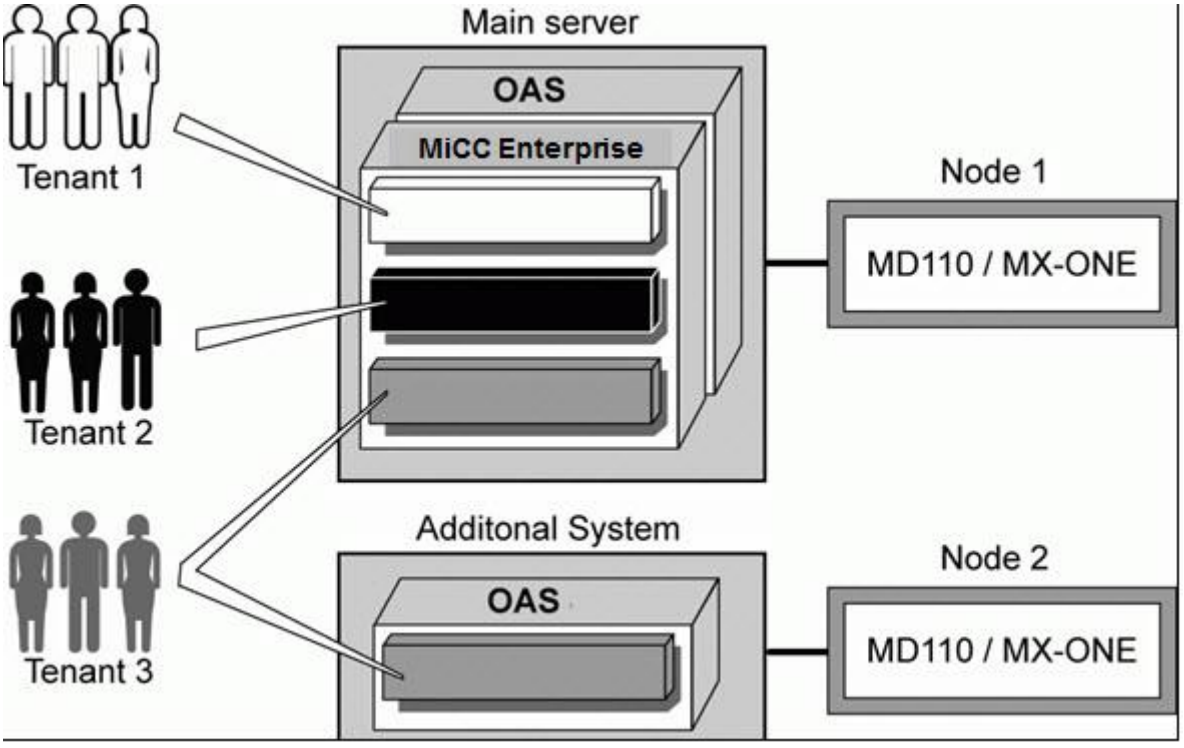

Figure 1: Overview of a Tenanted System

OVERVIEW

In this overview, tenanting in OAS and MiCC Enterprise is described in short.

OPEN APPLICATION SERVER

OAS supports multi-tenanting. At installation, it can be selected by the user whether to setup OAS as tenanted or non-tenanted. For a tenanted OAS installation, multiple tenants can be configured and administered for each OAS system. See document *OAS Software Configuration* for tenant specific configurations.

Each tenant will have the following dedicated resources or functions available:

- CTI group or BVD access number
- Media resources
- Licenses
- Play Message Lists
- Language libraries
- OAS Configuration Manager - provides administrative controls required to configure tenant administration.

Each tenant has security enabled based on applicable security restrictions.

- CTI groups and extensions can only be monitored by users associated with the assigned tenant.
- Each tenant has its own media container. A tenant cannot access the container for another tenant. However, the default system container can be accessed by all tenants since it is shared by all the tenants.

Note: OAS Configuration Manager provides administrative controls required to configure tenant information.

Licensing

OAS acquires licenses from Enterprise License Manager (ELM). The licenses are configured for each tenant in the OAS Management Console by the system administrator. For each tenant, Dedicated **Licenses and Maximum Licenses are configured.**

Dedicated Licenses are reserved for a particular tenant, and cannot be used by any other tenant. A tenant cannot consume more than the configured number of Maximum licenses, even if there are still available licenses in the ELM.

