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GVP Deployment Guide

Configuring the GVP Components

Configuring the GVP Components

Perform these advanced configuration procedures after GVP installation and basic configuration.

<ul style="list-style-type: none">• Integrating Application Objects• Creating a Connection to a Server• Provisioning the MRCP Speech Resources• Provisioning the MRCP Proxy	<ul style="list-style-type: none">• Configuring the CTI Connector for Cisco ICM• Provisioning the PSTN Connector• Provisioning the Supplementary Services Gateway• Preparing the Call Control Platform for Outbound Calling	<ul style="list-style-type: none">• Using Resource Groups• Creating IVR Profiles and DID Groups• Assigning Default Tenants and Creating Default Profiles• Integrating the Reporting Server User Interface with GVP• Configuring the Reporting Server Locale
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Integrating Application Objects

After the Media Control Platform and Call Control Platform Application objects are created and the components are installed, they are integrated with the Resource Manager which acts as a proxy server. SIP devices and VoiceXML or CCXML applications can then make use of media-centric services through the proxy, without having to know the actual location of these resources.

This procedure is optional and required only if you want the Resource Manager to act as a proxy server for outbound requests. To integrate these Application objects with the Resource Manager, you configure the Session Initiation Protocol (SIP) settings.

This procedure describes how to integrate Application objects with the Resource Manager by configuring SIP and secure SIP options.

Important

Currently, among GVP components, only Resource Manager supports Advanced Disconnect Detection Protocol (ADDP).

Procedure: Integrating Application Objects with Resource Manager

Integrate an Application object with Resource Manager by configuring the Application parameters.

1. Verify that all GVP components are installed. See [Procedure: Using the Deployment Wizard to Install](#)

GVP.

2. Log in to Genesys Administrator.
3. On the Provisioning tab, select Environment > Applications.
4. Click the Application object that you want to configure for example, the Media Control Platform or Call Control Platform Application.
The Configuration tab appears.
5. Click the Options tab, and use the View drop-down list to select **Show options in groups...**
6. In the sip section, find the routeset option.
7. In the Value field of the routeset option, enter the following:
 - `sip:<IP_RM>:<SIPPort_RM>;lr`
to integrate the Media Control Platform with Resource Manager.
 - `sip:<IP_RM>:<SIPPort_RM>;lr`
to integrate the Call Control Platform with Resource Manager.

...where IP_RM is the IP address of the Resource Manager, and SIPPort_RM is the SIP port of the Resource Manager typically, 5060.

For both MCP & CCP the syntax is the same:
`routeset = sip:<RM1_IP>:<RM1_proxy_port>;lr`
for half of the MCPs & CCPs, the other half use
`routeset = sip:<RM2_IP>:<RM2_proxy_port>;lr`

(Where anything not in italics is required verbatim.)
...where proxy_port is the port from [proxy] sip.transport.n

Tip

You must include the angle brackets in the Value field in the sip.routeset and sip.securerouteset parameters.

- In the Value field of the securerouteset option, enter the following:
 - `sip:<IP_RM>:<SIPSecurePort_RM>;lr` to integrate the Media Control Platform with Resources Manager.
 - `sip:<IP_RM>:<SIPSecurePort_RM>` to integrate the Call Control Platform with Resource Manager.
...where IP_RM is the IP address of the Resource Manager, and SIPSecurePort_RM is the SIP secure port of the Resource Manager typically, 5061.

Tip

The GVP components and the external SIP Server support secure SIP capabilities.

- To use the Call Recording Solution through third-party recording servers: In the vmrecorder section, configure the following options (pointing to the Resource Manager's IP address and SIP port, as shown in the two previous steps:

- sip.routeset
- sip.securerouteset
- Save the configuration.
- Create the connections to the Message Server. See [Procedure: Creating a Connection to a Server](#).

