Genesys Voice Platform 7.6

Voice Application Reporter

Deployment and Reference Manual

About Genesys

Alcatel-Lucent's Genesys solutions feature leading software that manages customer interactions over phone, Web, and mobile devices. The Genesys software suite handles customer conversations across multiple channels and resources—self-service, assisted-service, and proactive outreach—fulfilling customer requests and optimizing customer care goals while efficiently using resources. Genesys software directs more than 100 million customer interactions every day for 4000 companies and government agencies in 80 countries. These companies and agencies leverage their entire organization, from the contact center to the back office, while dynamically engaging their customers. Go to www.genesyslab.com for more information.

Each product has its own documentation for online viewing at the Genesys Technical Support website or on the Documentation Library DVD, which is available from Genesys upon request. For more information, contact your sales representative.

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If you have purchased support directly from Genesys, please contact Genesys Technical Support at the following regional numbers:

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North and Latin America	+888-369-5555 or +506-674-6767	support@genesyslab.com
Europe, Middle East, and Africa	+44-(0)-127-645-7002	support@genesyslab.co.uk
Asia Pacific	+61-7-3368-6868	support@genesyslab.com.au
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Ordering and Licensing Information

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Table of Contents

List of Procedures

Preface

Welcome to the *Genesys Voice Platform 7.6 Voice Application Reporter Deployment and Reference Manual.* This document explains how to install and configure Genesys Voice Platform (GVP) Voice Application Reporter (VAR), and it introduces you to the relevant concepts, terminology, and procedures for the application.

This document is valid only for the 7.6 release of this product.

Note: For releases of this document 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: This preface contains these sections:

- Intended Audience, page 10
- Chapter Summaries, page 10
- Document Conventions, page 11
- Related Resources, page 12
- Making Comments on This Document, page 14
- Document Change History, page 15

The Genesys Voice Platform (GVP) Voice Application Reporter (VAR) is an optional reporting server that compiles application reporting events from Genesys Voice Platform Studio generated applications, and provides reports for accessing this information. Pre-defined reports are available for all of the basic call information handled by the GVP including details by applications and call outcomes. These application-specific reports are available on an hourly, daily, and/or weekly basis.

Intended Audience

This document, primarily intended for system integrators and administrators, assumes 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 Genesys Voice Platform, Studio, and Genesys Framework architecture.

Chapter Summaries

In addition to this preface, this document contains the following chapters:

*   Chapter 1, "Introduction," on page 17, provides an introduction and overview for the Voice Application Reporter Server.
*   Chapter 2, "Installing Voice Application Reporter," on page 21, provides installation and configuration instructions for the Voice Application Reporter Server, and its clients.
*   Chapter 3, "Voice Application Reporter Interface," on page 47, describes how to use the Voice Application Reporter graphical user interface (GUI). It also describes the types of reports that are available and the administrative applications.
*   Chapter 4, "Uninstalling Voice Application Reporter," on page 77, provides uninstallation instructions for the Voice Application Reporter, and its clients.
*   Appendix A, "Voice Application Reporter Database Schema," on page 83, provides the tables of the VAR database schema and their relationships.
*   Appendix B, "Configuring VAR Split Processes," on page 101, provides instruction about configuring and running the VAR split processes.

Document Conventions

This document uses some 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:

`72gvp_dep_studio_02-2006_v7.2.000.00`

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

Type Styles

Italic

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

Examples:
- Please consult the *Genesys 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, which looks like `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 any text that users must manually enter 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 taken from the product GUI (graphical user interface), 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 would prevent 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]s
```

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 these additional resources as necessary:

- *Genesys Voice Platform 7.6 Deployment Guide,* which provides detailed installation and configuration instructions for GVP.

- *Genesys Voice Platform 7.6 Reference Manual,* which provides instructions for the administration and provisioning of GVP and its components.

- *Genesys Voice Platform 7.6 Troubleshooting Guide,* which provides trap and troubleshooting information for GVP.

- *Genesys Voice Platform 7.6 Studio Deployment Guide,* which provides installation instructions for Studio.

- *Genesys Voice Platform 7.6 Voice Application Reporter SDK Developer's Guide*, which provides examples on how to develop VoiceXML applications that interface with the Voice Application Reporter (VAR) database and generate application reports.

- *Genesys Voice Platform 7.6 VoiceXML 2.1 Reference Manual,* which provides information about developing VoiceXML 2.1 applications on GVP. It presents VoiceXML 2.1 concepts and provides examples that focus on the GVP implementation of VoiceXML. It also describes the platform extensions to VoiceXML that Genesys provides.

- *Voice Extensible Markup Language (VoiceXML) Version 2.1, W3C Candidate Recommendation (CR) 13 June 2005.* A *Candidate Recommendation* is a mature technical report that, after wide review for technical soundness and implementability, the W3C (World Wide Web Constortium) has sent to the W3C Advisory Committee for final endorsement.

- *Genesys Info Mart 7.6 Deployment Guide*, which provides installation instructions for Genesys Info Mart.

- *Genesys Info Mart 7.6 Operations Guide*, which describes procedures for customizing, scheduling, and monitoring the Genesys Info Mart ETL jobs.

- *Genesys Info Mart 7.6 [RDBMS] Reference*, which provides information on the tables that make up the Genesys Info Mart star schemas.

- *Genesys Info Mart 7.6 User's Guide*, which provides examples of common interactions and sample queries.

- *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.

- *Genesys Migration Guide*, which ships on the Genesys Documentation Library DVD, and which provides documented migration strategies for Genesys product releases. Contact Genesys Technical Support for more information.

- 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 documents:

- *Genesys Supported Operating Environment Reference Manual*

- *Genesys Supported Media Interfaces Reference Manual*

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`.

Consult these additional resources as necessary:

- *Genesys Hardware Sizing Guide,* which provides information about Genesys hardware sizing guidelines for the Genesys 7.x and Genesys 8.x releases.
- *Genesys Interoperability Guide,* which provides information on the compatibility of Genesys products with various Configuration Layer Environments; Interoperability of Reporting Templates and Solutions; and Gplus Adapters Interoperability.
- *Genesys Licensing Guide,* which introduces you to the concepts, terminology, and procedures relevant to the Genesys licensing system.
- *Genesys Database Sizing Estimator 7.6 Worksheets,* which provides a range of expected database sizes for various Genesys products.

For additional system-wide planning tools and information, see the release-specific listings of System Level Documents on the Genesys Technical Support website, accessible from the `system level documents by release` tab in the Knowledge Base `Browse Documents` Section.

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`.

Making Comments on This Document

If you especially like or dislike anything about this document, please feel free to e-mail your comments to `Techpubs.webadmin@genesyslab.com`.

You can comment on what you regard as specific errors or omissions, and on the accuracy, organization, subject matter, or completeness of this document. Please limit your comments to the information in this document only and to the way in which the information is presented. Speak to Genesys Technical Support if you have suggestions about the product itself.

When you send us comments, you grant Genesys a nonexclusive right to use or distribute your comments in any way it believes appropriate, without incurring any obligation to you.

Document Change History

This section lists topics that are new or that have changed significantly since the first release of this document.

Release 7.6.4

- Added Appendix B, "Configuring VAR Split Process" on page 102.
- Added the procedure, "Creating a virtual directory in IIS 7 or IIS 7.5 (Windows 2008)" on page 32.

1 Introduction

This chapter introduces the Voice Application Reporter (VAR) and its components. It contains the following sections:

Voice Application Reporter

The Voice Application Reporter (VAR) is an optional feature that enables you to analyze call volumes, trends, and the effectiveness of your voice applications. The VAR Server provides web-based GUIs for viewing the application statistics. VAR Server consists of the Voice Application Event Consolidator and the Voice Application Reporter Interface, and works in conjunction with Studio and the Voice Application Reporting Agent. These terms are explained in the next section.

In order for the Voice Application Reporter to be effective, the application must be designed to be IVR-controlled, rather than URS-controlled. For URS-controlled applications, use Genesys Reporting, either through CC Analyzer for historical information, or through CCPulse+ for real-time information.

Note: The VAR database reports only on data that is collected when Studio applications generate call events.

Integration with Genesys Info Mart

Genesys Info Mart can connect to the Voice Application Reporter (VAR) database to offer the ability to Extract, Transform, and Load (ETL) VAR records to an existing Info Mart database. The VAR information in Info Mart can be correlated to other Info Mart information based on the Global Universal Call ID (GUID) shared among Genesys components. Genesys Info Mart does not collect customer specific data stored in the VAR database that is created through user-defined name-value pairs.

Note: Studio applications must generate call events in order for Genesys Info Mart to collect VAR data. For more information on how Genesys Info Mart collects VAR data, see the *Genesys Info Mart 7.6 Deployment Guide*.

Voice Application Event Consolidator and Voice Application Reporter Interface

VAR Server consists of the Voice Application Event Consolidator and the Voice Application Reporter Interface. To run VAR Server, you must install it on a supported operating system, acquire and install database server software, and set up the database according to the specific vendor instructions. The VAR must have access to the database used for the Consolidator component.

The Voice Application Event Consolidator receives the application call logs (events) from one or more web servers running the voice applications generated by Studio, and processes them by correlating individual call events into a consolidated application call data record (CDR).

The CDRs are then stored in the database and read by the Voice Application Reporter Interface.

Studio

The Studio product is a GUI tool that enables the easy development of VoiceXML applications. It enables or disables the generation of application call events that the VAR Server uses. At runtime, the code generated by Studio executes call functions provided by the Voice Application Runtime Agent.

Voice Application Reporting Agent

This component is the client of VAR Server. It collects the application events from the Studio-generated application, and sends them to the VAR Server. The Voice Application Reporting Agent (VAR Agent) must be present on the machine where the Studio generated application is deployed.

There are two types of VAR Agents:

- VAR COM Agent for ASP.
- VAR Java Client VAR Agent for JSP.

VAR COM Agent is used by the Active Server Page (ASP) applications generated by Studio. It sends reporting events to the VAR Server. You must install this VAR COM Agent on the web server running the ASP voice application. The service receives events from the ASP application and periodically sends them to the Voice Application Event Consolidator. For more information about installing VAR COM Agent, see "Installing an ASP VAR COM Client" on page 40.

VAR Java Client is used by the Java Server Page (JSP) applications generated by Studio, or by custom applications using the Java VAR SDK. It sends reporting events to the VAR Server. You must install this VAR Java Client on the Web Application server running the ASP voice application. The service receives events from the JSP application, and periodically sends them to the Voice Application Event Consolidator. For more information about installing VAR Java Client, see "Installing VAR Java Client" on page 41.

Note: Refer to *Studio Help* for information on how to enable reporting for a Studio generated application.

2 Installing Voice Application Reporter

This chapter provides instructions for installing the Voice Application Reporter (VAR) Server, VAR COM Client, VAR Java Client, and VAR Java SDK. It contains the following sections:

Software Requirements

Before installing Voice Application Reporter (VAR), you must consider all of the environment variables that are needed for a successful deployment.

Operating Systems Supported

All workstations that you use must meet the following operating system requirements:

- Microsoft Windows 2003, Standard and Enterprise Editions, Service Pack 1 or later
- Microsoft Windows 2008, Standard Edition and Enterprise Editions.
- Microsoft Windows 2008 R2, Standard and Enterprise Editions.
- Microsoft Windows XP Professional, Service Pack 2 or later
- Solaris 9.0 32-bit

Genesys Platforms Supported

VAR 7.6 supports the following software:

- Genesys Voice Platform IP Communication Server 7.6
- Genesys Voice Platform Voice Communication Server 7.6

Database Servers Supported

VAR 7.6 supports the following databases:

- Microsoft SQL Server 2000 with Service Pack 2 or later
- Microsoft SQL Server 2005.
- Oracle 9i R2
- Oracle 10g R2
- IBM DB2 UDB 8.2

Database Drivers Supported

You must install the database driver that corresponds to your database server:

- Microsoft SQL Server 2000/2005 or Access 2003—Microsoft Data Access Components (MDAC) 2.8 or later.
- Oracle 9i or 10g—MDAC 2.8 or later, and the Oracle ODBC driver. You also must install the Oracle 9i Client software on the Web Application Server (WAS) that will be running the Studio-generated ASP applications.

Application Servers Supported

VAR 7.6 supports the following Web Application Servers for JSP applications:

- IBM WebSphere 6.0
- IBM WebSphere 6.0 for Solaris
- BEA Weblogic 8.1
- Jakarta Tomcat 4.1
- Jakarta Tomcat 5.0
- Jakarta Tomcat 5.0 for Solaris
- Jakarta Tomcat 5.5
- Jakarta Tomcat 5.5 for Solaris

VAR 7.6 supports the following Web Application Servers for ASP applications:

- IIS 6.0 (Windows 2003)
- IIS 5.1 (Windows XP)

Web Browsers Supported

VAR 7.6 supports the following Web Browsers:

- Microsoft Internet Explorer 6.0 Service Pack 1 or later
- Microsoft Internet Explorer 7.0

Solaris Installation and Setup

Before you install VAR for Solaris, you must prepare the VAR database.

Oracle Server Preparation

Your Oracle Database Administrator (DBA) must install and configure Oracle Standard Edition 32-bit server software or Oracle client on the database machine using any database instance name. The DBA must configure the VAR database instance to start during system start-up.

Procedure:
Preparing the Oracle server

Start of procedure

1. The DBA must finish preparing the Oracle database set up as follows:
   - Create a tablespace with the name `VoiceAppRptr`.
   - Create a user with the following parameters:
     — login name: `varuser`
     — password: `vareports`

2. Set the default tablespace to `VoiceAppRptr`.

3. Give the user the DBA Role.

4. You will need to obtain the following information from the DBA in order to install VAR:
   - ORACLE_HOME
   - ORACLE_SID
   - Password for the SYSTEM user
   - Net Service Name required to connect to the Oracle Instance

> **Note:** You must make sure that the root user has privileges to create Solaris
> Cron jobs. For more information on how to set these privileges, refer to
> your Solaris documentation.

End of procedure

Installing Voice Application Reporter on Solaris

Do not install VAR on a machine where the following components are
installed:

- GVP EventC
- GVP Reporter
- GVP Login Server
- GVP Call Status Monitor
- GVP Network Monitor

> **Note:** For more information about installing the GVP SNMP, Apache, and
> Common components, refer to the *Genesys Voice Platform 7.6
> Deployment Guide.*

Procedure:
Installing Voice Application Reporter on Solaris

> **Note:** Stop WatchDog and Apache, if they are running, by typing the
> following commands:
> - `/etc/init.d/gvp stop`
> - `/etc/init.d/gvpapache stop`

Start of procedure

1. From the Genesys Voice Platform: Voice Application Reporter 7.6 CD,
   copy the contents of the
   `/solution_specific/Solaris/ApplicationReporter/` directory to the
   Solaris server directory in which you wish to install the VAR component.
2. Change the directory to where you placed the installation package for the
   VAR.
3. Log in as `Root` or get root permissions.
4. Type `sh install.sh`.

5. The installer prompts you for the installation directory:

```
Please confirm that it is acceptable to use /opt/genesys/gvp/cn
directory as destination directory.

