



Framework 7.6

Stat Server

Deployment Guide

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Preface

Welcome to the *Framework 7.6 Stat Server Deployment Guide*. This document introduces you to the configuration, installation, and start procedures relevant to Stat Server. This guide is valid only for the 7.6.x releases of Stat Server.

Note: For versions 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 guide, identifies the primary audience, introduces document conventions, and lists related reference information:

- [Intended Audience, page 6](#)
- [Chapter Summaries, page 6](#)
- [Document Conventions, page 7](#)
- [Related Resources, page 9](#)
- [Making Comments on This Document, page 9](#)
- [New in this Release, page 10](#)

Stat Server is part of the Services Layer of the Genesys Framework. This key component is used by other Genesys solutions and Solution Reporting to track the real-time states of interaction management resources, and to calculate basic measurements about the performance of contact center events and activities.

Intended Audience

This guide, primarily intended for network, IT, and contact center 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 Framework and Genesys solutions architecture and functions.

Chapter Summaries

In addition to this preface, this guide contains the following chapters and an appendix:

- Chapter 1, “Stat Server Wizard,” on [page 11](#), describes the different modes of the Stat Server Wizard and how to install and invoke it.
- Chapter 2, “Optimizing Performance,” on [page 13](#), lists some recommendations for optimizing Stat Server performance.
- Chapter 3, “Configuring Stat Server,” on [page 15](#), describes how to set up a Stat Server Application object both manually and using the Stat Server Wizard.
- Chapter 4, “Fine-Tuning Stat Server Configuration,” on [page 23](#), describes the configuration options you can set in the Stat Server application to affect how Stat Server operates.
- Chapter 5, “Other Factors Affecting Stat Server,” on [page 51](#), describes some of the attributes in other Genesys applications that affect how Stat Server operates.
- Chapter 6, “Common Log Options,” on [page 53](#), describes log configuration options that are common to all Genesys server applications including Stat Server.
- Chapter 7, “Installing Stat Server,” on [page 75](#), describes how to install the application following manual and wizard configuration. This chapter also demonstrates how to install Stat Server silently—without interactive dialog during installation.
- Chapter 8, “Starting and Stopping Stat Server,” on [page 83](#), describes how to start and stop Stat Server on all supported platforms. This chapter also describes starting and stopping from the Solution Control Interface.
- Chapter 9, “Application Files,” on [page 89](#), describes the files deployed during installation.

- Appendix A, “Physical Data Models for Stat Server Tables,” on [page 93](#), describes the database tables to which Stat Server stores data.

Document Conventions

This document uses certain stylistic and typographical conventions—introduced here—that serve as shorthands 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:

76fr_dep_statserver_08-2008_v7.6.101.01

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 7 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.