If no number is configured for Dedicated Licenses or Maximum Licenses for any tenant, each tenant will consume the licenses required for its services as long as there are available licenses in the ELM license pool. In an installation with multiple instances of OAS, configuration of licenses is made for each OAS. A tenant can have a number of licenses in one OAS, and a different number in another OAS.

Media ports are treated differently for tenant configuration. Tenants can be allocated generic Media Port licenses, not specific licenses for Analog, Digital or IP media. However as actual media is allocated, the appropriate license is used.

Tenant licensing introduces the following new concepts:

- **Dedicated Licenses** - Licenses that a tenant should be guaranteed
- **Maximum Licenses** - Maximum number of licenses that a tenant can be allocated at a given time (cannot be less than the dedicated licenses)
- **Acquired Licenses** - Licenses that the tenant actually holds currently
- **Consumed Licenses** - Licenses that are actually in use

For detailed information on these licensing concepts, refer to the document *OAS Licensing*.

Note: Deleting a tenant will not automatically drop calls or consumed licenses allocated by that tenant. However, as callers disconnect those licenses will be released. In addition, upon deletion, licenses acquired but not used by the deleted tenant will also be released.

Language Libraries

The NRM and Media Servers use Language Library information while playing numbers, dates, time of day, time durations, character strings, and TTS strings. Configuration of OAS provides a user interface to configure some of the system preconfigured Language Library properties and to add user-defined Language Libraries.

MICC ENTERPRISE

MiCC Enterprise supports multi-tenanting. To perform setup options, certain privileges are required.

User Roles

Many of the setup options involving tenanting require certain privileges associated with user roles at logon. A description of those roles is found in Table 1 User role description.

Table 1 User role description

ROLE	DESCRIPTION
Host Administrator	Has permission to perform any operation on the MiCC Enterprise system, or on behalf of any tenant. When the system is installed, a default Host Administrator “Admin” is created, as well as the Host Administrator user type, which contains all system privileges. The Host Administrator User and user type cannot be deleted. A Host Administrator may change the password or any other attributes for the Host Administrator user. If you need to reset the Host Administrator password, you will need to run the installation again and select the reset Host Administrator password option. After the system is installed, the Host Administrator can create another user with Host Administrator user type. All Host Administrator user Ids must be unique. If the Host Administrator logs on to Configuration Manager, Report Manager, or Information Manager, the system will reserve one license from the shared license pool. The Host Administrator is restricted from running MiContact Center Agent, since generated activity data will not be valid because the Host Administrator is not associated with a specific tenant. If the Host Administrator wants to run MiContact Center Agent, a valid tenant user ID must be entered. The Host Administrator can do the following: • Create new tenants (A new “Add Tenant” menu item will be in CM) • Modify and delete tenants • Enable/Disable tenants • Associate OAS tenants with the tenant • Assign MiCC Enterprise and Script Manager licenses for the tenant • Create other users (Host Administrator, Reseller Administrator, Tenant Administrator or User) • Manage data for all tenants Only the Host Administrator can run OAS Configuration, RTI Configuration, and Script Designer.
Reseller Administrator	Only a Host Administrator can create a Reseller Administrator. Multiple Reseller Administrator users may be defined. A Reseller Administrator can be assigned to one or more tenants. This allows the Reseller Administrator to logon to Configuration Manager and function as a Tenant Administrator for all Tenants assigned to that Reseller. The Reseller Administrator is restricted from Script Manager, so all Service Access configurations must be managed by the Host Administrator. If a Reseller Administrator tries to logon into Configuration Manager, the system tries to reserve one license from the shared license pool. In Configuration Manager, a Reseller Administrator has the same privileges as a Tenant Administrator. A Reseller Administrator cannot logon to Report Manager, Information Manager, or MiContact Center Agent using the reseller user ID. A valid tenant user ID must be used to logon to these applications.