Creating a Connection to a Server

Use the procedure in this section to create connections to:

- The Message Server—Create a connection in the Media Control Platform, Call Control Platform, Resource Manager, Supplementary Services Gateway, CTI Connector, PSTN Connector, MRCP Proxy, Reporting Server and Policy Server Applications to ensure that component log information reaches the Log database and can be viewed in the Solution Control Interface (SCI).
- The Reporting Server—Create a connection in the Media Control Platform, Call Control Platform, Resource Manager, PSTN Connector, CTI Connector, Supplementary Services Gateway, and MRCP Proxy Applications to ensure that these components detect the Reporting Server to which they are sending reporting data. Genesys Administrator also requires a connection to Reporting Server to monitor GVP components.
- SIP Server—Create a connection in the Resource Manager, Supplementary Services Gateway, and PSTN Connector Applications to manage the initiation of outbound calls.
- MRCP Proxy—Create a connection in the Media Control Platform Application if you are planning to use the proxy to manage MRCPv1 RTSP traffic within the GVP deployment.
- MRCP Server—Create a connection in the MRCP Proxy Application if you are planning to use the proxy to manage MRCPv1 RTSP traffic within the GVP deployment (in the Media Control Platform Application if you are not deploying the MRCP Proxy).
- Cisco T-Server—Create a connection in the UCM Connector Application to ensure the tenant DBID of the Cisco T-Server is included in Request URI in any SIP INVITE messages sent to the UCM Connector.
- Net-SNMP—Create a connection in the Media Control Platform, Call Control Platform, Resource Manager, Supplementary Services Gateway, CTI Connector, PSTN Connector, MRCP Proxy, and Reporting Server Applications if you want to capture alarm and trap information.

Procedure: Creating a Connection to a Server

This procedure creates a connection in an Application object to a server or component.

1. Verify that all GVP components are installed. See [Procedure: Using the Deployment Wizard to Install GVP](#)
2. Log in to Genesys Administrator.
3. On the Provisioning tab, select Environment > Applications.
4. Click the Application object for which you are creating the connection; for example, the Media Control Platform Application object.
The Configuration tab appears.
5. In the General section, in the Connections field, click **Add**.

The Connection Info dialog box appears.

6. In the Server field, click the down arrow to open the Browse Application dialog box.
7. Select the server or component to which you want to create a connection for example, Message Server, SIP Server, or Net-SNMP. The required fields in the Connection Info section are populated automatically. (Ensure the Connection Protocols field is left blank. It is not required for GVP components.)
8. Click **OK**.
The server or component you selected in Step 6 appears under Connections.
9. Save the configuration.
10. Complete the remaining post-installation activities for the Media Control Platform. See [Procedure: Provisioning Speech Resource Application Objects](#).

Provisioning the MRCP Speech Resources

The Media Resource Control Protocol (MRCP) speech resources are controlled by the Call Manager Application Program Interface (CMAPI), which opens and closes sessions, and provides the speech recognition and speech synthesis commands that the MRCP Server uses to carry out speech requests.

Appropriate connector licenses are required when using MRCP Speech Resources:

- AI Module for ASR (if using any MRCP ASR resource)

Important

The port count should equal the number of simultaneous calls which ASR; the port is considered in-use for the duration of the call once initially used so this is typically licensed 1:1 with GVP ports.

- AI Module for TTS (if using Text-to-Speech)

Important

The port count must match peak number of simultaneous TTS sessions that will be used.

Please contact your account executive for questions relating to AI Modules.

If the MRCP Proxy is deployed, the configurations in this procedure vary slightly. Therefore, the configurations are described with and without the MRCP Proxy. If you have installed the MRCP Proxy, see also [Provisioning the MRCP Proxy](#).

Tip

The procedures in this section are required only if you are using Automatic Speech Recognition (ASR) and Text-to-Speech (TTS) speech resources, and have an MRCP Server or MRCP Proxy in your deployment.

This section contains two procedures that create the Speech Resource Applications and assign the MRCP Server or MRCP Proxy to the Media Control Platform.

Procedure: Provisioning Speech Resource Application Objects

This procedure creates the MRCP Speech Resource Applications for ASR and TTS. After a Speech Resource Application is created with the basic configuration, it must be provisioned with the IP address and port number of the MRCP Server or the MRCP Proxy (if required).