- On the Properties page, enter the value for the host server in your environment.
- In the Operand text box, enter your formula.
- Click OK to exit the Properties page.
- 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 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]
```

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:

- The *Framework 7.6 Stat Server User's Guide*, for information about the makeup of a statistic and the manner in which Stat Server provides data to its clients.
- The *Genesys 7.6 Resource Capacity Planning Guide*, which explains how the Genesys model has been expanded to serve agents conducting contact center interactions across several media types.
- The *Framework 7.6 Deployment Guide*, which will help you configure and install other Framework components.
- The *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.
- The *Genesys 7 Migration Guide*, also on the Genesys Documentation Library DVD, which provides a documented migration strategy from Genesys product releases 6.x and later to all Genesys 7.x releases. Contact Genesys Technical Support for additional information.
- The Release Notes and Product Advisories for this product, which are available on the Genesys Technical Support website at <http://genesyslab.com/support>.

Information on supported hardware and third-party software is available on the Genesys Technical Support website in the following documents:

- [Genesys 7 Supported Operating Systems and Databases](#)
- [Genesys 7 Supported Media Interfaces](#)

Genesys product documentation is available on the:

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

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New in this Release

This *Framework 7.6 Stat Server Deployment Guide* includes the following new features:

- A new value for the debug-level configuration option:
 - `ClientX`, described on [page 27](#).
- Several new configuration options in the statserver section:
 - `capacity-treat-acw-as-interaction`, described on [page 25](#).
 - `suppress-agent-status-updates-for-ixn-server`, described on [page 34](#).
 - `vag-statistics-active-agents-only`, described on [page 34](#). (This option was introduced in the 7.1 release but was not documented.)
 - Three new configuration options related to writing to the Stat Server database:
 - `max-unsent-sql-statements`, described on [page 36](#).
 - `multimedia-activity-in-status-table`, described on [page 37](#).
 - `warn-unsent-sql-statements`, described on [page 39](#).
- A new chapter, “Other Factors Affecting Stat Server,” beginning on [page 51](#), which describes some attributes of other Genesys applications that impact Stat Server.
- Customization of log events in the Log-Extended section, beginning on [page 69](#).
- Support for security-related logging options:
 - In the `Log-Filter` section, described on [page 71](#).
 - In the `Log-Filter-Data` section, described on [page 72](#).
- Logging of agent login/logout activity on media channels in the `LOGIN` table, described on [page 96](#).

Other new features, such as the enhancements made to the resource capacity model to handle interactions from multimedia DNs and the additional classification of media-dependent and -independent actions, are described in the *Genesys 7.6 Resource Capacity Planning Guide* and *Framework 7.6 Stat Server User's Guide* respectively.



Chapter

1

Stat Server Wizard

This chapter contains these sections:

- [Modes of the Stat Server Wizard, page 11](#)
- [Installing the Stat Server Wizard, page 12](#)
- [Uninstalling the Stat Server Wizard, page 12](#)

Modes of the Stat Server Wizard

At various points in the configuration of a Genesys solution or Solution Reporting, you can invoke the Stat Server Wizard to configure a Stat Server Application object. Or, you can invoke it directly within Configuration Manager.

The Stat Server Wizard is comprised of three modes:

- Stat Server Installation mode
- Stat Server Configuration mode
- Stat Server Upgrade mode

Configuring a backup Stat Server is also possible in all three modes. The manner in which you invoke the Stat Server Wizard, and the place from which you invoke it, determine the mode under which it operates. All modes modify or create a Stat Server Application object in Configuration Manager with defined T-Server connection(s), startup information, configuration options, and tenant and server identification.

Installing the Stat Server Wizard

You do not need to upgrade the Genesys Wizard Manager prior to installing the Stat Server Wizard. Installing the latest Stat Server Wizard automatically upgrades the common wizards set. You must, however, have a 7.0.1 or later release of the Genesys Wizard Manager installed, and you must uninstall any previous releases of the Stat Server Wizard that reside on your machine. If you are a first-time user, refer to the `configuration_wizard` directory on the Management Framework CD. You can install Genesys wizards only on Windows platforms.

Before you operate another Genesys wizard that relies on the Stat Server component, install the Stat Server Wizard, following these steps:

1. From the Real-Time Metrics Engine CD, go to either the root directory or the `configuration_wizard` subdirectory and run `Setup.exe`.
2. On the Welcome page, click Next.

The wizard displays a page listing the Genesys wizards already installed on your machine as well as their location, which is `C:\Program Files\GenesysCFGWizards` if the default location was originally indicated.

3. Click Next.

The installation routine copies the file needed to operate the Stat Server Wizard to your `GenesysCFGWizards` directory.

4. Click Finish.

You may be asked to reboot your machine.

Uninstalling the Stat Server Wizard

You must uninstall previous releases of the Stat Server Wizard prior to installing a new release:

1. Open the Control Panel and double-click Add/Remove Programs.
2. Select Genesys Stat Server Wizard from the list box and click Add/Remove.
3. Click Yes to confirm deletion.
4. Click OK.

The Uninstallation Wizard removes the program registry entries for the Stat Server Wizard. After reboot, all traces of the Stat Server Wizard are completely removed.



Chapter

2

Optimizing Performance

When planning to install Stat Server, follow these recommendations:

- Consider the following formula, which approximates Stat Server memory, in megabytes, in a typical large contact center:

$$\text{MemoryReqd} = 100 + (N\text{Statistics} \times 0.0012)$$

where *NStatistics* represents the number of open statistics and 0.0012 refers to approximately 1.2 KB of memory per statistic.

For example, Stat Server on a box with 1.5 GB of memory should be more than ample to handle CC Analyzer requests of 30,000 active Agent or Place objects originating from the Genesys-provided Agent and Place reports):

$$\begin{aligned} N\text{Statistics} &= 28 \text{ statistics/report layout} \times 30,000 \text{ objects} \\ &= 840,000 \text{ statistics} \end{aligned}$$

$$\begin{aligned} \text{MemoryReqd} &= 100 + (840,000 \times 0.0012) \\ &= 1,108 \text{ MB} \end{aligned}$$

where *NStatistics* represents the number of open statistics and 0.0012 refers to 1.2 KB of memory per statistic. For smaller contact centers, you can reduce the constant (100) to a smaller value.

Install Stat Server on a computer with sufficient physical memory to avoid swapping.

- Consider distributing the total number of required statistics for Solution Reporting and real-time interaction processing for all solutions over a number of Stat Servers.
- Install Stat Server and T-Server on the same machine or connect them through a fast LAN. If you are using several T-Server applications, position Stat Server nearest to the busiest T-Server.
- Do not install real-time, third-party applications on the machine running Stat Server.

- For large contact centers, consider allocating approximately 5 MB of space for each day Stat Server writes data to a database. This recommendation applies only if you configure Stat Server with a database access point and enable your Stat Server application to write data to a database by setting corresponding configuration options.

You can also expect to notice improved Stat Server performance with regard to CPU usage. Over the 7.2 release, both the Stat Server 7.5 and 7.6 releases demonstrate lower CPU consumption. For example, on Solaris platforms, expected CPU usage reduction is about 15–20%.



Chapter

3

Configuring Stat Server

This chapter describes four methods for configuring a Stat Server Application object and the uninstall mode of the Stat Server Wizard:

- [Stat Server Wizard—Installation Mode, page 15](#)
- [Stat Server Wizard—Upgrade Mode, page 17](#)
- [Stat Server Wizard—Configuration Mode, page 18](#)
- [Manual Configuration, page 19](#)
- [Stat Server Wizard—Uninstall Mode, page 21](#)

To configure a Stat Server Application object, Configuration Server must be running.

Stat Server Wizard—Installation Mode

At various points during the configuration of Genesys solutions or Solution Reporting, these wizards give you the opportunity to create and configure a Stat Server Application object. When you invoke the Stat Server Wizard in this fashion, it operates in Installation mode. You can also start the installation mode of the Stat Server Wizard by right-clicking an application folder in Configuration Manager and selecting Wizard > Install > Stat Server from the shortcut menu.

1. On the Welcome page, click Next.
2. On the Stat Server Name page, type a unique name for your Stat Server Application object, and select a folder to keep it in if you do not want to use the default. Click Next.
3. On the Tenants Monitored by this Stat Server page, select which tenants this Stat Server application is to monitor, and click Next.

Note: This page does not appear in single-tenant environments.

4. On the **Switch Selection** page, select one or more T-Server applications that you want Stat Server to monitor, and click **Next**.
5. On the **Interaction Server selection** page, select the Interaction Server applications that you want Stat Server to monitor, and click **Next**.
6. On the **Log configurations** page, specify what information Stat Server is to log. Click **Run Log Wizard...** to change the default options and/or the log output. Then, click **Next**.
7. On the **Java Configuration Options** page, specify whether Stat Server should support Java functionality. If so, select the **Load Java at startup** check box and then configure JVM (Java Virtual Machine) and Stat Server Java Extension parameters, and then click **Next**.

Note: You need only configure a Java Runtime Environment if you intend to use Stat Server for Reporting in Outbound Contact 7.2⁺, Multimedia (formerly known as MCR) 7.0⁺, or VCB 7.1⁺.

8. On the **Server Info** page, select the host and port where you want Stat Server installed, and click **Next**. The wizard verifies that the indicated port is not in use by any other application.
9. On the **Installation Package** page:
 - a. Specify the root of the Real-Time Metrics Engine CD.
 - b. Specify where you want the installation package copied, and then click **Next**.

Note: Remember the destination path you specify in this step. You will need it later (on [page 75](#)) to install Stat Server.

The screen changes to display a progress-of-completion bar as the wizard deploys the installation package.

10. On the **Installation Ready** page, click **Next**.
11. On the **Backup Server Information** page, select the check box if you want to specify a backup Stat Server. After doing so, additional fields appear, in which you specify a name, host, port, folder, and redundancy type for your backup application. You do not configure the backup Stat Server Application object on this page—you merely identify it. Stat Server supports only the Warm Standby redundancy type. Click **Next** to proceed.

Note: Your backup Stat Server application must be created using the same application template as the primary Stat Server.

The **Summary** page appears, showing configuration highlights for the Stat Server Application object you just created.

12. On the final Wizard page, click **Finish**.

You have now configured a Stat Server Application object. The wizard creates a file called `GCTISetup.ini` containing the configuration parameters you specified, and places the file in the destination directory indicated in [Step 9](#). If you configured Java sections for your Stat Server Application object, be sure to specify this Stat Server application on the Connections tab of Application objects for the components of your Outbound Contact, Multimedia (formerly known as MCR) and/or VCB. Now, install the deployed installation package as described on [page 75](#). Be sure to review the recommendations in the “Deploying with Configuration Wizards” chapter of the *Framework 7.6 Deployment Guide* if you plan to install Stat Server on a host other than the computer running the Stat Server Wizard.