ROLE	DESCRIPTION
	A reseller User ID must be unique across the MiCC Enterprise system. If all the tenants associated with a Reseller Administrator are deleted, the Reseller Administrator is not automatically deleted. The user remains, but will not be able to view or modify data.
Tenant Administrator	The Tenant Administrator user type is created during installation. This user type cannot be removed. Both Host Administrators and Reseller Administrators can create a Tenant Administrator by using Configuration Manager. A Tenant Administrator can create another Tenant Administrator for that same tenant. If a Tenant Administrator or a normal user associated with a tenant, tries to logon to Configuration Manager, Report Manager, Information Manager, or MiContact Center Agent, the system will reserve one dedicated license. If no dedicated licenses are available, the system will attempt to reserve one license from the shared license pool. A tenant user cannot logon to the system if the tenant is currently disabled. A Tenant Administrator may do the following: • Manage tenant data for their associated tenant, including: • Manage Non-Script Manager Service Accesses • Activate/Deactivate Script Manager Service Accesses • Manage Service Groups • Manage Agents • Manage Agent Groups • Manage User Types • Define Call Qualification Codes • Define Skills • Define Not Ready Reasons • Manage Campaign data • Create another Tenant Administrator • Create OAS Play Messages for languages assigned to the tenant by the Host Administrator. A Tenant Administrator cannot assign OAS resources or add new tenants.
Tenant User	A Tenant User is a user that is created at run-time by the Tenant Administrator or other user with the required privilege. If a Tenant User tries to logon to Configuration Manager, Report Manager, Information Manager, or MiContact Center Agent, the system will attempt to reserve one dedicated license. If no dedicated licenses are available, the system will attempt to reserve one license from the shared license pool. A Tenant User cannot logon into the system if the tenant is disabled.

Table 2 Privileges describes the privileges associated with different tenant user types.

Table 2 Privileges

PRIVILEGE	HOST ADMIN	RESELLER ADMIN	TENANT ADMIN
Create a Host Administrator	Yes	No	No
Delete or Modify the default Host Administrator (other than changing the name)	No	No	No
Create a Reseller Administrator	Yes	No	No
Create a Tenant Administrator	Yes	Yes*	Yes*
Logon to MiContact Center Agent	No	No	Yes
Logon to RM, IM, or CM	Yes	CM only	Yes
Manage Non-SM Service Access	Yes	Yes*	Yes*
Activate/Deactivate SM Service Access	Yes	Yes*	Yes*
Manage Service Groups	Yes	Yes*	Yes*
Manage Agents	Yes	Yes*	Yes*
Manage Agent Groups	Yes	Yes*	Yes*
Manage User Types	Yes	Yes*	Yes*
Define Call Qualification Codes	Yes	Yes*	Yes*
Define Skills	Yes	Yes*	Yes*
Define Not Ready Reasons	Yes	Yes*	Yes*
Manage Campaign Data	Yes	Yes*	Yes*
Create OAS Play Messages for languages assigned to the tenant	Yes	Yes*	Yes*
Change System Settings	Yes	No	No
Change Tenant System Settings	Yes	Yes*	Yes*

*This privilege is only available for data associated with the associated tenant(s).

Applications

The following MiCC Enterprise applications display tenant information based on the logged on user's tenant and privilege:

Configuration Manager – used to configure all contact center components and call campaigns. For tenanted environments, Configuration Manager is used to manage the following resources:

- Agent Groups
- Alarms (Service Group Performance, Service Group Agent, Agent Group)

Note: System alarms are per system, not per tenant.

- Call Qualification Codes
- Campaigns
- Campaign Customers
- Licenses
- Router IVR configuration
- Script Manager Nodes
- Service Accesses
- Service Groups
- Site Servers
- Skills
- Skill Templates
- Unavailable Reasons
- Users
- User Types

Information Manager - Used for real-time presentation of contact center activities. Using Information Manager, you can view alarm messages using the Alarm Log window. Regarding tenanting, the following applies:

- Host Administrators can view system alarms
- An alarm log will be kept for the last 30 days up to 1000 alarm entries per tenant

Report Manager - Used for viewing and printing historical reports of contact center activity. You can perform the following based on a specific tenant:

- Add, delete and edit a default summary group
- Set up call report filters based on tenant or agents
- Create, generate and allow access to scheduled reports and output files by users
- Open and generate a report based on existing template
- Explore reports based on tenants - you must have host administrator privileges

- Define summary groups
- View system report log - you must have host administrator privileges
- Select a user and tenant used to create New User templates and New Schedules as part of User Selection options. You must have administrator privileges.

