Genesys Voice Platform 8.0

Deployment Guide

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Table of Contents

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Preface

Welcome to the *Genesys Voice Platform 8.0 Deployment Guide*. This document provides detailed installation and configuration instructions for Genesys Voice Platform (GVP).

This document is valid only for the 8.0 release.

> Note: For documents created for other releases of this product, please visit the Genesys Technical Support website, or request the Documentation Library DVD, which you can order by e-mail from Genesys Order Management at orderman@genesyslab.com.

This preface provides an overview of this document, identifies the primary audience, introduces document conventions, and lists related reference information. It contains the following sections:

GVP is a group of software components that constitute a robust, carrier-grade voice processing platform. GVP unifies voice and web technologies to provide a complete solution for customer self-service or assisted service.

In the Voice Platform Solution (VPS), GVP 8.0 is fully integrated with the Genesys Management Framework. GVP uses the Genesys Administrator, the standard Genesys configuration and management Graphical User Interface (GUI), to configure, tune, activate, and manage GVP processes and GVP voice and call control applications. GVP interacts with other Genesys components and can be deployed in conjunction with other solutions, such as Enterprise Routing Solution (ERS), Network Routing Solution (NRS), and Network-based Contact Solution (NbCS).

Intended Audience

This document is primarily intended for system integrators and administrators. It is written with the assumption that you have a basic understanding of:

- Computer-Telephony Integration (CTI) concepts, processes, terminology, and applications.
- Network design and operation.
- Your own network configurations.

You should also be familiar with the Genesys Framework architecture.

Chapter Summaries

In addition to this preface, this Deployment Guide contains the following chapters and appendixes:

- Part 1: “Planning” on page 15
  - Chapter 1, “GVP Architecture,” on page 17, describes the primary components and basic architecture of GVP.
  - Chapter 2, “Prerequisites and Planning,” on page 41, describes the prerequisites and planning considerations for deploying GVP. It includes information about required software and recommended hardware.
- Part 2: “Installation” on page 49
  - Chapter 3, “Deployment Task Summary,” on page 51, summarizes the tasks required to deploy GVP 8.0 on Windows hosts.
  - Chapter 4, “Preparing Your Environment,” on page 55, describes how to optimize the Windows host services, web browser, and system performance settings.
  - Chapter 5, “Installing GVP Manually,” on page 59, describes how to install GVP 8.0 manually, using the executable files and completing basic configuration in Genesys Administrator.
  - Chapter 6, “Post-Installation Activities on the GVP Hosts,” on page 81, describes how to provision the GVP components, create the Reporting Server database, and how to stop and start the GVP processes.
- Part 3: “Appendixes” on page 123.
  - Appendix A, “Installing GVP Using the Deployment Tool,” on page 125, describes how to install GVP by using the Genesys Administrator Deployment tool.
  - Appendix B, “NLB Clustering for Resource Manager,” on page 137, describes how to set up and configure a Network Load Balancing (NLB) Cluster for Resource Manager to facilitate scalability, redundancy, and availability.

- Appendix C, “External SIP Resources,” on page 149, describes how to configure the Genesys Voice Platform to include external SIP resources.

Document Conventions

This Deployment Guide uses certain stylistic and typographical conventions—introduced here—that serve as shorthand for particular kinds of information.

Document Version Number

A version number appears at the bottom of the inside front cover of this document. Version numbers change as new information is added to this document. Here is a sample version number:

`72fr_ref_09-2005_v7.2.000.00`

You need this number when you are talking with Genesys Technical Support about this product.

Typeface Styles

Italics

In this document, italics is used for emphasis, for document titles, for definitions of (or first references to) unfamiliar terms, and for mathematical variables.

Examples:

- Consult the *Genesys 8.0 Migration Guide* for more information.
- *A customary and usual practice* is one that is widely accepted and used within a particular industry or profession.
- Do *not* use this value for this option.
- The formula, $x + 1 = 7$ where x stands for . . .

Monospace Font

A monospace font, such as `teletype or typewriter text`, is used for all programming identifiers and GUI elements.

This convention includes the *names* of directories, files, folders, configuration objects, paths, scripts, dialog boxes, options, fields, text and list boxes, operational modes, all buttons (including radio buttons), check boxes, commands, tabs, CTI events and error messages; the values of options; logical arguments and command syntax; and code samples.

Examples:

- Select the `Show variables on screen` check box.
- Click the `Summation` button.

- In the `Properties` dialog box, enter the value for the host server in your environment.
- In the `Operand` text box, enter your formula.
- Click `OK` to exit the `Properties` dialog box.
- The following table presents the complete set of error messages T-Server® distributes in `EventError` events.
- If you select true for the `inbound-bsns-calls` option, all established inbound calls on a local agent are considered business calls.

Monospace is also used for text that users must enter manually during a configuration or installation procedure, or on a command line:

Example:

- Enter `exit` on the command line.

Screen Captures Used in This Document

Screen captures from the product GUI, as used in this document, may sometimes contain a minor spelling, capitalization, or grammatical error. The text accompanying and explaining the screen captures corrects such errors *except* when such a correction prevents you from installing, configuring, or successfully using the product. For example, if the name of an option contains a usage error, the name would be presented exactly as it appears in the product GUI; the error would not be corrected in any accompanying text.

Square Brackets

Square brackets indicate that a particular parameter or value is optional within a logical argument, a command, or some programming syntax. That is, the parameter's or value's presence is not required to resolve the argument, command, or block of code. The user decides whether to include this optional information. Here is a sample:

```
smcp_server -host [/flags]
```

Angle Brackets

Angle brackets indicate a placeholder for a value that the user must specify. This might be a DN or port number specific to your enterprise. Here is a sample:

```
smcp_server -host <confighost>
```

Related Resources

Consult the following additional resources as necessary:

- *Genesys Voice Platform 8.0 User's Guide*, which provides information about the configuring, provisioning, and monitoring of GVP and its components.
- *Genesys Voice Platform 8.0 VoiceXML 2.1 Help*, which provides information about developing VoiceXML applications. It presents VoiceXML concepts and provides examples that focus on the GVP implementation of VoiceXML.
- *Genesys Voice Platform 8.0 CCXML Reference Manual*, which provides information about developing CCXML applications for GVP.
- *Genesys Voice Platform 8.0 Troubleshooting Guide*, which provides information about SNMP MIBs and traps for GVP, as well as troubleshooting methodology.
- *Voice Platform Solution 8.0 Integration Guide*, which provides information about integrating GVP 8.0 and SIP Server 7.6.
- *Composer Voice 8.0 Deployment Guide*, which provides installation and configuration instructions for Composer Voice.
- *Composer Voice 8.0 Help*, which provides online information about using Composer Voice, a GUI for the development of applications based on VoiceXML and CCXML.
- *W3C Voice Extensible Markup Language (VoiceXML) 2.1, W3C Recommendation 19 June 2007*, which is the W3C VoiceXML specification that GVP supports.
- *W3C Speech Synthesis Markup Language (SSML) Version 1.0, Recommendation 7 September 2004*, which is the W3C SSML specification that GVP supports.
- *W3C Voice Browser Call Control: CCXML Version 1.0, W3C Working Draft 29 June 2005*, which is the W3C CCXML specification that GVP supports.
- *W3C Voice Extensible Markup Language (VoiceXML) 2.0, W3C Recommendation 16 March 2004*, which is the W3C VoiceXML specification that GVP supports.
- *Genesys Voice Platform 8.0 Configuration Options Reference*, which replicates the metadata available in the Genesys provisioning GUI to provide information about all the GVP configuration options, including descriptions, syntax, valid values, and default values.
- *Genesys Voice Platform 8.0 Metrics Reference*, which provides information about all the GVP metrics (VoiceXML and CCXML application event logs), including descriptions, format, logging level, source component, and metric ID.

- *Framework 8.0 Deployment Guide*, which provides information about how to configure, install, start, and stop Framework components.
- *Framework 8.0 Genesys Administrator Help*, which provides instructions for configuring and provisioning contact center objects using Genesys Administrator.
- *Framework 7.6 SIP Server Deployment Guide*, which provides information about how to configure and install SIP Server.
- *Genesys Technical Publications Glossary*, which ships on the Genesys Documentation Library DVD and which provides a comprehensive list of the Genesys and CTI terminology and acronyms used in this document.

Release Notes and Product Advisories for this product, which are available on the Genesys Technical Support website at http://genesyslab.com/support.

Information about supported operating systems and third-party software is available on the Genesys Technical Support website in the following doc

- *Genesys Supported Operating Systems and Databases*
- *Genesys Supported Media Interfaces*

Genesys product documentation is available on the:

- Genesys Technical Support website at http://genesyslab.com/support.
- Genesys Documentation Library DVD, which you can order by e-mail from Genesys Order Management at orderman@genesyslab.com.

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Part

1 Planning

Part One of this *Deployment Guide* describes the architecture of the Genesys Voice Platform (GVP) and how to plan the deployment. This information appears in the following chapters:

- Chapter 1, “GVP Architecture,” on page 17
- Chapter 2, “Prerequisites and Planning,” on page 41

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Chapter

1 GVP Architecture

This chapter describes the primary components and basic architecture of Genesys Voice Platform (GVP) 8.0. It contains the following sections:

Overview

Genesys Voice Platform (GVP) is a software suite that integrates a combination of call processing, reporting, management, and application servers with Voice over IP (VoIP) networks, to deliver web-driven dialog and call control services to callers.

GVP 8.0 provides Genesys customers with the ability to deliver interactive, media-centric applications to end users. Whereas GVP is commonly used in enterprise self-service environments using voice over telephone, many other applications—including those outside of the contact center—are possible.

The changes in the high-level architecture of GVP 8.0 are summarized here:

- User Interaction Layer—enhanced features, such as a Web Graphical User Interface (GUI) to ensure parity with previous versions of GVP and VoiceGenie (VG).
- SIP Server—interaction between GVP and Session Initiation Protocol (SIP) Server is significantly streamlined as SIP Server is the focal point for integration with third-party SIP devices.

GVP supports Call Control Extensible Markup Language (CCXML) 1.0, Voice Extensible Markup Language (VoiceXML) 2.0, and VoiceXML 2.1. See the Open Standards listed in Table 1.

Application servers within a GVP deployment are required to store and deliver VoiceXML and CCXML applications. VoiceXML and CCXML documents can be generated dynamically using any number of web-based technologies, such as Active Server Pages (ASP) or Java Server Pages (JSP), or by using a complete application development and execution environment, such as Genesys Composer Voice. For more information about Composer Voice, see “Composer Voice” on page 35.

GVP supports Automatic Speech Recognition (ASR) and speech synthesis (Text-to-Speech [TTS]) as part of a VoiceXML dialog, through supported third-party ASR and TTS engines that use the Open Standards listed in Table 1.

Communication among GVP, ASR, and TTS engines occurs by using the Media Resource Control Protocol (MRCPv1 and MRCPv2), following the recommendation listed in Table 1. MRCP was originally developed by Cisco, Nuance, and SpeechWorks, and is now maintained by the Internet Engineering Task Force (IETF).

Table 1: Supported Open Standards

Feature	Open Standard
VoiceXML 2.0	W3C standard Voice Extensible Markup Language (VoiceXML) Version 2.0, W3C Recommendation, 16 March 2004
VoiceXML 2.1	W3C standard Voice Extensible Markup Language (VoiceXML) Version 2.1, W3C Recommendation, 19 June 2007
CCXML 1.0	W3C Voice Browser Call Control: CCXML Version 1.0, W3C Working Draft, 29 June, 2005
Supported ASR Grammar Format—SRGS	W3C standard Speech Recognition Grammar Specification (SRGS) Version 1.0, W3C Recommendation, March 2004
Supported TTS Markup—SSML	W3C standard Speech Synthesis Markup Language (SSML) Version 1.0, W3C Recommendation 7 September 2004
MRCPv1	Internet Engineering Task Forces (IETF) RFC 4463
MRCPv2	Internet Engineering Task Forces (IETF) RFC 4463

GVP integrates with the Genesys Framework to deliver next-generation voice processing that meets advanced call-routing and voice self-service needs for an enterprise contact center.

The GVP application is different from traditional Interactive Voice Response (IVR) solutions. The GVP does not rely on proprietary hardware, and executes voice and call control applications that are created in nonproprietary coding languages—VoiceXML and CCXML. By using standards such as these, GVP separates the voice and call control applications from the call processing environment.

The GVP software resides on a server that contains the voice and call control browser that interprets VoiceXML and CCXML documents into call-processing events. GVP also supports VoIP technology.

The GVP voice and call control applications reside on a separate web server. Access to these applications (IVR Profiles) are configured and managed through the Genesys Administrator. To complete the solution, a web server is added to the GVP deployment for hosting VoiceXML and CCXML applications.

Features

GVP provides a variety of features that support call handling for voice and call control applications through either Time Division Multiplexing (TDM) (by using a third-party gateway) or VoIP functionality. GVP also expands traditional IVR functionality with self-service and assisted-service capabilities that are tightly integrated with the Genesys product suite, and a flexible standards-based voice processing platform.

This section provides an overview of the following features:

Core Telephony Features

The following core telephony features are available:

- Call handling through SIP.
- Support for major PBX switches through the SIP Server.
- Support for blind and consultive IP call transfers triggered by `SIP REFER`. `SIP REFER` also triggers TDM/Public Switched Telephone Network (PSTN) network transfers when the media gateway supports this functionality.

- Call Bridging with the inbound and outbound leg maintained (for the call duration) when GVP sits in front of the switch.
- Support for major media gateways.
- Media services including voice prompts, menus, and data (Dual-Tone Multi-Frequency [DTMF] or speech) collection.
- Acceptance and processing of information delivered with a call from the media gateway, including Automatic Number Identification (ANI), DNIS, and Calling Line Identification (CLID).

Advanced Features

The following advanced features are available:

- Automatic Speech Recognition (ASR)
- Text-to-Speech (TTS)
- Conferencing
- Intelligent call routing provided by Genesys Enterprise Routing Solution (ERS) and Network Routing Solution (NRS), when combined with other Genesys products
- Call parking, providing multi-site contact centers with the ability to enable self-service and call queuing on GVP, prior to transferring or bridging the call to an agent
- Graphical User Interface (GUI) for the development of VoiceXML applications using Composer Voice
- Real-time call monitoring and management, as well as historical reporting and analysis
- Web-based GUI for configuration of system features and voice applications, as well as diagnostics and other administrative functions
- Flexible deployment options

Voice Application Features

Voice applications reside on a web server that is accessed by the GVP VoiceXML interpreter on every call. GVP supports interactions with multiple web servers using standard Hypertext Transfer Protocol (HTTP). If voice applications reside on separate web servers, these web servers can be located on a web farm architecture in a local or remote network configuration.

Coding Language

Voice and call control applications written for GVP must be in standard VoiceXML and CCXML, respectively. GVP supports the open standards for these applications, listed in Table 1 on page 18. GVP also supports extensions to assist in the call-control requirements of a voice application.

Developer Tools

Genesys Composer Voice is a voice application development tool that is used to develop VoiceXML and CCXML applications. Customers can use the Graphical User Interface (GUI) to build voice and call control applications using the Drag-and-Drop paradigm.

For more information about Composer Voice, see “Composer Voice” on page 35.

GVP Components

GVP 8.0 provides a unified communication layer within the Genesys suite and offers a robust solution that incorporates all required call control—including Computer Telephony Integration (CTI)—and media-related functions.

Figure 1 depicts the GVP solution architecture and the communication channels.

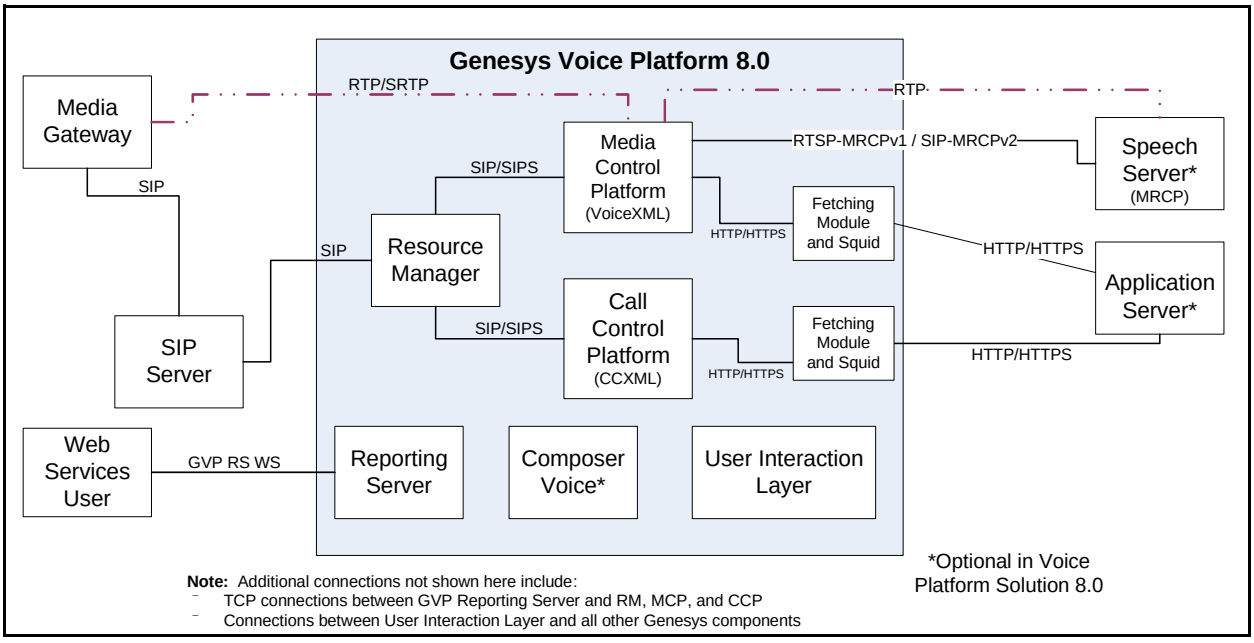

Figure 1: Genesys Voice Platform Solution Architecture

The components described in this section are mandatory for all GVP configurations, with the exception of the Call Control Platform and Composer Voice.

The Call Control Platform is required only for configurations that use CCXML. Composer Voice is the preferred tool for customers who write their own applications, but you can use any tool you chose—using Composer Voice is optional.

This section describes the following components:

Resource Manager

The Resource Manager controls access and routing to all resources in a GVP 8.0 deployment, including instances of the Media Control Platform and Call Control Platform.

Application management is a key function of the Resource Manager. It is the first element to process requests for services and it interacts with the Configuration Server to determine the application, resource, and service profile required to deliver the service. It then pushes the profile to a component that can deliver the service.

This section provides an overview of the following topics:

SIP Proxy

The Resource Manager resides between all SIP resources within the GVP system architecture. It acts as a proxy for SIP traffic between any two SIP components.

Acting as a SIP proxy, the Resource Manager is the interface to a collection of media processing resources, such as the Media Control Platform, the Call Control Platform, audio and video conferencing, and other resources. SIP devices and applications can then make use of media-centric services through the proxy, without having to know the actual location of these resources or how to manage various routing decisions.

The SIP proxy services provided by the Resource Manager are used not only by clients such as media gateways or soft switches, but can also be used by internal media resources to coordinate interactions with one another.

Functions

Resource Manager performs and manages the following functions, described briefly in this section:

Resource Management

SIP resources are managed and monitored by the Resource Manager to maintain a current status of the resources within a GVP deployment. Load balancing and high availability are provided for each resource type, as the work load is evenly distributed among resources of the same type. These processes ensure that new, incoming services are not interrupted when a resource is unavailable.

High Availability

Two aspects of high availability exist within the Resource Manager:

- If an instance of a call processing component crashes—for example, an instance of the Media Control Platform or Call Control Platform—other components can still access the Media Control Platform service because the Resource Manager can load balance future requests to the remaining active Media Control Platform instances.
- The Resource Manager itself is highly available as it can run as a warm active/standby pair with a common virtual IP by using Windows Network Load Balancing (NLB).

Multiple *clusters* of Resource Manager instances that operate largely independently of one another, can be deployed to support large scale deployments, such as those that involve multiple sites. Each Resource Manager cluster manages its own pool of resources.

For more information about Windows NLB, see Appendix B on page 137.

Registration

The Resource Manager acts as a *Registrar* for GVP resources, but accepts registration only from those resources that are already configured in the Configuration database. Registration occurs dynamically, therefore transparent relocation of GVP call processing components is supported.

Session Management

Two logical functions are combined in Session Management:

1. Physical resource management—used to monitor the status of various resources and to route to other resources that offer a particular set of capabilities or services.
2. Logical service management—used to apply high-level application and business logic to select the service that is delivered and the parameters that are applied, as opposed to specifying a resource to fulfill the service.

In this way, logical call sessions, individual calls within a logical session, and the lifetime and coordination of call legs within a call session are handled by Session Management.

Application, Tenancy, and Service Parameter Selection

When a call session arrives at the Resource Manager, it is mapped to a tenant or application, and a service is selected for the request.

Application Selection

When a request comes into the Resource Manager, it must choose an application to execute. There are various ways that it decides, however the two most common methods used by the GVP are:

- Application specified by DNIS—occurs when the Dialing Number Identification Service (DNIS) is used by the GVP to identify which voice application to run. In this scenario, the incoming call corresponds directly to the DNIS.
- Application specified as treatment within a call—occurs when another component (for example, Computer Telephony Integration [CTI]) acts as a *master* and executes a number of *slave* applications on the GVP. When a voice service is required as part of a call flow, the voice application invokes a *treatment* on the GVP. In this scenario, the service is invoked as part of the master call flow executed by the master voice application.

Tenancy Selection

Tenancy selection occurs when a platform operator segregates its services to identify applications, enforce policy, and specify an application or service parameters in a multi-tiered manner.

When Resource Manager receives an request, it identifies which application to execute and the tenant for which it is intended. The policy enforcement, application and service parameters are determined by the tenant that is associated with the request.

Note: GVP 8.0 supports single-tenancy only.

Service Selection

When Resource Manager receives a new SIP session, it attempts to identify the type of service and service prerequisites for which the session is intended.

Service Parameter Selection

Each type of service within an application is configured with a set of service parameters that is forwarded to the application and affects the way it is executed. For example, Resource Manager can allow the platform operator to configure the default *languages* for the VoiceXML services for voice applications.

Service Parameter Modification

After an application and service type is identified, a request is forwarded to a resource that can handle the mapped service. The Resource Manager can attach additional information to the request before forwarding it. A platform operator configures the information on a per-service/per-application basis.

Note: Definitions of the service parameters that are required for a service within an application are specific to the component that is providing the service. Resource Manager merely provides the framework within which an application defines the parameters that influence the way an application is executed.