Stat Server Wizard—Upgrade Mode

To benefit from improvements made from release to release, you should run the Stat Server Wizard in Upgrade mode to upgrade Stat Server Application objects. You need not first uninstall the Stat Server application to upgrade them but you do need to stop the application from running.

Before upgrading, Genesys recommends that you export your current configuration to a `*.cfg` or `*.conf` file and save this file to a secure location for use in the event you want to roll back the environment. Refer to *Framework 7.6 Configuration Manager Help* for information about using this utility.

1. In Configuration Manager, open the Properties page of a Stat Server Application object and, on either the General or Server Info tab, click the Upgrade button to invoke the Stat Server Wizard in Upgrade mode.

Note: There are many other ways to invoke this wizard in Upgrade mode including invoking it from the various Genesys solution wizards.

2. On the Welcome page, click Next. The Upgrading Application page appears, listing high-level information about the selected application.
3. Click Next.
4. If necessary, on the Server Information page, change the host and port information for the Configuration Server on which this application is located. Then, click Next.
5. On the Installation Package page:
 - a. Specify the root of the Real-Time Metrics Engine CD.
 - b. Specify where you want the installation package copied, and then click Next.

Note: Remember the destination path you specify in this step. You will need it later (on [page 75](#)) to install Stat Server.

A bar displays the progress of completion.

6. On the Upgrade Ready page, click Next.

The Summary screen appears, showing configuration highlights for the Stat Server Application object that you just created, including any changes that you made to the configuration options.

7. Click Finish.

You have now upgraded a Stat Server Application object. The wizard creates a file called `GCTISetup.ini` containing the configuration parameters you specified. If you configured Java sections for your Stat Server Application object, be sure to specify this Stat Server application on the Connections tab of the Application objects for the components of your Outbound Contact, Multimedia (formerly known as MCR), and/or VCB. Next, install the deployed installation package as described on [page 75](#). Be sure to review the recommendations in the “Deploying with Configuration Wizard Framework” chapter of the *Framework 7.6 Deployment Guide* if you plan to install Stat Server on a host other than the computer running the Stat Server Wizard.

Stat Server Wizard—Configuration Mode

When you open the Properties page of an existing Stat Server Application object from a solution wizard or Solution Reporting and then click `Configure...`, you invoke the Stat Server Wizard in Configuration mode. This Properties page has six or nine tabs (depending on the location from which you invoke it), which you can visit in any order, to change the configuration of your Application object:

- **General**—Allows you to rename, upgrade, enable, and/or relocate your Application object.
- **Tenants**—Specifies the tenants that your Application object will monitor.
- **Start Info**—Specifies the working directory, executable, command-line arguments, startup and shutdown timeouts, and whether the application is to automatically restart upon shutdown.
- **Server Info**—Specifies the host and port of the machine where Stat Server resides. From this tab you can also specify a timeout value in seconds for unsuccessful attempts to connect to the server.
- **Backup Server**—Enables you to change the designated backup Stat Server application, disassociate the existing backup Stat Server application from the primary application, or invoke the Backup Stat Server Installation Wizard to associate a backup application with the primary application.

- **Switches**—Specifies one or more T-Servers from which Stat Server gathers source data.
- **Interaction Servers**—Specifies one or more Interaction Server applications from which Stat Server gathers source data.
- **Log Options**—Specifies Stat Server log options.
- **Java Options**—Specifies the options that Stat Server uses and the Java extensions that Stat Server loads upon startup.

When you click the **Apply** or **OK** buttons on the **Properties** page, your changes are saved to the Configuration Server Database.

Note: Opening the **Properties** page of a Stat Server **Application** object in Configuration Manager displays the same tabs; however, this method does not invoke the Stat Server Wizard.

Manual Configuration

Before installing Stat Server 7.6, you must first configure a 7.6 Stat Server **Application** object within Configuration Manager. To accomplish this, first verify the presence of a 7.6 Stat Server application template. This template provides current values for many Stat Server configuration options. Proceed as follows:

1. Open the **Application Templates** folder and locate the appropriate Stat Server template.
2. If the appropriate template version is missing, import it from the **Templates** folder on the Real-Time Metrics Engine 7.6 product CD, or create one within Configuration Manager by selecting **File > New > Application Template**.

To manually configure a Stat Server **Application** object:

1. From the Configuration Manager main window, open the **Applications** folder.
2. From the **File** menu, select **New > Application**, which opens the **Browse** page with the available application templates.
3. Choose the template that corresponds to the Stat Server release you are installing—for example, **Stat_Server_761**.
4. On the **General** tab of the **Properties** page, enter a name for your Stat Server application. The application template provides information about the Stat Server type and version.
5. For multi-tenant configurations, on the **Tenants** tab, specify the tenants that you plan to have Stat Server monitor. This tab does not appear in single-tenant environments.

6. On the **Server Info** tab of the **Properties** page, specify:
 - a. The host on which you want to install this server.