1. Verify that:
 - The ASR and TTS servers are installed and operational.
 - The MRCP Speech Resource object templates are imported. See [Procedure: Importing Application Object Templates Manually](#).
 - The MRCP Speech Resource objects are created. See [Procedure: Creating Application Objects Manually](#).
2. Log in to Genesys Administrator.
3. On the Provisioning tab, select Environment > Applications.
4. Select the Speech Resource Application you want to configure. The Configuration tab appears.
5. Click the Options tab, and scroll to the provision section.
6. Enter the value for each Option as described in this table:

Table: MRCP Application Properties Options Tab

Option name	Option value
For MRCPv1	
<code>vrn.client.resource.name</code>	<p>Enter the identifier used to link the VoiceXML application to a common set of speech resources; for example,</p> <ul style="list-style-type: none">• For ASR, enter ATT, IBM, LOQUENDO, LUMENVOX, NUANCE, TELISMA, or ONMOBILE.• For TTS, enter ATT, ACAPELA, VOCALIZER, IBM, or VOXYGEN. <p>Notes:</p> <ul style="list-style-type: none">• A common set of speech resources means that the provisioning data for each speech resource with the same name is identical. A resource with the same name but different

Option name	Option value
	<p>provisioning data should not be added to the common set of resources.</p> <ul style="list-style-type: none"> GVP supports dynamically removing and adding ASR/TTS servers (resources), but does <i>not</i> support dynamically changing a resource's provisioning data. To change a resource's provisioning data, follow these steps: <ol style="list-style-type: none"> 1. Remove (delete) the resource. 2. Modify the resource's provisioning data. 3. Add back (reconnect) the resource. <p>Important: If the provisioning data of the modified resource is different from an existing common set of resources with the same name, then you must use a different name for this resource.</p>
<code>vrn.client.resource.uri</code>	<p>The URI must contain the IP address and port number of the MRCP Server by using the following format:</p> <p><code>rtsp://servername:<port>/<path></code> For the recommended resource Uniform Resource Identifier (URI), check the MRCP vendor documentation.</p> <div> <p>Tip</p> <p>The MRCP Proxy supports MRCPv1 speech resources only.</p> </div>
<code>vrn.proxy.ping_interval</code>	<p>Enter a value (or retain the default) to specify the ping interval in milliseconds (used only when the MRCP Proxy is deployed).</p> <p>Default value: 30000</p>
For MRCPv2	
<code>vrn.client.resource.name</code>	<p>Enter the identifier used to link the VoiceXML application to a common set of speech resources for example,</p> <p>For ASR, enter NUANCE or RECOGNIZER. For TTS, enter NUANCE or VOCALIZER.</p>
<code>vrn.client.resource.uri</code>	<p>The URI must contain the IP address and port number of the MRCP server using one of two formats:</p> <p><code>sip:mresources@<MRCP server IP>:<port>;transport=TLS</code> <code>sips:mresources@<MRCP server IP>:<port></code> (The default SIPs port number for Nuance Speech Servers is 5061.) For the recommended resource URI, check the MRCP vendor documentation.</p>
<code>vrn.client.TransportProtocol</code>	Enter one of two values:

Option name	Option value
	MRCpV2 without Security MRCpV2 with secure TLS

7. Save the configuration.

Tip

Complete Steps 8 to 11 if you are deploying MRCpV2 with Secure RTP (SRTP) only.