Do you wish to continue (y/n)?
```

6. Type y to accept the selection, and then press Enter.

To set a different destination directory, type n and press Enter. The installer prompts you for a new destination directory. Type the installation path, and then press Enter.

The installation process continues, and when it is complete, the following message appears:

```
Web site for Voice Platform Application Reporter was created
successfully.

Cron job for Voice Platform Application Reporter was created for
execution every three minutes.

Job is currently disabled, please execute database script and
configure

Voice Platform Application Reporter before enabling the job.

Please use the following steps for enabling the cron job:

1. Login using root account.

2. Execute command "crontab -e". This command will open the crontab
file in the editor determined by the value of environment variable
EDITOR.

3. Locate line "# Added by Voice Platform Application Reporter to
invoke VAR consolidator every three minutes. Do not edit manually."

4. Uncomment (remove # character) subsequent line.

5. Save file and quit editor.


Use the following commands to start "Voice Platform 3rd Party Apache
Solaris" and "Voice Platform Common" services:

/etc/init.d/gvpapache start

/etc/init.d/gvp start


Installation of Voice Platform Application Reporter, completed
successfully.
```

End of procedure

Creating the Oracle Schema

The following instructions are advanced and should be executed by an Oracle Database Administrator.

Procedure:
Creating the Oracle schema

Start of procedure

1. Make sure that the tablespace was created as described in "Oracle Server Preparation" on .

2. Change directory to
   `<CN Dir>/gvpapplicationreporter/db_scripts/oracle/`.

   The required Oracle scripts for VAR are located in this directory.

3. Log in to SQL Plus and connect as `varuser/vareports`.

   Note: If the Oracle Server is not located on this machine, connect as `varuser/vareports@<Net Service Name>`.

4. At the SQL prompt, type `@scratch_var_oracle_7_5_0.sql`.

   The script executes and creates the schema.

End of procedure

Post Installation Steps

After the Voice Application Reporter (VAR) installation is complete, you must perform the following steps.

Note: To configure split processes, see "Configuring VAR Split Processes" on .

Procedure:
Performing post installation steps

Start of procedure

1. Change directory to `<CN Dir>/gvpapplicationreporter/`.

2. Grant the required permissions to the folders by typing the following, in order, at the command prompt:
   - `chmod -R 666 log`

- `chmod -R 555 php web db_scripts`
- `chmod -R 777 web/app_reporter/download config data`

3. Make sure that the 32-bit Oracle client libraries are available through the LD_LIBRARY_PATH.

4. Start the Apache service by typing the following:
   `/etc/init/d/gvpapache start`

5. Open an Internet Browser and type:
   `http://<server.domain>/gvpapplicationreporter`

6. Click the `Administration` link.

7. Click the `Configure` link.

8. In the `Database Type` drop-down list, select `Oracle`.

9. In the `Oracle TNS Name of the Database Server` box, enter the Net Service Name, and then click `Submit`.

10. Test the VAR installation by following the instructions "Testing the VAR Installation" on .

11. Start the periodic VAR Engine cycles by enabling the Cron Job:
    a. Open a Solaris Login shell using the root account.
    b. Type `crontab -e` to open the crontab file in the editor.

    Note: The editor is determined by the value of the `EDITOR` environment variable.

    c. Locate the line `# Added by Voice Platform Application Reporter to invoke VAR consolidator every three minutes. Do not edit manually.`
    d. Uncomment (remove # character) the subsequent line.
    e. Save the file, and then exit the editor.

    Note: Genesys recommends that the VAR Server run in the GMT time zone.

End of procedure

Windows Installation and Setup

If you are using Windows 2003, before installing the Voice Application Reporter, you must configure Internet Explorer.

Internet Explorer Using Windows 2003

If you are accessing any URL from Internet Explorer 6 on a Windows 2003 computer, you must add the URL to Internet Explorer's list of trusted web sites. If the URL that you enter is not listed as a trusted web site, the Genesys Voice Platform GUIs, including the Voice Application Reporter, will not display correctly or function properly.

Procedure:
Adding the VAR URL to the trusted web sites in Internet Explorer

Start of procedure

1. Launch Internet Explorer.

2. On the Internet Explorer menu bar, click the `Tools` menu.

3. From the `Tools` menu, select `Internet Options`, and then click the `Security` tab.

4. Click the `Trusted Sites` icon, and then click the `Sites` button.

5. Add the URL (for example, `http://<reporter-machine-name>/gvpapplicationreporter>`) to this zone.

End of procedure

Installing VAR on Windows

Before you begin, make sure that you have an account with administrative privileges to install Voice Application Reporter (VAR).
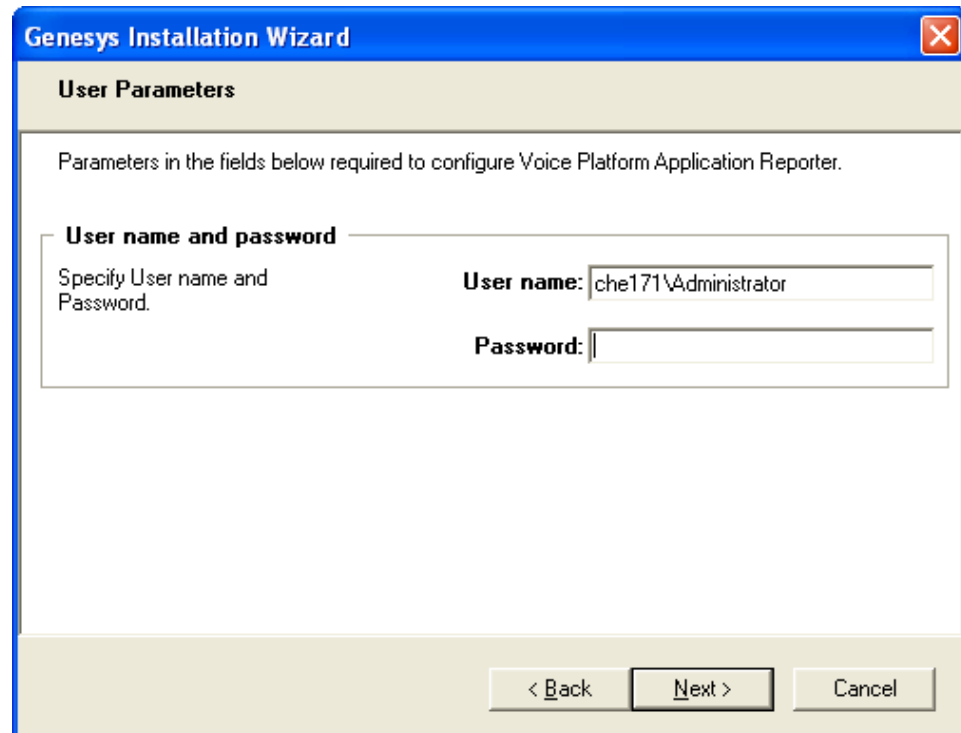
Procedure:
Installing Voice Application Reporter on Windows

Start of procedure

1. Insert the Genesys Voice Platform Voice Application Reporter 7.6 CD into the computer on which you want to install VAR.

2. From the CD, double-click `setup.exe`.

   The `Genesys Installation Wizard Welcome` screen appears.

3. Click `Next`.

   The `Genesys License Agreement` screen appears.

4. Select `I accept Genesys License Agreement,` and then click `Next.`

The `User Parameters` screen appears (see Figure 1 on).

Figure 1: User Parameters Screen

5. In the `User name` text box, enter the user name for an account that has full administrator privileges on the local machine; in the `Password` text box, enter the password for this account. Click `Next.`

The `Choose Destination Location` screen appears (see Figure 2 on).
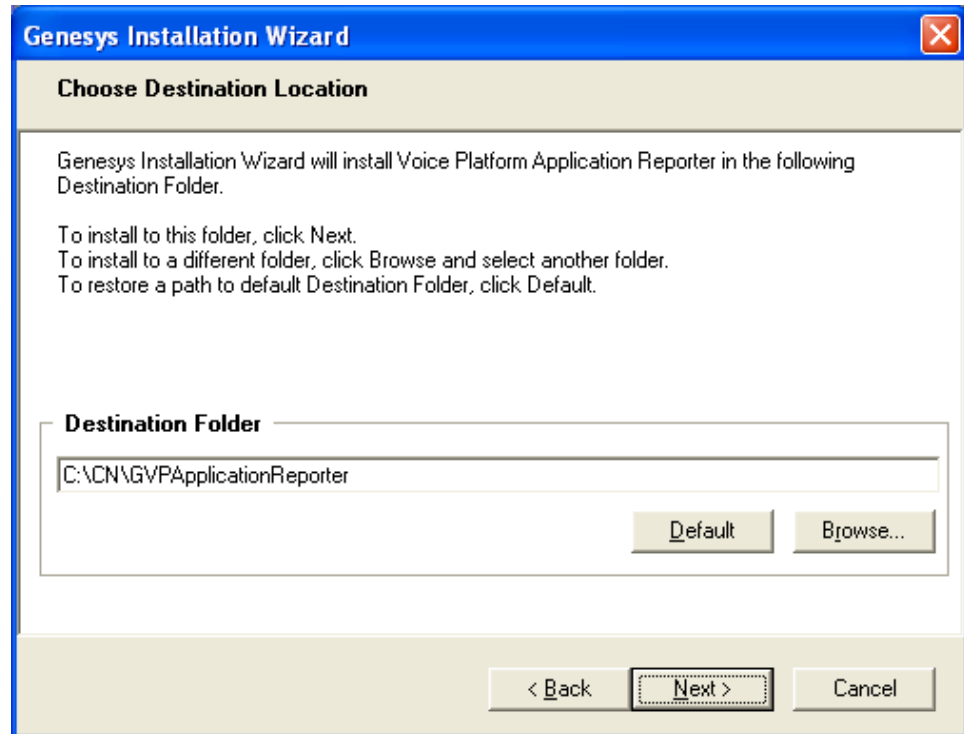
Figure 2: Choose Destination Location Screen

6. Accept the default installation path in the `Destination Folder` text box, or click `Browse` to select an alternative destination path. Click `Next`.

   The `Ready to Install` screen appears.

7. Click `Install`.

   The `Installation Status` screen appears. Then, when all the files are copied, the `Installation Complete` screen appears.

8. Click `Finish`.

   Note: Genesys recommends that you run the VAR Server in GMT time zone.

End of procedure

Manual Configuration

Before you can run your Voice Application Reporter (VAR) software, you must configure non-Genesys applications as described in this section.

Note: To configure split processes, see "Configuring VAR Split Processes" on .

Procedure:
Creating a Virtual Directory in IIS 6 (Windows 2003)

Start of procedure

1. On the VAR Server, open IIS Manager.

2. Expand the server node, and then expand the `Web Sites` folder.

3. Right-click the `Default Web Site`.

4. Select `New`, and then select `Virtual Directory`.

   The `Virtual Directory Creation Wizard` appears.

5. Click `Next`.

   The `Virtual Directory Alias` screen appears.

6. In the `Virtual Directory Alias` text box, enter `GVPApplicationReporter`. Click `Next`.

   The `Web Site Content Directory` screen appears.

7. Click `Browse` to navigate to the `<VARInstallDirectory>\web\` directory, and then click `OK`. Click `Next`.

   The `Access Permissions` screen appears.

8. Select the check box for `Read` and `Execute` privileges. Click `Next`.

9. Click `Finish`.

10. In IIS Manager, right-click `Default Web Site`, and select `Properties` from the shortcut menu.

11. Click the `Home Directory` tab.

12. Click the `Configuration` button.

13. Select `Add`.

14. Click the `Browse` button to navigate to the `<VARInstallDirectory>\bin\php\php.exe` executable.

15. In the `Extension` box, enter `.php`.

16. In the `Verbs` field, select `All Verbs`.

17. Click `OK, Apply,` and then `OK` to finish the process.

End of procedure

Procedure:
Creating a virtual directory in IIS 7 or IIS 7.5 (Windows 2008)

Prerequisites

- IIS 6 Management Compatibility has been installed and enabled.

Start of procedure

1. On the VAR Server, open IIS Manager.
2. Expand the local computer node, and then the `Sites` folder.
3. Right-click `Default Web Site` and select `Add Virtual Directory`.

   The `Virtual Directory Creation Wizard` appears.
4. In the `Virtual Directory` dialog box:
   - In the `Alias:` field, enter `GVPApplicationReporter`
   - In the `Physical Path:` field, enter `<VARInstallDirectory>\web`
5. Click on the Virtual Directory.
6. In the center pane, double-click `Handler Mappings`.
7. In the `Actions` pane:
   a. Click `Edit Feature Permissions`.
   b. In the `Edit Feature Permissions` dialog box, check mark `Read and Execute privileges` and click `OK`.
   c. Click `Add Script Map`.
   d. In the `Add Script Map` dialog box:
      — In the `Request Path` field, enter `*.php`
      — In the `Executable` field, enter
        `<VARInstallDirectory>\bin\php\php.exe`
      — In the `Name` field, enter `PHP`
   e. Click `Request Restriction`.
8. On the `Access` tab, ensure `Script` is selected.
9. To save the configuration, click `OK`.

End of procedure

Procedure:
Changing file access permissions

Start of procedure

1. On the VAR Server, open Windows Explorer.

2. Right-click the `<VARInstallDirectory>\data\` directory, and select `Properties` from the shortcut menu.

   The `Data Properties` dialog box appears.

3. Click the `Security` tab.

4. Click `Add`, and add the Internet Guest Account with `Modify`, `Read and Execute`, and `Write` permissions. Click `OK`.

5. Repeat Steps 2–4 for each of the following directories:
   - `<VARInstallDirectory>\log\`
   - `<VARInstallDirectory>\config\`
   - `<VARInstallDirectory>\temp\`
   - `<VARInstallDirectory>\web\app_reporter\`

6. Set the value of `track_errors` to `Off` for the `\<GVPApplicationReporter Directory>\bin\php\php.ini` file.

End of procedure

Setting Up the Microsoft SQL Server Database

Note: Consult with your Database Administrator (DBA) for assistance.

Procedure:
Creating the Voice Application Report database

Start of procedure

1. On the SQL Server, create a database called `VoiceAppRptr`.

2. Open Query Analyzer, and log in as `sa`.

3. In Query Analyzer, open the following file:
   `<installdir>\db_scripts\mssql\scratch_var_mssql_7_5_0.sql`

4. From the drop-down list, select `VoiceAppRptr` as the database.

5. Run the script.

6. Select `Enterprise Manager > Security > Logins`.

7. Choose the `varuser` login, and set the `password` for this user to `vareports`.

End of procedure

Procedure:
Creating a DSN

On the Voice Application Reporter Server, you must create a Data Source Name (DSN) to the SQL Server.

Start of procedure

1. From the Windows `Start` menu, select `Settings > Control Panel > Administration Tools > Data Sources`.

2. Click the `System DSN` tab, and then click `Add`.

3. Select the `SQL Server` driver, and then click `Finish`.

4. In the `DSN` dialog box, enter the following values, and then click `Next`.
   - Name—`Voice Application Reporter`
   - Description—`Voice Application Reporter Database Server`
   - Server— Fully qualified name of the VAR Server

5. Select `SQL Server Authentication`.

6. Click `Client Configuration`.

7. Under the `Network Libraries`, select `TCP/IP`.

8. In the Server `alias` text box, enter `VARDBServer`.

   Note: If you leave the `Server alias` text box set to the host name or IP address, you will not be able to access the VAR database.

9. In the `Server name` text box, enter the server name or IP address of the database server. Click `Next`.

10. In the `Authentication` dialog box, enter the following values, and then click `Next`:
    - Login ID—`varuser`
    - Password—`vareports`

11. Select `VoiceAppRptr` as the default database, and then click `Next`.

12. Click `Finish`, and then test the Data Source connection.

End of procedure

Procedure:
Setting up the Oracle environment

Start of procedure