MiContact Center Agent - Agent desktop application for call control, real-time presentations, E-mail and chat handling, and agent/supervisor functions. A tenant administrator or tenant user only may logon to this application.

Script Manager Configuration - Used to configure Script Manager services. Regarding tenanting, the following applies or is based on a specific tenant:

- For stand-alone tenants (integrated tenants use Configuration Manager), add a tenant and configure licenses
- Create and select shared licenses
- Create a new project
- Deactivate, enable or delete a tenant
- List service groups configured in the MiCC Enterprise system for the configured tenant
- Backup and restore of Script Manager settings

Licenses

Concurrent Licenses

A tenant can be assigned the following concurrent licenses:

- Number of Concurrent Configuration Manager applications
- Number of Concurrent Report Manager applications
- Number of Concurrent Information Manager application
- Number of Concurrent Phone Agents
- Number of Concurrent MiContact Center Agents
- Number of Concurrent Agent Supervisors
- Number of Concurrent Outbound Agents
- Number of Concurrent E-mail Agents
- Number of Concurrent SMS Agents
- Number of Concurrent IP Agents
- Number of Concurrent Web Agents
- Number of Concurrent Virtual Agents

Note: These licenses are allocated per tenant in Configuration Manager. It is the Host Administrator that distributes the licenses between the tenants.

MiCC Enterprise retrieves all installed licenses from the Enterprise License Manager (ELM). This information is used when configuring licenses for the tenants. Each tenant may be configured to have dedicated licenses, and optionally to use the shared license pool. The system uses the configured dedicated license value to reserve equivalent licenses in ELM at system startup, or when a tenant is enabled. The system reserves shared licenses in ELM when needed.

MiCC Enterprise ensures that the total number of minimum licenses allocated to all the tenants is equal to or less than the total installed licenses. Additionally, one Configuration Manager license must always be maintained in the global shared licenses, and not be allocated to any tenant. This enables the Host Administrator to logon to the system.

A dedicated license can only be used by the tenant for which it is configured. The shared license pool is shared among those tenants that have shared licenses configured.

When a license request is received, the system tries to reserve a dedicated license. If no dedicated licenses are available, the system attempts to reserve a license from the shared license pool, if so configured.

When a license is released, the system tries to release a license from the shared license pool, if such a license is reserved. If no shared license is reserved, the system releases a dedicated license.

Licenses are released in ELM when a tenant is disabled or when the system is shutting down.

An alarm will be generated if there are not enough licenses available for all allocated licenses to active tenants.

Note: Tenant license configurations can be changed without disabling the tenant. If licenses are removed from a tenant, the license is released in a normal fashion when the tenant stops using it.

Site Licenses

Any site license installed can be granted or restricted from a tenant.

- Auto E-mail Response
- Configuration Web Service API
- Directory
- Messaging
- SMS-C
- Virtual Call Center
- Open Media

Note: The Real-time interface site license cannot be restricted to particular tenants. If this license is installed, it is available for all tenants.

OPEN APPLICATION SERVER

TENANTING CONSIDERATIONS

This section describes installation instructions and some additional information for OAS tenanting.

INSTALLATION

Installation of OAS is performed using an InstallShield wizard. An overview of the steps for installation of OAS supporting tenanting is presented below. Refer to documents *OAS Installation Instructions* and *OAS Software Configuration* for specific information.

1. Run **OAS InstallShield wizard**, completing the instructions for a standard OAS setup.
2. Select **Tenanted OAS Installation** when you are presented with the **Multi Tenanted Feature Installation** screen.
3. Enter a path for **System prompts** and **User prompts**. The root container is the base location for all message prompts. A separate directory will be setup under the root container folder for each tenant added to the OAS system. It can be a local path or a network shared path in UNC format. The path will be created if it doesn't already exist.
4. **System prompts** are prompt files installed by the OAS system; these prompts represent touch-tone sounds and common words like days of the week, months, numbers, and so on, for each of the languages.
5. **User prompts** are application specific prompts that are recorded by the user. The directory containing the prompts is the **OAS Root Container Folder.**
6. Complete the OAS installation.
7. Configure the OAS software related to a tenant using the **OAS Management Console**. For detailed information, please see document *OAS Software Configuration*.
8. **Add a tenant** in the **New Tenant** dialog box.
    - Enter a tenant ID – this must be unique
    - Enter a tenant name – this must be unique

- Specify the number of Automatic Speech Recognition (ASR) languages that this tenant can concurrently support.
- Select **Enable** to enable the tenant.