Policy Enforcement

Resource Manager enforces policies by imposing them on an application to determine whether or not to accept a SIP session. If the session is accepted, a resource is located to handle it. The Resource Manager also enforces policies related to how an application uses a resource.

Call Data Reporting

When data collection and logging events occur, Resource Manager sends these log events to the Reporting Server.

Conference Service

Requests for conference services are not handled in the same manner as requests for other services. The Resource Manager must route requests for a particular conference ID to the same conference resource—even if it is from a different Resource Manager session. For service types other than conferencing, there is no special correlation between requests from different Resource Manager sessions.

Interfaces

The Resource Manager interacts with other components by using three main interfaces; a SIP interface for call handling, the Genesys Management Framework interface for retrieving configuration and provisioning information, and a Reporting Server interface for reporting events related to call processing.

The Resource Manager interfaces are described in Table 2.

Table 2: Resource Manager Interfaces

Interface	Description
SIP	Used by GVP components to communicate with one another, and by external SIP-based network elements that require the use of GVP components. The SIP interface performs a critical role in the GVP architecture. Used by GVP components to access the services offered by other components without knowing the location or status of the resource fulfilling the request. Used by external components to access the services offered by the GVP components without knowing the topology or other details of the resource fulfilling the request, so the interaction is simplified
Management Framework	Used by the Resource Manager to obtain configuration information for the SIP resources that it manages by consulting the Management Framework. The Resource Manager must be aware of these SIP resources and the services offered by each of them.
Reporting Server	Used to integrate with the Reporting Server to access the reporting processes. When a new Resource Manager session or a SIP call is created or destroyed, the Resource Manager logs an event through the Reporting Server interface.
Simple Network Management Protocol (SNMP)	Used by the Genesys SNMP Master Agent to retrieve status information about the GVP component. Used by Resource Manager to send traps to notify the Genesys SNMP Master Agent about error conditions in the component.

Media Control Platform

The Media Control Platform is the core component of the GVP, because it executes the actual voice applications in the solution. In addition, it is used by other communication layer components, like SIP Server, to provide broader customer service scenarios, such as agent interactions, and many other functions.

This section provides an overview of the following topics:

Services

Media Control Platform services are defined by applications that are executed when a SIP session is established between the Media Control Platform and the service user. The Media Control Platform can host various application execution environments and use multiple implementations of a particular language. The Media Control Platform is most often used to deploy dialog-based services that are built using languages like VoiceXML.

The Media Control Platform supports two other predefined services; announcements and conferencing. In conjunction with an underlying media-processing resource, the Media Control Platform can provide extended versions of all services defined in NETANN—for example, announcements with TTS.

Note: NETANN defines a number of extensions to SIP, that allow a client to request execution of particular classes of applications, including simple announcements, conferences, and dialogs. NETANN is defined in RFC 4240. Genesys Voice Platform supports only conference service and dialogs.

Service Delivery

The Media Control Platform controls overall application execution, but the applications rely heavily on access to media processing resources. Third-party ASR and TTS services are delivered by one or more underlying media processing resources (such as media servers, speech recognition servers, or speech synthesis servers).

These resources handle Real Time Protocol (RTP) packets in three ways:

1. By using direct or indirect RTP streams to interact with the service user
2. By processing or interpreting RTP packets received from the service user
3. By generating RTP packets for transmission to the service user

Interaction with the media processing resources occurs by various methods that include the RFC 4240 standard and the Media Resource Control Protocol version 1 (MRCPv1) and MRCPv2.

Registration

The Resource Manager detects instances of the Media Control Platform through configuration information retrieved from the Configuration Database—the Media Control Platform does not register with the Resource Manager at start up. To determine whether the Media Control Platform is alive, the Resource Manager sends `SIP OPTIONS` messages to the Media Control Platform periodically; the Media Control Platform responds with `200 OK`.

Functions

The Media Control Platform manages the following functions:

- Initiates outgoing calls
- Handles network-initiated call disconnections
- Performs application-initiated calls
- Supports VoiceXML applications
- Plays audio, video, and TTS prompts
- Streams TTS, audio, and video
- Records utterance data
- Performs ASR and DTMF input handling (barge-in or non-barge-in)
- Streams audio data to an ASR server for speech recognition
- Transfers calls
- Conferences calls
- Logs data and produces metrics
- Transcodes from one codec to another when bridging calls

Interpreters

The new Next Generation Interpreter (NGI) is the VoiceXML interpreter within the Media Control Platform. The interpreter is a library loaded by the Call Manager application. The NGI and Call Manager interact through the Call Manager API (CMAPI).

To enhance performance, especially for those applications that have large, static pages, the NGI supports caching documents based on content.

GVP accepts and initiates calls that invoke a VoiceXML dialog that is processed by the NGI and media operations that are handled by the Media Control Platform. The NGI interprets VoiceXML applications to determine the interactions that need to occur for each caller.

Interfaces

The GVP components interact with the NGI through the three interfaces that are described in Table 7 on page 35.

Table 3: NGI Interfaces

Interfaces	Description
Debugger	Used to communicates with the debug client GUI through standard TCP/IP, employing an XML document as the payload. This is a new external interface. Used by Composer Voice to provide an integrated VoiceXML debugging environment.
Reporting Server	Used to deliver log messages of type *metric* to the reporting infrastructure of the Media Control Platform—the NGI does not interact with the Reporting Server directly.
Fetching Module/HTTP	Used to retrieve VoiceXML documents, scripts, grammars, and media content specified by a Universal Resource Locator (URL), such as, file:\\, http:\\, or https:\\. The Fetching Module maintains a high-performance shared memory cache and interfaces with the on-board caching proxy.

Note: See “Squid Caching Proxy” on page 39 for more information about the on-board caching proxy.

The Media Control Platform interacts with other GVP components through six interfaces that are described in Table 4.

Table 4: Media Control Platform Interfaces

Interface	Description
SIP	Used by GVP components to communicate with one another, and by external SIP-based network elements requiring the use of GVP components. The SIP interface performs a critical role in the GVP architecture. Used by GVP components to access the services offered by other components without knowing the location or status of the resource fulfilling the request. Used by external components to access the services offered by the GVP components without knowing the topology or other details of the resource fulfilling the request, so the interaction is simplified
Management Framework	Used by the Media Control Platform to obtain the configuration information it needs to communicate with the SIP proxy (Resource Manager). The Media Control Platform must be aware of the SIP proxy resources and the services offered by each of them.

Table 4: Media Control Platform Interfaces (Continued)

Interface	Description
NETANN Service	Used to expose the services offered by the Media Control Platform in accordance with the RFC 3261 and RFC 4240 (NETANN) standards and the Internet-Draft *draft-ietf-mediactrl-vxml* The interface is accessed through the Resource Manager, but can be accessed directly in a standalone configuration.
Reporting Server	Used to integrate with the Reporting Server to access the reporting processes. When a new VoiceXML session or a SIP call is created or destroyed, the Media Control Platform logs an event through Reporting Server interface.
Speech Server	Used to access speech resources, such as Automatic Speech Recognition (ASR) and Text-to-Speech (TTS). The Media Control Platform interacts directly with ASR and TTS engines using MRCPv1 and MRCPv2.
Simple Network Management Protocol (SNMP)	Used by the Genesys SNMP Master Agent to retrieve status information about the GVP component. Used by Media Control Platform to send traps to notify the Genesys SNMP Master Agent about error conditions in the component.

Call Control Platform

The Call Control Platform supports the execution of CCXML 1.0 applications in SIP-based environments. Therefore the Call Control Platform services are defined by applications written in CCXML.

CCXML is not a media/dialog language like VoiceXML, so it does not provide any dialog resources on its own. It only supports moving calls around and connecting them to dialog resources.

The Call Control Platform retrieves configuration data from the Management Framework.

This section provides an overview of the following topics:

Registration

The Resource Manager detects instances of the Call Control Platform through configuration information retrieved from the Management Framework—the Call Control Platform does not register with the Resource Manager at startup. To determine whether the Call Control Platform is alive, the Resource

Manager sends `SIP OPTIONS` messages to the Call Control Platform periodically; the Call Control Platform responds with `200 OK`.

Functions

The Call Control Platform conforms to the W3C CCXML standard for call control to accept, reject, or redirect calls.

The Call Control Platform performs the following functions:

- Initiates Conferencing.
- Initiates a VoiceXML dialog on an Media Control Platform through the Resource Manager.
- Creates an outbound call through an IP/PSTN gateway.
- Applies implicit transcoding by using a media server.
- Starts a new CCXML session (request from web server directly).

To receive requests from and send requests to the GVP components, Call Control Platform acts like a SIP Back to Back User Agent (B2BUA). The Call Control Platform achieves call control by sending a request to the Resource Manager to acquire access to the resource. When the request is received, the Resource Manager finds the appropriate resource—for example, the Media Control Platform—and forwards the request. Call Control Platform uses the NETANN and the *draft-burke* SIP messaging standard for requests for service.

Interfaces

The Call Control Platform interfaces are described in Table 5.

Table 5: Call Control Platform Interfaces

Interface	Description
SIP	Used by GVP components to communicate with one another, and by external SIP-based network elements requiring the use of GVP components. The SIP interface performs a critical role in the GVP architecture. Used by GVP components to access the services offered by other components without knowing the location or status of the resource fulfilling the request. Used by external components to access the services offered by the GVP components without knowing the topology or other details of the resource fulfilling the request, so the interaction is simplified.
Management Framework	Used by the Call Control Platform to obtain the configuration information it needs to communicate with the SIP proxy—the Resource Manager or bridging server. The Call Control Platform must be aware of the SIP proxy resources and the services offered by each of them.
Reporting Server	Used to integrate with the Reporting Server to access the reporting processes. When a new CCXML session or a SIP call is created or destroyed, the Call Control Platform logs an event through Reporting Server interface.
HTTP	Used by external entities to initiate a new CCXML session by using HTTP POST through the `createsession` event I/O processor.
Simple Network Management Protocol (SNMP)	Used by the Genesys SNMP Master Agent to retrieve status information about the GVP component. Used by Call Control Platform to send traps to notify the Genesys SNMP Master Agent about error conditions in the component.

Session Data

The Call Control Platform maintains the `current`, `peak`, and `total count` data and exposes it to a GUI for monitoring. Data is captured for the following objects:

- CCXML connections
- CCXML dialogs
- CCXML conferences
- Conference participants

- Bridging server participants
- CCXML sessions

Reporting Server

The Reporting Server component of the GVP solution provides a comprehensive view of the calls serviced by a GVP deployment. The Reporting Server receives data from the Media Control Platform for VoiceXML applications, from the Call Control Platform for CCXML applications, and from other components involved in servicing a call, such as the Resource Manager.

Two main components exist within the Reporting Server:

- The Logging/Reporting Client that contains an interface that routes the logs emitted by the GVP components to one or more data collection *sinks*.
- The Reporting Server that stores and summarizes data and statistics submitted by the Reporting Clients to provide hourly, daily, weekly, and monthly reports.

The Reporting Server provides near-real-time reporting—that is, information collected is submitted as soon as it is available or *committed*. For example, when data is conditionally logged the data is not committed until the end of the call; it is retained, depending on the final outcome of the call.

The Reporting Server is integrated with the Management Framework to ensure that its configuration and provisioning are consistent with all other Genesys components.

This section provides an overview of the following topics:

- Functions on page 33
- Interfaces on page 34

Functions

The Reporting Server ensures accurate and up-to-date reporting of information and statistics related to the call, such as:

- Near-real-time data collection and processing
- Data reliability—accumulated data is not lost if the Reporting Server or other components are off line for a period of time.
- Open data access interfaces (through Reporting Web Services) that allow multiple user interfaces, including third-party interfaces to access call related data. Call-related data is obtained without accessing the data store directly.
- An interface that caters to various classes of users depending on their reporting needs

- XML reports that correspond to report requests made through Reporting Web Services.

In addition, Reporting Server generates partial or full background call recordings, collected utterances, and third-party logs, such as those generated by speech engines. Because a call affects multiple components, a common logging identifier is propagated so that logged information is correlated across multiple components.

Interfaces

Seven interfaces exist within the Reporting Server client/server infrastructure. These external components are briefly described in Table 6:

Table 6: Reporting Server Interfaces

Interface	Description
EMS Logging API	Used by each GVP component to emit component logging events and call related events (if applicable).
CDR Service API	Used to submit and update component Call Detail Records (CDR).
Operational Reporting API	Used to submit call peak, call arrival, and length distribution information from the call processing components.
MF Logging API	Used to collect the configured events emitted by the call processing components and delivered to the Management Framework through this interface.
Platform SDK	Used by Reporting Server to connect to the Management Framework configuration, logging, and Local Control Agent (LCA).
Reporting Web Service	Used by HTTP web services to return XML content that conforms to well-defined schema. Used by external components, such as Genesys Administrator, to produce Graphical User Interfaces (GUI).
Simple Network Management Protocol (SNMP)	Used by the Genesys SNMP Master Agent to retrieve status information about the GVP component. Used by Reporting Server to send traps to notify the Genesys SNMP Master Agent about error conditions in the component.

Table 7 on page 35 indicates the components that access the Reporting Server interfaces.

Table 7: Component interaction with Reporting Server

Interface	Interacts with:					
	RM	**MCP**	**CCP**	**RS**	**MF**	**Composer Voice**
Logging API	✓	✓	✓	✓		
CDR Service API	✓	✓	✓	✓		
Operational Reporting API	✓	✓		✓		
MF Logging API				✓	✓	
Platform SDK				✓	✓	
Reporting Web Service				✓		✓
Legacy VAR Service				✓		

Composer Voice

The Composer Voice development environment is an integrated environment which simplifies the creation of voice applications. Developers use the Composer Voice authoring tool to build voice applications from a visual call flow editor or a rich XML editor. Applications are compiled and deployed directly to a web application server and are then fetched and executed by the voice platform.

Composer Voice includes a run-time tool that debugs VoiceXML applications in real time, while the developer performs testing by using a SIP phone.

Note: The run-time debugger and the code created with the tool work only with the Next Generation Interpreter (NGI).

Functions

Composer Voice performs the following functions:

- Create voice applications using a visual call flow editor.
- Generate VoiceXML code from the visual call flow.
- Edit and write VoiceXML, CCXML, and GRXML (speech recognition grammars) code.
- Test and debug VoiceXML applications.

- Provide project management.
- Obtain version history and team support.

> **Note:** Composer Voice supports testing and debugging VoiceXML applications written by using third-party development tools.

Integration with Genesys Components

The GVP components integrate with the other Genesys Suite components to extend the features and functionality of the voice platform, thereby increasing the flexibility of your deployment.

This section describes two Genesys Suite components, that are required to create an overall solution:

- SIP Server on page 36
- User Interaction Layer on page 37

SIP Server

SIP Server is a T-Server for IP environments in which Genesys T-Lib applications, such as Universal Routing Server (URS), Outbound, and Agent Desktop, deliver services in SIP environments. It is a critical integration point for GVP components that interact with network and T-Lib applications.

Interfaces

Unlike other T-Servers, SIP Server operates in environments where there are no switches present. It supports direct interfaces and connectivity to IP agents, voice platforms, gateways, soft switches, and other elements that are used to establish inbound and outbound communication sessions with customers.

SIP Server acts as a SIP Back-to-Back User Agent (B2BUA) and controls the flow of SIP requests and responses between SIP endpoints, performing the switching functions that are normally performed by the PBX or ACD.

Routing

SIP Server can be used in conjunction with an IP PBX or ACD. Used in this way, it controls the routing and transformation of requests, but does not act as a registrar with which agents communicate. This type of control is normally provided by a CTI link.

For more information about SIP Server and integration with GVP, see the *Voice Platform Solution 8.0 Integration Guide.*

User Interaction Layer

The User Interaction Layer acts as a manager and administrator for all of the GVP components. It provides an interface to the configuration and management layers and to other Genesys solutions.

Genesys Administrator is the GUI that is used to manage all of the Genesys products, including GVP, with a single user interface. For a summary of Genesys Administrator, see "Genesys Administrator".

In GVP 8.0, the User Interaction Layer appears as a unified web-based interface.

Functions

The following functions exist within the User Interaction Layer:

- Configuration
- Provisioning
- Management operations (starting or stopping applications)
- Current status monitoring
- Installation
- Deployment
- Data collection and logging
- Data management

In addition, the User Interaction Layer supports SNMP integration and third-party management systems.

Genesys Administrator

Genesys Administrator is the web-based GUI used to deploy, provision, and monitor GVP components. You can log in to Genesys Administrator by typing the URL in a web browser—for example, `http://<Genesys Administrator host>/wcm/`.

Genesys Administrator retrieves information about GVP applications and components from the Configuration database because Genesys Administrator is integrated with the Management Framework. Therefore, you can use Genesys Administrator as an interface to create, modify, delete, and save GVP information.

For more information about the Genesys Administrator, see the *Framework 8.0 Genesys Administrator Help.*

Web Server

Communication between the web server and GVP is analogous to the desktop web browser model. In a standard web-based application, desktop browsers make requests to an application server to provide HTML to render the web-based application. The browser renders a web page, and establishes links to other pages on the Web. When you click a link, the browser issues a request to the designated URL, which results in the retrieval and rendering of another web page. When the page or its contents change, the next request from any browser retrieves the changed page.

Requests and information exchanged on GVP are handled in a similar fashion, but the markup languages are CCXML and VoiceXML instead of HTML. The GVP has both CCXML-enabled and VoiceXML-enabled web clients that retrieve pages from web servers. Call control and voice applications are generally developed as Active Server Pages (ASP) or Java Server Pages (JSP) that render and deliver instructions in CCXML or VoiceXML. The Call Control Platform and Media Control Platform interpreters parse the CCXML or VoiceXML to affect:

- Call handling (answering, bridging, and disconnecting calls).
- Media management (plays greetings, prompts, and messages using cached voice files and text-to-speech).
- Caller input (collects touch-tone digits and performs speech recognition).

The Media Control Platform and Call Control Platform enable VoiceXML and CCXML applications to drive an interaction with a caller in the same way that the desktop web browser would interact with an application server to render a screen, and to react to keyboard or mouse input. As with the desktop browser, any changes to the call control or voice application on the application server becomes effective the next time a page is requested.

Caching

The VoiceXML and CCXML interpreters, like visual web browsers, can use caching to improve performance in fetching documents and other resources; audio and video recordings (which can be quite large) are as common to VoiceXML and CCXML documents as images are to HTML pages. In a visual web browser, it is common to include end user controls to update or refresh content that is perceived to be stale. This is not the case for the VoiceXML and CCXML interpreters, because they lack equivalent end user controls. Therefore, enforcement of cache refresh is at the discretion of the document through the appropriate use of the `maxage` and `maxstale` header attributes in the HTTP request to the application server.

GVP Caching

GVP can perform the caching function itself, or, you can add another server—a caching appliance, or a web proxy server.

External caching servers can be beneficial. For example, if you have a site with ten GVP servers and an audio file expires, each server must go fetch a new copy of the audio file. If there is an external cache server, fetching a new copy of the audio file occurs only once. Also, the external cache servers typically have very robust cache management tools to purge and refresh content.

GVP components (the Media Control Platform and Call Control Platform) use the Fetching Module to fetch documents and perform caching. The Fetching Module maintains a high performance shared memory cache, and interfaces with the on-board Squid Caching Proxy. See "Squid Caching Proxy" for more information about how GVP performs caching.

Third-Party Software

The following section describes the third-party software used in conjunction with GVP.

Automatic Speech Recognition

GVP uses MRCP speech-recognition technology to incorporate Automatic Speech Recognition (ASR) for use in voice applications. The GVP ASR architecture is economically scalable as the volume of the calls requiring speech recognition rises, and new voice applications are acquired.

Text-to-Speech

GVP uses MRCP speech synthesis technology to incorporate Text-to-Speech (TTS) for use in voice applications.

Squid Caching Proxy

The third-party Squid software acts as a caching proxy for the Fetching Module. Like any other caching mechanism, the Squid Proxy caches frequently used files so that fetching a copy of a file need only occur once; subsequently the file is retrieved from the cache.

The Squid software is included on the GVP CD and is installed prior to installing the Fetching Module.

For information about how to install Squid Caching Proxy and the Fetching Module, see Installing the Squid caching proxy, page 70 and Installing the Fetching Module, page 71.

Reporting Databases and Schemas

GVP Reporting Server employs the Structured Query Language (SQL) to interacts with both Microsoft SQL and Oracle DB servers. These Relational Database Management Systems (RDBMS) retrieve and manage data in the relational database, create and modify the database schemas, and provide the control management for database object access.

Java Application Server

The Jakarta Tomcat Java-based application server, which runs on the Sun JDK 6 platform is a prerequisite for the GVP Reporting Server host. It is installed to implement Java Servlet and JavaServer Page (JSP) specifications that enable Java code to run in cooperation with a web server.

For information about the GVP supported versions of Microsoft SQL Server, Oracle DB Server, Jakarta Tomcat, and Sun JDK 6, see “Prerequisites” on page 42.

Chapter

2 Prerequisites and Planning

This chapter describes the prerequisites and planning considerations for deploying Genesys Voice Platform (GVP) 8.0. It includes information about the required software.

This chapter contains the following sections:

GVP Installation CDs

The Genesys Voice Platform (GVP) components are shipped on one CD. The CD includes these components:

- Resource Manager (RM)
- Media Control Platform (MCP)
- Call Control Platform (CCP)
- Reporting Server (RS)
- Fetching Module (FM)
- Squid Caching Proxy
- Management Information Bases (MIB)

The Genesys Composer Voice installation software ships on a separate CD.

Note: GVP is installed, provisioned, and managed in Genesys Administrator. Ensure that you have Genesys Administrator installed as part of your deployment. For information about Genesys Administrator, see the *Framework 8.0 Deployment Guide*.

Prerequisites

Table 8 summarizes the software requirements for GVP 8.0 deployments on Windows hosts.

Note: Genesys recommends that you review "Host Setup" on page 45 and "Deployment Task Summary" on page 51 before you install any software.

Table 8: Software Requirements

Category	Requirements and Comments
Operating System (OS) on GVP servers (Mandatory)	
For Genesys Voice Platform 8.0:	• Microsoft Windows 2003 Server, SP2, 32-bit
Operating System supporting components (Mandatory)	
Database server	• Microsoft SQL Server 2005 SP2, with XA support or Oracle 10 g Database Server • Jakarta Tomcat 6.0.16 and Sun JDK 6 Update 5 or later Only required on GVP servers with Reporting Server installed. You can download the SQL Server software from the Microsoft website. You can download the Oracle database software from the Oracle website. You can download the Jakarta Tomcat application server and Sun JDK platform software from the Sun Microsystems/Apache website. The acquisition of licenses for this software is the responsibility of the customer.