 - b. The communication port that applications will use to connect to this server.
 - c. The reconnection timeout, in seconds, for which the client application waits before attempting reconnection to this server following a failed connection.
 - d. (Optional) The name of the backup Stat Server application.
 - e. (Optional) *Warm standby*, in the **Redundancy Type** field, to indicate the state of readiness of the backup Stat Server application. A backup Stat Server in *warm standby* mode processes client requests only after its role changes from backup to primary. Stat Server does not support backup applications in *hot standby* mode, in which the client application connects to both servers upon startup and in which the primary and backup servers synchronize data between each other.
7. On the **Start Info** tab, provide the working directory and command-line parameters. For information about command-line parameters, refer to [Chapter 8](#).
8. On the **Connections** tab, add the following **Application** objects:
 - One or more T-Server and/or Interaction Server application(s).
 - Message Server, if you plan to use the Management Layer for alarm-signaling and centralized logging capabilities.
 - Database access point, if you plan to use Stat Server to populate Stat Server–related database tables.

Note: Do not assign more than one database access point to Stat Server. If you specify two or more database access points, Stat Server attempts to connect DB Server using only the first listed database access point, even if the first is unavailable.

9. On the **Options** tab, specify the values of the desired configuration options in appropriate sections. For option descriptions, refer to
 - Chapter 4 on [page 23](#) of this guide for a listing of configuration options that pertain to operation of the Stat Server application.
 - The *Framework 7.6 Stat Server User's Guide* for configuration options pertaining to statistics.
10. If you configured Java sections for your Stat Server **Application** object, be sure to specify this Stat Server application on the **Connections** tab of the **Application** object for the components of your Outbound Contact, Multimedia, and/or VCB.

Stat Server Wizard—Uninstall Mode

Operating the Stat Server Wizard in Uninstall mode removes the Application object from the Configuration Server Database. This wizard does not uninstall any application files, logs, directories, or the application executable itself. Refer to “Uninstalling the Stat Server Application” on [page 80](#) for these instructions.

To remove a Stat Server Application object from Configuration Server:

1. From Configuration Manager, select the Stat Server Application object you want to uninstall.
2. Right-click and select **Wizard > Uninstall** from the shortcut menu that appears.

The Stat Server Uninstall Wizard opens.

3. On the **Welcome** page, click **Next**.
4. On the **Uninstalling Application** page, verify the application you are about to uninstall and click **Next**.
5. On the **Uninstall Complete** page, click **Finish**.



Chapter

4

Fine-Tuning Stat Server Configuration

This chapter describes the options you can use to configure a Stat Server application. See the next chapter, “Other Factors Affecting Stat Server” on [page 51](#) for descriptions of options in other Genesys applications that affect Stat Server behavior and Chapter 6, “Common Log Options,” on [page 53](#), for descriptions of log configuration options common to most Genesys 7.6 server applications. To learn about the options you can use to configure statistics for your Stat Server application, refer to the “Statistics Configuration Options” chapter in the *Framework 7.6 Stat Server User’s Guide*.

The information in this chapter is divided among the following topics:

- [Mandatory Options, page 23](#)
- [StatServer Section, page 24](#)
- [Java Sections, page 42](#)
- [Changes from 7.0 to 7.6, page 47](#)

Note: The configuration options related to Stat Server logging are described separately in [Chapter 6](#).

Mandatory Options

You are not required to configure any options to start Stat Server.

StatServer Section

You must name this section `statserver`. [Table 1](#) lists some options available for configuring Stat Server `Application` objects. Use the options listed in [Table 2](#) on [page 35](#) to configure your Stat Server application to write data to a database. And use the options listed in [Table 4](#) on [page 41](#) and [Table 5](#) on [page 43](#) to enable Java functionality. You are directed to read your operating system and/or JRE vendor's documentation to learn of any peculiarities regarding JVM installation or setup of your Java Runtime Environment.

For those configuration options for which you specify `true/false` values, any of the following additional values are also valid:

- `t/f`
- `yes/no`
- `y/n`
- `1/0`
- `on/off`

These alternates may not be indicated in the following tables. Also, the default values listed in the tables refer to those that are either inherent to Stat Server or in the Stat Server application template (`Stat_Server_761.apd`, for example), which is provided on the Real-Time Metrics Engine CD. These default values may differ from what is documented here if you configure a new Stat Server `Application` object using the Stat Server Wizard.

Note: Where the name of a configuration option changed between releases, Genesys continues to support the former name.

Table 1: Configuration Options for the `statserver` Section

Option	Description
<code>accept-clients-in-backup-mode</code>	<p>Specifies whether Stat Server accepts client connections when operating in backup mode.</p> <p>With this option set to <code>yes</code>, Stat Server notifies the clients about its redundancy mode after a client registration and after a change in mode. Moreover, when its redundancy mode is changed to backup, Stat Server does not close the communication port and accepts clients' connections and requests.</p> <p>Default Value: <code>no</code></p> <p>Valid Values: <code>yes</code>, <code>no</code></p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
auto-backup-interval	<p>Sets the time, in minutes, for checking persistent statistics and storing them in the file specified in the <code>backup-file-name</code> option.</p> <p>This option was previously named <code>AutoBackupInterval</code>.</p> <p>Default Value: 15</p> <p>Valid Values: Minutes expressed as an integer</p> <p>Changes Take Effect: When Stat Server is restarted</p>