1. On the VAR Server, open Windows Explorer.

2. Right-click the `<oracle>\ora92\` directory and select `Properties` from the shortcut menu.

   The Data Properties dialog box appears.

3. Click the `Security` tab.

4. Click the `Add` button, and add the Internet Guest Account with `Modify, Read and Execute,` and `Write` permissions. Click `OK`.

5. Repeat Steps 2–4 for the `<oracle>\oradata\` directory.

6. Select the system properties.

7. Click the `Advanced` tab, and then click `Environment Variables`.

   Under `System variables`, click `New`.

8. Add the following parameters:
   - `Variable Name: ORACLE_HOME`
   - `Variable value: <oracle directory>\ora92`

9. Click `OK`.

10. Open the following file:
    `<oracle installation path>\oracle\ora92\network\admin\sqlnet.ora`

11. Set the value of `SQLNET.AUTHENTICATION_SERVICES` to= `(NONE)`.

End of procedure

Setting Up the Oracle Database

You must create an Oracle Service name using Oracle Net Configuration Assistant.

Note: Consult with your Database Administrator (DBA) for assistance.

Procedure:
Creating a TNS name

Start of procedure

1. Open Oracle Net Configuration Assistant.

2. On the `Welcome` screen, select `Local Net Service Name configuration`. Click `Next`.

3. On the `Net Service Name Configuration` screen, select `Add`. Click `Next`.

4. On the `Net Service Name Configuration, Database Version` screen, select `Oracle 8i or later database or service`. Click `Next`.

5. On the `Net Service Name configuration, Service Name` screen, enter the Service Name. Click `Next`.

   Note: The service name that you enter must be the same as the service name used during the Oracle Database installation.

6. On the `Net Service Name Configuration, Select Protocols` screen, select `TCP`. Click `Next`.

7. On the `Net Service Name Configuration, TCP/IP Protocol` screen, enter the Host name of where the database is located, and select the port on which Oracle has been installed. Click `Next`.

8. On the `Net Service Name Configuration, Test` screen, select `Yes, perform a test` to test the connection. Click `Next`.

   Note: If the connection does not test successfully, click the `Back` buttons and verify that you have entered all of the information correctly. You might require the assistance of the Oracle DBA to verify this information.

9. On the `Net Service Name Configuration, Net Service Name` screen, enter `VarDBServer` for the Net Service Name. Click `Next`.

10. On the `Net Service Name Configuration, Another Net Service Name?` screen, select `No`. Click `Next`.

11. On the `Net Service Name Configuration Done` screen, click `Next`, and then `Finish`.

12. Open the Oracle Enterprise Manger and click to launch the standalone server.

13. Expand the network node, and then right-click the database.

14. Select the VARDBSERVER service name, and clear all others. Click OK.

15. Verify that you can connect to VARDBSERVER using the system account.

End of procedure

Procedure:
Creating the Voice Application Reporter database

Start of procedure

1. In Oracle Enterprise Manager, create a tablespace called VoiceAppRptr.

2. Create a user, setting varuser as the login name, and vareports as the password.

3. Set VoiceAppRptr as the default tablespace.

4. Add the DBA role to this user.

5. Login to Oracle SQL*Plus as varuser.

6. Enter @<installdir>\db_scripts\oracle\scratch_var_oracle_7_6_0.sql.

7. After the installation script successfully executes, enter commit.

End of procedure

Setting Up the IBM DB2 Database

Note: Consult with your Database Administrator (DBA) for assistance.

Procedure:
Installing the IBM DB2 database

Start of procedure

* Run the database installation wizard and choose the following options:
    * Typical
    * Single Partition Environment

Note: Use the administrator DB2 user name and password.

End of procedure

Procedure:
Creating a data source

Start of procedure

1. Open `Control Panel > Administrative Tools > Data Sources (ODBC)`.

2. Select the `User DSN` tab.

3. Click `Add`.

   The `Create New Data Source` dialog box opens.

4. From the drivers list box, select the IBM DB2 ODBC Driver.

5. In the `Data Source Name` text box, enter `VarDBServer`.

6. In the `DB Alias` text box, enter `VARDB`.

7. Click `OK` to save the DNS.

End of procedure

Procedure:
Creating the Voice Application Reporter database

Start of procedure

1. Create `varuser` as the Operating System user. Add `varuser` to the `DBUSERS2` group.

2. Open `IBM DB2 > General Administration Tool > Control Center`.

3. From the `Control Center View` dialog box, select `Advanced`, and then click `OK`.

4. In the left tree view, right-click on the `All Databases` folder.

5. Select `Create Database > Standard`.

   The `Instance Selection` dialog box opens.

6. Select the appropriate system and instance, and then click `OK`.

7. Enter `VARDB` for the database name, and then click `Next`.

8. Keep the default selections for the remainder of the database creation, and then click `Finish`.

9. Expand `All Databases > VARDB > Users and Group Objects`.

10. Right-click on `DB Users`, and then select `Add`.

    The `Add User` dialog box opens.

11. On the `Database` tab, select `varuser` from the `User` drop-down box.

12. Select all of the check boxes except for the `Database administrator authority` check box.

13. Click `Apply` and `OK` to save the `varuser`.

End of procedure

Procedure:
Creating the Voice Application Reporter database schema

Start of procedure

1. Open `IBM DB2` > `General Administration Tool` > `Control Center`.

2. Expand `All Databases` > `VARDB`.

3. Right-click `Schemas`, and then select `Create`.
The `Create Schema` dialog box opens.

4. Enter `varuser` in the `Schema name` text box.

5. Select `varuser` from the `Authorization name` drop-down box.

6. Click `OK` to save the database schema.

7. Open `IBM DB2` > `Command Line Tools` > `Command Editor`.
The Command Editor opens.

8. Beside the `Target` drop-down box, click `Add`.
The `Specify Target` dialog box opens.

9. Select `VARDB` from the available targets.

10. Clear the `Use implicit credentials` check box.

11. Enter `varuser` in the `User ID` text box, and enter `varuser`'s password in the `Password` text box, and then click `OK`.

12. Select `Selected` > `Open`.

13. Browse to `<VARInstallDirectory>\db_scripts\DB2_UDB\var_db2_from_scratch_7_5.sql`

14. At the bottom of the window, change `Statement Termination Character` to `!` (exclamation point).

15. Execute the script.

End of procedure

Installing an ASP VAR COM Client

For ASP applications, the VAR service-based client must be installed on both the Studio host that will be used for development testing with Code Tracer, and the final Web Application Server on which the Studio-generated applications are deployed.

Procedure:
Installing the VAR COM client on the Studio host

Start of procedure

◆ In the `<VAR Installation directory>\VARCom\` folder, double-click on the `setup.exe` file.

End of procedure

Procedure:
Installing the VAR COM client on the web application server

You must install the VAR COM client on the development server that will be used for building and testing ASP applications with Code Tracer. It is not necessary to install the VAR COM client on a Java-based web server that is using JSP applications.

Start of procedure

1. Copy the `setup.exe` file from the `<VAR Installation directory>\VARCom\` folder on the Studio host to a temporary folder on the Web Application Server on which the ASP voice application are deployed.

2. Double-click `setup.exe` to install and start the COM service-based VAR client.

3. Enter the fully qualified name of the server on which the VAR Server is installed.

End of procedure

Installing VAR Java Client

Procedure:
## Installing VAR Java client on Windows

Start of procedure

1. Insert the Genesys Voice Application Reporter 7.6 CD into the computer on which you want to install VAR Java Client.

2. From the CD, double-click the `setup.exe` file.

    The `Genesys Installation Wizard Welcome` screen appears.

3. Click `Next`.

    The `VAR Server Parameter` screen appears (see Figure 3).
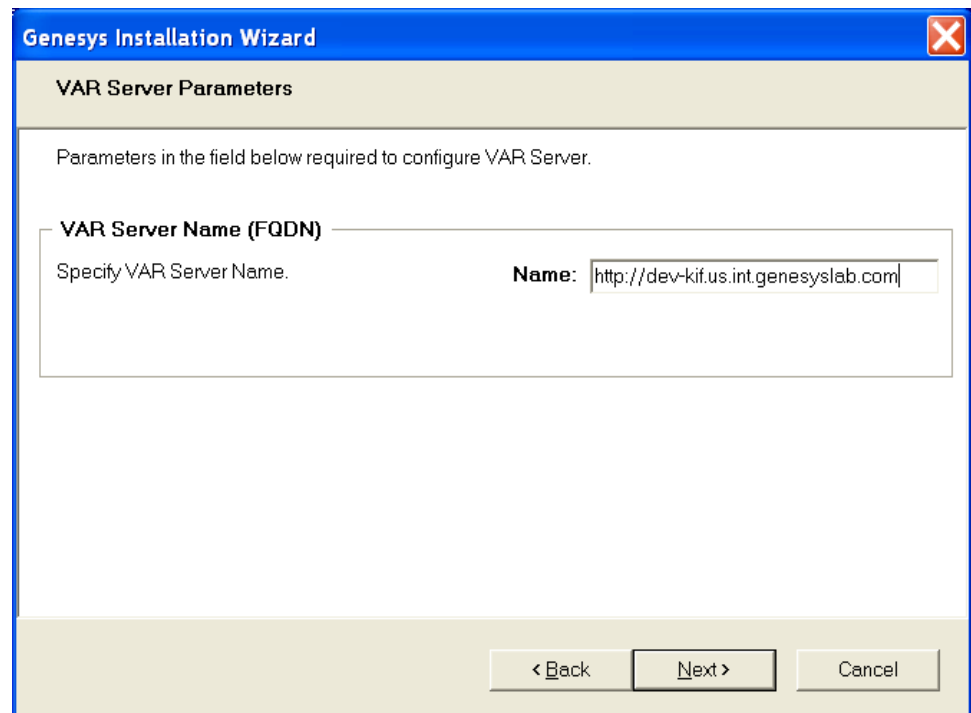
Figure 3: VAR Server Parameter Screen

4. In the `Specify VAR Server Name` text box, enter the fully qualified domain name of the VAR Server. Ensure that the server name is prefixed with the `http://` string—for example, `http://dev-kif.us.int.genesyslab.com`.

5. Click `Next`.

    The `Choose Destination Location` screen appears (see Figure 4 on).
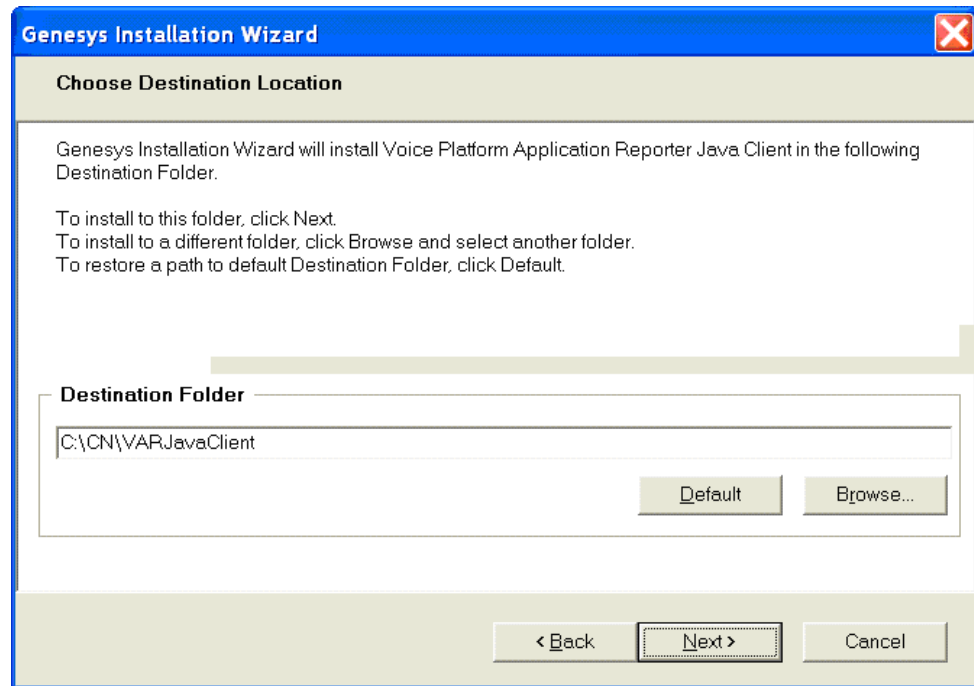
Figure 4: Choose Destination Location Screen

6. In the `Destination Folder` text box, accept the default installation path, or click `Browse` to select an alternative destination path.

7. Click `Next`.

    The `Ready to Install` screen appears.

8. Click `Install`.

    The `Setup Status` screen appears. Then, when all of the files are copied, the `Installation Complete` screen appears.

9. Click `Finish` to complete the install.

End of procedure

Procedure:
Installing VAR Java client on Solaris

Start of procedure

1. Log in as the root user.

2. From the Genesys Voice Application Reporter 7.6 CD, copy the contents of the `/solution_specific/Solaris/ApplicationReporterJavaClient/` directory to the Solaris server directory in which you want to install the VAR component.

3. From the source directory, type `sh install.sh` to launch the installation.

The installer prompts you for the Voice Platform Application Reporter server name:

`Please enter Voice Platform Application Reporter server name (FQDN) =>`

4. Enter the `FQDN`. Ensure that the server name is prefixed with the `http://` string—for example, `http://dev-kif.us.int.genesyslab.com`.

The installer prompts you for the destination directory:

`Press ENTER to confirm /opt/genesys/varjavaclient as the destination directory or enter a new one =>`

5. Click `Enter` to accept the default path, or enter the path to which you want to install the components.

The tar extraction output displays, and the installation terminates gracefully with the following message:

`Installation of Voice Platform Application Reporter Java Client, version 7.6.000.xx completed successfully.`

6. The installer makes an entry in the `/etc/init.d` file to start the Java client service during system startup, and to stop it during system shutdown.

7. Reboot the system in order to start the Java client service.

End of procedure

Installing VAR Java SDK

Procedure:
Installing VAR Java SDK on Windows

Start of procedure

1. Insert the Genesys Voice Application Reporter 7.6 CD into the computer on which you want to install VAR Java SDK.

2. From the `/solution_specific/Windows/ApplicationReporterJavaSDK/` on the CD, double-click the `setup.exe` file.

The `Genesys Installation Wizard Welcome` screen appears.

3. Click `Next`.

The `Choose Destination Location` screen appears (see Figure 5 on).
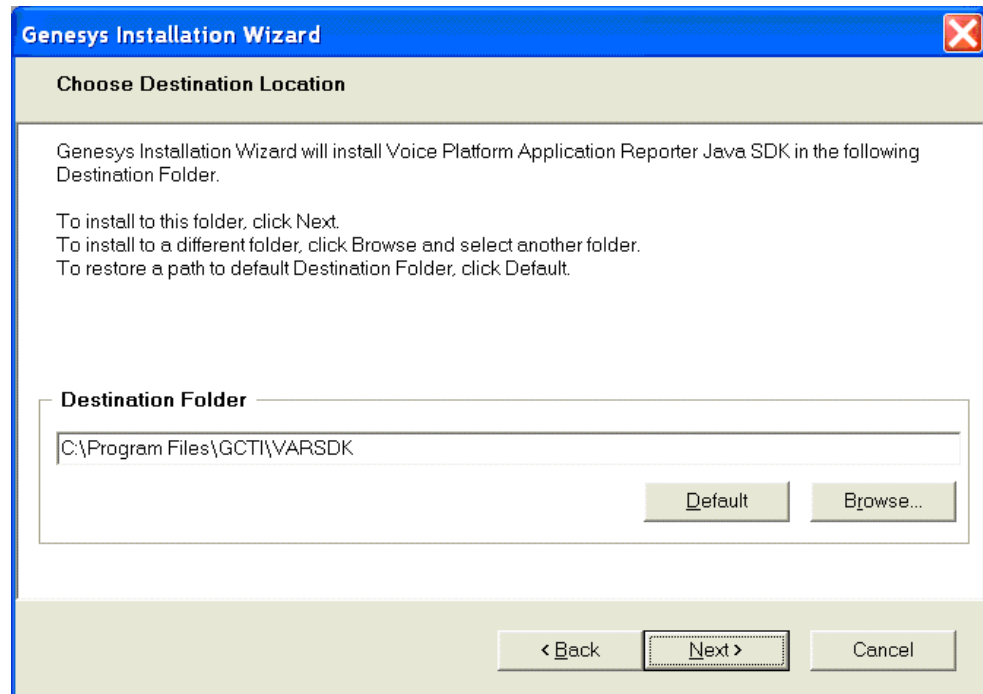
Figure 5: Choose Destination Location Screen

4. In the `Destination Folder` text box, accept the default installation path, or click `Browse` to select an alternative destination path.

5. Click `Next`.

   The `Ready to Install` screen appears.

6. Click `Install`.

   The `Installation Status` screen appears. Then, when all of the files are copied, the `Installation Complete` screen appears.

7. Click `Finish` to complete the installation.

End of procedure

Procedure:
Installing VAR SDK on Solaris

Start of procedure

Note: You do not need to be logged in as `root` in order to install VAR Java SDK on Solaris.

1. From the Genesys Voice Application Reporter 7.6 CD, copy the contents of the `/solution_specific/Solaris/ApplicationReporterJavaSDK/` directory to the Solaris server directory in which you want to install the VAR component.

2. From the source directory, type `sh install.sh` to launch the installation.

   The installer prompts you for the destination directory, providing a default value:

   ```
   Installing Voice Platform Application Reporter Java SDK, version
   7.6.000.xx.