Table 8: Software Requirements (Continued)

Category	Requirements and Comments
Microsoft Internet Information Server (IIS) 6.0 components	• Common Files • Internet Information Services Manager Snap-In for Microsoft Management Console • World Wide Web Server Install these component from the Windows 2003 CD through Add/Remove Programs or visit the Microsoft web site to download these components.
Management and Monitoring Tools	• Genesys Simple Network Management Protocol (SNMP) Master Agent • SNMP Network Management Software (NMS) (Optional) The Genesys SNMP Master Agent is installed on the same host(s) as the GVP Resource Manager, Media Control Platform, Call Control Platform, and Fetching Module components. Obtain the Genesys SNMP Master Agent software from the Genesys Management Framework Installation CD. See Chapter 3, “Deployment Task Summary,” on page 51. Use any type of SNMP NMS—for example, HP OpenView.
Specific services and settings	You must configure certain specific services and settings on each host before you install GVP For more information, see “Windows Services and Settings” on page 55.
Web Browser (for Administration) (Mandatory)	• Microsoft Internet Explorer (IE) 6.0 SP1 or 7.0 Used only from the Administrator’s desktop.

Table 8: Software Requirements (Continued)

Category	Requirements and Comments
Automatic Speech Recognition (ASR) (Optional).	Genesys has validated the following third-party ASR software: • Nuance SpeechWorks Media Server (SWMS) 3.1 with Nuance OpenSpeech Recognizer (OSR) 3.0 • Nuance 5.0 Speech Server with Nuance Recognizer 9.0 It is your responsibility to obtain the software and the appropriate licenses. MRCPv1 and MRCPv2 are supported For additional speech information, see the *Genesys 7 Supported Media Interfaces Reference Manual*.
Text-to-Speech (TTS) (Optional)	Genesys has validated the following third-party software: • Nuance SpeechWorks Media Server (SWMS) 3.1 with Nuance RealSpeak TTS 4.0 • Nuance 5.0 Speech Server with Nuance RealSpeak 4.5 • IBM WebSphere Voice Server (WVS) 5.1.3 TTS or higher, with IBM Text-to-Speech Connector It is your responsibility to obtain the software and the appropriate licenses. MRCPv1 and MRCPv2 are supported. For additional speech information, see the *Genesys 7 Supported Media Interfaces Reference Manual.*

Note: Genesys highly recommends that the ASR and TTS servers are installed and operational before you install the Genesys Voice Platform

Antivirus Software

Antivirus software can potentially impact system performance and may affect call response time. In an ideal deployment, antivirus software would be disabled in GVP systems. However, Genesys understands the need to have antivirus protection on servers. Genesys therefore recommends, at a minimum, that you exclude the GVP directory from virus scanning, and schedule system scans to occur at times when traffic is low.

Also, be aware that antivirus software may interfere with the installation of GVP during initial deployment. Make sure that the server is not running antivirus software, or any other third-party software, during installation.

Host Setup

GVP provides some flexibility in combining various components on one host; however, the following restrictions apply:

- The Fetching Module and the Squid Caching Proxy are required on computers hosting the Media Control Platform and Call Control Platform components.
- Install GVP components on a host separate from the Genesys Administrator web server host. Installing some GVP components can stop the web server momentarily. If the web server does not run continuously, the Genesys Administrator Deployment tool indicates the deployment is incomplete.

Voice Platform Solution

This section describes the required and optional elements for a successful deployment of a Voice Platform Solution (VPS) and the elements that are optional.

Voice Platform Solution and Dependencies

The following is an overview of a VPS and the associated dependencies:

- A centralized instance of Genesys Management Framework that includes the following components:
  - Configuration Database
  - Log DB Server
    - MS SQL Server
    - Oracle 10 g DB Server
  - Mult-tenant Configuration Server
  - Genesys Administrator
  - Solution Control Server
  - Solution Control Interface
  - Message Server
  - Local Control Agent—required on all GVP 8.0 hosts
  - Optional: Genesys SNMP Master Agent on all GVP 8.0 hosts
- SIP Server
- VP Resource Manager
  - Mandatory component—one per deployment
  - Can deploy as a pair in Active/Standby for High Availability (HA)
  - Prerequisite: Local Control Agent
  - Optional: SNMP Master Agent

- VP Fetching Module:
  - Mandatory component—required on all Media Control Platform and Call Control Platform machines
  - Prerequisite: VP Squid Caching Proxy
  - Prerequisite: Local Control Agent
  - Optional: SNMP Master Agent
- VP Media Control Platform:
  - Mandatory component—one or more per deployment
  - Prerequisite: VP Fetching ModuleVP
  - Prerequisite: Local Control Agent
  - Optional: SNMP Master Agent
- VP Call Control Platform:
  - Optional component—one or more per deployment
  - Prerequisite: VP Fetching Module
  - Prerequisite: Local Control Agent
  - Optional: SNMP Master Agent
- VP Reporting Server:
  - Mandatory component—one per deployment
  - Prerequisite: Local Control Agent
  - Prerequisite: Database Server (MS SQL Server 2005 or Oracle 10 g)
  - Prerequisite: Jakarta Tomcat JDK 6, Update 5, and Apache Tomcat 6.0.16.
  - Optional: SNMP Master Agent

VPS Components—Minimum Deployment

At a minimum, the required elements to deploy a VPS are:

- Management Framework components
- Genesys Administrator
- SIP Server
- GVP components
  - 1 Resource Manager
  - 1 Reporting Server
  - 1 Media Control Platform
    - Fetching Module
    - Squid Caching Proxy

Optional Components

The following components are optional:

- One additional VP Resource Manager (for High Availability in Active/Standby)
- Multiple VP Media Control Platforms with VP Fetching Module and VP Squid (depends on sizing).
- One, or multiple VP Call Control Platforms with VP Fetching Module and VP Squid (depends on sizing)
- The SNMP Master Agent (See “Voice Platform Solution and Dependencies” on page 45.

Part

2 Installation

Part Two of this *Deployment Guide* describes the installation of Genesys Voice Platform (GVP) on the Windows operating system using the Genesys Administrator. This information appears in the following chapters:

- Chapter 3, “Deployment Task Summary,” on page 51
- Chapter 4, “Preparing Your Environment,” on page 55
- Chapter 5, “Installing GVP Manually,” on page 59
- Chapter 6, “Post-Installation Activities on the GVP Hosts,” on page 81
- Chapter 7, “Maintaining GVP,” on page 119

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Chapter

3 Deployment Task Summary

This chapter provides a summary of various deployment tasks for a Genesys Voice Platform (GVP) manual installation, and provides links to detailed information about the required tasks.

It contains the following section:

Installing GVP Manually

Table 9 summarizes the steps to install GVP manually in a Windows environment, using Genesys Administrator.

For information about how to install GVP manually, see Chapter 5 on page 59.

Table 9: Task Summary—Installing GVP Manually

Objective	Related Procedures and Actions
Plan the deployment	For specific restrictions and recommendations to consider, see "Host Setup" on page 45.
Prepare your environment	1. Install the latest Installation Package (IP) for the Genesys Management Framework; ensure that it is fully operational and running. You must install Multi-tenant Configuration Server. This ensures that the GVP Resource Manager has access to the Environment tenant. (which is not available with the Single tenant Configuration Server). See *Framework 8.0 Deployment Guide*.

Table 9: Task Summary—Installing GVP Manually (Continued)

Objective	Related Procedures and Actions
Prepare your environment (continued)	2. Install Genesys Administrator and ensure that it is fully operational. See *Framework 8.0 Deployment Guide.*
	3. Install and configure the Genesys SNMP Master Agent. The SNMP Master Agent must be installed on the same host(s) as the Resource Manager, Media Control Platform, Call Control Platform, and Fetching Module components. See *Framework 8.0 Deployment Guide.*
	4. Obtain server and database information. During installation, you will need to provide information such as fully qualified domain names (FQDNs) of GVP and third-party servers, database names, and database user names and passwords.
	5. Install prerequisites on Reporting Server host. For more information about this software, go to the vendor's website. Jakarta Tomcat 6.0.16 Application server, and the Sun JDK 6 Update 5 platform are required on the Reporting Server host before the `Reporting Server Application` object is installed. For information about prerequisite software, see "Prerequisites" on page 42.
	6. Install and configure third-party hardware and software. For more information about this software, see your MRCP vendor's documentation. If you are using Automatic Speech Recognition (ASR) and/or Text-to-Speech (TTS), install the third-party Media Resource Control Protocol (MRCP) speech server host and ensure it is operational. For information about prerequisite software, see "Prerequisites" on page 42.
	7. Install Microsoft Internet Information Server (IIS) on the Windows hosts. For supported versions of Microsoft IIS, see "Prerequisites" on page 42.
Prepare your environment (continued)	8. Configure the required Windows services and settings on the systems that will host GVP components. See "Windows Services and Settings" on page 55.

Table 9: Task Summary—Installing GVP Manually (Continued)

Objective	Related Procedures and Actions
Prepare the GVP host(s)	1. Create a new GVP host in Configuration database (using Genesys Administrator). Create a new host in the Configuration database for each machine that hosts GVP components. See Adding a new GVP host in Genesys Administrator, page 60.
	2. Install the Local Control Agent on the GVP host(s). See Installing the Local Control Agent on a GVP host, page 61.
Stop antivirus software that may be running on systems that will host GVP components.	Check the vendor documentation for your antivirus software configuration.
Complete the pre-installation activities.	1. Import the Application object templates. See Importing Application object templates to the Configuration database, page 63.
	2. Create the Application objects. See Creating Application objects in the Configuration database, page 68.
Install GVP	Install the GVP components: 1. Install the Squid caching proxy. See Installing the Squid caching proxy, page 70.
	2. Install the Fetching Module. See Installing the Fetching Module, page 71.
	3. Install the Media Control Platform. See Installing the Media Control Platform, page 73.
	4. Install the Call Control Platform. See Installing the Call Control Platform, page 75.
	5. Install the Resource Manager. See Installing Resource Manager, page 76.
	6. Install the Reporting Server. See Installing the Reporting Server, page 77.
Perform post-installation activities:	Perform the post-installation activities to provision the components for the functionality you want use in your deployment. See Chapter 6 on page 81: Provision the GVP components:

Table 9: Task Summary—Installing GVP Manually (Continued)

Objective	Related Procedures and Actions
Perform post-installation activities: (continued)	1. Schedule a Task. See Scheduling a task for the Squid caching proxy, page 82.
	2. Create a Solution object. See Creating a Resource Solution object, page 83.
	3. Integrate Application objects. See Integrating Application objects with Resource Manager, page 86.
	4. Connect to a Server. See Creating a connection to a server, page 89.
	5. Create Speech Resource objects. See: a. Provisioning Speech Resource objects, page 90. b. Assigning the MRCP server to the Media Control Platform, page 92.
	6. Prepare to make a call. See Preparing the Call Control Platform to make outbound calls, page 93.
	7. Configure a Gateway or Resource Access Point. See: a. Creating a Gateway Application object in the Configuration database, page 96. b. Creating connections in the Resource Manager Application object, page 98.
	8. Configure Resource types. See Creating a Logical Resource Group, page 100.
	9. Create an IVR Profile. See: a. Creating IVR Profiles in the Resource Manager, page 104. b. Updating the Environment Tenant data, page 110.
	10. Provision the Reporting Server. See: a. Configuring the Reporting Server user interfaces, page 112. b. Configuring Reporting Server logging and messaging options, page 114.
	11. Install the database. See “Creating the Reporting Server Databases” on page 115. For supported databases and versions, see “Prerequisites” on page 42.

Chapter

4 Preparing Your Environment

This chapter describes how to prepare your environment for Genesys Voice Platform (GVP) 8.0 deployments on Windows hosts.

It contains the following section:

- Windows Services and Settings, page 55

For information about all the software prerequisites for Windows deployments, see “Prerequisites” on page 42.

Windows Services and Settings

Table 10 summarizes the required services and settings you must configure on each GVP host. You must configure these settings before you install GVP.

Warning! When you name a computer, do not use the underscore (_) character, even though Windows Setup permits this. Using the underscore character causes serious problems with several web services that the GVP software uses.

Table 10: Specifying Windows Services and Settings

Objective	Related Procedures and Actions
Enable or disable the required services, and set service start modes.	For the required services settings, see Table 11 on page 56.

Table 10: Specifying Windows Services and Settings (Continued)

Objective	Related Procedures and Actions
Specify the recommended system performance settings.	See Configuring system performance settings, page 58.
Modify Windows Registry settings.	Accommodate environments with large numbers of concurrent calls by changing a Windows Registry parameter on all GVP hosts before you begin the deployment. If your environment is planned to reach call volumes over 200 concurrent calls, use the `regedit.exe` command to add a DWORD parameter to the registry key as shown in this example: `HKEY_LOCAL_MACHINE/SYSTEM/CurrentControlSet/Services/tcpip/Parameters` Add DWORD parameter: `TcpTimedWaitDelay` with decimal value: `30` (or hex value: `1e`) The minimum value for this parameter is 30 seconds. If a value less than 30 is specified, the DWORD resets to the default of 240 seconds. Reboot the computer after modifying the Windows System Registry.

Windows Services

Table 11 lists the Windows Services settings that are required on each GVP host computer:

Table 11: Windows Services

Name	Startup Type
Alerter	Disabled
Application Management	Manual
Clipbook	Manual
Com + Event System	Manual
Computer Browser	Disabled
Event Log	Automatic
FTP Publishing Services	Automatic

Table 11: Windows Services (Continued)

Name	Startup Type
IIS Admin Service	Automatic
Indexing Service	Disabled
License Logging	Disabled
Messenger	Disabled
Net Logon	Manual
Network DDE	Manual
NT LM Security Support Provider	Manual
Plug and Play	Automatic
Protected Storage	Automatic
Remote Procedure Call (RPC)	Automatic
Remote Procedure Call (RPC) Locator	Manual
Server	Automatic
SNMP Service	Automatic
SNMP Trap Service	Manual
System Event Notification	Automatic
Task Scheduler	Automatic
TCP/IP NetBIOS Helper	Automatic
Telephony	Manual
Uninterruptible Power Supply (UPS)	Manual
Workstation	Automatic
World Wide Web Publishing Service	Automatic

System Settings

This section describes the system and system performance settings that Genesys recommends.

Procedure:
Configuring system performance settings

Purpose: To maximize the performance of each GVP host in your deployment.

Start of procedure

1. In the Windows `Control Panel`, select `System`.
2. Click the `Advanced` tab.
3. In the `Performance` section, click `Settings`.
4. The `Performance Options` dialog box appears.
5. Click the `Advanced` tab.
6. In the `Processor scheduling` section of the `Advanced` tab, select `Background services`.
7. Set the Virtual memory size:
   a. In the `Virtual memory` section of the `Advanced` tab, click `Change`.
      The `Virtual Memory` dialog box appears.
   b. Select `Custom size`, and then set the following:
      - `Initial size (MB)`: 1.5 times your RAM
      - `Maximum size (MB)`: 2 times your RAM
   c. Click `Set`.
8. Click `OK` to exit all dialog boxes.
9. When prompted, restart the computer.

End of procedure

Next Steps

- No further steps are required.

Chapter

5 Installing GVP Manually

This chapter describes how to install Genesys Voice Platform by using the executable files in the GVP Installation Packages and Genesys Administrator to import `Application` object templates and install `Application` objects individually.

It contains the following sections:

Preparing the GVP Hosts

In a Management Framework environment, servers hosting Genesys components propagate their configuration information to the Configuration Server. To facilitate this, the Genesys Local Control Agent (LCA) must be installed on each GVP host.

In addition, each new host is created in the Configuration database through the Genesys Administrator so that the Configuration Server is aware that they are present.

`Note:` Ensure that you are using the Multi-tenant Configuration Server in the Management Framework environment. Using the Multi-tenant Configuration Server ensure that the Environment tenant is accessible for the GVP Resource Manager.

Adding New GVP Hosts

This section contains the following procedures to prepare the GVP host(s) before the GVP components are installed:

Procedure: Adding a new GVP host in Genesys Administrator

Purpose: To add and configure a host to the Configuration database by using Genesys Administrator, thereby facilitating the communication with the Configuration Server.

Summary

Each GVP host is added as a new host in Genesys Administrator so that it can be controlled and monitored by the User Interaction Layer. The User Interaction Layer starts and stops applications, detects application failures, and communicates application roles in a redundancy context.

Prerequisites

- Genesys Administrator is installed and operational in the Management Framework and accessible from a GVP host.
- You have obtained the Universal Resource Locator (URL) of Genesys Administrator.
- The SNMP Master Agent is installed and configured on the same host(s) as the Resource Manager, Media Control Platform, Call Control Platform, and Fetching Module components.

> Note: The SNMP Master Agent is only required if you are capturing alarm and trap information. For more information about installing the Management Framework and the SNMP Master Agent, see the *Framework 8.0 Deployment Guide.*

Start of procedure

1. In a web browser, type the URL to Genesys Administrator—for example, `http://<Genesys Administrator host>/wcm/`.
2. On the `Provisioning` tab, click `Environment > Hosts> New`.
3. In the `General` section of the `Configuration` tab, enter the information that identifies the host, as shown in Table 12

Table 12: Host Properties - Genesys Administrator

Field	Description
Name:	Enter the hostname of the GVP host—for example, MCP1.
IP Address:	Enter the IP address of the GVP host.
OS Type:	Select the Operating System (OS) type from the drop-down list. (For GVP 8.0, Windows2003 SP2 [or later] is the only supported OS.)
OS Version:	Enter the version number of the OS installed on the GVP host.
LCA Port:	The LCA port number 4999 is entered by default.
Solution Control Server:	Browse to select the Solution Control Server.
State:	Select Enabled from the drop-down list.

4. Click Apply to apply the changes.
5. Click Save.

End of procedure

Next Steps

- Install the Local Control Agent on the GVP host. See Installing the Local Control Agent on a GVP host, page 61.

Procedure: Installing the Local Control Agent on a GVP host

Purpose: To install and configure the Local Control Agent on a GVP host in a Windows deployment.

Summary

The Local Control Agent must be installed on every host that is controlled and monitored by the Solution Control Server (SCS).

Prerequisites

- The servers on which you install GVP components meet the GVP system requirements. For more information about the GVP requirements for Windows, see "Prerequisites" on page 42 and "Windows Services and Settings" on page 55.
- The Fully Qualified Domain Names (FQDN) of Genesys servers must not contain special characters, such as the underscore `_`.

> Note: To ensure that Genesys software works properly, FQDNs must contain only standard characters, such as letters `A-Z`, `a-z`, digits `0-9`, and hyphens `-`.

- Third-party software, especially antivirus software, is stopped on the servers on which GVP software will be installed
- You have obtained the Genesys Management Framework CDs or a network path and the location the Local Control Agent software. For the directory structure of the Installation CDs, see the *Framework 8.0 Reference Guide.*

Start of procedure

1. On the GVP host, navigate to the directory that contains the installation files for the Local Control Agent and execute the file `setup.exe`.
2. In the Installation Wizard, enter the information that identifies the host, as shown in Table 13:

Table 13: Host Properties—Installation Wizard

Field	Description
`Name:`	Enter the hostname of the Configuration Server—for example, `Config1`.
`Port:`	Enter the port number of the Configuration Server. The default is `2020`.
`User:`	Enter a username for the Configuration Server—typically `default`.
`Password:`	Enter a password for the Configuration Server—typically `password`.

3. Click `Next`.
4. Restart the host computer.

5. After the host is restarted, open `Windows Services` to verify that the `Genesys Local Control Agent` is installed and running.

End of procedure

Next Steps

- Complete the Pre-installation activities. See “Pre-Installation Activities” on page 63.

Pre-Installation Activities

Before you begin to install the Genesys Voice Platform components manually, create an `Application` object in the Configuration Database for each application you are installing.

This section describes how to create `Application` objects in the Configuration Database.

Creating Application Objects

This section describes how to import `Application` object templates and create `Application` objects in the Configuration Database by using these templates.

It contains the following procedures:

- Importing Application object templates to the Configuration database, page 63
- Creating Application objects in the Configuration database, page 68

Procedure: Importing Application object templates to the Configuration database

Purpose: To import an `Application` object or `Speech Resource` object template to the Configuration Database prior to installing the `Application` or `Speech Resource` object.

Summary

Each `Application` and `Speech Resource` object created in the Configuration Database requires an object template. The templates are imported from the GVP installation CDs or copied to a network directory and imported by navigating a network path. After a template is imported, it can be used for subsequent instances of the same component. For example, if you are installing

more than one Media Control Platform host, you can use the same template for each Media Control Platform Application object.

Note: For best practice, import all of the Application and Speech Resource object templates required before you begin to deploy the components.

See Table 16 on page 66 and Table 17 on page 67 for the names and locations of the templates on the installation CDs.

Prerequisites

- The GVP host(s) are prepared for deployment. See Table 9 on page 51.

Start of procedure

1. Log in to Genesys Administrator.
2. In the Login dialog box, enter the information as shown in Table 14.

Table 14: Genesys Administrator Login

Field	Description
User Name:	Enter the username, typically default.
Password:	Enter the password, typically password.
Application:	Enter the application name of the Configuration Server, typically default.
Host Name:	Enter the host name of the Configuration Server—for example, ConfgS1.
Port:	Enter the port number of the Configuration Server, typically 2020.

3. Click OK.

   Genesys Administrator appears.
4. On the Provisioning tab, click Environment > Application Templates.
5. In the Tasks pane, click Import Application Template.

   A Waiting dialog box appears.
6. Click Add.

   See Figure 2 on page 65 for an example of the dialog box to add the .apd template file.

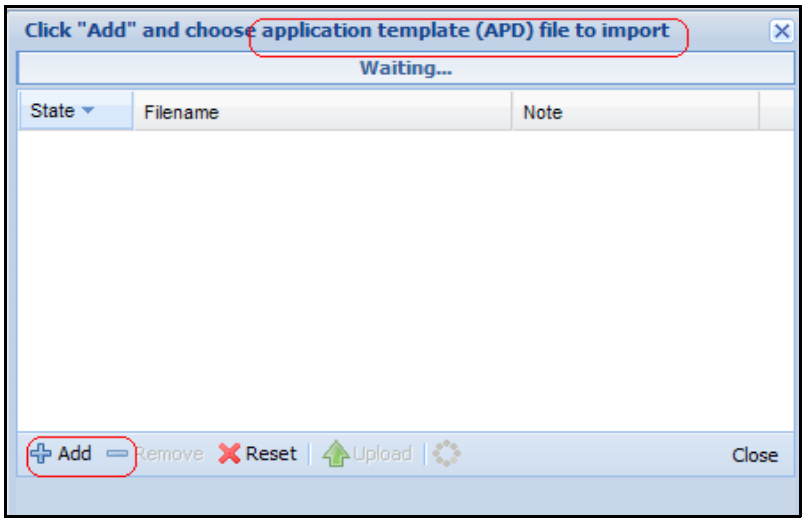

Figure 2: Importing .apd Template

7. In the `Choose File` dialog box, navigate to the directory that contains the application or speech resource object templates.