Configure the Media Control Platform Application

8. Select the Media Control Platform Application that is associated with this speech resource. The Configuration tab appears.
9. Click the Options tab, and scroll to the mpc section.
10. Configure the following parameters with the values that are shown here:
 - asr.srtp.mode=offer
 - asr.srtp.sessionparams=none
 - tts.srtp.mode=offer
 - tts.srtp.sessionparams=none
11. Save the configuration.
Configure the ASR Server
12. Configure the following options on the ASR Server:
 - If the ASR Server supports session timeout, configure 600000 (milliseconds, or 10 minutes) for the timeout value to prevent interruption of any active recognition sessions.
 - For Nuance SpeechWorks MediaServer and OpenSpeech Recognizer, configure the server.transport.sessionTimeout VXIInteger option with a value of 600000 (10 minutes).
 - For Nuance Speech Server and Nuance Recognizer, configure the server.mrcp2.sip.sessionTimeout and server.mrcp1.rtsp.sessionTimeout options with a value of 600000 (10 minutes).
For other ASR vendors, check the vendor documentation.
13. To make the ASR service work correctly with GVP, you must edit the Nuance Recognizer file baseline.xml. and comment out the fourth and fifth lines in the code sample below:

```
<param name="swirec_extra_nbest_keys">
<declaration group="result" type="string_set" set_by="default+api"> </declaration>
<value>SWI_meaning</value>
<value>SWI_literal</value>
<value>SWI_grammarName</value>
</param>
```

The characters to add to the code are marked in red.
14. Assign the MRCP Server to the Media Control Platform Application object. See [Procedure: Assigning the MRCP Server to the Media Control Platform](#).

Procedure: Assigning the MRCP Server to the Media Control Platform

Use this procedure if you have not deployed the MRCP Proxy, otherwise see [Provisioning the MRCP Proxy](#).

1. Verify that:
 - The MRCP Speech Resource object templates are imported. See [Procedure: Integrating Application Objects with Resource Manager](#).
 - The MRCP Speech Resource objects are created. See [Procedure: Creating Application Objects Manually](#).
 - The MRCP Speech Resource objects are provisioned. See [Procedure: Provisioning Speech Resource Application Objects](#).
2. Log in to Genesys Administrator.
3. On the Provisioning tab, select Environment > Applications.
4. Double-click the Media Control Platform Application object that you want to configure. The Configuration tab appears.
5. In the General section, in the Connections field, click **Add**. The Connection Info dialog box appears.
6. Enter the information in the required fields, as shown in this table:

Table: Connection Info Dialog Box

Field	Description
Server	Browse to select the MRCP Server.
ID	This field is populated automatically with the value default.
Trace Mode	This field is populated automatically with the value Trace is Turned Off.
Application Parameters	Enter provisiontype=primary for a primary MRCP server. Enter provisiontype=backup for a backup MRCP server.

7. Click **OK**.
8. Save the configuration.

Tip

There is no limit to the number of primary or backup MRCP servers that you can assign to the Media Control Platform; however, do not assign the same server as both primary and backup.

9. If required, complete the post-installation activities for the Supplementary Services Gateway. See [Provisioning the PSTN Connector](#).

Provisioning the MRCP Proxy

The MRCP Proxy is an optional component, but must be deployed if ASR and TTS usage reporting is required. You can deploy the MRCP Proxy in stand-alone or warm active standby HA mode. The procedures in this section describe the steps for each configuration.

Tip

By design, the MRCP Proxy supports only the NUANCE speech resource.

Procedure: Configuring the MRCP Proxy

Configure the MRCP Proxy to act as a proxy for all MRCPv1 traffic in the environment.

1. Verify that:
 - The MRCP Speech Resource objects are provisioned. See [Procedure: Provisioning Speech Resource Application Objects](#).
 - The server connections are created. See [Procedure: Creating a Connection to a Server](#).
 - The connections to the ASR and TTS resource access points are created. See [Procedure: Provisioning Speech Resource Application Objects](#).
2. Log in to Genesys Administrator.
3. On the Provisioning tab, select Environment > Applications.
4. Double-click the MRCP Proxy Application that you want to configure.
The Configuration tab appears.
5. Click the Options tab, in the vrmproxy section, configure the host part of the uri configuration option with the actual IP address of the MRCP Proxy.

Important

If the Media Control Platform is installed on the same host as the MRCP Proxy, retain the default value for the uri configuration option.

6. Create a connection to the MRCP Server. See the Prerequisites section of this procedure.
7. Save the configuration.

Procedure: Configuring the MRCP Proxy for HA

A configured MRCP Proxy acts as a warm standby in case of failover which means that, like a hot standby, the standby instance becomes active if the active instance fails. However, unlike a hot

standby, a warm standby does not handle existing sessions. Application requests are rejected mid-stream during a failover; and applications must be designed to accommodate such a failure.