   Please confirm that it is acceptable to use /opt/genesys/varsdk
   directory as destination directory.

   If it is not acceptable you can stop setup now by entering "n".

   Do you wish to continue (y/n)?
   ```

3. Type `y` to use the default, or type `n` to change the desired target directory.

   The installer accepts the target directory and extracts the necessary files.

   ```
   Extracting tarfile: data.tar.gz to directory: /opt/genesys/varsdk

   x VARSDK.jar, 8533 bytes, 17 tape blocks

   Installation of Voice Platform Application Reporter Java SDK,
   version 7.6.000.xx has completed successfully.
   ```

End of procedure

Testing the VAR Installation

Procedure:
Testing the VAR installation

Start of procedure

1. Open a web browser and go to `http://<VAR Server IP Address>/gvpapplicationreporter`.

2. Click `Administration`. For information about configuring VAR Server, see "Configure VAR Server" on .

3. Select `Check VAR Status`.

> **Note:** You should be able to check the status of VAR. However, do not expect all of the statuses to be green, because no cycles have run and no data has been processed since the installation.

End of procedure

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Chapter

3

Voice Application Reporter Interface

This chapter describes the Voice Application Reporter (VAR) and how to use its graphical user interface (GUI). This reporting feature is useful for IVR-controlled call flows.

It contains the following sections:

Accessing the Voice Application Reporter Interface

You can access the VAR Server interface through Internet Explorer. Open Internet Explorer on any computer in your network that has access to the VAR Server.

◆ In the browser's address bar, enter `http://<reporter-machine-name>/gvpapplicationreporter`.

The `Welcome to Voice Application Reporter` page appears (see Figure 6 on).

Figure 6: Voice Application Reporter Welcome Page

This page contains the following two links:

- **Application Reports** —Provides access to report options and summaries.
- **Administration** — Provides access to application management.

Notes: The Administration feature is for administrators only. Use this feature with caution, because data could be lost or damaged.

To change the application name for an existing application, use only the Administration > Manage Applications GUI

Application Reports

Clicking the **Application Reports** link on the VAR Server Welcome page opens the Application Reports GUI (see Figure 7 on page 49). The interface has two frames: the left frame displays the available options for generating reports, and after you set values for these options and click **Show**, the main frame displays information based on these options.

Figure 7: Voice Application Reporter—Application Reports GUI

Procedure:
Generating a report

Start of procedure

1. In the left frame, from the DNIS Application drop-down list, select the Application for which you want to generate the report. You can select All applications.

2. From the Report Type drop-down list, select the type of report that you want to generate.

   The following types of reports are available:
   - Overall Summary
   - Daywise Summary
   - Summary for a Day
   - Calls List
   - Call Completion Summary
   - Download
   - IVR Action
   - Last IVR Action Used

   Note: These report types are described in detail starting on .

3. Enter the desired Start Date and End Date for the report.
   You can do this in one of two ways:

- Type the date in the field in each text box, using your local date format. The local date format is displayed under this text box—for example, MM/DD/YYYY.

- Click the Calendar link, which opens a calendar from which you can select the desired date.

Note: An additional Time drop-down list appears next to these fields when you select the Calls List, Call Completion Summary, IVR Action, Last IVR Action Used, and Download report types.

---

4. Click Show.

The report is displayed in the main frame.

5. (Optional) Click Print Report to print the report.

A print preview window opens, along with a Print dialog box.

End of procedure

Overall Summary Report

The Overall Summary report (see Figure 8) displays a summary of all IVR calls for a selected application and date range.

Figure 8: Overall Summary Report

The main Overall Summary frame displays seven columns of information. Table 1 on page 51 describes in detail the parameters for each of them.

Table 1: Overall Summary Report Parameters

Parameter	Description
`DNIS Application`	Name of the application that is defined in the START block. You can click an application name to view its corresponding Daywise Summary report. (See "Daywise Summary Report" on page 51.)
`Total Calls`	Total number of calls that occurred. You can click the total calls value to view the corresponding Call Completion Summary report. (See "Call Events" on page 58.)
`Transferred (Total, %)`	Total number and percentage of transferred calls. A voice application call is defined as transferred out of the self service application if a `Transfer` or `CONNECT` block is executed within the self service application. CTI transfers using Route Points are not counted in this field, and will appear as counts in the `hangup` field.
`Abandoned (Total, %)`	Total number and percentage of abandoned calls. An abandoned call is a call that lasted less than the minimum call duration as configured in the application.
`Total Time (hh:mm:ss)`	Total time of all calls in hours, minutes, and seconds.
`Avg. Time (hh:mm:ss)`	Average time of a call in hours, minutes, and seconds.
`Errors (%)`	Percentage of calls that had IVR result values of `FAILED` or `STATUS NOT KNOWN`. `FAILED`— An event occurred that prevented the call from being processed properly —for example, a database error or a network error. `STATUS NOT KNOWN`—Some unknown reason caused the call to end abruptly —for example, caller hang-up during automatic speech recognition.

Daywise Summary Report

The Daywise Summary report (see Figure 9 on page 52) displays a summary of all IVR calls broken down by day for a selected application and date range.

Figure 9: Daywise Summary Report

The main `Daywise Summary` frame displays seven columns of information. The columns are the same as in the Overall Summary report, with the exception of the `Day` column that replaces the `DNIS Application` column.

- `Day`—Displays the date. You can click a day value to view the Summary for a Day report. (Figure 9.)

Note: For descriptions of the remaining columns, see Table 1 on page 51.

Summary for a Day Report

The Summary for a Day is a report (see Figure 10 on page 53) that displays a summary of all IVR calls broken down by time interval for a selected application and date. Three different time display intervals are available in this report:

- 60 minutes (default)
- 30 minutes
- 15 minutes

The main `Summary for a Day` frame displays the time-variable report based on the time interval selected (60 minutes in Figure 10 on page 53). When displaying a Summary for a Day report for a specified interval, the other two time intervals are always available.

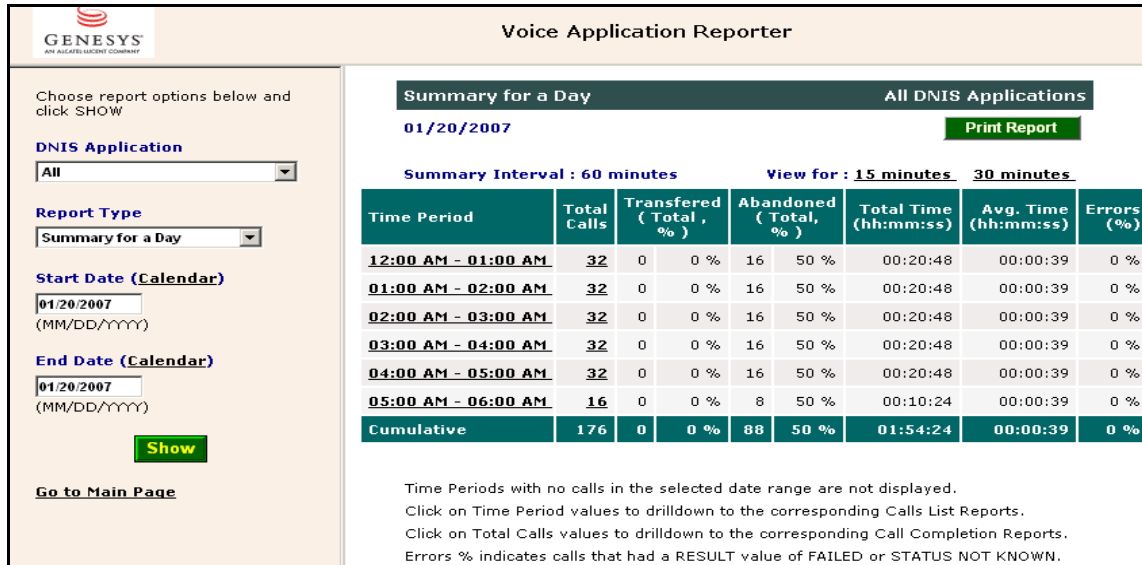**Note:** The Summary for a Day report is available for a single day only.

Figure 10: Summary for a Day Report

The main frame displays seven columns of information. The columns are the same as in the Overall Summary report, with the exception of a `Time Period` column that replaces the `DNIS Application` column.

`Time Period`—Displays the time interval selected. You can click on a time interval value to view the Calls List report. (See Page 54.)

For descriptions of the remaining columns, see Table 1, "Overall Summary Report Parameters," on page 51.

Calls List Report

The Calls List report (see Figure 11 on page 54) displays a listing of all calls that occurred for the selected application and date. When the Calls List report is selected as the `Report Type`, two additional `Time` drop-down fields appear in the GUI's left frame, next to the `Start Date` and `End Date` text box.

Note: The Calls List report is available for a single day only.

Figure 11: Calls List Report

The main Calls List frame displays seven columns of information. Table 2 describes in detail the parameters for each of them.

Table 2: Calls List Report Parameters

Parameters	Descriptions
Date Time	Date and time that the call arrived. You can click a `Date/Time` value to view the corresponding Call Details. (See "Call Details and IVR Actions" on page 55.)
DNIS Application	Application name.
Time (hh:mm:ss)	Duration of the call in hours, minutes, and seconds.
ANI	Number from which the call originated (sometimes may be blank).
DNIS	Number that was delivered to the application when it was presented with the voice call.

Table 2: Calls List Report Parameters (Continued)

Parameters	Descriptions
End Action	Ending state of the call. The End Action can have the following three values: • CALL END—The call was completed in self-service. This occurs when neither the transfer nor the abandon end state occurs. • TRANSFER—The call was transferred to an agent. A voice application call is defined as transferred out of the self service application if a Transfer or CONNECT block is executed within the self service application. CTI transfers using Route Points are not counted in this field, and will appear as counts in the hangup field. • ABANDON—The call lasted for less than the minimum call duration configured in the application.
IVR Result	IVR results of the call, as reported by the application. The IVR Result can have the following three values: • FAILURE—A failure occurred that prevented the call from being processed properly—for example, a database error or a network error. • UNKNOWN—Some unknown reason caused the call to end abruptly—for example, caller hang-up during automatic speech recognition. • SUCCESS—The call was processed successfully.
IVR Reason	A string identifier, of no more than 32 characters, that explains the IVR Result. This is used in the Call Completion Summary Report. For example, Caller Hang-up, Ring no answer, Database Error, or Default.

Call Details and IVR Actions

When a specific Date Time value is selected within the Calls List report, a Call Details and Ivr Action screen appears for that selection (see Figure 12 on page 56). This screen displays additional call information for the selected call.

Call Details

Call ID :	{6C125B0B-C7F4-FFC3-A4CB-0C91299DED94}
DNIS Application :	mainapp
Application Server :	172.24.129.102
Call Start Time :	01/12/2007 01:00:26 PM
Duration (hh:mm:ss) :	00:00:39
ANI :	4086266800
DNIS :	8662596199
Call End Action :	CALL END
IVR Result :	UNKNOWN
IVR Reason :	Caller Hangup
Framework Connection ID :	CI123456789 123456789 123456789 123456
GVP Application ID :	10012
GVP Server IP :	12.1.22.1
Additional Info :	None

IVR Actions

IVR Action	Start Time	Time (hh:mm:ss)	Result	Reason	Additional Info
subapp1	01/12/2007 01:00:29 PM	00:00:23	SUCCESS	Default	None
>> subapp2	01/12/2007 01:00:36 PM	00:00:10	SUCCESS	Default	None
>> subapp3	01/12/2007 01:00:38 PM	00:00:03	SUCCESS	Default	None
subapp4	01/12/2007 01:00:56 PM	00:00:09	SUCCESS	Default	None

Custom Data

Custom Name	Custom Value
CustomVar5	

Figure 12: Call Details and IVR Actions Screen

Table 3 describes, in detail, the parameters for the `Call Details` and `IVR Actions` screens.

Table 3: Call Details and IVR Actions Parameters

Parameter	Description
Call ID	Session ID of the call.
DNIS Application	Name of the application.
Application Server	IP address of the application server.
Date Time	Date and time of the call (in local time).
Duration (hh:mm:ss)	Duration of the call in hours, minutes, and seconds.
ANI	Number from which the call originated (sometimes may be blank).
DNIS	Number that was delivered to the application when it was presented with the voice call.
Call End Action	Ending state of the call as determined by the application (see Table 2 on page 54 for more information).
IVR Result	IVR results of the call as reported by the application (see Table 2 on page 54 for more information).
IVR Reason	A string identifier, of no more than 32 characters, that explains the IVR Result. This is used in the `Call Completion Summary Report`. For example, `Caller Hang-up`, `Ring no answer`, `Database Error`, or `Default`.
Framework Connection ID	Connection ID passed from the Framework application.
GVP Application ID	Unique identifier of the application.
GVP Server IP	IP address of the GVP VCS/IPCS Server.
Additional Info	Additional text information as provided by the application.
IVR Actions	Name of the IVR Action.
Start Time	Time when the IVR Action started.
Time	Duration spent in the IVR phase.

Table 3: Call Details and IVR Actions Parameters (Continued)

Parameter	Description