   See Table 16 on page 66 and Table 17 on page 67 for the template filenames and location.

8. Double-click `<template_filename>.apd`,

   where `<template_filename>` is the filename of the template you want to import.

   The template is imported and the `Configuration` tab appears.

9. Click `Import Metadata` as shown in Figure 3.

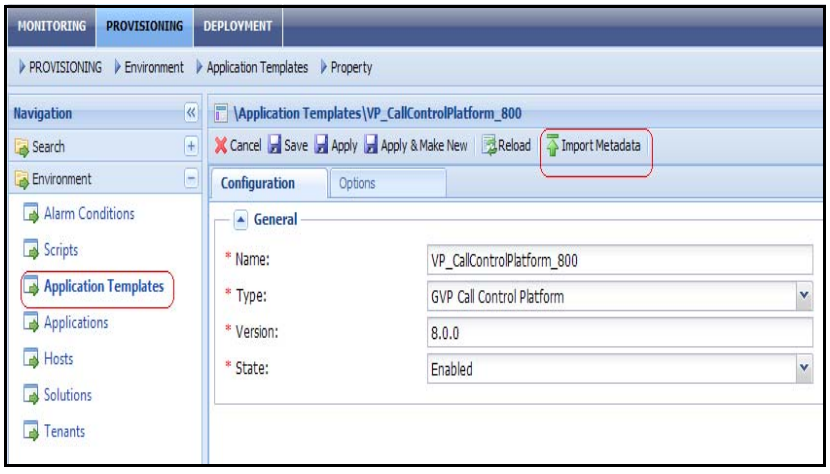

Figure 3: Import Metadata

10. In the `Waiting` dialog box, click `Add`.
11. In the `Choose File` dialog box, navigate to the directory that contains the application or speech resource object templates.

12. Double-click <template_filename>.xml,

    where <template_filename> is the name of the file that contains the metadata.

    The metadata for the template is imported and the Configuration tab appears.

13. In the General section, enter the information that identifies the template, as shown in Table 15.

Table 15: Application Template Properties

Field	Description
Name:	Enter a descriptive name for the template—for example, GVP_FM_template.
Type:	Click the down arrow to select the template type from the drop-down list: • For the GVP Application objects select the template with the same name—for example, for the Fetching Module, select GVP Fetching Module. • For all MRCP client objects, select Third-Party Server.
Version:	Enter the template version number—for example, 8.0 or select it from the drop-down list.
State enabled:	From the drop-down list, select Enabled.

14. Click Save.

Note: Add an Application or Speech Resource object template for each GVP component or MRCP speech resource you want to install before you begin the installation.

Table 16: Template and Metadata Files

Application Object	Filename
Location: <Genesys Solutions Dir>\Templates\<filename>	
Fetching Module	VP_FetchingModule_8xx.apd VP_FetchingModule_8xx.xml
Resource Manager	VP_ResourceManager_8xx.apd VP_ResourceManager_8xx.xml

Table 16: Template and Metadata Files (Continued)

Application Object	Filename
Media Control Platform	VP_MediaControlPlatform_8xx.apd VP_MediaControlPlatform_8xx.xml
Call Control Platform	VP_CallControlPlatform_8xx.apd VP_CallControlPlatform_8xx.xml
Reporting Server	VP_ReportingServer_8xx.apd VP_ReportingServer_8xx.xml
Cluster Manager	VP_clusterManager_8xx.apd VP_clusterManager_8xx.xml

Table 17: MRCP Speech Resource Object Templates

Speech Resource Object	Filename
Location: <Genesys Solutions Dir>\Templates\<filename>	
MRCPv2 ASR	VP_MCP_MRCPv1_ASR_8xx.apd VP_MCP_MRCPv1_ASR_8xx.xml
MRCPv1 TTS	VP_MCP_MRCPv1_TTS_8xx.apd VP_MCP_MRCPv1_TTS_8xx.xml
MRCPv2 ASR	VP_MCP_MRCPv2_ASR_8xx.apd VP_MCP_MRCPv2_ASR_8xx.xml
MRCPv2 TTS	VP_MCP_MRCPv2_TTS_8xx.apd VP_MCP_MRCPv2_TTS_8xx.xml

End of procedure

Next Steps

- Create the Application or Speech Resource objects in the Configuration Database. See Creating Application objects in the Configuration database, page 68.

Procedure:
Creating Application objects in the Configuration database

Purpose: To create an `Application` or `Speech Resource` object in the Configuration Database for the application or speech resource being installed.

Prerequisites

- An `Application` or `Speech Resource` object template is imported for the type of object you are installing. See Importing Application object templates to the Configuration database, page 63.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications > New`.

   The `Browse..\Application Templates\` dialog box opens to display the contents of the `Application Templates` directory (see Figure 4).

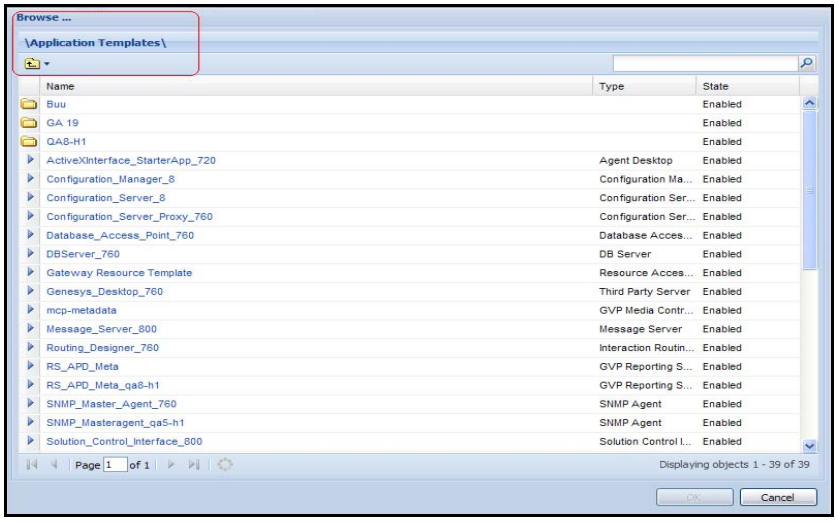

Figure 4: Browse Application Templates

3. Click the `Application` or `Speech Resource` object template for the object you want to create. (See Table 16 on page 66 and Table 17 on page 67 for a list of template filenames.)

   The `Configuration` tab appears, with some of the fields in the `General` section populated and disabled.
4. In the `Name` field, enter the name of the application—for example, `Fetch_Module`.
5. In the `State` field, retain the default value, `Enabled`.

6. In the `Server Info` section, enter the information as shown in Table 18.

> Note: Table 18 contains only the *required* fields, that is, those fields that have an asterisk in front of the field name. The required fields must be populated before you can save the configuration.

Table 18: Application Object Properties

Field	Description
`Host:`	Enter the name of the computer that is hosting the application—for example, `GVP-host1` or browse to select from a list of available hosts.
`Working Directory:`	Enter any value in these fields as temporary placeholders—for example `\`. These characters are replaced by the proper values when the component is installed.
`Command Line:`	
`StartUp Timeout`	Enter the time interval, in seconds, during which the User Interaction Layer should expect this application to start. The default is `90` seconds. If the application is configured with the `Autostart` configuration option set to `True`, this is also the time that Solution Control Server waits after initializing or after a system reboot, to start this application.
`ShutDown Timeout`	Enter the time interval, in seconds, during which the User Interaction Layer should expect this application to shutdown. The default is `90` seconds.
`Redundancy Type`	Click the down arrow to select the type of redundancy in which you want this application to run.
`Timeout`	Enter a time interval, in seconds, that the client application should wait between reconnect attempts after a connection failure with the server. The default is `10` seconds.
`Attempts`	Enter the number of attempts to reconnect to this server before trying to connect to the backup server. The default value is `1`. This value must be `1` or higher and makes sense only if you specify a backup server for this server.
`Auto Restart`	Click the down arrow to select `True` or `False`. The default value is `False`. Selecting `True` causes the User Interaction Layer to automatically restart the application after it fails. Selecting `False` prevents the User Interaction Layer from automatically restarting the application after it fails.

> **Note:** Although the parameters in Table 18 on page 69 are not used by the Configuration database when `Speech Resource` objects are created, the required fields must be populated before you can save the configuration. If you are creating `Speech Resource` objects, retain the default values for the `StartUp Timeout`, `Shutdown Timeout`, `Redundancy Type`, `Timeout`, `Attempts`, and `Auto Restart` fields.

7. Click `Save`.

End of procedure

Next Steps

- Install the GVP components. See "Installing the GVP Components".

Installing the GVP Components

This section describes how to install GVP in a new deployment or to add GVP components to an existing deployment.

This section contains the following procedures:

Procedure: Installing the Squid caching proxy

Purpose: To install and start the Squid caching proxy on the Media Control Platform and Call Control Platform hosts.

> **Note:** The Squid software is not required on the Resource Manager, or on Reporting Server hosts.

Prerequisites

- The requirements for Windows software are met. See Table 8 on page 42.

Start of procedure

1. Execute the file, `setup.exe`:
   - If you are using the GVP software CD, browse to `<GVPCD>\gvp\windows\Squid\`, where `<GVPCD>` is the CD drive letter.
   - If the CD image is on a network drive, copy the `<CDImage>\gvp\windows\Squid\` folder to the local machine.
2. When the `Installation Wizard` appears, click `Next`.

> Note: To avoid having to make manual configuration changes after installation, install the Squid caching proxy in the default directory, `C:\Squid`.

3. After the installation wizard is complete, click `Finish`.
4. Reboot the host computer.

Start the Service

5. At the host computer, click `Start > Programs > Administrative Tools > Services`.
6. In the `Component Services` window, click `Services (Local)`.
7. In the `Services` list, check to ensure that the service is running.
8. Right-click on `SquidNT` to select `Start`, if it is not started.
9. Click `OK`.

End of procedure

Next Steps

- Install the Fetching Module. See Installing the Fetching Module.

Procedure: Installing the Fetching Module

Purpose: To install the Fetching Module component on the Media Control Platform or Call Control Platform host. All Media Control Platform and Call Control Platform hosts require the Fetching Module.

> Note: The Fetching Module is required on the Media Control Platform and Call Control Platform hosts.

Prerequisites

- The Squid caching proxy is installed and the service started. See Installing the Squid caching proxy, page 70.
- The Fetching Module host is added in the Configuration database. See Adding a new GVP host in Genesys Administrator, page 60.

> Note: The Fetching Module and Media Control Platform or Call Control Platform must share the same host, therefore the procedure to add a host is only done once per host.

- A `Fetching Module Application` object template is imported to the Configuration database. See Importing Application object templates to the Configuration database, page 63.
- A `Fetching Module Application` object is created in the Configuration database. See Creating Application objects in the Configuration database, page 68.

Start of procedure

1. Execute the file, `setup.exe`:
   - If you are using the GVP software CDs, browse to `<GVP_Installation_CD>\gvp\windows\fm\`, where `<GVP_Installation_CD>` is the CD drive letter.
   - If the CD image is on a network drive, copy the `<CDImage>\gvp\windows\fm\` folder to the local machine.
2. When the `Genesys Installation Wizard` appears, click `Next`.
3. Enter the information in the `Host` and `User` sections as shown in Table 19.

   These are the connection parameters for the Configuration Server.

Table 19: Connection parameters for Configuration Server

Section	Field	Description
`Host`	`Host name:`	Enter the host name or the IP address of the Configuration Server.
	`Port:`	Enter the port number for the Configuration Server.
`User`	`User name:`	Enter the username used to logon to the Configuration Server.
	`Password:`	Enter the password used to logon to the Configuration Server.

4. Click `Next`.

5. Select the `Fetching Module Application` object and click `Next`.
6. Select the destination folder:
   - Click `Next` to accept the default directory or,
   - Click `Browse` to choose the destination folder, and click `Next`.
7. When the `Ready to Install` dialog box appears, click `Install`.
8. After the installation is complete, click `Finish`.

End of procedure

Next Steps

- Start the `Fetching Module Application` object. See Starting and Stopping GVP, page 119.
- Install the Media Control Platform. See Installing the Media Control Platform, page 73.

Procedure: Installing the Media Control Platform

Purpose: To install the Media Control Platform component so that SIP applications using VoiceXML can access the Media Control Platform media services.

Prerequisites

- The Squid Caching proxy is installed on the Media Control Platform host and the service started. See Installing the Squid caching proxy, page 70.
- The Fetching Module is installed on the Media Control Platform host. See Installing the Fetching Module, page 71.
- A `Media Control Platform Application` object template is imported to the Configuration database. See Importing Application object templates to the Configuration database, page 63.
- A Media Control Platform host is created in the Configuration database. See Adding a new GVP host in Genesys Administrator, page 60.
- A `Media Control Platform Application` object is created in the Configuration database. See Creating Application objects in the Configuration database, page 68.

Note: The Fetching Module and Media Control Platform or Call Control Platform must share the same host, therefore the procedure to create a host in the Configuration Database is done only once for each host computer.

- Microsoft Internet Information Server (IIS) is installed. See "Prerequisites" on page 42.

Start of procedure

1. Execute the setup file, `setup.exe`:
   - If you are using the GVP software CDs, browse to `<GVP_Installation_CD>\gvp\windows\mcp\`.
   - If the CD image is on a network drive, copy the `<CDImage>\gvp\windows\mcp\` folder to the local machine.
2. When the `Genesys Installation Wizard` appears, click `Next`.
3. Select the audio format for your region;
   - `Mulaw (North America)` or,
   - `Alaw (Europe)`.
4. In the `Connection Parameters` dialog box, enter the information in the `Host` and `User` sections as shown in Table 19 on page 72.

   These are the connection parameters for the Configuration Server.
5. In the `Select Application` dialog box, select the `Media Control Platform Application` object you want to install.
6. In the `Choose Destination` dialog box:
   - To accept the default location, click `Default` or,
   - To choose an alternate location, click `Browse`.
7. In the `VP Reporting Server` section, enter the information as shown in Table 20.

Table 20: VP Reporting Server section

Field	Description
`Host`	Enter the hostname of the Reporting Server—for example, `ReportServ1`.
`Port`	Accept the default value `61616` for the Reporting Server port number.

8. In the `Ready to Install` dialog box, click `Install`.
9. When the installation is complete, click `Finish`.

End of procedure

Next Steps

- Start the `Media Control Platform Application` object. See Starting and Stopping GVP, page 119.

- Install the Call Control Platform. See Installing the Call Control Platform, page 75.

Procedure: Installing the Call Control Platform

Purpose: To install the Call Control Platform component so that applications using CCXML can access the Call Control Platform call processing services.

Prerequisites

- The Squid caching proxy is installed on the Media Control Platform host and the service started. See Installing the Squid caching proxy, page 70.
- The Fetching Module is installed on the Call Control Platform host. See Installing the Fetching Module, page 71.
- The `Call Control Platform Application` object template is imported to the Configuration database. See Importing Application object templates to the Configuration database, page 63.
- A Call Control Platform host is created in the Configuration database. See Adding a new GVP host in Genesys Administrator, page 60.

> Note: The Fetching Module and Media Control Platform or Call Control Platform must share the same host, so the procedure to add a host is only done once per host.

- A `Call Control Platform Application` object is created in the Configuration database. See Creating Application objects in the Configuration database, page 68.

Start of procedure

1. Execute the file, `setup.exe`:
   - If you are using the GVP software CDs, browse to `<GVP_Installation_CD>\gvp\windows\ccp\`.
   - If the CD image is on a network drive, copy the `<CDImage>\gvp\windows\ccp\` folder to the local machine.
2. When the `Genesys Installation Wizard` opens, click `Next`.
3. In the `Connection Parameters` dialog box, enter the information in the `Host` and `User` sections as shown in Table 19 on page 72.

   These are the connection parameters for the Configuration Server.
4. In the `Select Application` dialog box, select the `Call Control Platform Application` object you want to install.
5. In the `Choose Destination` dialog box:

- To accept the default location, click `Default` or,
- To choose an alternate location, click `Browse`.

6. In the `VP Reporting Server` section, enter the information as shown in Table 20 on page 74.
7. In the `Ready to Install` dialog box, click `Install`.
8. When the installation is complete, click `Finish`.

End of procedure

Next Steps

- Start the `Call Control Platform Application` object. See Starting and Stopping GVP, page 119.
- Install Resource Manager. See Installing Resource Manager.

Procedure: Installing Resource Manager

Purpose: To install Resource Manager on the host.

Prerequisites

- The Management Framework is installed and fully operational. This is done before you configure and operate the Resource Manager. See the *Framework 8.0 Deployment Guide.*
- The SNMP Master Agent is installed and configured on the Resource Manager host. For information about the SNMP Master Agent and installation procedures, see the *Framework 8.0 Deployment Guide.*
- The `Resource Manager Application` object template is imported to the Configuration database. See Importing Application object templates to the Configuration database, page 63.
- The Resource Manager host is created in the Configuration database. See Adding a new GVP host in Genesys Administrator, page 60
- An `Resource Manager Application` object is created in the Configuration database. See Creating Application objects in the Configuration database, page 68.

Start of procedure

1. Execute the file, `setup.exe`:
   - If you are using the GVP software CDs, browse to `<GVP_Installation_CD>\gvp\windows\rm\`.

- If the CD image is on a network drive, copy the `<CDImage>\gvp\windows\rm\` folder to the local machine.

2. When the `Genesys Installation Wizard` appears, click `Next`.
3. In the `Connection Parameters` dialog box, enter the information in the `Host` and `User` sections as shown in Table 19 on page 72.

   These are the connection parameters for the Configuration Server.
4. In the `Select Application` dialog box, select the `Resource Manager Application` object.
5. In the `Choose Destination` dialog box:
   - To accept the default location, click `Default` or,
   - To choose an alternate location, click `Browse`.
6. In the `VP Reporting Server` section, enter the information as shown in Table 20 on page 74.
7. In the `Ready to Install` dialog box, click `Install`.
8. When the installation is complete, click `Finish`.

End of procedure

Next Steps

- Start the `Resource Manager Application` object. See Starting and Stopping GVP, page 119.
- Install the Reporting Server. See Installing the Reporting Server, page 77.

Procedure: Installing the Reporting Server

Purpose: To install and provision the Reporting Server on the host.

Prerequisites

- Management Framework is installed and fully operational. See the *Framework 8.0 Deployment Guide.*
- Jakarta Tomcat 6.0.16 and Sun JDK 6, Update 5 are installed.

> Note: When the Jakarta Tomcat application server is installed, ensure that it is not set to run automatically. Users should select `No` for this option when prompted by the installation wizard.

- A Reporting Server host is created in the Configuration database. See Adding a new GVP host in Genesys Administrator, page 60

- The Reporting Server Application object template is imported to the Configuration database. See Importing Application object templates to the Configuration database, page 63.
- A Reporting Server Application object is created in the Configuration database. See Creating Application objects in the Configuration database, page 68

Start of procedure

1. Execute the file, setup.exe:
   - If you are using the GVP software CDs, browse to <GVP_Installation_CD>\gvp\windows\rs\.
   - If the CD image is on a network drive, copy the <CDImage>\gvp\windows\rs\ folder to the local machine.
2. When the Genesys Installation Wizard appears, click Next.
3. In the Connection Parameters dialog box, enter the information in the Host and User sections as shown in Table 19 on page 72.

   These are the connection parameters for the Configuration Server.
4. In the Select Application dialog box, select the Reporting Server Application object.
5. In the Choose Destination dialog box:
   - To accept the default location, click Default or,
   - To choose an alternate location, click Browse.
6. In Select the Installed Sun's Java Runtime Environment (JRE), select the runtime environment for your deployment.
7. For the Database Engine Option, select one of two options:
   - Microsoft SQL: Server (MS SQL) or,
   - Oracle

   Note: The Microsoft SQL Server and Oracle 10 g DB Servers are the only supported databases. See “Prerequisites” on page 42
8. In the VP Reporting Server Parameters dialog box, enter the parameters as shown in Table 21 on page 79

   Note: In Table 21, the terms *DB Server* and *database server* refer to the server that hosts the database software—for example, Oracle or SQL Server—and not the Management Framework Configuration DB Server.

Table 21: VP Reporting Server Parameters

Section	Field	Description
Database Server	DB Server Host	Enter the hostname or IP address and the instance—if defined, on which the SQL Server or Oracle is installed.
	DB Server Port	Enter the port number of the database server host—typically, 1433.
Database	Database Name	Enter the name of the database—for example, db_rs.
User	User Name	Enter the user name you want to use to connect to the database.
	Password	Enter the password you want to use to connect to the database.

9. In the VP Reporting Server section, accept the default port number 61616.
10. In the Ready to Install dialog box, click Install.
11. When the installation is complete, click Finish.

End of procedure

Next Steps

- Start the Reporting Server Application object. See Starting and Stopping GVP, page 119.
- Create a GVP Solution Object. See Creating a Resource Solution object, page 83.

Chapter

6 Post-Installation Activities on the GVP Hosts

Some Genesys Voice Platform (GVP) components require additional configuration to initiate the advanced features and optimize operation.

This chapter contains post-installation activities for the GVP hosts, information about creating the database and schema for the Reporting Server, and describes how to start and stop GVP components in all deployments.

It contains the following sections:

Provisioning the Components

After you have installed the GVP components and performed the basic configuration, some additional steps are necessary to configure the advanced features of the GVP components.

This section contains advanced configuration procedures for the following components.

Scheduling a Task for the Squid Proxy

After the Squid caching proxy is installed, schedule a daily task in Windows Scheduler to rotate the logs for this service. The Squid proxy is a third-party application, therefore the logs are not automatically rotated.

Use the procedure in this section to schedule a task to rotate the Squid caching proxy service logs.

Procedure: Scheduling a task for the Squid caching proxy

Purpose: To schedule a daily task to rotate the Squid caching proxy service logs.

Prerequisites

- Squid caching proxy is installed and service is running. See Installing the Squid caching proxy, page 70.