backup-file-name	<p>Specifies the name of the backup file that stores persistent statistics for synchronization. Stat Server memorizes all parameters for statistics in demand, initiating their collection immediately after restart. If a particular statistic has not been requested for a long time period (three days by default as specified in the <code>old-stats-remove-interval</code> option), the statistics are removed from both the cache and the backup file.</p> <p>Note: Stat Server ignores backup files that were generated by a different version of Stat Server.</p> <p>This option was previously named <code>BackupFileName</code>.</p> <p>Default Value: <code>ssbackup.000</code></p> <p>Valid Value: Any valid file name</p> <p>Changes Take Effect: When Stat Server is restarted</p>
capacity-treat-acw-as-interaction	<p>Determines whether Stat Server treats interactions initiated or received while the associated DN is in after-call work (ACW) status as interactions. The routability of additional, simultaneous interactions to a device is dependent on the number of interactions currently occurring at that device. Setting this option to <code>yes</code> instructs Stat Server to treat any ACW activity as an interaction <i>for the purpose of determining capacity</i>—synonymous to any other type of voice interaction, such as handling customer-initiated (inbound) calls, internal calls among agents, and so forth. <i>For the purpose of reporting current activity</i>, this treatment does not increment the count of <code>CurrentNumber</code> or <code>TotalNumber</code> statistics.</p> <p>The presence of ACW on a device also impacts the routability of interactions of other media types, as defined in the capacity model for your environment. For information about defining capacity rules, refer to the <i>Genesys 7.6 Resource Capacity Planning Guide</i>.</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
capacity-treat-acw-as-interaction (continued)	<p>If this option is set to no, Stat Server does not consider ACW related activities occurring at a device in its calculation of the <code>current_number</code> component of the capacity vector. In fact, Stat Server may allow additional, simultaneous interactions to be routed to that device per the capacity rules defined in your environment.</p> <p>Default Value: no</p> <p>Valid Value: yes, no</p> <p>Changes Take Effect: When Stat Server is restarted</p>
check-stuck-calls	<p>When you set the value of this option to yes, Stat Server checks DN's of the Extension, ACD Position, VTO (IVR), ACD Queue, Service Number, and Routing Point types for calls with no activity during the last 10 minutes. When detecting such calls, Stat Server queries T-Server on the current DN status. If T-Server indicates that the call has been cleared from the DN in question, Stat Server deletes the call from memory. The checkup interval is 10 minutes. Stat Server does not check Internet DN's or DN's of Virtual Routing Point type.</p> <p>This option was previously named <code>CheckStuckCalls</code>.</p> <p>Note: Calls can be stuck in T-Server and/or Stat Server. The check-stuck-calls configuration option enables Stat Server to clear calls that it determines to be stuck in Stat Server.</p> <p>Default Value: no</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: Immediately upon notification</p>
debug-level	<p>A comma-separated list of debug levels that you can see in the Stat Server log. This option is enabled only if you have set the <code>verbose</code> common log option to <code>all</code>.</p> <p>In graphical environments, log output often takes more than half of a server's execution time. To maintain performance, use only the debug levels that you need and run Stat Server in the background. Also, minimize the Stat Server window or redirect log output to a different device, such as a file. Be very careful, however, when directing log output to a file and consider the available free disk space, directory and file permissions, and possible conflicts with different software trying to use the log file at the same time.</p> <p>This option was previously named <code>DebugLevel</code>.</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
debug-level (continued)	<p>Default Value: <code>Init, Client, ClientX, Server, Action, Status</code></p> <p>Valid Values:</p> <p><code>all</code> Synonymous with <code>Init, Server, Client, Status, Action, SQL, Mngmnt, Java, Reset</code>.</p> <p><code>Action</code> Logs changes to the internal Stat Server object model and provides a significant source of troubleshooting data, which includes entries following every TEvent.</p> <p><code>Client</code> Logs all Stat Server communication with its clients, such as the opening of statistics and all statistical values sent to the client. This value generates a large amount of data, and should be sparingly used for troubleshooting reproducible problems with statistics.</p> <p>Note: Specifying this value alone no longer logs <code>StatValid</code> or <code>StatInvalid</code> messages as was done in previous releases. For Stat Server to log equivalent messages, you must specify the <code>ClientX</code> value in conjunction with this option.</p> <p><code>ClientX</code> Logs <code>StatValid</code> and <code>StatInvalid</code> messages to indicate whether the named statistic is valid. Specifying this value alone excludes Stat Server's logging of other statistic-related communications, such as the opening of statistics and statistical values.</p> <p><code>Ext</code> For internal use only.</p> <p><code>Init</code> Used for capturing data related to Configuration Server that affects Stat Server, including dynamic Configuration Server changes made as Stat Server starts—such as the addition, deletion, and/or change of objects or their properties having an affect on Stat Server. This value is useful for tracking initial configuration and dynamic changes and is much more compact than the information provided in the Configuration Server log. Genesys recommends that you always include this value in this option.</p> <p><code>Java</code> Displays information related to Java extension functionality. Use this value only for statistics in the Outbound Contact 7.2.0⁺, MCR 7.0.1⁺, or VCB 7.1.0⁺.</p> <p>Note: MCR has been renamed to Multimedia in release 7.2.</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