Result	Success status of the call. Possible values are: • FAILURE—A failure occurred that prevented the call from being processed properly—for example, a database error or a network error. • UNKNOWN—Some unknown reason caused the call to end abruptly—for example, caller hang-up during automatic speech recognition. • SUCCESS—The call was processed successfully.
Reason	A string identifier that explains the result—for example, Caller Hang-up, Ring no answer, Database Error, or Default.
Additional Info	Additional information about the call.
Custom Name	Name of the name-value pair provided in the application events.
Custom Value	Value of the custom name provided in the application events.

Call Events

Under the Call Details and IVR Action information is a list of all events (see Figure 13) as they happened.

	Call Events											
EVENT SEQ	**EVENT**	**EVENT DATE**	**TZ**	**END ACTION**	**IVR RESULT**	**IVR REASON**	**IVR NOTE**	**APP ID**	**IVR ACTION ID**	**PARENT IVR ACTION ID**	**LAST IVR ACTION**	**ANI**	**DNIS**
1	01 CALL_START	2007-01-20 01:45:01	0					kumaran2		0	0	4086266800	8662596199
2	20 CUSTOM_DATA	2007-01-20 01:45:01	0					kumaran2	-1	0	0		
3	02 CALL_END	2007-01-20 01:45:40	0	01 HANGUP	S	Gold Customer	None	kumaran2		0	0		

Figure 13: Call Events Screen

Table 4 describes, in detail, the parameters for all the call events.

Table 4: Call Events Parameters

Parameter	Description
EVENT_SEQ	The sequence of when the event happened.
EVENT	The event status: · 01 CALL_START · 02 CALL_END · 03 SCF_START · 04 SCF_END · 05 CUSTOM_DATA
EVENT_DATE	Holds the date and time of the event. This is used for calculating the duration of a call. The time is stored in GMT.
TZ	Local time zone offset. Value is in hours (for example, -8), and also reflects daylight savings time.
END_ACTION	The details of an IVR completed call as determined by the application. Valid values are: • 01 HANGUP (customer hang up) This occurs when neither the transfer nor the abandon end state occurs. • 02 XFER (transferred to an agent) A voice application call is defined as transferred out of the self service application if a Transfer or CONNECT block is executed within the self service application. CTI transfers using Route Points are not counted in this field, and will appear as counts in the hangup field. · 03 ABANDONED The call lasted for less than the minimum call duration as configured in the application.
IVR_RESULT	IVR results of the call, as reported by the application. The IVR Result can have the following three values: • F—A failure occurred that prevented the call from being processed properly — for example, a database error or a network error. • U—Some unknown reason caused the call to end abruptly—for example, caller hang-up during automatic speech recognition. • S—The call was processed successfully.

Table 4: Call Events Parameters (Continued)

Parameter	Description
IVR_REASON	A string identifier, of no more than 32 characters, that explains the IVR Result. This is used in the `Call Completion Summary Report`. For example, `Caller Hang-up`, `Ring no answer`, `Database Error`, or `Default`.
IVR_NOTE	Provides additional information about the call. It is only shown in the call details, and it can be empty.
APP_ID	Reference of the application that is used to handle the call. This is configured in Studio.
IVR_ACTION_ID	Unique identifier of the IVR Action within the application. This parameter is application maintained.
PARENT_IVR_ACTION_ID	Unique identifier of the parent IVR Action from which the IVR Action originated. (Optional)
LAST_IVR_ACTION	Number that identifies how many IVR Actions have been forwarded.
ANI	Number from which the call originated (sometimes may be blank).
DNIS	Number that was delivered to the application when it was presented with the voice call.

Call Completion Summary Report

The Call Completion Summary report (see Figure 14 on) displays a summary of the call end action and the IVR results.
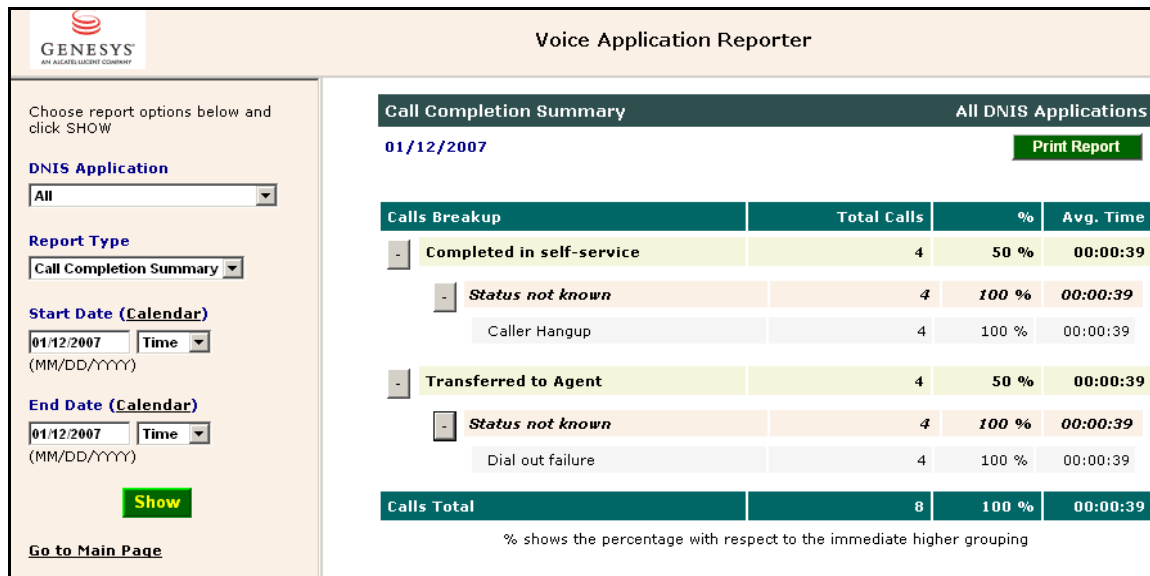
Figure 14: Call Completion Summary Report

The main `Call Completion Summary` frame displays four columns of information. Table 5 describes in detail the parameters for each of them.

Table 5: Call Completion Summary Report Parameters

Parameter	Description
Calls Breakup	A tree structure: click the plus sign (+) to expand a node. The first level of information lists the call end action, the second level lists the IVR results, and the third level lists the reason for the IVR results.
Total Calls	Total calls for each level of call breakup information.
%	Percentage of calls for each level of call breakup information with respect to the next higher grouping.
Avg. Time	Average length of the call.

Download Report

The Download Data page enables you to download the following types of reports:

• Call Details

• Custom Name Value Data

• Call Summary

These reports are downloaded in Comma Separated Values (CSV) data format for import into a data analysis tool.

Figure 15: Save Download File Page

Procedure:
Downloading a report

Start of procedure

1. In the left frame, from the DNIS Application drop-down list, select the desired application.

2. From the Report Type drop-down list, select Download, and then select or enter the date/time range.

3. Click Show.

    The main frame displays download information and additional download options (see Figure 15).

4. In the main frame, from the Download Data drop-down list, select the report type.

    The reports available for downloading are Call Details, Summary for a Day, and Completion Summary.

5. Click Create Download File.

    The download file is created, and the Save Download File page appears.

    Note: The file creation time is proportional to the number of records.

6. Right-click the URL and select `Save Target As,` to save the file to a desired location on the local machine.

End of procedure

IVR Action Summary Report

The `IVR Action Summary` report (see Figure 16) displays a summary of the IVR Actions that were used for a given application within a given time period.

For each IVR Action, the report shows the number of times it was used, and the percentage of calls that were successful. In addition, the report shows the number of GVP calls that used each IVR Action at least once, along with the percentage of total calls for the time period.

Figure 16: IVR Action Summary Report

The main `IVR Action Summary` frame displays five columns of information. Table 6 describes in detail the parameters for each of them.

Table 6: IVR Action Summary Report Parameters

Parameter	Description
IVR Action	Name of the IVR Action.
Count	Number of times that this IVR Action was used.
Success %	Percentage of calls that were successful.

Table 6: IVR Action Summary Report Parameters (Continued)

Parameter	Description
Num. of Calls	Number of GVP calls that used each IVR Action at least once.
% of Calls	Percentage of the total calls that the Num. of Calls value represents.

Clicking an IVR Action name, for example, subapp4, opens the IVR Action Analysis screen for that particular IVR Action (see Figure 17).

Figure 17: IVR Action Analysis Screen

The IVR Action Analysis screen displays the following statuses for the IVR Action:

- Successful.
- Failed.
- Unknown.

Under each status there is a listing of descriptive categories for the status. If the status is Failed, the categories describe the reason for failure—for example, database error. If the status is Successful, the categories might list the customer ratings—for example, platinum customer.

If the same IVR Action is used more than once in a call, the last IVR Action used is counted for reporting.

The `Total Usage count` for an IVR Action must match the `Usage count` for the IVR Action in the `IVR Action Summary` report (see Figure 16 on page 63) for the same time period.

The `percent of total usage` in a subgroup does not always add up to 100 percent exactly because of rounding off errors.

Last IVR Action Used Report

The `Last IVR Action Used` report (see Figure 18) displays information about the last IVR Action used in the IVR phase of the call before it was completed or transferred.
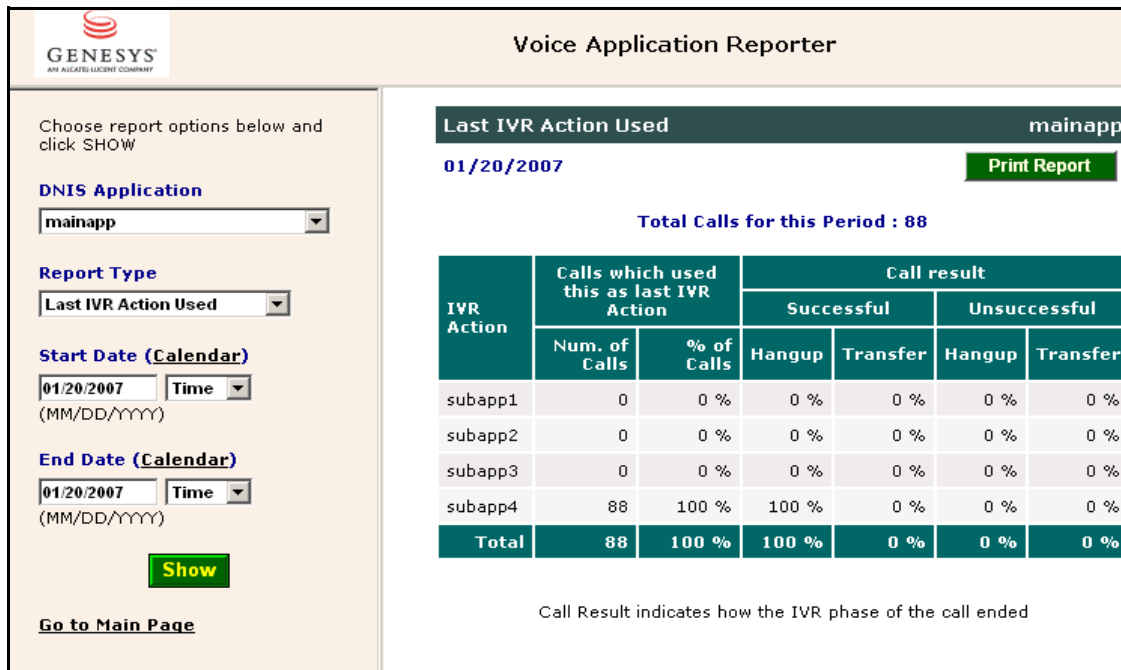
Figure 18: Last IVR Action Used Report

The *IVR call result* is the result of the call (not the IVR Action) as determined by the voice application. For example, the application might determine that the IVR Action was a success, even though the next action was an unsuccessful transfer.

The total number of calls for a given period must match the `Total Calls` shown in the `Application Summary Report` for the same time period.

The successful hang-up plus successful transfer plus unsuccessful hang-up plus unsuccessful transfer percentages add up to 100 percent.

Administration

Clicking the `Administration` link on the VAR Server Welcome page opens the Administration GUI (see Figure 19). The interface provides access to components that you can use for application management.

Note: The Administration feature is for administrators only. Use this feature with caution, because data could be lost or damaged
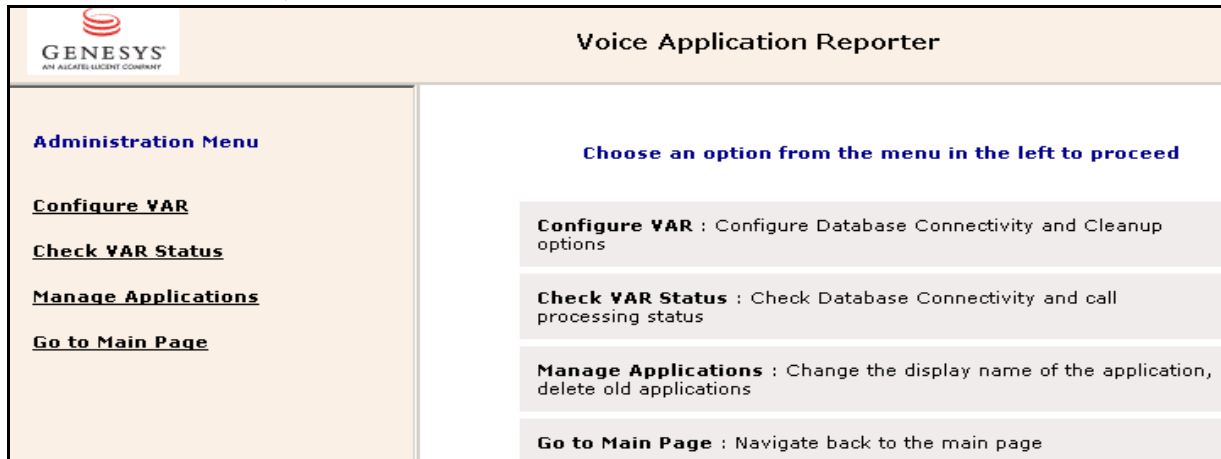
Figure 19: Voice Application Reporter Administration GUI

The Administration GUI contains two frames: the left frame displays a list of links to the Administration components; clicking a link opens the component in the main frame. The three Administration components are:

• Configure VAR Server.

• Check VAR Server.

• Manage Applications.

Configure VAR Server

The Configure VAR Server component enables the configuration of database connectivity and cleanup. This GUI replaces the need for using an `ini` or text file.

When configuration parameters are changed, all changes are logged to the `var_reporter` log folder. This log file contains both the old and the new values that were configured.

Figure 20: Configure VAR Server Screen for Microsoft SQL Server

Table 7 describes in detail the parameters for the Configure VAR Server screen if you are configuring the VAR Server to use a Microsoft SQL database.

Table 7: Configure VAR Server Screen Parameters for Microsoft SQL Server Database

Parameters	Descriptions
Database Type	Type of database that is used. The possible values are: • `Microsoft SQL Server` (default).
Data Source Name (DSN) of the Database Server	Reference to the machine on which the database is running. The maximum string length is 128 characters including spaces.
VAR Database Name	Reference to the database catalog that stores VAR Server information. The maximum string length is 32 characters, including spaces.
Database Server Login Name	VAR Server database user. The maximum string length is 32 characters, including spaces.

Table 7: Configure VAR Server Screen Parameters for Microsoft SQL Server Database (Continued)

Parameters	Descriptions
Database Login Password	Password for authenticating the VAR Server database user. The maximum string length is 32 characters including spaces. This displays asterisks.
Re-enter Database Login Password	Validates the consistency of the password entered for authenticating the VAR Server database user.
Delete raw event files after (Days)	Number of days after which raw event files posted from the application are deleted. The default is 7 days.
Delete events in database after (Days)	Number of days after which raw event files are deleted from the database. The default is 14 days.
Delete call details after (Days)	Number of days after which the Call Detail records (including name-value pairs) are deleted from the database. The default is 180 days.
Delete call summaries after (Days)	Number of days after which the Call Summary Information is deleted from the database. The default is 400 days.

Note: When you click the Submit button, a dialog box appears asking you whether you want to proceed with the configuration changes.

Figure 21: Configure VAR Server Screen for Oracle

Table 8 describes in detail the parameters for the Configure VAR Server screen if you are configuring the VAR Server to use an Oracle database.

Table 8: Configure VAR Server Screen Parameters for Oracle Database

Parameter	Descriptions
Database Type	Type of database that is used. The possible values are: • Oracle.
Oracle TNS Name of the Database Server	Reference to the machine on which the Oracle database listener is running.
VAR Oracle Schema Name	The Oracle tablespace used by the VAR Server database user. **Note:** Oracle will connect to the Default Schema if the VAR Schema name is wrong or is NULL.
Oracle Database User Name	The Oracle VAR Server database user.

Table 8: Configure VAR Server Screen Parameters for Oracle Database (Continued)

Parameter	Descriptions
Database User Password	Password for authenticating the VAR Server database user. This displays asterisks.
Re-enter Database User Password	Validates the consistency of the password entered for authenticating the VAR Server database user.