Start of procedure

1. From the Windows `Start` menu, select `All Programs` > `Accessories` > `Notepad`.
2. Enter the following script:

   ```
   @echo
   C:\squid\sbin\squid.exe -k rotate -n SquidNT
   @pause
   @echo
   ```

3. Click `File` > `Save As`.
4. Save the file with the extension `.bat`—for example, `SquidTask.bat`.
5. From the Windows `Start` menu, select `All Programs` > `Accessories` > `System Tools` > `System Tasks`.
6. Double-click `Add Scheduled Task`.

   The `Scheduled Task Wizard` appears.
7. Click `Next`.
8. Click the `Browse` button to browse to the file you created in Step 4 of this procedure.
9. Double-click the file.

   The `Scheduled Task Wizard` automatically populates the `Task Name` field.
10. In the `Perform this task:` section, select `Daily`.
11. Click `Next`.

12. In the `Start Time` field, enter `2:12 AM`.
13. Select the `Every Day` radio button.
14. In the `Start Date` field, enter the date that you want the task to start—for example, `5/12/2008`.
15. Click `Next`.
16. In the `user name` field, enter the username of the person who is scheduling the task.
17. In the `Password` and `Confirm Password` fields, enter the password.
18. Click `Next`.
19. Click `Finish`.

End of procedure

Next Steps

- Continue with the Post Installation procedures in this chapter. See "Creating Solution Objects".

Creating Solution Objects

Creating a `Solution` object is not a requirement for a successful deployment, but recommended as an efficient way to manage two or more `Application` objects. In this case, a `Resource Solution` object is created to ensure that the Fetching Module is started prior to the Media Control Platform or Call Control Platform. The priorities that are set affect all of the components within the `Resource Solution` object.

Procedure: Creating a Resource Solution object

Purpose: To create a `Resource Solution` object that combines two or more components to facilitate a unified management function.

Note: The Fetching Module must be started before the Media Control Platform and the Call Control Platform is started. If the Fetching Module stops for any reason, the Media Control Platform and the Call Control Platform must also be stopped, then restarted after the Fetching Module is restarted.

Prerequisites

- Two or more GVP components are installed for which a `Resource Solution` object is required. See “Installing the GVP Components” on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, click `Environment > Solutions > New`.

   The `Configuration` tab appears.
3. In the `General` section, enter the information as shown in Table 22.

Table 22: Solution Parameters--General Section

Field	Description
`Name`	Enter a name for the `Solution` object—for example, `VP-SPSol`.
`Solution Type`	From the drop-down list, select `Voice Self Service`.
`Solution Control Server`	Browse to select the `Solution Control Server` from the `Applications` list.
`Version`	Enter the version number—for example, `8.0`.
`State`	From the drop-down list, select `Enabled`.

4. In the `Components` section, click `Add`.

   The `Solution Component` dialog box appears.
5. Enter the information as show in Table 23.

Table 23: Solution Components

Field	Description
`Application`	From the drop-down list, select the `Fetching Module Application` object.
`Startup Priority`	Enter a number to set the priority for this application—for example, `1`.
`Optional`	From the drop-down list, select `False`.

6. Click `OK`.
7. The `Fetching Module` appears in the `Solution Components` field.

8. Repeat steps 4 to 7, and
   a. If you are adding a Media Control Platform to the `Resource Solution` object:
      - Select the `Media Control Platform Application` object for `Application`.
      - Enter `2` for `Startup Priority`.
   b. If you are adding a Call Control Platform to the `Resource Solution` object:
      - Select the `Call Control Platform Application` object for `Application`.
      - Enter `3` for `Startup Priority`.

   Note: The `Components Definition` section is populated as `Application` objects are added to the `Components` section. Click the `Components Definition` up arrow to view the populated fields.

9. Click `Save`.

End of procedure

Next Steps

- Complete the remaining post-installation activities for the GVP components.

Integrating Application Objects

After the `Media Control Platform` and `Call Control Platform Application` objects are created and the components installed, they are integrated with the Resource Manager to facilitate communication between them. To integrate these `Application` objects with the Resource Manager, you configure the SIP settings.

The procedures in this section describe how to integrate the `Media Control Platform` and `Call Control Platform Application` objects with the Resource Manager by configuring SIP and secure SIP options.

The procedures include:

- Integrating Application objects with Resource Manager, page 86
- Integrating an Application object by using secure SIP, page 88

Note: Although the GVP components support secure SIP capabilities, the external SIP server does not. Before you enable SIPS in your deployment, contact your Genesys Sales Representative for more information.

Procedure: Integrating Application objects with Resource Manager

Purpose: To integrate an `Application` object with Resource Manager by configuring the `Application` object parameters.

Prerequisites

- The GVP components are installed. See “Installing the GVP Components” on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Click the `Application` object you want to configure—for example, the Media Control Platform or Call Control Platform.

   The `Configuration` tab appears.
4. On the `Settings` tab, use the `Reload` drop-down list to filter the section you want to configure.
5. From the drop-down list, select `SIP Settings`.

   The list of `Settings` is filtered and all of the `sip` section options appear.

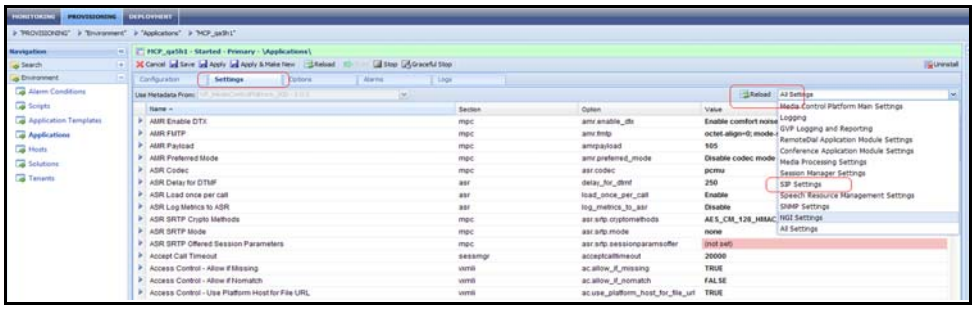

Figure 5: Reload Filter—Settings tab

6. Click the `routeset` option.

   The `Route Set` dialog box appears with a description of the option.
7. In the `Value` field, type;
   - `<sip:IP_RM:SIPPort_RM;lr>` to integrate the Media Control Platform with Resource Manager.
   - `<sip:IP_RM:SIPPort_RM>` 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`. See Figure 6.

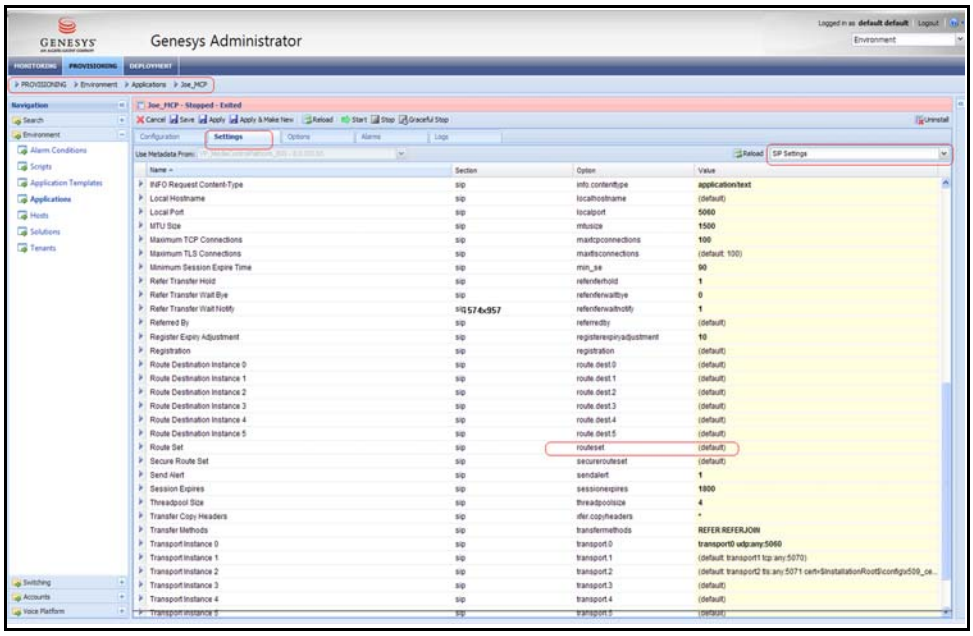

Figure 6: Application Object—Settings Tab

> Note: You must include the angle brackets in the `Value` field in the `sip.routeset` and `sip.secureroutеset` parameters.

8. In the `Value` field of the `secureroutеset` option, type;
   - `<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`.

> Note: Although the GVP components support secure SIP capabilities, the external SIP server does not.

9. Click `Save`.

End of procedure

Next Steps

- Create the connections to the Message Server. See “Connecting to a Server” on page 89.

Procedure:
Integrating an Application object by using secure SIP

Purpose: To integrate an `Application` object with Resource Manager by configuring the secure SIP parameters of the `Application` object.

Summary

This procedure is optional and not required unless secure SIP is supported in your environment.

Start of procedure

1. Log in to Genesys Administrator.
2. Complete steps 2 to 5 in the procedure, Integrating Application objects with Resource Manager, page 86.
3. Click the `secureroutеset` option.

   The `Secure Route Set` dialog box appears with a description of the option.
4. In the `Value` field, type;
   - `<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`.

   Note: Although the GVP components support secure SIP capabilities, the external SIP server does not.
5. Click `Save`.

End of procedure

Next Steps

- Create the connections to the Message Server. See “Connecting to a Server” on page 89.

Note: There are additional parameters that can be configured for the `sip.routeset`, `sip.secureroutеset`, and `sip. transport` options. For a complete list and description of these options, see the `Settings` tab in the `Media Control Platform` or `Call Control Platform Application` object.

Connecting to a Server

To ensure that the call processing information reaches the Log database, the Media Control Platform, Call Control Platform, Fetching Module, and Resource Manager require a connection to Message Server.

Use the procedure in this section to create connections to the Message Server.

Procedure: Creating a connection to a server

Purpose: To create a connection to the Message Server in an `Application` object.

Prerequisites

- The GVP components are installed. See "Installing the GVP Components" on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Click the `Application` object for which you are creating the connection—for example, the Media Control Platform.

   The `Configuration` tab appears.
4. In the `General` section, `Connections` field, click `Add`.

   The `Connection Info` dialog box appears. See Figure 7.

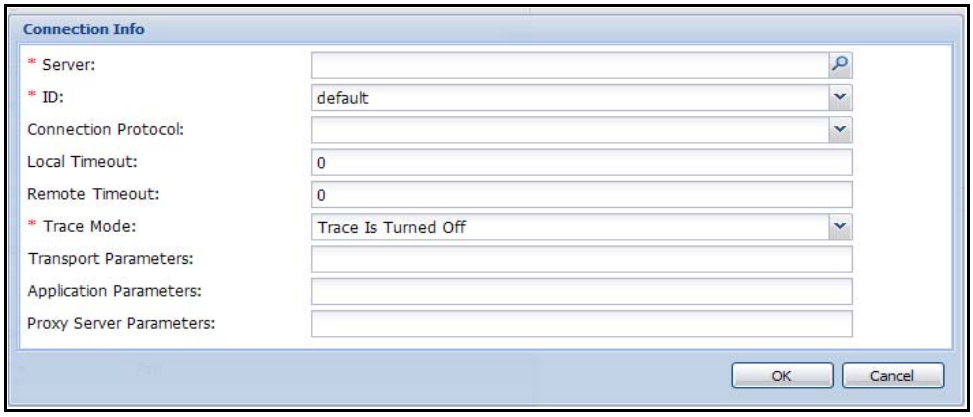

Figure 7: Application Object—Connection Info

5. In the `Server` field, click the down arrow to open the `Browse Application` window.

6. Select the server that you want to create a connection to—for example, `Message Server`.

   The required fields in `Connection Info` populate automatically.

7. Click `OK`.

   The Server you selected in step 6—in this case, `Message Server`, appears under `Connections`.

8. Click `Save`.

End of procedure

Next Steps

- Complete the remaining post-installation activities for the Media Control Platform. See "Using Speech Resources with GVP" on page 90.

Using Speech Resources with GVP

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.

> `Note:` The procedures in this section are required only if you are using ASR and TTS speech resources and have an MRCP server in your deployment.

Use the procedures in this section to create the `Speech Resource` objects and assign the MRCP Server to the Media Control Platform.

This section contains the following procedures:

- Provisioning Speech Resource objects, page 90
- Assigning the MRCP server to the Media Control Platform, page 92

Procedure: Provisioning Speech Resource objects

Purpose: To create the MRCP `Speech Resource` objects for Automatic Speech Recognition (ASR) and Text-to-Speech (TTS).

Prerequisites

- The GVP components are installed. See Importing Installation Packages into the Repository, page 127.

- The Media Control Platform is integrated with the RM. See Integrating Application objects with Resource Manager, page 86.
- A Media Control Platform connection to Message Server is created. See Creating a connection to a server, page 89.
- The MRCP `Speech Resource` object templates are imported. See Importing Application object templates to the Configuration database, page 63
- The MRCP `Speech Resource` objects are created. See Creating Application objects in the Configuration database, page 68.

Summary

After a `Speech Resource` object is created with the basic configuration, it must be provisioned with the IP address and port number for the MRCP Server.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Select the `Speech Resource` object that you want to configure.

   The `Configuration` tab appears.
4. On the `Settings` tab, scroll to the `provision` section.
5. Enter the `Value` for each `Option` as shown in Table 24.

Table 24: MRCP Application Properties—Settings tab

Option Name	Option Value
For MRCPv1	
`vrm.client.resource.address`	`<MRCP_Serv_IP>` where the value in brackets is the IP address of the MRCP Server.
`vrm.client.resource.uri`	`rtsp://<MRCP_Serv_IP>:4900/media/speechsynthesizer` where the value in brackets is the IP address of the MRCP Server
For MRCPv2	
`vrm.client.resource.address`	`<MRCP_Serv_IP>`, where the value in brackets is the IP address of the MRCP Server.
`vrm.client.resource.uri`	`sip:mresources@<MRCP_Serv_IP>:5060` where the value in brackets is the IP address of the MRCP Server

6. Click `Save`.

End of procedure

Next Steps

- Assign the MRCP Server to the `Media Control Platform Application` object. See Assigning the MRCP server to the Media Control Platform.

Procedure: Assigning the MRCP server to the Media Control Platform

Purpose: To assign the MRCP Server to the `Media Control Platform Application` object.

Prerequisites

- The MRCP `Speech Resource` object templates are imported. See Importing Application object templates to the Configuration database, page 63.
- The MRCP `Speech Resource` objects are created. See Creating Application objects in the Configuration database, page 68.
- The MRCP `Speech Resource` objects are provisioned. See Provisioning Speech Resource objects, page 90.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Double-click the `Media Control Platform Application` object you want to configure.

   The `Configuration` tab appears.
4. In the `General` section, `Connections` field, click `Add`.

   The `Connection Info` dialog box appears.
5. Enter the information in the required fields, as shown in Table 25.

Table 25: Connection Info dialog box

Field	Description
`Server`	Browse to select the `MRCP Server`.
`ID`	This field is populated automatically with value, `default`.

Table 25: Connection Info dialog box (Continued)

Field	Description
Trace Mode	This field is populated automatically with value, Trace is Turned Off.
Application Parameters	Enter provisiontype=primary for a primary MRCP server. Enter provisiontype=backup for a backup MRCP server.

6. Click OK.
7. To save the configuration, click Save.

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

End of procedure

Next Steps

- Complete the remaining post-installation activities for the Call Control Platform. See “Preparing to Make an Outbound Call” on page 93.

Preparing to Make an Outbound Call

Use the procedure in this section to prepare the Call Control Platform to make outbound calls.

Procedure: Preparing the Call Control Platform to make outbound calls

Purpose: To configure the Call Control Platform Application object to make outbound calls.

Prerequisites

- The GVP components are installed. See Importing Installation Packages into the Repository, page 127.
- The Call Control Platform is integrated with the RM. See Integrating Application objects with Resource Manager, page 86.

- A Call Control Platform connection to the Message Server is created. See Creating a connection to a server, page 89.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Click the `Call Control Platform Application` object.
4. On the `Settings` tab, scroll to the `mediacontroller` section.
5. Click the `Value` field of the `sipproxy` option.
6. Enter `<IP_RM>:<SIPPort_RM>`

   where `IP_RM` is the IP address of the Resource Manager and `SIPPort_RM` is the SIP port of the Resource Manager.
7. Click the `Value` field of the `bridge_server`.
8. Enter `<IP_RM>:<SIPPort_RM>`

   where `IP_RM` is the IP address of the Resource Manager and `SIPPort_RM` is the SIP port of the Resource Manager.
9. Click `Apply` to apply the changes.
10. Click `Save`.

End of procedure

Next Steps

- Complete the post-installation activities for the Resource Manager. See "Configuring Gateways, Resource Types, and IVR Profiles".

Configuring Gateways, Resource Types, and IVR Profiles

Resource management includes many functions, such as:

- Creating logical groups for multiple `Resource Manager Application` objects (if they are set up in a cluster).
- Assigning physical resources to a logical group.
- Creating connections to Resource Manager to assign physical resources.

`Note:` For information about setting up the `Resource Manager Application` objects in a cluster, see Appendix B on page 137.

Use the procedures in this section to perform these post-installation configuration tasks for the Resource Manager:

- Creating a Gateway Application Object on page 95

- Setting up Resource Types on page 99
- Setting up IVR Profiles and Dialed Number Mapping on page 104

Creating a Gateway Application Object

To create a Gateway Application object you must first create a Gateway Application object template. The Gateway Application object is then created in the Configuration Database and a connection is configured to facilitate communication between the Gateway and Resource Manager.

This section contains the following procedures:

- Creating the Gateway Application object template
- Creating a Gateway Application object in the Configuration database.
- Creating connections in the Resource Manager Application object.

Procedure: Creating the Gateway Application object template

Purpose: To create the Gateway Application object template to provide a placeholder so that the SIP Server can be configured as a gateway.

Summary

Unlike other Application object templates, the Gateway Application object template does not require metadata and is therefore, not imported.

1. Log in to Genesys Administrator
2. On the Provisioning tab, click Environment > Application Templates.
3. Click New.

   The Configuration tab appears.
4. In the General section, enter the information that identifies the template, as shown in Table 26.

Table 26: Gateway Application Template Properties

Field	Description
Name:	Enter a descriptive name for the template—for example, Gateway Application template.
Type:	Click the down arrow to select the Resource Access Point from the drop-down list:

Table 26: Gateway Application Template Properties

Field	Description
Version:	Enter the template version number—for example, 8.0 or select it from the drop-down list.
State enabled:	From the drop-down list, select Enabled.

5. Click Save.

End of procedure

Next Steps

- Create the Gateway Application object. See Creating the Gateway Application object template, page 95.

Procedure: Creating a Gateway Application object in the Configuration database

Purpose: To create a Gateway Application object in the Configuration database to facilitate communication between the Resource Manager (and in some instances the Call Control Platform or Media Control Platform) and the SIP Server.

Summary

Creation of the Gateway Application object in the Configuration database differs slightly from the creation of other Application objects in that, you do not need to import the metadata for the Application object template. The Gateway Application object template is merely a configuration placeholder so that the SIP Server can act as a gateway.

Prerequisites

- The Resource Manager Application object is installed with basic configuration. See “Installing the GVP Components” on page 70.
- A Gateway Application object template is created using the Resource Access point as the Type.

Start of procedure

1. Log in to Genesys Administrator.
2. On the Provisioning tab, select Environment > Applications > New.

   The Browse Application Template dialog box opens to display the contents of the Application Templates directory.
3. Double-click on the Gateway Application object template.

   The Configuration tab appears, with some of the fields in the General section populated and disabled.
4. In the Name field, enter the name of the application—for example, Gateway_App.
5. In the Application Prototype field, click the browse icon to select Gateway Application template.
6. In the State field, retain the default value, Enabled.
7. In the Server Info section, enter the information as shown in Table 27.

Notes: Table 27 shows only the required fields, that is, those fields that have an asterisk in front of the field name. These fields must be populated before you can save the configuration.

Table 27: Gateway Application Properties

Field	Description
Host:	Enter the name of the Configuration Server host or Click the down arrow to select it from a list of available hosts.
Working Directory: Command Line:	Enter any value in these fields as temporary placeholders—for example \. These characters are replaced by the proper values when the component is installed.
StartUp Timeout	Enter the time interval, in seconds, during which the User Interaction Layer should expect this application to start. The default is 90 seconds. If the application is configured with the Autostart configuration option set to True, this is also the time that Solution Control Server waits after initializing or after a system reboot, to start this application.
ShutDown Timeout	Enter the time interval, in seconds, during which the User Interaction Layer should expect this application to shutdown. The default is 90 seconds.
Redundancy Type	Click the down arrow to select the type of redundancy in which you want this application to run.

Table 27: Gateway Application Properties (Continued)

Field	Description
Timeout	Enter a time interval, in seconds, that the client application should wait between reconnect attempts after a connection failure with the server. The default is 10 seconds.
Attempts	Enter the number of attempts to reconnect to this server before trying to connect to the backup server. The default value is 1. This value must be 1 or higher and makes sense only if you specify a backup server for this server.
Auto Restart	Click the down arrow to select True or False. The default value is False. Selecting True causes the User Interaction Layer to automatically restart the application after it fails. Selecting False prevents the User Interaction Layer from automatically restarting the application after it fails.

8. Click Apply to save the changes.
9. Click OK to close the dialog box.

End of procedure

Next Steps

- Create the connections in the Resource Manager. See Creating connections in the Resource Manager Application object, page 98.

Procedure: Creating connections in the Resource Manager Application object

Purpose: To create connections to the Application objects that the Resource Manager manages and with which the Resource Manager needs to communicate.

Prerequisites

- The Resource Manager Application object is installed. See “Installing the GVP Components” on page 70.
- A Gateway Application object is created in the Configuration Database. See Creating a Gateway Application object in the Configuration database, page 96.

Start of procedure

1. Log in to Genesys Administrator.
2. On the Provisioning tab, select Environment > Applications.
3. Click the Resource Manager Application object to open the application properties.
4. In the General section Connections field, click Add.

   The Connection Info dialog box appears.
5. In the Server field, click the browse icon to open the Browse Application window.
6. Select the Media Control Platform Application object.

   The required fields (those with an asterisk) in Connection Info populate automatically.
7. Click OK.

   The Media Control Platform Application object appears under Connections.
8. Click Apply.
9. Repeat steps 4 to 8 to add the Call Control Platform, Gateway Resource Access Point.

   Add connections to other applications that you want the Resource Manager to manage as required for your environment.