debug-level (continued)	<p>Mngmnt Displays profiling information, including the number of currently connected clients, statistics being computed at the moment, and statistics to be reported to clients.</p> <p>Reset Enables the log messages Stat Server sends to clients while sending statistics requested with a reset-based notification mode.</p> <p>Server Logs T-Server events pertaining to Stat Server. Genesys recommends that you not include this value if you maintain logs for the related T-Server(s).</p> <p>SPT Logs events related to Stat Server startup. This value is provided to maintain backward compatibility and may be eliminated in future releases.</p> <p>SQL Displays the SQL statements issued if you have configured a database for Stat Server.</p> <p>Status Logs events related to the current state of objects and is useful for troubleshooting Stat Server–Router problems.</p> <p>Changes Take Effect: Immediately upon notification</p>
DefaultAgentSPT, DefaultDNSPT, DefaultRPSPT	<p>These options create a precedence list of actions, which Stat Server uses to assign status to DNs, agents, places, or routing points, when there is more than one action occurring at each point. The <code>DefaultGroupSPT</code> and <code>DefaultGroupRPSPT</code> options available in previous releases are no longer required. For information on the operating mechanism of Status Priority tables, refer to the “Object Statuses” chapter in the <i>Framework 7.6 Stat Server User’s Guide</i>.</p> <p>Warning! Do not change these options without consulting a Genesys technical representative.</p> <p>Default Value: . . . (an ellipsis)</p> <p>Valid Value: A list of actions separated by a comma or an ellipsis (three consecutive dots). If you specify a list, it overrides the list hard coded in the Stat Server Status Priority table.</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
do-backup-in-background	<p>Specifies whether Stat Server spawns a separate thread to store statistic definitions in its backup file. If set to yes (the default), Stat Server spawns a separate thread. If set to no, Stat Server writes to its backup file using the main thread.</p> <p>Default Value: yes</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: When Stat Server is restarted</p>
emulate-acw-for-mlink	<p>Enables Stat Server support for the AfterCallWork (ACW) implementation in T-Server for the Nortel Meridian 1 switch.</p> <p>This option has been provided to maintain backward compatibility and is necessary only if you are using a version of Mlink 6.5. You do not have to set this option for Mlink 7.0 and subsequent versions.</p> <p>This option was previously named <code>EmulateACWForMlink</code>. The default template does not include this option nor does the Stat Server Wizard set it.</p> <p>Default Value: no</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: When Stat Server is restarted</p>
filters-allow-wildcards-in-values	<p>Specifies whether Stat Server accepts the wild-card characters * and ? in the <value> argument of <code>PairExist</code> functions in filters. If set to yes, Stat Server interprets these characters as wildcards. If set to no, Stat Server interprets these as literal characters. Prior to release 7.5, Stat Server interpreted a <value> argument of "*" as <i>any string</i> and "*", embedded within a string, as a literal character.</p> <p>For example, Stat Server interprets the <code>PairExist(KY1, "Mr.*")</code> function in one of two ways depending on the value of the <code>filters-allow-wildcards-in-values</code> option:</p> <ul style="list-style-type: none"> As a function whose filter returns any statistic where the values for KY1 begin with Mr., if the value of this option is set to yes. As a function whose filter returns only those statistics where the value for KY1 is equivalent to the four characters Mr.* if the value of this option is set to no. <p>Stat Server interprets the <code>PairExist(KY2, "*")</code> filter as one where KY2 is equal to any number of characters regardless of the value of this option.</p> <p>Default Value: no</p> <p>Valid Values: no, yes</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
ignore-disabled-objects-in-group-statistics	<p>Specifies whether Stat Server takes into account the <code>Person</code> and <code>Place</code> objects that are disabled in the Configuration Layer when calculating statistics for corresponding groups of objects.</p> <p>Setting this option to <code>yes</code> excludes agents and places in the calculation of group status for <code>CurrentState</code> statistics as long as the relevant <code>Person</code> and <code>Place</code> configuration objects are disabled in the Configuration Layer. This option also affects <code>TotalNumber</code> group statistics in the same manner.</p> <p>Genesys recommends setting this option to <code>yes</code> in a Stat Server application serving Universal Routing Server, and <code>no</code> (the default) in a Stat Server application serving CCPulse+ and/or CC Analyzer.</p> <p>Default Value: <code>no</code></p> <p>Valid Values: <code>yes</code>, <code>no</code></p> <p>Changes Take Effect: When Stat Server is restarted</p>
ignore-disabled-objects-in-queue-statistics	<p>Specifies whether Stat Server takes into account disabled <code>Person</code> and <code>Place</code> objects when calculating certain queue statistics. When this option is set to <code>yes</code>, Stat Server abstains from updating queue statistics having any of the <code>ActionLogin</code>, <code>AgentReady</code>, and <code>AgentActive</code> actions in the main mask while <code>Person</code> and <code>Place</code> objects continue to be disabled. When set to <code>no</code>, Stat Server considers all <code>Person</code> and <code>Place</code> objects—disabled or enabled—and all masks in computations of queue statistics.</p> <p>Note: The aforementioned statistics are such that actions are propagated from a place to a queue only when an agent is logged on to the place and either of the following:</p> <ul style="list-style-type: none"> Both the agent and place are enabled, in which case the value of this configuration option is irrelevant. The agent and/or place is disabled and the value of this option is set to <code>no</code>. <p>Default Value: <code>no</code></p> <p>Valid Values: <code>yes</code>, <code>no</code></p> <p>Changes Take Effect: When Stat Server is restarted</p>