9. Configure Resource Licenses

   - Specify resource licenses for call control, media ports, ASR and Text to Speech (TTS). For a selected license type, indicate the number of dedicated licenses and the number of maximum licenses allowed for a selected tenant.

10. **Assign media licenses** for Media Ports, General ASR or Language specific ASR, and Language specific TTS - A tenant can only access the media objects contained under its own media container or the system media container. However, the default system container (this is the same as the system media container) can be accessed by all tenants since it is shared by all the tenants. The container structure for a tenant 'A' with tenant id 1 is:

    \\<hostname>\root_container\tenant\1

    

    Note: \\<hostname>\root_container is based on the path defined during installation.

11. Assign **Basic Virtual Devices** (BVDs) - From the **Basic Virtual Device** dialog box, select or change the name of the tenant to associate with a device. Once a Basic Virtual Device is associated with a tenant, it can only be monitored, or controlled, by applications for that tenant.

12. Assign **Language Libraries** – You can add a Language Library, either for a tenant or for the system and then define all needed information for a new Language Library. Use the **Language Libraries** dialog box to assign a language library to a specific tenant.

    

    Note: In order for OAS to use a newly added Language Library, a media resource with this Language Library (for example Player) must be added. Language Library additions will take effect only after the OAS System is restarted.

13. Assign **Play Messages** - Assign one or more Play Message lists to a desired tenant. If a play message list is created for a specific tenant then you should assign this list to the particular tenant. For specific details, refer to document *Play Messages*.

14. **Select a Play Message list**: Double click on one of the existing Language Libraries to select a Play Message list from the pull down controls under the Play Messages heading. By default the list is assigned to the system, therefore, the drop down list of the play messages will only list the system play message lists and not the ones that are assigned to tenants. However, a language may first be assigned to a tenant by selecting from the tenant drop down list.

15. In this case, the drop down list for play list will show both the system specific and tenant specific play messages lists.

16. Use the **New Play Message List** dialog box to add a new play message list to an existing tenant. In a Tenanted system, the PlayMessageList of a specific tenant should be associated with the Language Library of the same tenant.

17. **Assign Monitored Devices**. Devices added during Call Control Servers configuration can be assigned to a tenant. This is performed from the OAS Configuration Manager **Application Link** dialog box associated with a specific call control server. Any devices added here are devices that may only be monitored, or controlled, by applications for that tenant.

18. Continue with MiCC Enterprise application installation.

DELETING A TENANT

Deleting a tenant while calls are being handled for that tenant will not automatically drop calls. Any BVD assigned to the tenant will become inaccessible until the call is complete. Callers will need to drop on their own. Refer to document *OAS Software Configuration* for details.

DISABLING AND ENABLING A TENANT

A tenant can be disabled by clearing the **Enable** option or enabled by selecting the **Enable** option from **Tenant Data Configuration** dialog box.

- A disabled tenant does not reserve and cannot acquire licenses.
- Disabling a tenant does not immediately release licenses. Licensed media must be cleared before licenses are released. Monitored extensions must be stopped by the monitoring application.
- Disabling a tenant will release all licenses not currently used.

MICC ENTERPRISE TENANTING

CONSIDERATIONS

In this section, installation of MiCC Enterprise supporting tenanting is described as well as how to add tenants, play messages and upgrade and install tenant clients.

INSTALLATION

Installation of MiCC Enterprise is performed using an InstallShield wizard found on the MiCC Enterprise DVD. The DVD auto-run feature will automatically start the MiCC Enterprise setup as soon as the DVD is inserted.

Below are the general steps for installation of MiCC Enterprise supporting tenanting:

1. **Check to be sure OAS is installed and configured**. The Windows user account that MiCC Enterprise uses to access OAS must belong to the Windows Global User Groups (that is the OAS Administrator Group and the OAS Client Group) defined prior to OAS installation.
2. **Copy voice prompt files**. Voice prompts are the prerecorded message files shipped with the system. These files can be system prompts, voice prompts for the Callback feature or voice prompts for call qualification codes. The files can be in many different languages. You will need to perform the following:

    - Copy the entire `nextcc` folder and all of its sub-folders from the MiCC Enterprise Installation DVD to the OAS server. The path to this folder on the installation media is:<drive>:\localization\prompts\voice\nextcc.