The failover sequence of events is as follows:

1. The primary MRCP Proxy terminates.
2. The LCA in the primary MRCP machine informs SCS about this event.
3. SCS checks to see if the terminated MRCP has a backup instance configured.
4. If there is a backup instance configured, SCS instructs through LCA in the backup computer the other MRCP to become primary.

In a standard configuration, the MRCP Proxies are configured as backup to each other, and SCS has an HA license to perform a switch-over.

This procedure configures the MRCP Proxy in HA mode to act as a proxy for all MRCPv1 traffic in the environment.

1. Verify that:
 - The latest versions of Management Framework and LCA are installed and the Solution Control Server (SCS) Application is configured to support HA licenses. See the [Framework 8.5.1 Deployment Guide](#) and the [Framework Management Layer User's Guide](#).
 - The prerequisites in [Procedure: Configuring the MRCP Proxy](#) are fulfilled.
The prerequisites for the MRCP Proxy backup server are the same as for the primary in HA mode, and the connections must be the same on both MRCP Proxy Applications in the HA pair.[2]}
2. Complete [Procedure: Configuring the MRCP Proxy](#) for both MRCP Proxy Applications in the HA pair.
3. In the primary MRCP Proxy Application, click the Configurations tab.
4. In the Server Info section, in the Backup Server field, browse to the backup MRCP Proxy Application and click to select it.
5. In the Redundancy field, select warm-standby.
6. Save the configuration.
Connect to the MCP
7. In the Media Control Platform Application, create a connection to the primary MRCP Proxy.
8. Save the configuration.

Procedure: Adding a Speech Server as Primary or Backup

1. Log in to Genesys Administrator.
2. On the Provisioning tab, select **Environment > Applications**.
3. Select the MRCP Proxy Application that you want to configure and click Manage Connections.
The Manage Connections dialog appears.
4. Click **Next** twice in the Manage Connections dialog.
The Add Connections dialog appears.
5. Click **Add** and select the speech server to add.

6. Click **Edit** and select the Advanced tab.
7. Enter `provisiontype=primary` in the Application Parameters field, to add the speech resource as primary.
OR
Enter `provisiontype=backup` in the Application Parameters field to add the speech resource as backup.
8. Click **Execute** and then **Finish**.

Provisioning the MRCP v2 Proxy

Set `mrppv2pxy.enable_mrppv2_proxy=1` for the installed MRCPv2Proxy application (RM application type) and it starts working as MRCPv2Proxy application.

Creating resource groups (ASR / TTS) to be used by MRCPv2Pxy

Genesys Administrator cannot be used for creating LRGs to be used by MRCPv2Proxy. Only CME way of creating LRGs is supported since the service-types 'asr' and 'tts' are not supported by GA.

Procedure for creating an LRG of service-type 'tts'

1. Create a folder of 'Configuration Unit' type under Environment tenant.
2. Under 'Annex' tab of the CU folder, create a section named 'gvp.resources'.
3. Under the section 'gvp.resources', specify the following parameters:
 - `rm_dbid` - Set this to the DBID values of the MRCPv2Proxy application pair. The values should be separated by comma.
 - `tenant.1` - Set this to '1'.
4. Click Ok and create the CU folder.
5. Under the CU folder, create a folder of 'Application' type. This application folder will be the LRG configured for specific service-type as shown below.
6. In the 'Annex' tab of the Application folder, create a section `gvp.lrg`.
7. Under the `gvp.lrg` section, create the following parameters:
 - `load-balance-scheme` - Set this to the default 'round-robin'. For other values for this parameter, refer to Resource Group configuration for Resource Manager.
 - `monitor-method` - Set this to 'option'.
 - `port-usage-type` - Set this to 'outbound'.
 - `service-types` - Set this to 'tts' (for an ASR LRG, set this value to 'asr').
8. Click Ok, and the LRG of service-type 'tts' is created.
9. Under this LRG folder, create/move MRCPv2 resources which will be considered as MRCPv2 resource pool by the MRCPv2Proxy (pair).