   Notes: If you require a connection for an external SIP resource, see Appendix C, “External SIP Resources” on page 149.
10. Click Save.

End of procedure

Next Steps

- Continue with the post-installation activities for the Resource Manager. See “Setting up Resource Types”.

Setting up Resource Types

In Resource Manager, you can set up resource types by creating a Logical Resource Group that consists of two or more components that need access to a common type of service, such as VoiceXML, CCXML, Conference, or Gateway services.

Multiple resources that use a common service type are added to a Logical Resource Group so that the Resource Manager can manage the load-balancing for the resources within that group.

This section contains the procedures for creating Logical Resource Groups and associated service-types for these groups.

Procedure: Creating a Logical Resource Group

Purpose: To combine resources to create a Logical Resource Group for components that use a common service type.

Summary

In this procedure, the common service type for the `MCPGroup` is VoiceXML. If you have one or more Call Control Platforms installed as part of your deployment, create a `CCPGroup` using the CCXML service type. You can also create a `GWGroup` or `ConfGroup` to manage resources that use the Gateway or Conference service types. Use the list of options and values in Table 28 to configure each Logical Resource Group and type of service.

Note: If you are using external SIP resources, you can create a Logical Resource Group, see Appendix C, "External SIP Resources" on page 149.

Prerequisites

- The GVP components are installed. See "Installing the GVP Components" on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, click `Voice Platform > Resource Management`.
3. Highlight the `Resource Manager Application` object for which you are creating the Logical Resource Group.
4. In the `Tasks` panel, click `Manage RM Resources` (see Figure 8).

   The `GVP-Manage <RM Application object> Resources` dialog box appears, where `<RM Application object>` is the name of the `Application` object you selected.

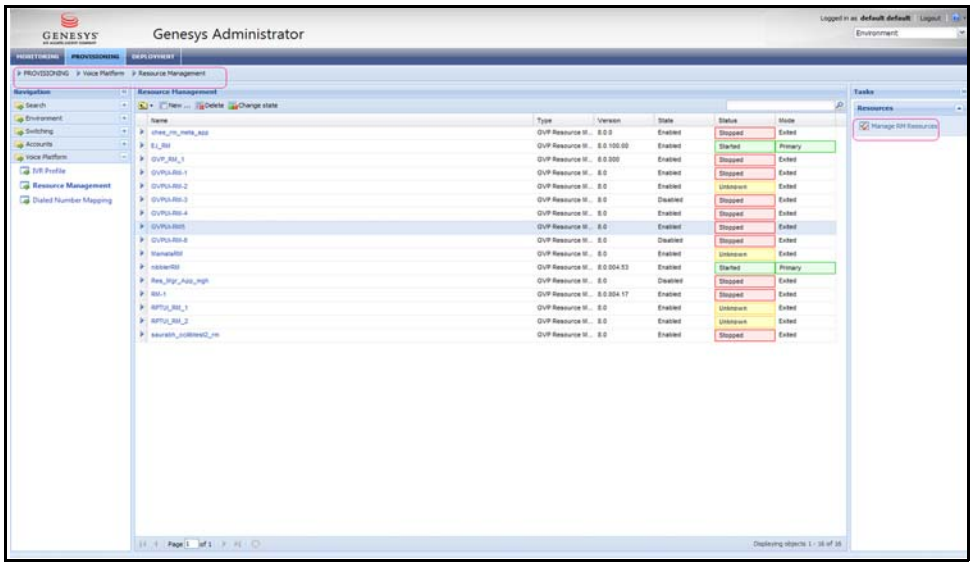

Figure 8: Task Pane—Manage RM Resources

5. Click `New`.

   The `New Group` dialog box appears.

6. In the `Name` field, enter the name of the group you want to create—for example, `MCPGroup`.

7. In the remaining fields, enter the information for the service-type you are configuring, as shown in Table 28.

Table 28: Options for Logical Resource Groups

Option Name	Option Value
VoiceXML or CCXML	
`Service Type(s)`	Select value `voicexml` or `ccxml`.
`Monitoring Method`	Select values `option` or `none`.
`load Balance Scheme`	Select values `round-robin` or `least-used`.
`Port Usage Type`	Select value `outbound`.
`Capability`	Various capabilities are supported—for example, `lang=en-US; grammar=grxml, gsl`. For more information about the supported capabilities for the Logical Resource Groups, see the *Genesys Voice Platform 8.0 User's Guide.*
`Max. Conference Size`	This field is disabled.
`Max. Conference Count`	This field is disabled.

Table 28: Options for Logical Resource Groups (Continued)

Option Name	Option Value
Conference	
Service Type(s)	Enter value conference.
Monitoring Method	Enter values option or none.
load Balance Scheme	Select values round-robin or least-used.
Port Usage Type	Enter value outbound.
Capability	Leave this field empty.
Max. Conference Size	Enter value 5. (Expects unsigned integer including zero) If not defined, is not taken into account. This parameter is optional.
Max. Conference Count	Enter value 10. (Expects unsigned integer including zero). If not defined there is no limit to the number of conferences for this Logical Resource Group. This parameter is optional.
Gateway	
Service-type(s)	Enter value gateway.
Monitoring-Method	Enter values option or none.
load Balance Scheme	Select values round-robin or least-used.
Port Usage Type	Enter value in-and-out.
Capability	Leave this field empty.
Max. Conference Size	This field is disabled.
Max. Conference Count	This field is disabled.
noresource-response-code	Enter value 500;501. Expects a list of unsigned integers, delimited by a semicolon. Corresponds to a SIP response code returned by a gateway when the gateway capacity is reached. The Resource Manager retries other gateway resources when this response is received. This parameter is optional.

8. Click OK.

   The MCPGroup appears in the Logical Groups list as shown in Figure 9.

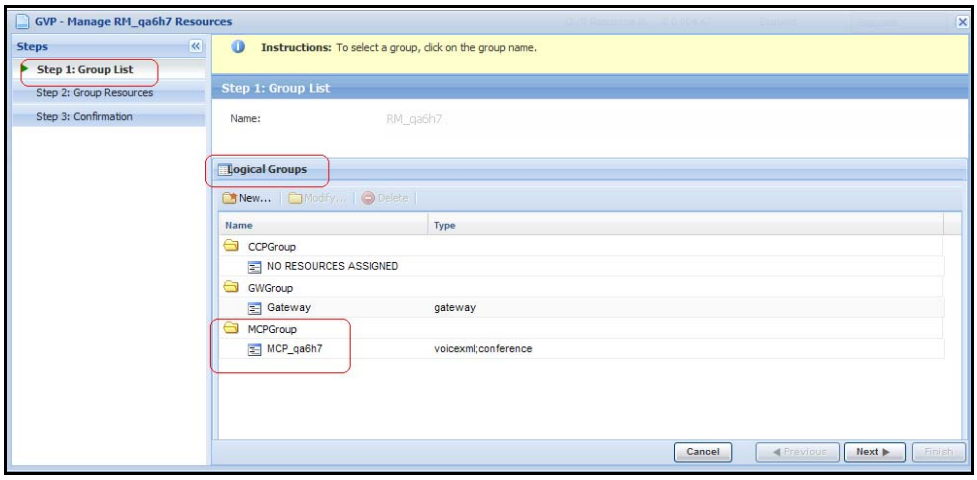

Figure 9: Logical Resource Groups—Resource Management

9. Use one of two methods to add resources to the group:
   - Click `Step 2: Group Resource` or,
   - Highlight the `MCPGroup` and click `Next`.

   A list of resources appears.
10. Click to select the resources you want to add to the group.
11. Enter the `Address of Record (AOR)` and the maximum number of ports (`Max.Ports`) for this resource as shown in Table 29.

Table 29: Logical Group Resource Parameters

Name/Value pair	Description
`aor=sip:<00.00.00.00>:5060`	Address of Record = SIP resource: <IP address>:<port number>. Each Address of Record (AOR) must include a `sip` or `sips` prefix—for example, `sip:10.0.0.100:5060` or `sips:10.0.0.100:5060`.
`port-capacity=100`	Port Capacity = the port capacity of the SIP resource—in this example, `100`.

Note: If you create a Logical Resource Group for Gateway services, the Address of Record (AOR) IP address must be the IP address of the gateway resource that interacts with the RM. The interaction can be an inbound call to the Resource Manager or an outbound request from the Resource Manager to the gateway.

12. Click `Next`.
13. To confirm the group is complete, click `Finish`.
14. Repeat steps 3 to 13 to create additional `Logical Resource Groups` using the options in Table 28 on page 101 for each service type.

Note: For a complete list of parameters that can be configured for the Resource Manager, see the `Settings` tab of the `Resource Manager Application` object properties.

End of procedure

Next Steps

- Continue with the post installation activities for the Resource Manager. See "Setting up IVR Profiles and Dialed Number Mapping".

Setting up IVR Profiles and Dialed Number Mapping

IVR Profiles are VoiceXML and CCXML applications. GVP uses these applications to control interactions that use Dialed Numbers (DNs) and provides service for them. You can create as many IVR Profiles as required in your environment.

Dialed numbers are the DNs obtained from the Dialed Number Identification Service (DNIS). The Resource Manager can be configured to obtain DNIS information from SIP Server.

If GVP is configured to map of IVR Profiles to DNs, the Resource Manager uses DNIS to determine which IVR Profile to invoke for the session.

If GVP is not configured to map of IVR Profiles to DNs, the Resource Manager uses a default IVR Profile that is specified for the Environment tenant.

This section includes the following procedures:

- Creating IVR Profiles in the Resource Manager, page 104
- Mapping IVR Profiles to Dialed Numbers, page 107
- Adding the Environment Tenant in the Resource Manager, page 109
- Updating the Environment Tenant data, page 110

Procedure: Creating IVR Profiles in the Resource Manager

Purpose: To create an IVR Profile in Genesys Administrator for the `Resource Manager Application` object.

Prerequisites

- The GVP components are installed. See Importing Installation Packages into the Repository, page 127.

Start of procedure

1. Log in to Genesys Administrator.
2. On the Provisioning tab, select Voice Platform > IVR Profile.
3. Click New to create a new object.

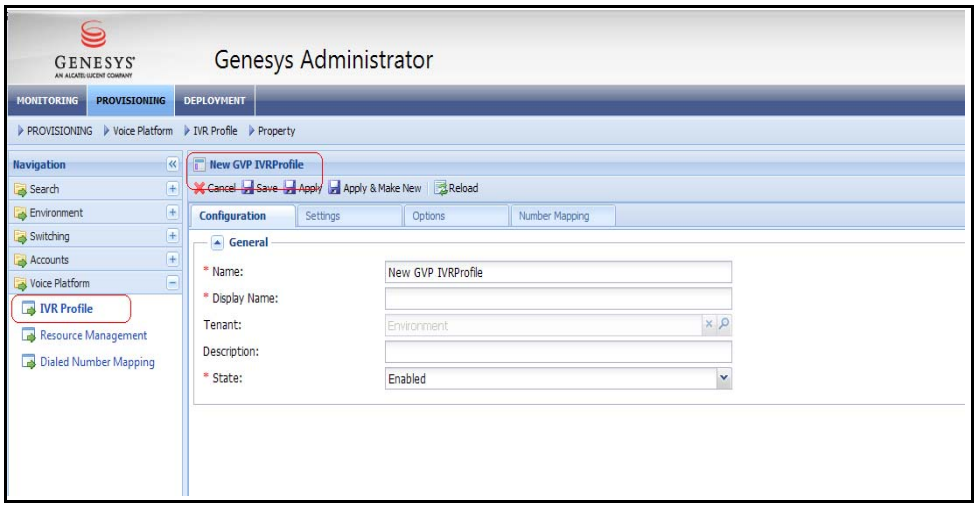

Figure 10: New IVR Profile

4. In the Name and Display Name fields, enter a name for the IVR Profile as shown in Figure 10.
5. On the Settings tab, scroll to the gvp.general section.
6. Enter the Values for the Options as shown in Table 30 on page 105.

Table 30: Option Names and Values—gvp.general section

Option Name	Value
service-type	voicexml
sip.sessiontimer	1800
application-confmaxsize	20

Note: The service-type option is mandatory in an IVR Profile.

7. Click Apply to save the changes.
8. Click Save.

   See Table 31 for other service-type values.

Table 31: IVR Profile Service Types

Service-type	Value
VoiceXML	`VoiceXML`
CCXML	`CCXML`
Conference	`Conference`

Note: IVR services are provisioned based on the type of functionality the application is going to use. The service-type field in the IVR Profile specifies which service to invoke.

End of procedure

Next Steps

- Set up Dialed Number Mapping. See Mapping IVR Profiles to Dialed Numbers, page 107.

Mandatory IVR Profile Options

Certain parameters are required to ensure that your IVR Profile functions as you intend it to function. Table 32 on page 106 contains the mandatory name-value pairs for each service-type.

Note: The values for VoiceXML and CCXML in Table 32 are only examples. Enter the values that indicate where the VoiceXML and CCXML Universal Resource Locators (URL) point in your environment.

Table 32: Mandatory Options—gvp.service-prerequisite Section

Service-type	Option Name	Option Value
VoiceXML	`initial-page-url`	`file://<local_MCP_install_dir>\samples\helloaudio.vxml` for example, `file://C:\GVP\VP_MCP\samples\helloaudio.vxml`
	`default-properties-page`	`file://<local_MCP_install_dir>\config\defaults-ng.vxml`
	`alternatevoicexml`	`file://<local_MCP_install_dir>\samples\helloaudio.vxml`

Table 32: Mandatory Options—gvp.service-prerequisite Section (Continued)

Service-type	Option Name	Option Value
CCXML	initial-page-url	Enter the URL to your CCXML page.
Conference	conference-id	3332

Procedure: Mapping IVR Profiles to Dialed Numbers

Purpose: To associate IVR Profiles with DNs so that the Resource Manager Application object can use DNIS to invoke the required GVP services.

Prerequisites

- The IVR Profiles are created.

Start of procedure

1. Log in to Genesys Administrator.
2. On the Provisioning tab, select Voice Platform > IVR Profile.
3. Select the IVR Profile for which you want to map the DNs.
4. Click the Number Mapping tab.
5. In the menu bar of the tab, click New Rule.

   The Specify Dialed Number Mapping Rule dialog box appears as shown in Figure 11 on page 108.

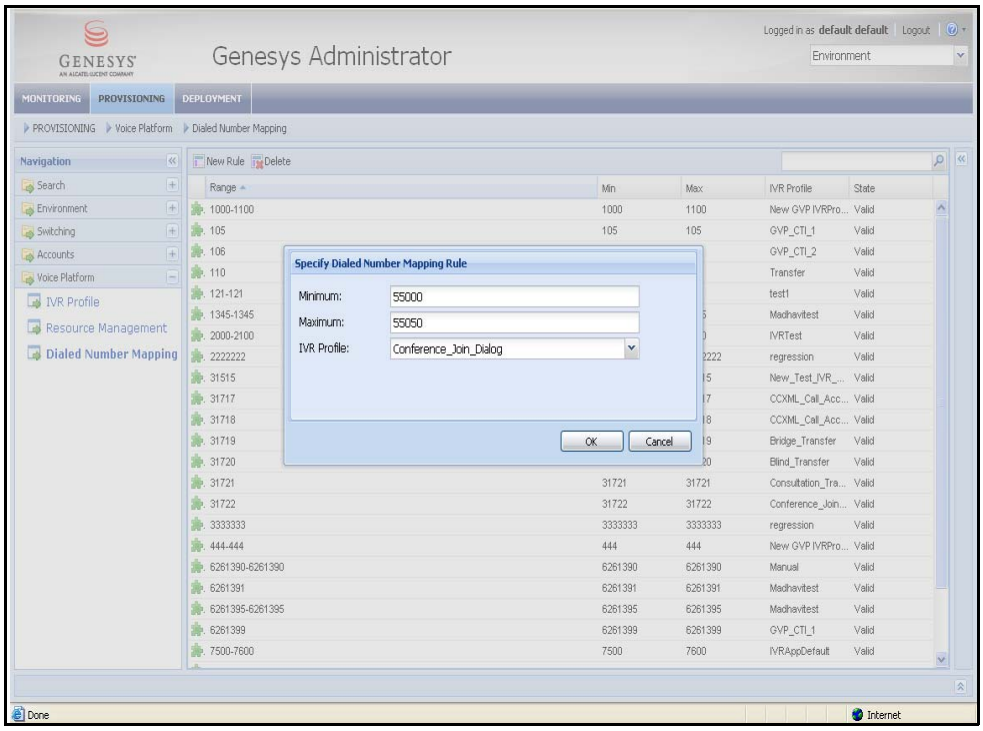

Figure 11: Specify Dialed Number Mapping Rule

6. In the `Minimum` and `Maximum` fields, enter the start and end numbers of the DN range. (For a single DN, enter the same number in each field.)
7. From the IVR Profile drop-down list, select required IVR Profile.
8. Click `OK`.

   The new rule appears in the list of mapping rules on the `Number Mapping` tab. The display also includes `State` column and an icon indicating whether the rule is valid or invalid.

   A range is valid if each DN in the range is not already specified in another mapping rule.
9. To apply the changes, click `Apply`.
10. Click `Save`.

End of procedure

Next Steps

- Add the `Environment Tenant` object to the `Resource Manager Application` object. See Adding the Environment Tenant in the Resource Manager, page 109.

Procedure:
Adding the Environment Tenant in the Resource Manager

Purpose: To add the `Environment Tenant` object, used to create a default IVR application, to the `Resource Manager Application` object.

Summary

This procedure applies only to Multi-tenant Configuration Server deployments. The Environment tenant is not available in Single tenant deployments.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Click the `Resource Manager Application` object that you want to configure.

   The `Configuration` tab appears.
4. In the `Tenants` field of the `Server Info` section, click `Add`.

   A `Browse` dialog box appears.
5. Select `Environment` and click `OK`.

   The `Environment tenant` object appears in the `Tenants` field as shown in Figure 12.

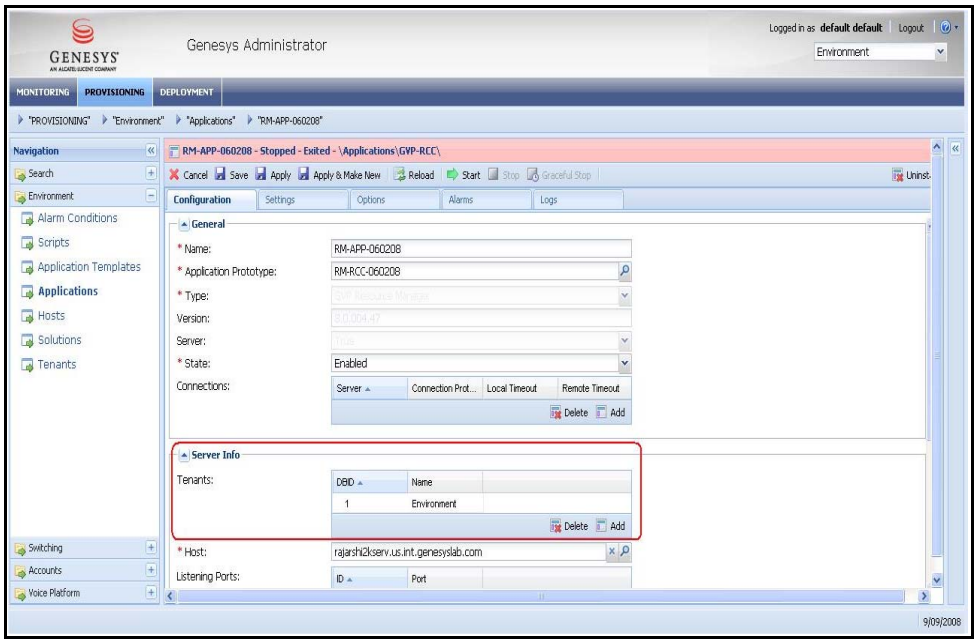

Figure 12: Add Environment Tenant object

6. Click `Save`.

End of procedure

Next Steps

- Update the Environment Tenant Data. See Updating the Environment Tenant data, page 110

Procedure: Updating the Environment Tenant data

Purpose: To configure the Environment Tenant so that calls outside of those specified in the Dialing Plans are accepted. This procedure configures a default IVR application.

Summary

This procedure applies only to Multi-tenant Configuration Server deployments. The Environment tenant is not available in Single tenant deployments.

Prerequisites

- The GVP components are installed. See “Installing the GVP Components” on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Tenants`.
3. Click the `Environment` tenant.
4. On the `Options` tab, create a new section named, `gvp.general`.
5. In the `gvp.general` section, create a new option named, `default-application`.
6. For the `default-application` option, enter the value `IVRAppDefault`.
7. Enter the value for the remaining option in `Section: gvp.general` as shown in Table 33.
8. Scroll to `gvp.policy` section and enter the value for the option as shown in Table 33.
9. Scroll to `gvp.dnis-range` section and enter the values for the options as shown in Table 33.

Note: The default-application option is mandatory for a Tenant.

Table 33: Section, Name, and Values—GVP options

Section	Name	Value
gvp.general	default-application	IVRAppDefault
	sip.sessiontimer	1800
gvp.policy	usage-limits	100
gvp.dnis-range	range3	3500-3505;VXMLApp1
	range4	3602;VXMLMusic
	range5	4100-4110;VXMLApp2
	range6	5000-5010;CCXMLApp1
	range7	5109;CCXMLApp2

Note: The gvp.dnis-range values in Table 33 are examples only and are not required. Replace these values with values that represent the DNIS ranges for your environment, if necessary.

10. Click Apply to save the changes.
11. Click Save.

End of procedure

Next Steps

- Complete the post installation activities for the Reporting Server. See "Configuring the Reporting Server User Interface and Options".

IVR Profile and Environment Tenant Parameters

The gvp.log, gvp.log.policy, and gvp.policy.dialing-rules sections can be further defined with many more supported parameters. For a complete list of these parameters, check the Settings tab of the Application object template.

Configuring the Reporting Server User Interface and Options

When Genesys Administrator is installed, the Reporting Server User Interface (RPTUI) is also installed; however, some parameters in the default Application object (or Configuration Server object), such as port numbers,

authentication, and HTTP settings can be configured to better suit your environment.

In addition, a connection to Reporting Server must be created in the `default Application` object to ensure that the RPTUI functions properly. The RPTUI discovers the Reporting Server host based on this connection. Furthermore, the data reporting limits that are configured in the Reporting Server `Application` object (in `Section: reporting`) are read and enforced by the RPTUI. See "**Next Steps**" in the procedure, Configuring the Reporting Server user interfaces, page 112.

Finally, the Reporting Server logging and messaging parameters are configured so that the monitoring and reporting functionality perform as intended.