- The path on the OAS server where the nextcc folder and all of the sub folders should be copied is as follows: \\<host- name>\root_container\Voice.
- In addition to copying data, separate share points on the OAS Server can be established for voice prompts. This can be used for tenanted environments so that the voice prompts will be replicated whenever a new tenant is created. Be sure to establish these share points before tenants are created in OAS.
- Voice prompts should be copied to `\\<host- name>\root_container\Voice`.

Note: `<root_container>` is the path name supplied during the OAS installation.

3. Using Enterprise License Manager server, add all the required MiCC Enterprise licenses.
4. Run the MiCC Enterprise installation, completing the instructions on each MiCC Enterprise InstallShield Wizard screen.
5. When the **Tenanting** screen is reached:

- Select the **Enable Tenanting** option. If tenanting is enabled, all client applications will restrict data to only the data associated with the logged on user's tenant. The **Admin** user will be able to view and administer data for all tenants. A tenant is created in the database and a Host Administrator is created.

Note: You can add additional tenants using Configuration Manager.

6. Complete the MiCC Enterprise installation.
7. Reboot the MiCC Enterprise system.
8. Use **Configuration Manager** to configure necessary parameters, including adding additional tenants. Options that are exclusively available for tenanted environments are:

- Location
- Assign OAS Tenant ID. This ID enables all resources on the selected OAS server to be available for use by this tenant. If a MiCC Enterprise tenant is associated with multiple OAS servers, the SAME tenant ID must be used on all the OAS servers. For example, if tenant 1 is associated on OAS server 1, it also needs to be tenant 1 on OAS server 2.
- Assign Script Manager Nodes

9. Allocate Script Manager licenses for a selected Script Manager Node.

- **Configure Licenses** dialog box. Changes can only be made by a Host Administrator.
  - Indicate the number of dedicated or shared licenses. The system will ensure that at least one Configuration Manager license remains not configured or one license is configured to the shared license pool. This is to ensure that the Host Administrator is able to configure system parameters or license information in the future.
- Reseller Assignment dialog box.
  - Assign tenants to resellers.
- Manage Voice Prompts dialog box.

- Assign voice prompts. The Manage Voice Prompts dialog box is where you can add and remove voice prompt files that are played when specific events occur. The files must preexist and are associated with specific objects within the system.
- The folders and files displayed in this dialog correspond to the files on the associated OAS server, located in the <root_container>folder.

Note: There are many configuration settings that are the same for tenanted and non-tenanted systems that are not covered in this document. Please refer to *Configuration Manager Online Help* for specific information.

ADDING TENANTS

Tenants can be added using Configuration Manager **Contact Center Tenant Properties (New)** dialog box. It is required to have Administrator privileges to add tenants.

ADDING NEW PLAY MESSAGES

When adding a new play massage as an OAS Resource, you will need to know the name of the message file. For security purposes, Tenant Administrators are not allowed to browse to view available play message file names when creating a play message. Thus, search for available play message files and remember the name of the desired file before creating a new tenant play message.

The general steps to add new play messages in **Configuration Manager**:

1. Go to **Tools** and click on **Manage Voice Prompts…**. The **Manage Voice Prompt** dialog box will appear with a list of available voice prompt files.
2. Check the name of the desired file, including the appropriate extension (for example .wav or .vox).
3. Close the **Manage Voice Prompts** dialog box.
4. Select the desired tenant and go to **OAS Resources** and **Play Messages**.
5. Right click **Play Messages** and select **New**. The **Play Message Properties** dialog box appears.
6. Complete the information on the **General** tab.
7. Select the **Media Objects** tab.
8. Click **Add** and the **Media Objects** dialog box appears.
9. Select the appropriate **Object Type** and **Data Type**.
10. Enter the file name of the desired voice prompt file in the **Data** field.
11. It is not necessary to include back slashes or path information, but it is required to include the file extension.
12. Click **OK** to save the information.

UPGRADING AND INSTALLING TENANT CLIENTS

To change a tenant associated with client applications, use the **Tenant Client** utility, launched from the **MiCC Enterprise Setup Utility**. This is only possible when logged on as a Host Administrator.