Procedure for creating an LRG of service-type 'asr'

The procedure is same as the procedure above (that is, for creating an LRG of service-type 'tts'), except that when specifying 'service-types', it should be set to 'asr' instead of 'tts'.

MCP configuration requirements for MRCP v2 Proxy

This section covers the configuration required of MCP application to work with MRCPv2Pxy. This is slightly different from how MRCPv1Proxy is configured with MCP.

New parameter in MCP configuration

A new parameter **client.mrcpv2.proxy** is added to MCP configuration under the **vrn** section.

This parameter indicates whether MCP has representatives (ASR/TTS Resource Access Point - RAP - application objects) of MRCPv2Pxy application in its configuration.

When set to `true`, MCP will identify RAP resource added to the Connections tab as MRCPv2Pxy instead of MRCP v2 Server resources.

When set to `false`, MCP will consider the ASR/TTS RAP application objects as MRCP Servers instead of being representatives of the MRCPv2Pxy application.

The default value is set to `false`.

How to configure ASR / TTS resource object to represent MRCP v2 Proxy application

A separate pair of ASR/TTS RAP objects must be created for each of the primary and backup MRCPv2Pxy to represent a separate service provided by the MRCP server. For example, for a representative TTS resource to represent a MRCPv2Pxy, a separate TTS RAP object must be created, configured, and added to the Connections tab of MCP. Likewise, for a representative ASR resource to represent the MRCPv2Pxy, a separate ASR RAP object needs to be configured and added to the Connections tab of MCP.

For each of the ASR/TTS RAP resource, under the Options tab, under the provision section, `vrn.client.resource.uri` is set to the MRCPv2Pxy IP address and port number in the form of SIP AOR. For example, `sip:mresources@<MRCPv2Pxy_IP>:<MRCPv2Pxy_Port>`. This MRCPv2Pxy_Port is the port available under the **proxy** section of the MRCPv2Pxy application object.

Since each pair of ASR/TTS RAP represent an MRCPv2Pxy object, two pairs of ASR/TTS RAP objects must be created to represent the primary and backup MRCPv2Pxy application objects and added to the Connections tab of MCP.

Steps to configure ASR/TTS RAP pair objects

1. Set `vrn.client.mrcpv2.proxy` to `true` for the MCP object that needs to use the MRCPv2Pxy application.
2. Create a new Resource Access Point (RAP) object for MRCP TTS service.

3. Configure the provision section. Specify the `vrn.client.resource.type` as 'TTS'.
4. Set `vrn.client.resource.uri` parameter to the MRCPv2Pxy IP address and port number in the form of SIP AOR. For example, `sip:mresources@<MRCPv2Pxy_IP>:<MRCPv2Pxy_Port>`.
5. Add the new RAP object to the Connections tab of MCP.
6. Create another RAP object for MRCP ASR service.
7. Configure the provision section `vrn.client.resource.type` as 'ASR'.
8. Set `vrn.client.resource.uri` parameter to the MRCPv2Pxy IP address and port number in the form of SIP AOR. For example, `sip:mresources@<MRCPv2Pxy_IP>:<MRCPv2Pxy_Port>`.
9. Add the new RAP object to the Connections tab of MCP.

How MCP pings the MRCP v2 Proxy application

MCP continuously sends SIP OPTIONS ping to resources that are representing MRCPv2Pxy object to check their status and routes the incoming ASR/TTS calls based on status of the MRCPv2Pxy and resource requested. This means that for a pair of ASR/TTS RAP objects that represent an MRCPv2Pxy, there will be two independent SIP OPTIONS sent.

In the MRCPv2Pxy HA configuration, MCP continuously sends OPTIONS ping to both primary and backup MRCPv2 proxies.

To these pings, only the primary MRCPv2Pxy server responds so all the MRCP service requests are routed through primary proxy. When the primary goes down, SCS identifies it and brings up the backup MRCPv2Pxy application. Now, MCP receives OPTIONS response only from backup proxy so all the MRCP service requests are routed towards the backup proxy.