Delete raw event files after (Days)	Number of days after which raw event files posted from the application are deleted. The default is 7 days.
Delete events in database after (Days)	Number of days after which raw event files are deleted from the database. The default is 14 days.
Delete call details after (Days)	Number of days after which the Call Detail records (including name-value pairs) are deleted from the database. The default is 180 days.
Delete call summaries after (Days)	Number of days after which the Call Summary Information is deleted from the database. The default is 400 days.

Note: When you click Submit, a dialog box appears, asking whether you want to proceed with the configuration changes.

Figure 22: Configure VAR Server Screen for IBM DB2

Table 9 describes in detail the parameters for the Configure VAR Server screen if you are configuring the VAR Server to use an IBM DB2 database.

Table 9: Configure VAR Server Screen Parameters for IBM DB2 Database

Parameter	Descriptions
Database Type	Type of database that is used. The possible values are: · IBM DB2 UDB
Data Source Name (DSN) of the Database Server	Reference to the machine on which the IBM DB2 database listener is running.
DB2 UDB Database Name	DB2 Database used by the VAR Server database user.
Database Server Login Name	DB2 VAR Server database user.

Table 9: Configure VAR Server Screen Parameters for IBM DB2 Database (Continued)

Parameter	Descriptions
Database Login Password	Password for authenticating the VAR Server database user. This displays asterisks.
Re-enter Database Login Password	Validates the consistency of the password entered for authenticating the VAR Server database user.
Delete raw event files after (Days)	Number of days after which raw event files posted from the application are deleted. The default is 7 days.
Delete events in database after (Days)	Number of days after which raw event files are deleted from the database. The default is 14 days.
Delete call details after (Days)	Number of days after which the Call Detail records (including name-value pairs) are deleted from the database. The default is 180 days.
Delete call summaries after (Days)	Number of days after which the Call Summary Information is deleted from the database. The default is 400 days.

Check VAR Server Status

Check VAR Server Status is a troubleshooting component that examines database connectivity and call processing status. When you click the Check VAR Server Status link in the left frame, the component executes a series of checks that help verify the configuration and process status of the Voice Application Reporter.

The results from a status check are presented in the format shown in Figure 23 on .

Figure 23: VAR Server Status Check Results Screen

VAR Server Status Check Results

The VAR Server Status Check Results table displays four columns of
information. Table 10 describes in detail the parameters for each of them.

Table 10: VAR Status Check Results

Parameters	Description
!!	Flag indicating the status. The possible status flags are: • Red—Critical problem. • Orange—Alert. • Green—OK.
Check Description	Short description of the VAR Server Status Check.
Result	Findings of the VAR Server Status Check.
Comment	Description of the problem and suggested possible solutions for it.

Application Servers Using this VAR Server

The `Application Servers Using this VAR Server` table appears below the `VAR Server Status Check Results` table (see Figure 23 on). This table (shown in detail in Figure 24) displays additional information about the application servers that sent reporting data to VAR Server. This listing contains only those servers that have sent data within the past seven days.

Application Servers using this VAR		
Application Server	**Last Activity around**	**Files waiting**
10.10.10.221 (sudhir.us.int.genesyslab.com)	2005-05-27 03:43 PM	0
10.10.30.171 (dev-garfield.us.int.genesyslab.com)	2005-05-26 12:35 PM	0

Figure 24: Application Servers Using This VAR Server Table

The Application Servers Using this VAR Server table displays three columns of information. Table 11 describes in detail the parameters for each of them.

Table 11: Application Servers Using This VAR Server Parameters

Parameter	Description
Application Server	IP Address of the server with the resolved DNS name in parenthesis.
Last Activity around	Year, Month, Day, Hour, and Minute of the last activity on the server.
Files Waiting	Number of files pending for processing.

Note: The IP Address of the application servers at the time of data post is used to identify the server and resolve it to its Domain Naming System (DNS) name. If Dynamic Host Configuration Protocol (DHCP) is used and the IP Address changes, this table might be inaccurate.

Manage Applications

You can use the Manage Applications option to rename or delete an application.

Notes: You must use this functionality to change the application name for an existing application.

Application names are unique and not case sensitive.

Procedure:
Renaming or deleting an application

Start of procedure

1. On VAR Server Welcome page, click Administration.

   A new page opens, with an Administration Menu in the left frame.

2. Click Manage Applications.

   An application drop-down list appears in the main frame.

3. Select the desired application from the drop-down list and click Submit.

   The application management options appear in the main frame (see Figure 25).

Figure 25: Manage Applications Screen

4. Do one of the following:
   • To rename the application, enter the new name in the Application Name box.
   • To delete the application, select the Delete this Application? check box.

5. Click Submit.

The database is updated based on your selection.

Note: Deleting an application deletes it from the Reporter database. It does not affect the application in the Element Management Provisioning System (EMPS).

End of procedure

Troubleshooting Tips

If you are not seeing the expected results in your reports, follow these troubleshooting tips:

- Check the VAR Server Status results in the Administration GUI for errors and warnings. For more details, see "Check VAR Server Status" on page 72.

- Review the events consolidator logs for errors.

- If the VAR Server logs are absent or not updating as expected, verify that permissions are correct. For more information, see Chapter 2, "Installing Voice Application Reporter," on page 21.

- Verify that the AppReporter schedule task is running.

- Verify that there is enough disk space on the VAR Server.

- Verify that the event files are saved on the VAR Server. If these files are absent, and the call events are posted from the Web Application server, verify that the IIS account has write permissions for temp files.

Note: For all other errors, contact Genesys Technical Support.

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4 Uninstalling Voice Application Reporter

This chapter provides instructions for uninstalling Voice Application Reporter (VAR), VAR COM Client, VAR Java Client, and VAR Java SDK. It contains the following sections:

Note: The procedures in this chapter appear in the order in which you must uninstall Voice Application Reporter and its clients.

Uninstalling Voice Application Reporter

Procedure:
Uninstalling VAR on Solaris

Prerequisites

- Login as `Root` or get root privileges.
- Ensure the environment variables PATH, LD_LIBRARY_PATH and ORACLE_HOME are exported.
- Ensure that data files are not being posted to VAR Server.
- Ensure that the `VAR Status Check Results` screen shows that no files are waiting to be processed.

Before uninstalling VAR, you must remove the VAR Engine Cron Job and ensure that all VAR Engine Cron jobs are completed.

> **Note:** This prevents VAR Engine cycles from being executed.

Start of procedure

1. From the shell, execute the `crontab -e` command.

   The crontab file opens in the editor determined by the value of environment variable EDITOR.

2. Delete the line `# Added by Voice Platform Application Reporter to invoke VAR consolidator every three minutes. Do not edit manually.`

3. Save the file and exit the editor.

   > **Note:** Wait three minutes, so that any existing VAR engine cycles can be completed.

4. Change directory to where the VAR installer is available.

5. Execute the command `sh install.sh -uninstall.`

   The installer prompts you with the message. `Do you want to uninstall Voice Platform Application Reporter (y/n)?`

6. Enter `y`.

   The installer proceeds with the uninstallation of VAR. When complete, the installer prompts you with the following message.

   ```
   Use the following commands to start "Voice Platform 3rd Party Apache
   Solaris" and "Voice Platform Common" services:
   ```

   ```
   /etc/init.d/gvpapache start
   ```

   ```
   /etc/init.d/gvp start
   ```

   ```
   Uninstallation of Voice Platform Application Reporter completed
   successfully.
   ```

End of procedure

Procedure:
Uninstalling VAR on Windows

Start of procedure

1. Go to `Control Panel > Add/Remove Programs`.

2. Select `Genesys Voice Platform Application Reporter` from the list of currently installed programs, and then click `Remove`.

   The `Genesys Installation Wizard's` welcome screen appears.

3. Select `Remove`, and then click `Next`.

   A dialog box appears, asking whether you are sure that you want to uninstall VAR.

4. Click `Yes`.

   The `Setup Status` screen appears, followed by the `Maintenance Complete` screen.

5. Click `Finish`.

6. (Optional) Go to the VAR installation directory (the default path is `C:\GVP\CN\GVPApplicationReporter\`), and delete the data files and log files if they are not required. You will also have to manually delete the virtual directory and DSN.

7. Restart your computer.

End of procedure

Uninstalling ASP VAR COM Client

Procedure:
Uninstalling ASP VAR COM client

Start of procedure

1. Go to `Control Panel > Add/Remove Programs`.

2. Select `Genesys Voice Platform Application Reporter COM Client` from the list of currently installed programs, and then click `Remove`.

   The `Genesys Installation Wizard's` welcome screen appears.

3. Select `Remove`, and then click `Next`.

   A dialog box appears, asking whether you are sure that you want to uninstall VAR COM Client.

4. Click `Yes`.

 The `Setup Status` screen appears, followed by the `Maintenance Complete` screen.

5. Click `Finish`.

6. Restart your computer.

End of procedure

Uninstalling VAR Java Client

Procedure:
Uninstalling VAR Java client on Solaris

Start of procedure

1. Login as `Root` or get root privileges.

2. Ensure that data files are not being posted to VAR Server.

3. Change directory to where the VAR Java Client installer is available.

4. Execute the command `sh install.sh -uninstall`.

 The installer prompts you with the following message:

 `Uninstalling Voice Platform Application Reporter Java Client`

 `Do you want to uninstall Voice Platform Application Reporter Java Client (y/n)?`

5. Enter `y`.

6. The installer then prompts you for the directory with the component installation:

 `Please enter directory with component installation =>`

 `Enter the component installation directory`

 For example, `/opt/genesys/varjavaclient`

 The installer proceeds with the uninstallation of VAR Java Client. When complete, the installer prompts you with the following message:

 `Uninstallation of Voice Platform Application Reporter Java Client completed successfully.`

End of procedure

Procedure:
Uninstalling VAR Java client on Windows

Start of procedure

1. Go to `Control Panel > Add/Remove Programs.`

2. Select `Genesys Voice Platform Application Reporter Java Client` from the list of currently installed programs, and then click `Remove`.

   The `Genesys Installation Wizard's` welcome screen appears.

3. Select `Remove`, and then click `Next`.

   A dialog box appears, asking whether you are sure that you want to uninstall VAR Java Client.

4. Click `Yes`.

   The `Setup Status` screen appears, followed by the `Maintenance Complete` screen.

5. Click `Finish`.

6. Restart your computer.

End of procedure

Uninstalling VAR Java SDK

Procedure:
Uninstalling VAR Java SDK on Solaris

Start of procedure

1. Login as `Root` or get root privileges.

2. Ensure that the VAR Clients are not using this installation.

3. Change directory to where the VAR Java SDK installer is available.

4. Execute the command `sh install.sh -uninstall.`

   The installer prompts you with the following message:

   `Uninstalling Voice Platform Application Reporter Java SDK`

   `Please confirm that it is acceptable to use /opt/genesys/varsdk directory as destination directory.`

   `Do you wish to continue (y/n)?`

5. Enter `y`.

Note: If it is not the correct directory, you can stop setup by entering `n`.

The installer proceeds with the uninstallation of VAR Java SDK. When complete, the installer prompts you with the following message:

```
Uninstallation of Voice Platform Application Reporter Java SDK,
version 7.6.000.xx has completed successfully.
```

End of procedure

Procedure:
Uninstalling VAR Java SDK on Windows

Start of procedure

1. Go to `Control Panel > Add/Remove Programs`.

2. Select `Genesys Voice Platform Application Reporter Java SDK` from the list of currently installed programs, and then click `Remove`.

    The `Genesys Installation Wizard's` welcome screen appears.

3. Select `Remove`, and then click `Next`.

    A dialog box appears, asking whether you are sure that you want to uninstall VAR Java Client.

4. Click `Yes`.

    The `Setup Status` screen appears, followed by the `Maintenance Complete` screen.

5. Click `Finish`.

6. Restart your computer.

End of procedure

A

Voice Application Reporter Database Schema

The following section describes the tables of the Voice Application Reporter (VAR) Database schema. Figure 26 on displays the relationships of the VAR tables in pictorial form. The sections that follow provide the details for each of these database tables.
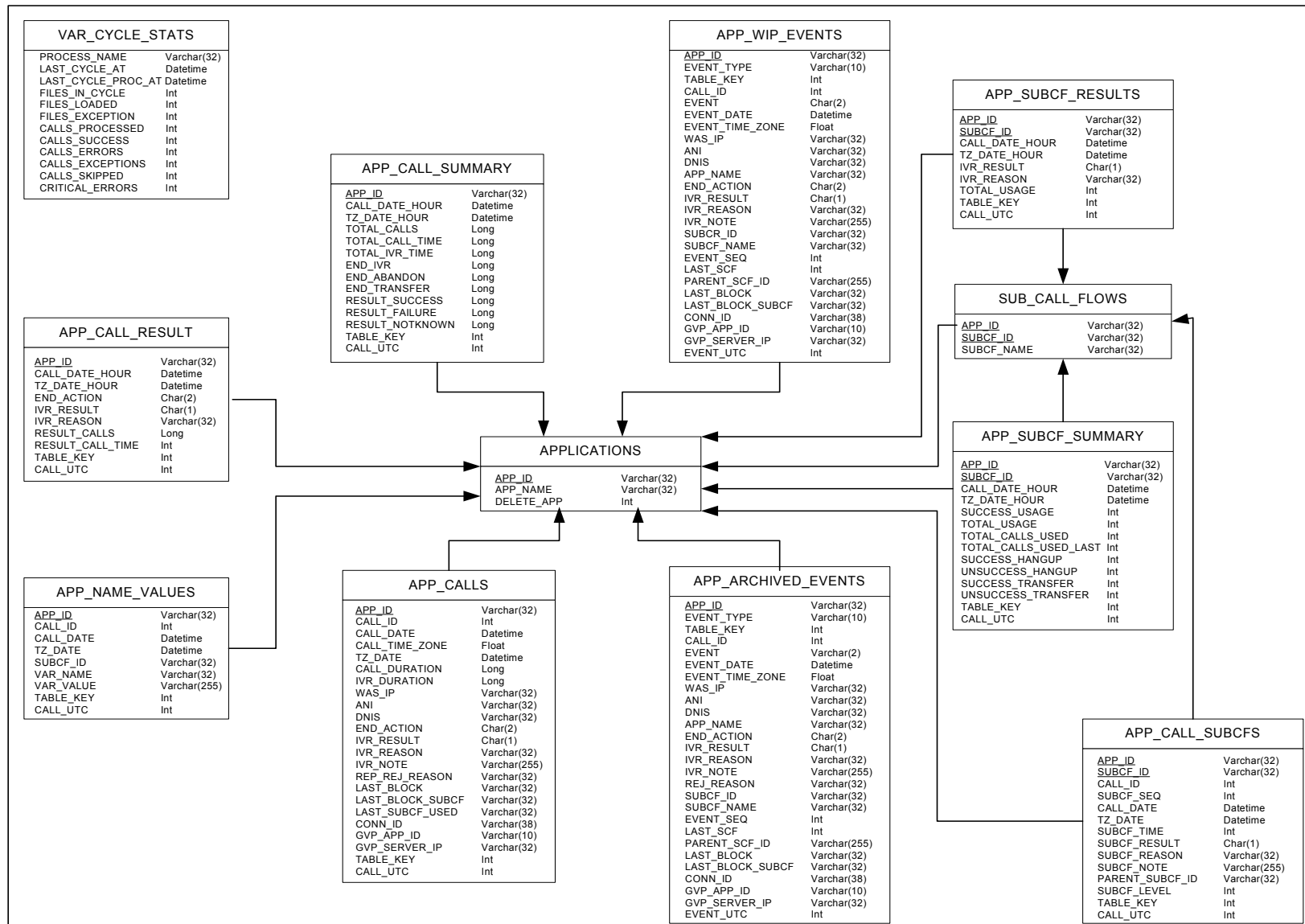
Figure 26: Voice Application Report Database Schema

APP_WIP_EVENTS

The APP_WIP_EVENTS table stores the raw data as it is received from the profile client.

Table 12: APP_WIP_EVENTS

Column Name	Data Type	Description
EVENT_TYPE	Varchar(10)	For future use. Holds the value PROFILE.
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_ID	Integer	Unique identifier for the call. The duration of the call is calculated using this value.
EVENT	Char(2)	Holds the calls event code. 01—CALL_START 02—CALL_END 03—SUB-CALL-FLOW_START 04—SUB-CALL-FLOW_END
EVENT_DATE	Datetime	Holds the date and time in GMT of the call event. The duration of the call is calculated using this value.
EVENT_TIME_ZONE	Float	Local time zone offset.
WAS_IP	Varchar(32)	Holds the IP Address of the Web Server Application that served the call.
ANI	Varchar(32)	Holds the phone number of the caller.
DNIS	Varchar(32)	Holds the phone number where the call terminated in the VCS. It is the number that was delivered to the application when it was presented with the voice call.
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
APP_NAME	Varchar(32)	Holds the name of the application that handles the call.

Table 12: APP_WIP_EVENTS (Continued)

Column Name	Data Type	Description
END_ACTION	Char(2)	Holds the call end results. 01—Hangup This will occur when neither the transfer nor the abandon end state occurs. 02—Transferred to an Agent A voice application call is defined as transferred out of the self service application if a `Transfer` or `CONNECT` block is executed within the self service application. CTI transfers using Route Points are not counted in this field, and will appear as counts in the `hangup` field. 03—Abandoned The call lasted for less than the minimum call duration as configured in the application.
IVR_RESULT	Char(1)	Holds the status of the call. S—Success F—Failure U—Unknown

IVR_REASON	Varchar(32)	Hold the result explanation. For example,
		 `Caller Hang-up`
		 `Ring No Answer`
		 `Database Error`
		 Used in the IVR Completion Report.

IVR_NOTE	Varchar(255)	Holds additional information for the calls. Shown only in the call details, and can be empty.
SUBCF_ID	Varchar(32)	Holds the unique identifier for the IVR Action.
SUBCF_NAME	Varchar(32)	Holds the name of the IVR Action.
EVENT_SEQ	Integer	The order of the call.
LAST_SCF	Integer	Indicates the last IVR Action used in the call: 0—No 1—Yes

Table 12: APP_WIP_EVENTS (Continued)

Column Name	Data Type	Description
PARENT_SCF_ID	Varchar(255)	Holds the optional parent IVR Action identifier for the original IVR Action.
LAST_BLOCK	Varchar(32)	Reserved for future use.
LAST_BLOCK_SUBCF	Varchar(32)	Reserved for future use.
CONN_ID	Varchar(38)	Holds the Framework Connection ID.
GVP_APP_ID	Varchar(10)	Holds the GVP application ID.
GVP_SERVER_IP	Varchar(32)	Holds the GVP Voice Server ID.
EVENT_UTC	Integer	Holds the GMT date in UTC format.

APP_ARCHIVED_EVENTS

The APP_ARCHIVED_EVENTS table stores the raw event information that is archived after processing.

Note: In the MSSQL database, the size of REJ_REASON field in APP_ARCHIVED_EVENTS table is 255.

Table 13: APP_ARCHIVED_EVENTS

Column Name	Data Type	Description
EVENT_TYPE	Varchar(10)	For future use. Holds the value PROFILE.
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_ID	Integer	Unique identifier for the call. The duration of the call is calculated using this value.
EVENT	Char(2)	Holds the calls event code. 01—CALL_START 02—CALL_END 03—SUB-CALL-FLOW_START 04—SUB-CALL-FLOW_END
EVENT_DATE	Datetime	Holds the date and time in GMT of the call event. The duration of the call is calculated using this value.

Table 13: APP_ARCHIVED_EVENTS (Continued)

Column Name	Data Type	Description
EVENT_TIME_ZONE	Float	Local time zone offset.
WAS_IP	Varchar(32)	Holds the IP Address of the Web Server Application that served the call.
ANI	Varchar(32)	Holds the phone number of the caller.
DNIS	Varchar(32)	Holds the phone number where the call terminated in the VCS. It is the number that was delivered to the application when it was presented with the voice call.
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
APP_NAME	Varchar(32)	Holds the name of the application that handles the call.
END_ACTION	Char(2)	Holds the call end results. 01—Hangup This occurs when neither the transfer nor the abandon end state occurs. 02—Transferred to an Agent A voice application call is defined as transferred out of the self service application if a `Transfer` or `CONNECT` block is executed within the self service application. CTI transfers using Route Points are not counted in this field, and will appear as counts in the `hangup` field. 03—Abandoned The call lasted for less than the minimum call duration as configured in the application.
IVR_RESULT	Char(1)	Holds the status of the call. S—Success F—Failure U—Unknown

Table 13: APP_ARCHIVED_EVENTS (Continued)

Column Name	Data Type	Description
IVR_REASON	Varchar(32)	Holds the result explanation. For example, `Caller Hang-up` `Ring No Answer` `Database Error` Used in the IVR Completion Report.
IVR_NOTE	Varchar(255)	Holds additional information for the calls. Shown only in the call details, and can be empty.
REJ_REASON	Varchar(32)	Holds the reason for the rejected call.
SUBCF_ID	Varchar(32)	Holds the unique identifier for the subcallflow.
SUBCF_NAME	Varchar(32)	Holds the name of the subcallflow.
EVENT_SEQ	Integer	Holds the sequence number of the event within the call.
LAST_SCF	Integer	Indicates the last IVR Action within the call. 0—No 1—Yes
PARENT_SCF_ID	Varchar(255)	Holds the optional parent IVR Action identifier for the original IVR Action.
LAST_BLOCK	Varchar(32)	Reserved for future use.
LAST_BLOCK_SUBCF	Varchar(32)	Reserved for future use.
CONN_ID	Varchar(38)	Holds the Framework Connection ID.
GVP_APP_ID	Varchar(10)	Holds the GVP application ID.
GVP_SERVER_IP	Varchar(32)	Holds the GVP Voice Server ID.
EVENT_UTC	Integer	Holds the GMT date in UTC format.

APP_CALLS

The APP_CALLS table stores the individual call level data. This table holds one record per call.

Table 14: APP_CALLS

Column Name	Data Type	Description
CALL_ID	Integer	Unique identifier for the call. The duration of the call is calculated using this value.
CALL_DATE	Datetime	Date and time that the call was initiated.
CALL_TIME_ZONE	Float	Local time zone offset.
TZ_DATE	Datetime	Date and time that the call was initiated in the current time zone.
CALL_DURATION	Long	Length of call in seconds.
IVR_DURATION	Long	The time the call spent in the IVR.
WAS_IP	Varchar(32)	Holds the IP Address of the Web Server Application that served the call.
ANI	Varchar(32)	Holds the phone number of the caller.
DNIS	Varchar(32)	Holds the phone number where the call terminated in the VCS. It is the number that was delivered to the application when it was presented with the voice call.
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
END_ACTION	Char(2)	Holds the call end results. 01—Hangup This occurs when neither the transfer nor the abandon end state occurs. 02—Transferred to an Agent A voice application call is defined as transferred out of the self service application if a `Transfer` or `CONNECT` block is executed within the self service application. CTI transfers using Route Points are not counted in this field, and will appear as counts in the `hangup` field. 03—Abandoned The call lasted for less than the minimum call duration as configured in the application.

Table 14: APP_CALLS (Continued)

Column Name	Data Type	Description
IVR_RESULT	Char(1)	Holds the status of the call. S—Success F—Failure U—Unknown

IVR_REASON	Varchar(32)	Holds the result explanation. For example,
		`Caller Hang-up`
		`Ring No Answer`
		`Database Error`
		Used in the IVR Completion Report.

IVR_NOTE	Varchar(255)	Holds additional information for the call. Shown only in the call details, and can be empty.
REP_REJ_REASON	Varchar(32)	Holds the reason for the rejected call.
LAST_BLOCK	Varchar(32)	Reserved for future use.
LAST_BLOCK_SUBCF	Varchar(32)	Reserved for future use.
LAST_SUBCF_USED	Varchar(32)	Reserved for future use.
CONN_ID	Varchar(38)	Holds the Framework Connection ID.
GVP_APP_ID	Varchar(10)	Holds the GVP application ID.
GVP_SERVER_IP	Varchar(32)	Holds the GVP Voice Server ID.
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_UTC	Integer	Holds the GMT date in UTC format.

APP_CALL_SUMMARY

The APP_CALL_SUMMARY table stores application summary data.

Table 15: APP_CALL_SUMMARY

Column Name	Data Type	Description
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
CALL_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format.
TZ_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format in the current time zone.
TOTAL_CALLS	Long	Holds the total number of calls incurred in the hour.
TOTAL_CALL_TIME	Long	Holds the total time of all calls for the application within the hour.
TOTAL_IVR_TIME	Long	Holds the total time calls spent in the IVR within the hour.
END_IVR	Long	Holds the total number of calls that ended in the IVR.
END_ABANDON	Long	Holds the total number of abandoned calls.
END_TRANSFER	Long	Holds the total number of calls transferred.
RESULT_SUCCESS	Long	Holds the total number of successful calls.
RESULT_FAILURE	Long	Holds the total number of failed calls.
RESULT_NONTKNOWN	Long	Holds the total number of unknown calls.
TABLE_KEY	Integer	Autogenerated unique identifier for the table.
CALL_UTC	Integer	Holds the GMT date in UTC format.

APP_CALL_RESULT

The APP_CALL_RESULT table stores application result data.

Table 16: APP_CALL_RESULT

Column Name	Data Type	Description
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
CALL_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format.
TZ_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format in the current time zone.
END_ACTION	Char(2)	Holds the call end results. 01—Hangup This occurs when neither the transfer nor the abandon end state occurs. 02—Transferred to an Agent A voice application call is defined as transferred out of the self service application if a `Transfer` or `CONNECT` block is executed within the self service application. CTI transfers using Route Points are not counted in this field, and will appear as counts in the `hangup` field. 03—Abandoned The call lasted for less than the minimum call duration as configured in the application.
IVR_RESULT	Char(1)	Holds the status of the call. S—Success F—Failure U—Unknown

IVR_REASON	Varchar(32)	Holds the result explanation. For example,
		`Caller Hang-up`
		`Ring No Answer`
		`Database Error`
		Used in the IVR Completion Report.

RESULT_CALLS	Long	Holds the total number of calls that has this result and reason combination for the given application and hour.

Table 16: APP_CALL_RESULT (Continued)

Column Name	Data Type	Description
RESULT_CALL_TIME	Integer	Holds the duration of all calls that has this result and reason combination for the given application and hour.
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_UTC	Integer	Holds the GMT date in UTC format.

APPLICATIONS

The APPLICATIONS table stores the application information.

Table 17: APPLICATIONS

Column Name	Data Type	Description
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
APP_NAME	Varchar(32)	Holds the name of the application that handles the call.
DELETE_APP	Integer	Holds the status of the application. 0—Available 1—Not Available

APP_CALL_SUBCFS

The APP_CALL_SUBCFS table stores the individual call level data for the IVR Actions. This table holds one record per call.

Table 18: APP_CALL_SUBCFS

Column Name	Data Type	Description
CALL_ID	Integer	Unique identifier for the call. The duration of the call is calculated using this value.
SUBCF_SEQ	Integer	Holds the sequence number of the IVR Action within the call.
SUBCF_ID	Integer	Unique identifier for the subcallfow.

Table 18: APP_CALL_SUBCFS (Continued)

Column Name	Data Type	Description
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
CALL_DATE	Datetime	Holds the date and time that the IVR Action was initiated.
TZ_DATE	Datetime	Holds the date and time that the IVR Action was initiated in the local time zone.
SUBCF_TIME	Integer	Holds the total duration of the IVR Action.
SUBCF_RESULT	Char(1)	Holds the status of the call. S—Success F—Failure U—Unknown

SUBCF_REASON	Varchar(32)	Holds the result explanation. For example,
		`Caller Hang-up`
		`Ring No Answer`
		`Database Error`
		Used in the IVR Completion Report

SUBCF_NOTE	Varchar(255)	Holds additional information about the IVR Action. It can be empty.
PARENT_SCF_ID	Varchar(32)	Holds the optional parent IVR Action identifier for the original IVR Action.
SUBCF_LEVEL	Integer	Holds the nesting level of the IVR Action.
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_UTC	Integer	Holds the GMT date in UTC format.

APP_SUBCF_SUMMARY

The APP_SUBCF_SUMMARY table stores summary data for the IVR Action applications.

Table 19: APP_SUBCF_SUMMARY

Column Name	Data Type	Description
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
SUBCF_ID	Varchar(32)	Holds the unique identifier for the subcallflow.
CALL_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format.
TZ_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format in the current time zone.
SUCCESS_USAGE	Integer	Holds the number of successful calls.
TOTAL_USAGE	Integer	Holds the number of times that the IVR Action was used.
TOTAL_CALLS_USED	Integer	Holds the number of calls that used this IVR Action.
TOTAL_CALLS_USED_LAST	Integer	Holds the number of calls that used this IVR Action as the last IVR Action.
SUCCESS_HANGUP	Integer	Holds the number of successful call hangups for calls that used this IVR Action as the last IVR Action.
UNSUCCESS_HANGUP	Integer	Holds the number of unsuccessful call hangups for the calls that used this IVR Action as the last IVR Action.
SUCCESS_TRANSFER	Integer	Holds the number of successful transfers for calls that used this IVR Action as the last IVR Action.
UNSUCCESSFUL_TRANSFER	Integer	Holds the number of unsuccessful transfers for calls that used this IVR Action as the last IVR Action.
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_UTC	Integer	Holds the GMT date in UTC format.

APP_SUBCF_RESULTS

The APP_SUBCF_RESULTS table stores the IVR Action data results.

Table 20: APP_SUBCF_RESULTS

Column Name	Data Type	Description
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
SUBCF_ID	Varchar(32)	Holds the unique identifier for the IVR Action.
CALL_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format.
TZ_DATE_HOUR	Datetime	Holds the time of the call in YYYY-MM-DD HH:MM:SS format in the current time zone.
IVR_RESULT	Char(1)	Holds the status of the call. S—Success F—Failure U—Unknown

IVR_REASON	Varchar(32)	Hold the result explanation. For example,
		`Caller Hang-up`
		`Ring No Answer`
		`Database Error`
		Used in the IVR Completion Report.

TOTAL_USAGE	Integer	Holds the number of times that the IVR Action was used with this result.
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_UTC	Integer	Holds the GMT date in UTC format.

SUB_CALL_FLOWS

The SUB_CALL_FLOWS table stores the IVR Action forwarding services for an application.

Table 21: SUB_CALL_FLOWS

Column Name	Data Type	Description
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
SUBCF_ID	Varchar(32)	Holds the unique identifier for the IVR Action.
SUBFC_NAME	Varchar(32)	Holds the name of the IVR Action.

APP_NAME_VALUES

The APP_NAME_VALUES table stores the custom name value pairs for a call.

Table 22: APP_NAME_VALUES

Column Name	Data Type	Description
CALL_ID	Integer	Unique identifier for the call.
CALL_DATE	Datetime	Holds the date and time of when the callflow was initiated.
TZ_DATE	Datetime	Holds the date and time of when the callflow was initiated in the current time zone.
APP_ID	Varchar(32)	Holds the reference of the application that handles the call.
SUBCF_ID	Varchar(32)	Holds the unique identifier for the IVR Action.
VAR_NAME	Varchar(32)	Holds the name of the custom variable.
VAR_VALUE	Varchar(255)	Holds the value of the customer variable.

Table 22: APP_NAME_VALUES (Continued)

Column Name	Data Type	Description
TABLE_KEY	Integer	Auto generated unique identifier for the table.
CALL_UTC	Integer	Holds the GMT date in UTC format.

VAR_CYCLE_STATS

The VAR_CYCLE_STATS table stores the cycle statistics of the VAR process.

Table 23: VAR_CYCLE_STATS

Column Name	Data Type	Description
PROCESS_NAME	Varchar(32)	Holds the name of the VAR process.
LAST_CYCLE_AT	Datetime	Holds the date and time of when the last cycle was executed.
LAST_CYCLE_PROC_AT	Datetime	Holds the date and time of when the last cycle that processed calls was executed.
FILES_IN_CYCLE	Integer	Holds the number of files read in the cycle.
FILES_LOADED	Integer	Holds the number of files read and loaded into the database in the cycle.
FILES_EXCPETIONS	Integer	Holds the number of files that encountered exceptions in the cycle.
CALLS_PROCESSED	Integer	Holds the number of calls processed in the cycle.
CALLS_SUCCESS	Integer	Holds the number of successfully processed calls in the cycle.
CALLS_ERRORS	Integer	Holds the number of calls that encountered errors in the cycle.
CALLS_EXCEPTIONS	Integer	Holds the number of calls that encountered exceptions in the cycle.

Table 23: VAR_CYCLE_STATS (Continued)

Column Name	Data Type	Description
CALLS_SKIPPED	Integer	Holds the number of skipped calls in the cycle.
CRITICAL_ERRORS	Varchar(255)	Holds the critical errors returned in the last cycle.

B Configuring VAR Split Processes

This appendix provides the steps required to configure the VAR Split Processes. It contains the following sections:

Overview

The Voice Application Reporter (VAR) Server backend process has been split into three separate processes to provide enhanced performance for the following situations:

* The existing VAR (single process) cannot handle the incoming call volume.

* The existing VAR encounters frequent backlogs.

* The reporting is delayed for over an hour.

The VAR Consolidator process is divided into the following three separate processes based on functionality, and are run simultaneously.

* Events Loader—The events loader populates the events tables with the RAW events. Events are inserted into the `APP_WIP_EVENTS`, `APP_ARCHIVED_EVENTS`, and `APP_NAME_VALUES` tables from the event files.

* Events Processor—This process generates the various summaries and reports from the `APP_WIP_EVENTS` table.

* Cleanup—This process cleans the old archived events, various old summaries, and applications based on user configuration.

The `VAR Status Check Results` GUI updates the status of the individual processes as follows:

- Events Loader:
  - Last loader cycle executed at
  - Last event(s) loaded at
  - Critical processing errors in loader
- Events Processor:
  - Last processor cycle executed at
  - Last event(s) processed at
  - Critical processing errors in processor
- Cleanup:
  - Last cleanup cycle executed at
  - Last cleanup at
  - Critical processing errors in cleanup

Note: The `VAR Status Check Results` GUI does not display the following attributes when the VAR Split process is used:

- Last Cycle executed at
- Last Call processed
- Critical Processing Errors

The VAR Split process creates the following logs:

- `var_events_loader_<day>.log`

- `var_events_processor_<day>.log`

- `var_cleanup_<day>.log`

Configuring VAR Split Process

This section describes the steps required to configure and run the VAR Split processes on Window and Solaris.

Note: To revert back to the consolidated process, disable the scheduled tasks, or the Cron Jobs. In addition, delete the `VAR_PROCESSOR` and `VAR_CLEANUP` entries from the `var_cycle_stats` table in the VAR Database.

Configuring and Running the VAR Split Process on Windows

This section describes the procedure to configure the VAR Split Process for Windows.

Procedure:Configuring VAR Split Process on Windows

Start of procedure

1. Disable the `AppReporter` scheduled task.

2. Run the following database scripts:
   - For Oracle—`split_process_var_oracle_7_6_0.sql`
   - For MSSQL—`split_process_var_mssql_7_6_0.sql`
   - For DB2—`split_process_var_db2_7_6_0.sql`

3. Create the following scheduled tasks:
   - VAR_Events_Loader—Trigger every minute using the following script at the commandline:

     `<VAR Server Installation Directory>\bin\php\VAREngine.exe -q var_events_loader.php`
   - VAR_Events_Processor—Trigger every minute using the following script at the commandline:

     `<VAR Server Installation Directory>\bin\php\VAREngine.exe -q var_events_processor.php`
   - VAR_CleanUp—Trigger every hour using the following script at the commandline:

     `<VAR Server Installation Directory>\bin\php\VAREngine.exe -q var_cleanup.php`

End of procedure

Configuring and Running the VAR Split Process on Solaris

This section describes the procedure to configure the VAR Split Process for Solaris.

Procedure:Configuring VAR Split Process on Solaris

Start of procedure

1. Run the following database script:
   - For Oracle—`split_process_var_oracle_7_6_0.sql`

2. Modify the following scripts with the database environment variables:
   - `<CN Dir>/gvpapplicationreporter/php/var_engine/var_cleanup.sh`
   - `<CN Dir>/gvpapplicationreporter/php/var_engine/var_events_loader.sh`

- <CN
  Dir>/gvpapplicationreporter/php/var_engine/var_events_processor.
  sh

  The following is an example of the updated `var_events_loader.sh`
  script:

  ```
  #!/bin/sh
  # This file is used to execute the VAR Loader periodically using
  Cron Jobs in Unix Platforms.
  # The installer updates tokens oraclehome, CnDir and ApacheDir
  # Do not edit this file manually
  ORACLE_HOME=/usr/oracle10g
  export ORACLE_HOME
  LD_LIBRARY_PATH=$LD_LIBRARY_PATH:.:/usr/oracle10g/lib32
  export LD_LIBRARY_PATH
  cd /opt/genesys/gvp/cn/gvpapplicationreporter/php/var_engine
  /opt/genesys/gvp/apache/bin/php -c
  /opt/genesys/gvp/apache/conf/php.ini -q var_events_loader.php
  ```

Note: To manually update the new script files, refer to the `var_engine.sh`
file.

3. Modify the Cron Jobs:
   a. Log in using the root account.
   b. Execute the `crontab -e` command. This command opens the crontab
      file in the editor determined by the value of environment variable
      EDITOR.
   c. Add the following crontab entries:
      - `0 * * * * (cd`
        `opt/genesys/gvp/cn/gvpapplicationreporter/php/var_engine;`
        `./var_cleanup.sh) >/dev/null 2>&1`
      - `* (cd`
        `/opt/genesys/gvp/cn/gvpapplicationreporter/php/var_engine;`
        `./ var_events_loader.sh) >/dev/null 2>&1`
      - `* (cd`
        `/opt/genesys/gvp/cn/gvpapplicationreporter/php/var_engine;`
        `./ var_events_processor.sh) >/dev/null 2>&`
   d. Remove the following crontab entry:
      - `0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57 * *`
        `* * (cd`
        `/opt/genesys/gvp/cn/gvpapplicationreporter/php/var_engine;`
        `./var_engine.sh) >/dev/null 2>&1`
   e. Save the file and quit the editor.

End of procedure

Note: The root user must have privileges to create Solaris Cron jobs. For more information about setting these privileges, refer to the Solaris documentation.

Index

Genesys Voice Platform 7.6