Note: The configured tenant ID on the client, as defined with the Tenant Client Utility, is the tenant that will be associated with any users logging on to all applications. Users will only be permitted to logon with user IDs associated with the configured tenant for that client.

Before upgrading or installing a tenant client, modify the `clientsetup.ini` file located in the **Client Installation** folder. You can indicate the tenant this client belongs to and what applications to install by following the steps below.

Note: It is recommended that a separate client installation directory be created for each tenant.

1. Go to the **[Settings]** section of the **clientsetup.ini** file and search for the following information:

ValueName: **TenantID**

Value: <TenantID>

Default: Set by server installation.

TenantID specifies the ID of the tenant to be used for client applications. Clients will only be able to logon to the specified tenant.

For a list of defined tenant Ids, run `SecSetup.exe`, and view **Defined Tenants**.

2. Enter the appropriate **TenantID**.

Note: During upgrades or installation, the system uses the TenantID in the clientsetup.ini file to overwrite existing registry values. If a TenantID is not specified, the default will be used. If you are using a specific TenantID, be sure the clientsetup.ini file contains this value.

3. To indicate which applications to install, go to the **[Features]** section.
4. Indicate with a Y or an N which applications to install and which should be restricted. In the example below, Script Designer would be restricted:

   [Features] ConfigurationManager = Y InformationManager = Y Agent = Y ReportManager = Y

   DBMT = N RTIConfiguration = N SMDesigner = N SMConfiguration = N SMDevTools = N

5. After making the appropriate modifications to the clientsetup.ini file, run the Setup Utility to install the Tenant Client. Refer to document Installation Instructions for additional information.

VIEWING DEFINED TENANTS

After installation, use the **MiCC Enterprise Setup Utility** program to view defined tenants and the associated tenant ID.

CONVERTING A NON-TENANTED SYSTEM INTO A TENANTED MICC ENTERPRISE SYSTEM

This section describes how to convert a non-tenanted MiCC Enterprise system into a tenanted system. Do the following:

1. Shut down the MiCC Enterprise server.
2. Launch the MiCC Enterprise installation program (setup.exe) from the MiCC Enterprise Installation folder on the DVD drive. The installation program discovers that there is already an installation, and prompts you to modify, repair, or remove the installation.
3. Select **Modify**.

   Depending on the features that are installed, the installation will prompt for different installation options.
4. In the **Tenanting** dialog, select **Enable Tenanting**, and enter a name for the tenant.

   

   Note: The tenant will inherit already configured service accesses, service groups, agents, etc.
5. Complete the installation and restart the system.

TROUBLESHOOTING

In Table 3 OAS errors and Table 4 MiCC Enterprise errors, the errors specifically related to tenanted systems are described.

Note: The listed error codes may appear for other causes; this section only covers causes and solutions associated with tenanting.

Table 3 OAS errors

ERROR CODE	DESCRIPTION
2012, INVALID_PLAY_LANGUAGE	**Condition:** Allocate Resource Request Failed **Cause 1:** The language ID specified in Allocate Resource Request is invalid **Cause 2:** The language ID specified in Allocate Resource Request belongs to another Tenant
2042, LICENSE_NOT_AVAILABLE	**Condition:** Allocate Resource Request **Cause:** One or more tenants have dedicated/reserved all available licenses and no there are no more available, not for the system nor for the tenant. **Solution:** Use OAS Maintenance tool to view the licenses for the NRM. View the Tenant Licenses to determine what are dedicated, reserved and consumed. Tenants may not be able to acquire enough licenses due to lack of licenses from ELM. If the System tenant cannot acquire licenses, additional licenses may be required or Tenant licenses must be reduced to allow freed licenses to be added to the Shared License Pool.

Table 4 MiCC Enterprise errors

ERROR CODE	DESCRIPTION
Service is running, but does not accept any client connections	**Solution:** Verify that all dependent services are running and have been successfully connected to by the service. Make sure the license server is available and licenses have been allocated to the tenant.
When logging on to MiCC Enterprise, the user ID cannot be found in the logon dialog box	**Condition:** The configured tenant for the client may be incorrect. **Solution:** Run Setup, select Tenant Client and change the associated tenant for the client.