Note: The RPTUI and the logging and messaging parameters are configured with default values during the installation of the Reporting Server. Therefore, unless your environment is better served by manually changing the configuration, the only requirement is to create the connection to Reporting Server in the `default Application` object. See "Connecting to a Server" on page 89.

This section contains the following procedures for the `default Application` object and the `Reporting Server Application` object:

Procedure: Configuring the Reporting Server user interfaces

Purpose: To configure the `default Application` object to ensure the Reporting Server user interfaces are exposed and to create the connection to the Reporting Server.

Prerequisites

- Genesys Administrator is installed and fully functional. See *Framework 8.0 Deployment Guide*.
- The Reporting Server is installed and started. See "Installing the GVP Components" on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Click the `default Application` object.

4. On the Settings tab, click the Reload drop-down list to filter the section you want to configure.
5. From the drop-down list, select GVP Reporting.

   The list of Settings is filtered and all of the rptui section options appear.
6. Retain or modify the values for the options in the rptui section as shown in Table 34.

Table 34: default Application object—Settings tab

Option	Value
enablehttps	Retain the http default value, false.
httpport	Retain the default port value, 8080 or Enter a port number from 1030 to 65535.
httptimeout	Retain the timeout value, 30 or Enter any value greater than 0.
username	Enter a username to enable the web server for authentication.
password	Enter a password to enable the web server for authentication.
tzoffset	Retain the time zone offset value, -00:00 or Enter a value in the format shh:mm, where s is either a plus (+) or minus (-), hh represents hour, and mm represents minutes.
dsthours	Retain the default value 01:00 or Enter a value in the format shh;mm, where s is either a plus (+) or minus (-), hh represents hour, and mm represents minutes.
localtimeformat	Retain the default value true to display the datetime fields in local time format, or Enter false to display the datetime field in Greenwich Mean Time (GMT).

Note: Click on any option in the Settings tab for a detailed description and the default value.

7. Click Save to retain the configuration.

End of procedure

Next Steps

- In the `default Application` object, create a connection to the Reporting Server. See Creating a connection to a server, page 89.
- Configure the logging and messaging options in the `Reporting Server Application` object. See Configuring Reporting Server logging and messaging options, page 114.

Procedure: Configuring Reporting Server logging and messaging options

Purpose: To configure the logging and messaging options in the Reporting Server.

Prerequisites

- The GVP components are installed. See “Installing the GVP Components” on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Click the `Reporting Server Application` object.
4. On the `Settings` tab, scroll to the `log` section.
5. Click the `Value` field for the `debug` option.
6. Enter `stdout, c:\Programs\<Tomcat_Install_Root>\webapps\ems-rs`

   where `<Tomcat_Install_Root>` is the directory where Jakarta Tomcat is installed.
7. Click `Apply`.
8. Repeat steps 4 to 7 and enter the remaining values in the `Log` section as shown in Table 35.
9. Scroll to the `messaging` section, and enter the value from Table 35 for this section.
10. Scroll to the `transaction` section, and enter the values from Table 35 for this section.

Table 35: Reporting Server Options—Settings tab

Section	Option	Value
log	message_format	Complete Headers
	standard	stderr
	time_format	HH:MM:SS:ss (hours, minutes, seconds and milliseconds)
	verbose	standard
messaging	activemq.dataDirectory	<Reporting_Serv_Dir>\data\activemq
transaction	atomikos.log.dir	<Reporting_Serv_Dir>\logs
	atomikos.working.dir	<Reporting_Serv_Dir>\data\Atomikos

11. Click Save.

End of procedure

Next Steps

- Create a database for the Reporting Server. See "Creating the Reporting Server Databases" on page 115.

Creating the Reporting Server Databases

The GVP 8.0 Reporting Server requires one of two supported relational database systems is installed—Microsoft SQL Server 2005, SP2 or Oracle 10 g. The database and the Reporting Server can share a host or you can install the database on a separate host. This section describes how to create the GVP reporting database schema.

Before You Begin

Genesys recommends that the GVP Reporting Server is installed before you or your database administrator create a database in your Database Management System (DBMS).

Ensure that a fully functional instance of the Microsoft SQL Server, SP2 or Oracle 10 g exists in your deployment.

Note: This section describes the creation of the database schema only. The setup of the Microsoft SQL Server or Oracle 10 g instances is outside the scope of this document. For information about setting up these instances, check the vendor documentation.

Setting Up the Database

This section provides the following generic procedures to create the database schemas:

- Setting up a database for the Reporting Server, page 116

Table 36 on page 116 contains the paths to the scripts used to create the respective database schemas.

Table 36: Database Script Files

Script File	Default Path
mssql_schema.sql	<Reporting_Serv_Install_Dir>\scripts
oracle_schema.sql	<Installation_Directory>\Program Files\GCTI\gvp\VP Reporting Server 8.0\RS_MSSQL38\scripts

Procedure: Setting up a database for the Reporting Server

Purpose: To create a database and schema for the Reporting Server.

Summary

The Reporting Server databases must be set up to support XA transactions—by default, Microsoft SQL Server does not. Instructions are available on the Microsoft web site that describe how to set up support for XA in SQL Server.

Many query tools can be used by SQL Server and Oracle 10 g to execute SQL scripts. For example, Management Studio is included in Microsoft SQL Enterprise edition and Oracle SQL Developer is available on the Oracle web site.

Microsoft cumulative update packages for SQL Server contain the most recent hot fixes and security fixes. Ensure that the hot fix listed as a prerequisite for this procedure is included in the Service Pack you have installed.

Prerequisites

- Microsoft SQL hot fix build 3175 must be installed.

- Microsoft SQL Server 2005, SP2 is set up to support XA transactions.
- Microsoft SQL Server Management Studio development tool is installed on the SQL Server.
- Sun JDK 6, Update 5 is installed.

Note: If the database and Reporting Server are sharing a host, ensure that the Tomcat application server (a prerequisite for the Reporting Server) is not set to run automatically. When installing Tomcat, users should select `No` for this option when prompted by the installation wizard.

Start of procedure

1. In the directory where Reporting Server is installed, open the `scripts` folder.

   See Table 36 for the list of DBMS and the corresponding name and location of the initialization script files.
2. Open the folder that matches your database type.
3. Load and execute the initialization script that corresponds to your DBMS.

End of procedure

Next Steps

- No further steps are required.

Chapter

7 Maintaining GVP

This chapter describes how to stop, start, and uninstall Genesys Voice Platform (GVP) components.

It contains the following sections:

Starting and Stopping GVP

Use Genesys Administrator to safely and easily start, stop, and gracefully stop each of the GVP components or a `GVP Solution` object. A graceful stop causes the `Application` or `Solution` object to stop accepting new requests, and finish processing those requests that it currently has in its queue.

This section contains the following procedures:

Procedure: Starting and stopping GVP Solution objects

Purpose: To describe the ways in which you can start or restart the `GVP Solution` objects.

Prerequisites

- The GVP components are installed. See “Installing the GVP Components” on page 70.
- A `Solution` object is created. See Creating a Resource Solution object, page 83.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Solutions`.
3. Select the `Solution` object you want to start.
4. In the `Tasks` panel, click the `Runtime` section down arrow.

   The section opens to display the start and stop options as shown in Figure 13.
5. Select one of these three options; `Start`, `Stop`, or `Graceful Stop`.

End of procedure

Next Steps

- No further steps are required.

Figure 13: Task Panel—Stop/Start Solution

Procedure:
Starting and stopping GVP Application objects

Purpose: To describe the ways in which you can start or restart the `GVP Application` objects.

Prerequisites

- The GVP components are installed. See “Installing the GVP Components” on page 70.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Select the `Application` object you want to start or stop.

4. In the Tasks panel, click the Runtime section down arrow as shown in Figure 14.

   A list of options appear.

5. Select one of three options; Start, Stop, or Graceful Stop.

End of procedure

Next Steps

- No further steps are required.

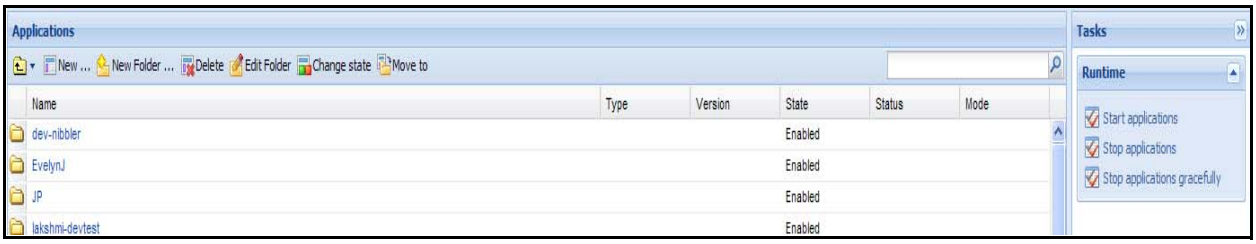

Figure 14: Task Panel—Stop/Start Application

Uninstalling GVP Components

You must uninstall the GVP components one at a time, and in the reverse order of installation. Before you begin to uninstall the Application objects, ensure that they are stopped by using the Stop applications gracefully option in Genesys Administrator.

Note: If you used the installation sequence in the Task Summary table in Chapter 3, "Deployment Task Summary," on page 51, use the reverse sequence to uninstall GVP.

Procedure: Uninstalling GVP components manually

Purpose: To uninstall the GVP manually one component at a time.

Summary

You must uninstall each component while you are logged on to the host machine.

Prerequisites

- The `Application` objects to be uninstalled are stopped by using the `Stop applications gracefully` option in Genesys Administrator. See Starting and stopping GVP Application objects, page 120.

Start of procedure

1. From the Start menu, select `Control Panel > Add/Remove Programs`.
2. Select the appropriate GVP component from the list of currently installed programs.
3. Click `Remove`.
4. When the uninstall is complete for each of the GVP components, restart the machine.

End of procedure

Next Steps

- There are no further steps required.

Part

3 Appendixes

This part of the *Deployment Guide* contains miscellaneous information in the following appendixes:

:

Appendix

A Installing GVP Using the Deployment Tool

This appendix describes how to deploy and provision the Genesys Voice Platform (GVP) using the Genesys Administrator Deployment tool.

It includes a task summary of various deployment tasks for a GVP installation using the Deployment tool, and provides links to detailed information about the required tasks.

This appendix contains the following sections:

Task Summary

Before you begin to deploy the Genesys Voice Platform, ensure that you have prepared the GVP hosts for installation and that the pre-installation activities are completed. Use the Task Summary in Table 37 to guide you in the order of tasks to complete.

Note: Install GVP components on a host separate from the Genesys Administrator web server host. Installing some GVP components can stop the web server momentarily. If the web server does not run continuously, the Genesys Administrator Deployment tool indicates the deployment is incomplete.

Table 37 on page 126 summarizes the steps that are required to install GVP in a Windows environment, using the Genesys Administrator Deployment tool.

Table 37: Task Summary—Installing GVP with the Deployment Tool

Objective	Related Procedures and Actions
Plan the deployment.	For specific restrictions and recommendations to consider, see "Host Setup" on page 45.
Prepare your environment.	For the tasks required to prepare you environment, see Table 9 on page 51.
Prepare the GVP host(s).	For the tasks required to prepare the GVP host(s), see Table 9 on page 51.
Stop antivirus software that may be running on systems that will host GVP components.	For information about how to configure the antivirus software, check the vendor documentation.
Install GVP.	1. Import the GVP Installation Packages into the Deployment tool Repository. See Importing Installation Packages into the Repository, page 127.
	2. Create a Deployment Scenario that contains a `GVP Solution` object. See Populating a deployment Scenario, page 130.
	3. Validate the Deployment Scenario before the `GVP Solution` object is installed. See Validating the deployment Scenario, page 132.
Perform the post-installation activities:	For the post-installation activities to provision the GVP components for the functionality you want use in your deployment, see Table 9 on page 51.
Set up the Reporting Server database.	Install the database. See "Creating the Reporting Server Databases" on page 115. For supported databases and versions, see "Prerequisites" on page 42.

Installing GVP in Genesys Administrator

In Genesys Administrator, the Genesys Voice Platform (GVP) components are deployed all at once as a `Solution` object or individually by choosing one or more GVP Installation Packages.

Using the Deployment Tool

When the Genesys Administrator Deployment tool is used to deploy GVP the Installation Packages are imported to the Genesys Administrator Repository and are used to populate a deployment Scenario. The Scenario contains the GVP `Application` objects—selected from the Genesys Administrator Repository—that make up a `Solution` object. Each component in the `Solution` object is assigned to a host and is validated before installation. You can create a new Scenario, select a pre-existing Scenario, or select a single Installation Package from the Repository and deploy it by using a drag-and-drop method.

Before You Begin

Before you begin the deployment, ensure that there are no previous instances of the components on the target host(s). If there is a previous instance of a component present on the host, the deployment fails, but the error message indicates `Command Executed Successfully.` In fact, the command that is executed is an uninstallation process and the component is no longer installed.

In addition, when you populate a deployment Scenario, ensure that the Fetching Module is first in the list of components. The Fetching Module must be installed before the Media Control Platform and the Call Control Platform. If the Fetching Module is already installed on the host(s), do not include it in the Scenario.

This section contains the following procedures:

- Importing Installation Packages into the Repository on page 127
- Populating a deployment Scenario on page 130
- Using an existing Scenario to deploy GVP on page 131
- Validating the deployment Scenario on page 132

Procedure: Importing Installation Packages into the Repository

Purpose: To import the Installation Packages into the Repository before installing GVP as a `Solution` object with all components on a single host with basic configuration.

Prerequisites

- Management Framework is installed using the Multi-tenant Configuration Server and is fully operational. See the *Framework 8.0 Deployment Guide*.
- Jakarta Tomcat 6.0.16, and Sun JDK 6, Update 5 are installed on the Reporting Server host.
- A new host is added in the Configuration database for each GVP host. See Adding a new GVP host in Genesys Administrator, page 60.
- The LCA is installed on the GVP host(s). See Installing the Local Control Agent on a GVP host, page 61.
- The Squid caching proxy is installed on the Media Control Platform and Call Control Platform. See Installing the Squid caching proxy, page 70.

Start of procedure

1. Log in to `Genesys Administrator`.
2. On the `Deployment` tab, click `Repository` > `Installation Packages` > `Import`.

   The `Installation Packages Import Wizard` dialog box appears as shown in Figure 15.

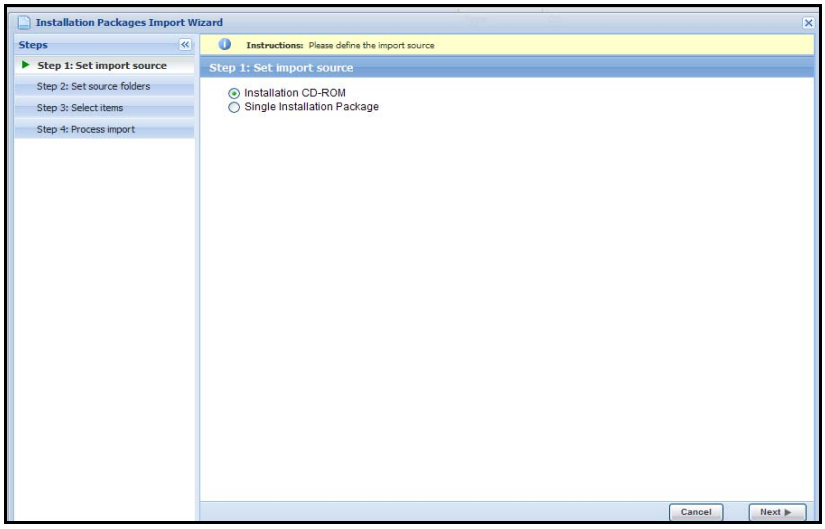

Figure 15: Genesys Administrator Installation Packages Import Wizard

3. If you choose `Installation CD ROM`:
   a. Click `Next`.
   b. In the `CD Source` field, enter the path,
      - To the folder that contains the `CDInfo.xml` file or,
      - To the network directory that contains the `CDInfo.xml` file.

Note: When you enter the path to a network directory, do not include a mapped drive letter with a $ symbol. Enter the path without the drive letter—for example, \\Installation_Pkgs\gvp80\.

c. Click Next.

The Installation Packages Repository appears in the Step3: Select Items dialog box.

d. Select the Installation Package that you want to import.

e. Click Next.

The Step 4: Process import dialog box appears with a progress bar as the wizard begins to import the package.

f. After the Installation Package is imported, click Finish.

g. Repeat steps 2 to 9 to import additional Installation Packages.

4. If you choose Single Installation Package:

a. Click Next.

b. In the IP Source field, enter the path,

- To the folder that contains the ip_description.xml file or,
- To the network directory that contains the ip_description.xml file.

c. In the Template Folder field, enter the path,

- To the Templates folder on the CD or,
- To the Templates folder in a network directory.

d. Click Next.

The Installation Packages Repository appears in the Step3: Select Items dialog box.

e. Select the Application object template that you want to install.

f. Click Next.

The Step 4: Process import dialog box appears with a progress bar as the wizard begins to import the package and template.

g. After the Installation Package is imported, click Finish.

h. Repeat steps 2 to 9 to import additional Installation Packages.

End of procedure

Next Steps

- Populate a deployment Scenario. See Populating a deployment Scenario, page 130.

Procedure:
Populating a deployment Scenario

Purpose: To populate a Scenario to include all of the Application objects required for your deployment.

Summary

This procedure describes how to install the GVP components as a Scenario on a single host, however, you can include more than one Media Control Platform or Call Control Platform component to your deployment scenario.

Note: Genesys supports only one instance of an Application object per host—for example, if you are deploying two Media Control Platform components, they must be deployed to separate hosts.

Prerequisites

- The Installation Packages have been imported to the Repository. See Importing Installation Packages into the Repository, page 127.

Start of procedure

1. In the Navigation panel, click Deploy > Deploy GVP.
2. In the Deployment Scenario panel, click Add Application.
3. In the Select application dialog box, select the Application objects you want to add to the Scenario.

   Note: To select multiple Application objects at once, hold down the Ctrl key on your keyboard and click to highlight each Application object you want to add to the Scenario. Ensure the Fetching Module is first in the list of components.

4. Click Add.

   The Application objects appear under the Solution object as shown in Figure 16.

5. Select the Scenario or a single Application object; drag and drop it on the target host.

   The Scenario or Application object appears under the target host.

   Note: If you have targeted an incorrect host, highlight the incorrect host and select Reassign. The Scenario or Application object moves back to the Scenario pane.

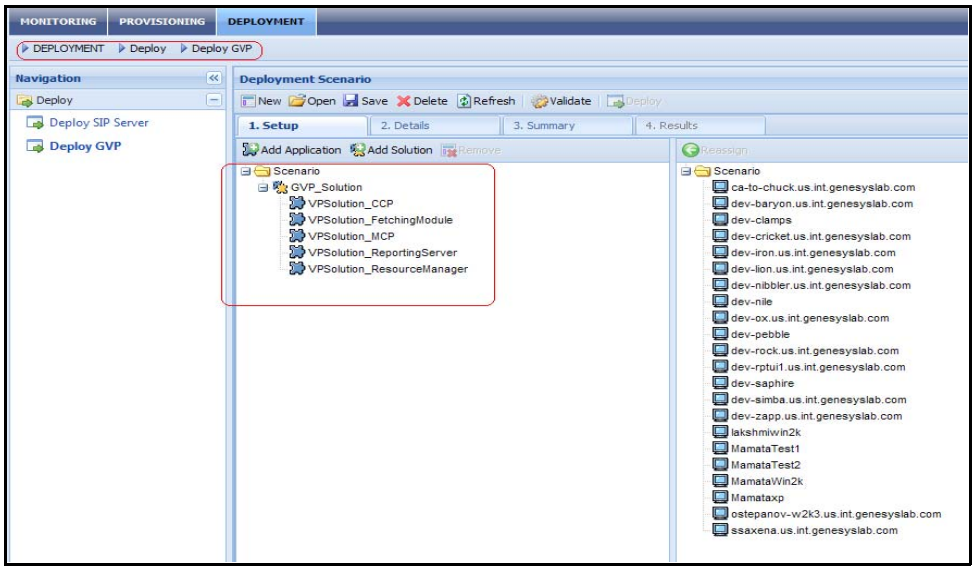

Figure 16: GVP Deployment Scenario

End of procedure

Next Steps

- Validate the deployment `Scenario`. See Validating the deployment Scenario, page 132.

Procedure: Using an existing Scenario to deploy GVP

Purpose: To deploy GVP by using an existing `Scenario`.

Summary

If a `Scenario` exists and is already populated with all of the Installation Packages you require, it can be used to deploy GVP.

Prerequisites

- Management Framework is installed and fully operational. See the *Framework 8.0 Deployment Guide.*
- Jakarta Tomcat 6.0.16, and Sun JDK 6, Update 5 are installed on the Reporting Server host.
- A new host is added in the Configuration database for each GVP host. See Adding a new GVP host in Genesys Administrator, page 60.
- The LCA is installed on the GVP host(s). See Installing the Local Control Agent on a GVP host, page 61.

- The Squid caching proxy is installed on the Media Control Platform and Call Control Platform. See Installing the Squid caching proxy, page 70.

Start of procedure

1. In the Navigation panel, click Deploy > Deploy GVP.
2. In the Deployment Scenario panel, click New.

   A New deployment scenario dialog box appears.
3. Click Yes.
4. In the Deployment Scenario pane, select the Scenario you want to use and drag and drop it on the target host.

   The Scenario appears under the target host.

Note: If you have targeted an incorrect host, highlight the incorrect host and select Reassign. The Scenario moves back to the Scenario pane.

End of procedure

Next Steps

- Validate the deployment Scenario. See Validating the deployment Scenario, page 132.

Procedure: Validating the deployment Scenario

Purpose: To validate the deployment Scenario to ensure the connections are active before installation occurs.

Prerequisites

- A deployment Scenario is populated. See Populating a deployment Scenario, page 130.

Summary

The Deployment tool validates only those components in the Solution object that are assigned to a host. If you have components in the Solution object that are not assigned, remove them before validation.

Start of procedure

1. In the Navigation panel, click Deploy GVP > Validate.

   The Deployment Scenario Validation Wizard appears with heading VPSolution_CCP in the right panel.

2. Enter the information from Table 38, clicking `Next` after each entry.

   See Figure 17 on page 134 for an example of the `VPSolution Reporting Server` panel with fields populated.

Table 38: Deployment Scenario Validation Wizard

Panel	Field	Description and Value
`VPSolution_FM`	`workDirectory`	Enter the path to the installation directory for the Fetching Module—for example, `<Installation_Directory>\fm\bin`.
`VPSolution_CCP`	`workDirectory`	Enter the path to the installation directory for the Call Control Platform—for example, `<Installation_Directory>\ccp\bin`.
	`Host`	Enter the host name for the Reporting Server.
	`Port`	Enter the port number for the Reporting Server—typically `61616`.
`VPSolution_MCP`	`workDirectory`	Enter the path to the installation directory for the Media Control Platform—for example, `<Installation_Directory>\mcp\bin`.
	`InstallMode`	From the drop-down list: • Select `mulaw` in North America or, • Select `alaw` in Europe.
	`Host`	Enter host name for the Reporting Server.
	`Port`	Enter the port number for the Reporting Server—typically `61616`.
`VPSolution_ReportingServer`	`workDirectory`	Enter the path to the installation directory for the Reporting Server—for example, `<Installation_Directory>\rs\bin`.
	`JavaPath`	Enter the path to the installation directory for the Java Runtime Environment on the local host—for example, `C:\j2sdk1.4.2_07\jre`.
	`Engine`	Select the database engine that you are using in your deployment—for example, `MSSQL`:
	`ServerName`	Enter the database server name.
	Host	Enter the host name of the server that is hosting the database.
	`Port`	Enter the port number for the database server—typically `1433`.
	`User`	Enter a user name for authentication—typically `sa`.
	Password	Enter a password for authentication—typically `password`.

Table 38: Deployment Scenario Validation Wizard (Continued)

Panel	Field	Description and Value
VPSolution_ReportingServer (continued)	Port	Enter the port number for the Reporting Server—typically 61616.
VPSolution_ResourcManager	workDirectory	Enter the path to the installation directory for the Resource Manager—for example, <Installation_Directory>\rm\bin.
	Host	Enter the host name for the Reporting Server.
	Port	Enter the port number for the Reporting Server—typically 61616.

3. Click Next.

   The Validation complete heading appears in the right panel.

4. To exit the wizard, click Finish.

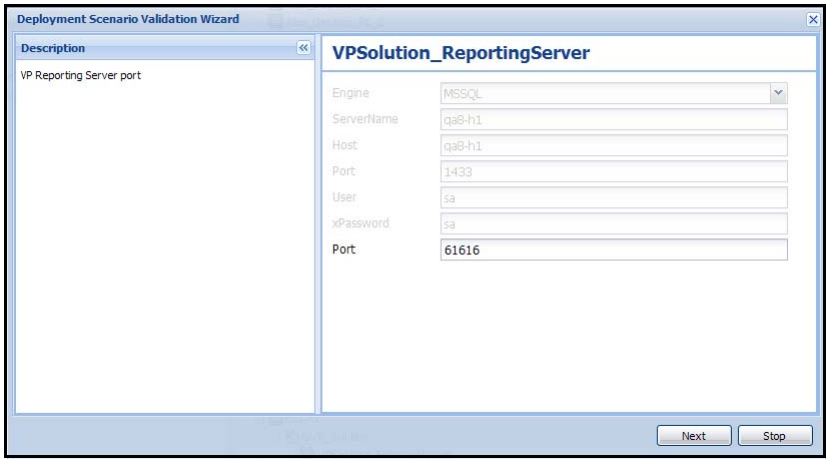

Figure 17: Validation Wizard—Reporting Server panel

5. After the validation is complete, click Save.

   The Save Deployment Scenario dialog box appears.

6. In the File name field, enter a file name for the Scenario.
7. Click Save.
8. To verify that the information for the deployment is correct, click the Details tab.
9. If anything is changed in the Scenario at this point, validate the deployment again.

10. When you are satisfied that the Scenario is correct, click `Deploy`.

    The `Results` tab appears with a progress bar (see Figure 18 on page 135).

    The Deployment tool delivers the `Installation Packages` to the target host(s) and installs the components, which are then configured in Configuration database.

11. After the deployment is complete, click the `Summary` tab to view a summary of the `Application` objects configuration.

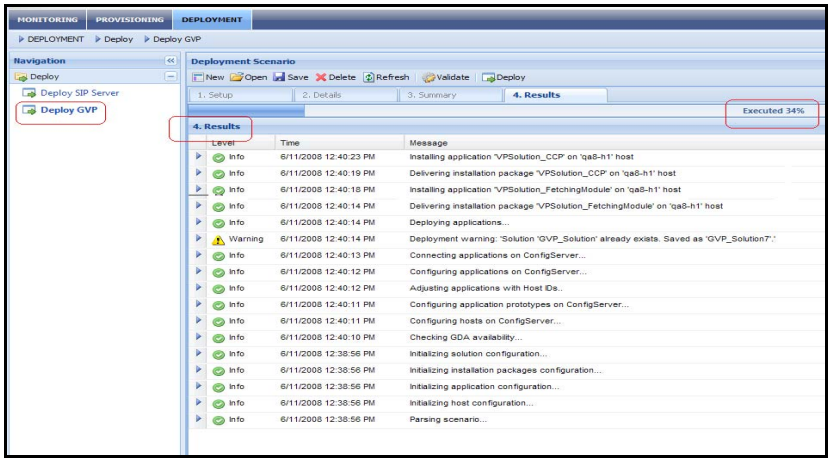

Figure 18: Results Tab of Deployment Tool

End of procedure

Next Steps

- Complete the Post Installation procedures. See Chapter 6, “Post-Installation Activities on the GVP Hosts,” on page 81.

Appendix

B NLB Clustering for Resource Manager

This appendix describes how to configure the Genesys Voice Platform (GVP) Resource Manager hosts, and Genesys Management Framework to create a Network Load Balancing (NLB) cluster.

It contains the following sections:

Overview

When the Resource Manager is clustered, the Resource Manager function is distributed over more than one computer. Incoming IP traffic is load-balanced across NLB clusters to achieve high availability and scalability. The management capabilities and computing power of the Resource Manager are increased by adding more processors or hosts to the cluster.

Clusters prevent single point-of-failure and provide immediate failure recovery, which enhances availability. In addition, an administrator manages the cluster as a single system locally or remotely.

NLB Clustering Service

This section describes how to create an NLB cluster on the Resource Manager hosts and create the `Cluster Manager Application` object in the Configuration database by using the following procedures:

- Configuring cluster mode in the Resource Manager, page 143
- Configuring the INIT and NLB script files, page 144
- Specifying the NICs for monitoring, page 146

Before You Begin

Before you begin the procedures in this section, ensure the Resource Manager hosts:

- Are configured and fully functional in stand-alone mode.
- Reside on the same subnet.
- Each have at least two Network Interface Cards (NIC) configured with unique IP addresses (within the same subnet).

In addition, allocate a virtual IP address to be used in the procedure, "Setting up an NLB cluster".

Note: SNMP MIBs function properly when there is only one instance of a GVP component on a host. Using the SNMP MIBs on a server that is hosting more than one instance of the Resource Manager is not recommended.

Procedure: Setting up an NLB cluster

Purpose: To set up an NLB cluster by configuring Windows.

Summary

Perform this procedure on each of the Resource Manager hosts in the NLB cluster:

Prerequisites

- The Resource Manager hosts conform to the prerequisites for Windows. See "Prerequisites" on page 42.
- Management Framework is installed, and fully functional. See *Framework 8.0 Deployment Guide.*

Start of procedure

1. At the Windows `Start` menu, click `Control Panel > Network Connections`.
2. Right-click the `Local Area Connection` that will be used for NLB clustering.

3. Select Properties.

   The General tab of the Local Area Connection appears.

4. In the list of services:
   - Ensure that Network Load Balancing is selected or,
   - If NLB is not in the list, click Install > Service > Network Load Balancing.

5. With Network Load Balancing highlighted on the General tab, click Properties.

6. Enter the information in Table 39 to configure the Cluster Parameters and Host Parameters tabs.

Table 39: Properties of NLB service

Section	Field	Description
Cluster Parameters		
Cluster IP configuration	IP Address	Enter the virtual IP address for this cluster.
	Subnet mask	Enter the subnet mask for your network.
	Full Internet name	Enter the Fully Qualified Domain Name (FQDN) associated with the virtual IP address.
Cluster operation mode	Unicast	Click the radio button to enable.
Allow remote control (ensure that this is checked)	Remote password	Enter root1 for the remote password.
	Confirm password	Enter root1 to confirm the password.
Host Parameters		
Priority (unique host identifier)		Enter 1 for the first Resource Manager host in the cluster. Enter 2 for the second Resource Manager host in the cluster.
Dedicated IP configuration	IP address	Enter the IP address associated with this Local Area Connection.
	Subnet mask	Enter the subnet mask for the network.
Initial host state	Default state	From the drop-down list, select Started.
	Retain suspended state after computer starts	Leave the check box empty.

Table 39: Properties of NLB service (Continued)

Section	Field	Description
Initial host state (continued)	Single host	Leave empty.
	Disable this port range	Leave empty.

7. On the Port Rules tab, click Add.

   The Add/Edit Port Rule dialog box appears.

8. Enter the information for the Port rules as shown in Table 40.

Table 40: Add/Edit Port Rule

Section	Field	Description
Cluster IP address		Enter a check mark to select All.
Port range	From	Accept the default, 0.
	To	Accept the default, 65535.
Protocols		Select Both.
Filtering mode	Multiple hosts	Click the radio button to enable.
	Affinity	Click the radio button to select None.
	Load weight	Enter a check mark to select Equal.
	Single host	Leave empty.
	Disable this port range	Leave empty.

9. Click OK to save the port rules.
10. Click OK to save the changes to the NLB properties.
11. On the General tab, highlight Internet Protocol (TCP/IP).
12. Click Properties.
13. Verify that the settings on the General tab are those associated with this Local Area Connection.
14. Click the Advanced tab.
15. The Advanced TCP/IP Settings dialog box appears.
16. In the IP addresses field, verify:
    - That the first IP address is the one associated with the Local Area Connection and
    - That the second IP address is the virtual IP address.
17. Click OK to save the settings.

18. Click OK to close the Local Area Connection Properties dialog box.
19. Reboot the computer.

End of procedure

Next Steps

- Create a Cluster Manager Application object. See Creating a Cluster Manager Application object, page 141.

Procedure: Creating a Cluster Manager Application object

Purpose: To create the Cluster Manager Application objects for the Resource Manager host.

Summary

Create a Cluster Manager Application object for each Resource Manager host in the cluster.

Prerequisites

- A Cluster Manager Application object template is imported to the Configuration Database. See Importing Application object templates to the Configuration database, page 63.

Start of procedure

1. Log in to Genesys Administrator.
2. Follow the steps in Creating Application objects in the Configuration database on page 68 to create the Cluster Manager Application objects.
3. In the Server Info section, replace the information for the Working Directory, Command Line, Command line arguments, and Auto Restart fields, with the information shown in Table 41.

Table 41: Cluster Manager Application Object Properties

Field	Description
Working Directory:	Enter <Res_Mgr_Install_Dir>\bin where <Res_Mgr_Install_Dir> is the root of the binary directory.
Command Line:	Enter clustermgr.exe.

Table 41: Cluster Manager Application Object Properties (Continued)

Field	Description
Command line arguments	Enter -host <config-host> -port <config-port> -app <application_name> -lms <Installation Directory>\config\CM_EMSMF.lms where: <config-host> is the name of the host on which the Configuration server resides. <config-port> is the port number for the Configuration server. <application_name> is the name of the Cluster Manager Application object—for example, ClusterMgr1 or ClusterMgr2. <Installation Directory> is the directory where the .lms file is installed.
Auto Restart	Select True to enable.

4. Click Apply to save the configuration data.
5. On the settings tab, enter the mandatory information as shown in Table 42.

Table 42: Cluster Manager Options

Section	Option Name	Value
Cluster	members	Accept default value 1 2.
	member.1	Enter <host_IP_add_1>:9801 where <host_IP_add_1> is the IP address of the first Resource Manager host in the cluster.
	mymemberid	For the Cluster Manager Application object that represents the first Resource Manager host in the cluster, enter My Member ID: 1. For the Cluster Manager Application object that represents the second Resource Manager host in the cluster, enter My Member ID: 2. The first and second Resource Manager hosts must correspond to the first and second Resource Manager hosts that were specified in Table 39 on page 139.
Cluster	member.2	Enter <host_IP_add_2>:9801 where <host_IP_add_2> is the IP address of the second Resource Manager host machine in the cluster.
	NLBScriptPath	Enter <Installation Directory>\bin\NLB.bat where <Installation Directory> is the directory where the NLB.bat file is installed.

> Note: Many other options can be configured for the NLB cluster nodes. For a complete list and description of the available options, see the Settings tab of the Cluster Manager Application object.

6. Click Save.
7. Repeat the steps in this procedure for each Cluster Manager Application object in the cluster.

End of procedure

Next Steps

- Create a connection to the Message Server for each of the Cluster Manager Application objects in the cluster. See Creating a connection to a server, page 89.
- Configure cluster mode in each Resource Manager Application object in the cluster. See Configuring cluster mode in the Resource Manager.

Procedure: Configuring cluster mode in the Resource Manager

Purpose: To configure the Resource Manager Application objects to execute in cluster mode.

Summary

Configure cluster mode on each Resource Manager Application object in the cluster.

Prerequisites

- The Resource Manager Application objects are created and fully functional. See “Before You Begin” on page 138.

Start of procedure

1. Log in to Genesys Administrator.
2. On the Provisioning tab, select Environment > Applications.
3. Select the Resource Manager Application object you want to configure in cluster mode.
4. On the Settings tab, enter the Values for each Option as shown in Table 43.

Table 43: RM Application Object Options

Section	Option	Value
rm	cluster_ip	Enter the virtual IP address for this cluster.
proxy	sip.transport.0	Enter transport0 udp:any:5070.
	sip.transport.1	Enter transport1 tcp:<virtual_IP_cluster>:5070 where <virtual_IP_cluster> is the virtual IP address for the cluster.

5. Click Save.
6. Repeat the steps in this procedure for each Resource Manager Application object in the cluster.

End of procedure

Next Steps

- Configure the INIT.bat and NLB.bat script files.

Procedure: Configuring the INIT and NLB script files

Purpose: To configure the INIT.bat and NLB.bat files with the virtual IP address for the cluster.

Summary

Configure the INIT.bat and NLB.bat files on each Resource Manager host in the cluster.

Prerequisites

- NLB clustering has been set up on the hosts. See Setting up an NLB cluster, page 138.
- The Cluster Manager Application objects are created. See Creating a Cluster Manager Application object, page 141.
- Cluster mode is configured in the Resource Manager Application objects. See Configuring cluster mode in the Resource Manager, page 143.

Start of procedure

1. Open the INIT.bat file in a text editor.

   The INIT.bat file is found in <Res_Mgr_Install_Dir>\bin.

2. In the scripts,

   ```
   wlbs disable 5060 <virtual _ip_addr>:1 /PASSW root1
   wlbs disable 5060 <virtual _ip_addr>:2 /PASSW root1
   ```

   replace `<virtual _ip_addr>` with the virtual IP address—for example:

   ```
   wlbs disable 5060 138.120.84.236:1 /PASSW root1
   wlbs disable 5060 138.120.84.236:2 /PASSW root1
   ```

3. Click `File > Save`.
4. Open the `NLB.bat` file in a text editor.

   The `NLB.bat` file is found in `<Res_Mgr_Install_Dir>\bin`.

5. In the script,

   ```
   wlbs %1 9999 <virtual _ip_addr>:%2 /PASSW root1
   if ERRORLEVEL 1 exit /B 0
   exit %ERRORLEVEL%,
   ```

   replace `<virtual _ip_addr>` with the virtual IP address—for example:

   ```
   .wlbs %1 9999 138.120.84.236:%2 /PASSW root1
   ```

6. Click `File > Save`.
7. Execute the `INIT.bat` and `NLB.bat` files to ensure they are working.

End of procedure

Next Steps

- Specify the NICs you want to monitor. See “Monitoring the NICs in Cluster Mode” on page 145 (optional).

Monitoring the NICs in Cluster Mode

Cluster Manager monitors the Network Interface Cards (NIC) in cluster mode to determine network error instances, such as when a cable is unplugged. If any of the NICs encounter errors, the Cluster Manager considers the network down.

To ensure that the NLB cluster works properly, two NICs must be monitored by Cluster Manager—one with NLB cluster configured and one with the IP address of the host machine.

When there are more than two NICs present in the system and the other NICs are not part of the NLB cluster, it is recommended that you specify the MAC addresses of the NICs that you want to monitor.

Use the steps in Specifying the NICs for monitoring to specify the NICs you want to monitor.

Procedure:
Specifying the NICs for monitoring

Purpose: To specify the NICs that are to be monitored by the Cluster Manager.

Prerequisites

- More than two NICs are configured on the same host and are fully functional.
- Two NICs are configured as part of a cluster. See Setting up an NLB cluster, page 138 and Creating a Cluster Manager Application object, page 141.

Start of procedure

1. Log in to Genesys Administrator.
2. On the `Provisioning` tab, select `Environment > Applications`.
3. Select the `Cluster Manager Application` object you want to configure.
4. On the `Settings` tab, scroll to the `gvp` section.
5. Scroll to the `nic.eth0` option.
6. In the `Value` field, enter the MAC address for the first NIC you want to monitor.
7. Repeat steps 5 to 8, entering these values:
   - `Name` = `nic.eth1`
   - `Value` = the MAC address for the second NIC you want to monitor.
8. Click `Save`.
9. To confirm you have configured the NICs correctly, use the command, `ipconfig/all` to query the MAC addresses of the NICs.

End of procedure

Next Steps

- Execute NLB cluster mode. See "Executing NLB cluster mode".

Executing NLB cluster mode

Before you execute NLB cluster mode:

- Execute the `INIT.bat` file—when you execute this file, load balancing is disabled on all members in the cluster, except Cluster Manager. Once load balancing is controlled by Cluster Manager, it detects the health of the Resource Manager before executing in cluster mode.

- Start one instance of the `Cluster Manager Application` object and one instance of the `Resource Manager Application` object on each host in the cluster.
- Ensure that each host is running different instances of the `Cluster Manager` and `Resource Manager Application` objects—for example, one host is running `ClustMgr1` and `ResMgr1` and another host is running `ClustMgr2` and `ResMgr2`.

Appendix

C External SIP Resources

This appendix describes how to configure the Genesys Voice Platform (GVP) to communicate with external SIP resources.

It is not necessary to configure the Voice Platform Solution (VPS) to include external SIP resources, except under certain conditions. If you have questions about when or how to use external SIP resources in your deployment, contact a Genesys Technical Support Representative for more information.

This appendix contains the following section:

Configuring External SIP Resources

To create a `Application` object for an external SIP resource, you must create an `Application` object in the Configuration Database and the connection that facilitates communication between the external gateway and Resource Manager.

This section contains the following procedures:

Procedure: Creating an Application object for an external SIP resource

Purpose: To create a `External_SIP_Resource Application` object in the Configuration database for an external SIP resource to which calls are routed if the `request-uri` from the platform does not match Gateway services.

Summary

Creation of an External_SIP_Resource Application object in the Configuration database differs slightly from the creation of other Application objects in that, you do not need to import the Application object template as the first step. The Gateway Application object template is imported automatically when the Resource Manager component is deployed and is used to create the External_SIP_Resource Application object.

Prerequisites

- The Resource Manager Application object is installed with basic configuration. See Installing Resource Manager, page 76.

Start of procedure

1. Follow steps 1 to 3 in the procedure, Creating a Gateway Application object in the Configuration database, page 96.
2. In step 4 of that procedure, name the Application object External_SIP_Resource.
3. Follow the remaining steps in the procedure to the end.

End of procedure

Next Steps

- Create a connection in the Resource Manager for the External_SIP_Resource Application object.

Procedure:
Creating a connection for external SIP resource

Purpose: To create a connection to the Resource Manager to facilitate communication with the External_SIP_Resource Application object.

Prerequisites

- The Resource Manager Application object is installed. See Installing Resource Manager, page 76.
- An External_SIP_Resource Application object is created in the Configuration Database. See Creating an Application object for an external SIP resource, page 149.

Start of procedure

1. Follow steps 1 to 5 in the procedure, Creating connections in the Resource Manager Application object, page 98.
2. In step 6 of that procedure, select the `External_Resource Application` object.

   The required fields (those with an asterisk) in `Connection Info` populate automatically.
3. Click `OK`.

   The `External_SIP_Resource Application` object appears under `Connections`.
4. Click `Apply`.
5. Click `Save`.

End of procedure

Next Steps

- Create a Logical Resource Group for components that use external SIP resources. See Creating a Logical Resource Group for external SIP resources, page 151.

Setting up External SIP Resource Types

In Resource Manager, you can set up a resource type by creating a Logical Resource Group that consists of two or more components that need access to a common type of service, such as external SIP resource services.

Multiple resources, that use a common service type, are added to a Logical Resource Group so that the Resource Manager can manage the load-balancing for the resources within that group.

This section contains the procedures for creating a Logical Resource Group for the external SIP resources and the associated service-types for this group.

Procedure: Creating a Logical Resource Group for external SIP resources

Purpose: To combine resources to create a Logical Resource Group for components that use a common service type.

Summary

In this procedure, the common service type for the ExtSIPGroup is External-SIP.

Note: Use the list of options and values in Table 28 on page 101 to configure other types of Logical Resource Group that use a common service-type.

Prerequisites

- The GVP components are installed. See "Installing the GVP Components" on page 70.

Start of procedure

1. Follow steps 1 to 5 in the procedure, Creating a Logical Resource Group, page 100.
2. In step 6 of that procedure, in the Name field, enter the name of the group you want to create—for example, ExtSIPGroup.
3. In the remaining fields, enter the information for the service-type you are configuring, as shown in Table 44.

Table 44: Options for the ExtSIPGroup Logical Resource Group

Option Name	Option Value
External-SIP	
Service-type(s)	Enter value external.
Monitoring-Method	Enter values option or none.
load Balance Scheme	Select values round-robin or least-used.
Port Usage Type	Enter value in-and-out.
Capability	Leave this field empty.
Max. Conference Size	This field is disabled.
Max. Conference Count	This field is disabled.
noresource-response-code	Enter value 500;501. Expects a list of unsigned integers, delimited by a semicolon. Corresponds to a SIP response code returned by a gateway when the gateway capacity is reached. The Resource Manager retries other gateway resources when this response is received. This parameter is optional.

4. Follow steps 8 to 13 in the procedure, Creating a Logical Resource Group, page 100 replacing `MCPGroup` with `ExtSIPGroup`.

> Note: For a complete list of parameters that can be configured for the external SIP resources, see the `Settings` tab of the `Externa_SIP_Resource Application` object properties.

End of procedure

Next Steps

- No further steps are required.

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