ignore-off-hook-on-position	<p>Specifies whether to ignore <code>On-Hook/Off-Hook</code> events on <code>Position</code> DNs. If set to <code>yes</code>, <code>On-Hook/Off-Hook</code> events are ignored on <code>Position</code> DNs. Use this option if your version of T-Server does not properly propagate <code>On-Hook</code> or <code>Off-Hook</code> TEvents.</p> <p>This option was previously named <code>IgnoreOffHookOnPosition</code>.</p> <p>Default Value: <code>no</code></p> <p>Valid Values: <code>yes</code>, <code>no</code></p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
management-port	<p>Specifies the TCP/IP port that Stat Server reserves for connections that its SNMP Option Management Client establishes.</p> <p>Warning! You must specify a value for this option if you are using an SNMP connection. Do not change the value for this option while Stat Server is running.</p> <p>Default Value: 3031</p> <p>Valid Values: Any available TCP port</p> <p>Changes Take Effect: When Stat Server is restarted</p>
max-client-connections	<p>Specifies the maximum number of clients that can be connected to Stat Server at any given time. The default value, -1, or 0 (zero) indicates that an unlimited number of clients can be connected to Stat Server.</p> <p>Default Value: -1</p> <p>Valid Values: -1, 0, or any positive integer</p> <p>Changes Take Effect: When Stat Server is restarted</p>
nec-position-extension-linked	<p>Specifies whether Stat Server applies a special model when processing after-call work (ACW) notifications from NEC T-Server. This model, normally used with Meridian T-Server, consists of a Position and Extension DN's linked together in Stat Server logic when they belong to the same phone. Refer to the <i>Framework 7.6 Stat Server User's Guide</i> for a description of the AfterCallWork action and models for its generation.</p> <p>The option name is case-insensitive.</p> <p>Default Value: no</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: When Stat Server is restarted</p>
old-stats-remove-interval	<p>Sets the amount of time, in minutes, that unused statistics should continue to calculate on Stat Server. A value of 0 causes Stat Server to close a statistic as soon as the application requesting it closes its request or disconnects.</p> <p>This option was previously named <code>oldStatsRemoveInterval</code>. The default template does not include this option nor does the Stat Server Wizard set it. The internal, hard-coded default value is three days.</p> <p>Default Value: 4320 (three days)</p> <p>Valid Values: Minutes expressed as an integer</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
position-extension-linked	<p>Specifies how Stat Server interprets the status of a place and an agent when the place contains a position and an extension that belong to the same switch.</p> <p>By default (yes), the status of a DN of the Extension type affects the place status under these conditions:</p> <ul style="list-style-type: none"> • An agent is logged in at the DN of the Position type that belongs to the same place. • An agent may or may not be logged in at the DN of the Extension type. <p>With the option set to no, the status of the DN of the Extension type affects the place status under these conditions:</p> <ul style="list-style-type: none"> • An agent may or may not be logged in at the DN of the Position type that belongs to the place. • An agent <i>must</i> be logged in at the DN of the Extension type. <p>Default Value: yes</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: When Stat Server is restarted</p>
reconnect-timeout	<p>Indicates the time interval, in seconds, between Stat Server attempts to reconnect to a T-Server or DB Server if either is disconnected or not running.</p> <p>This option was previously named <code>reconnect_timeout</code> (spelled with an underscore).</p> <p>Default Value: 10</p> <p>Valid Values: Any positive integer; Stat Server sets any negative or 0 values that you might configure to 1.</p> <p>Changes Take Effect: When Stat Server is restarted</p>
reg-delay	<p>Causes Stat Server to wait the specified number of seconds before registering DNs that have been added in Configuration Manager.</p> <p>This option was previously named <code>reg_delay</code> (spelled with an underscore).</p> <p>Default Value: 3</p> <p>Valid Value: 0 (zero) or any positive integer</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
reg-dns-chunk-delay	<p>Specifies the interval, in seconds, between two subsequent DN registration requests. Stat Server waits for the specified interval before sending a request to T-Server to register a subsequent set of DNs, thus allowing T-Server to process the previous request.</p> <p>In a large configuration environment, use this option in conjunction with reg-dns-chunk-volume to optimize DN registration at Stat Server startup.</p> <p>Default Value: 10</p> <p>Valid Values: Seconds expressed as an integer</p> <p>Changes Take Effect: When Stat Server is restarted</p>
reg-dns-chunk-volume	<p>Specifies the number of DNs that Stat Server submits in a single registration request to T-Server. Instead of trying to register for all configured DNs at once, Stat Server divides the DN registration among several requests, each for the specified number of DNs.</p> <p>In a large configuration environment, use this option in conjunction with reg-dns-chunk-delay to optimize DN registration at Stat Server startup.</p> <p>Default Value: 1000</p> <p>Valid Values: Any positive integer</p> <p>Changes Take Effect: When Stat Server is restarted</p>
send-timeout	<p>Specifies the interval, in seconds, that Stat Server keeps client requests in the output queue. When this timeout expires for a given client request, Stat Server disconnects this client as being “too slow.” Consider increasing this option value in an environment with slow network or frequent disconnects for the reason of clients being “too slow.”</p> <p>The maximum value of 3600 equals 1 hour.</p> <p>Default Value: 300</p> <p>Valid Values: Seconds expressed as an integer, from the 0-3600 range</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 1: Configuration Options for the statserver Section (Continued)

Option	Description
show-attached-data	<p>If set to yes, Stat Server outputs call-extracted UserData to the Stat Server log. If set to no, Stat Server stops outputting attached data to its log—regardless of the log-level setting (trace, debug, and so forth). T-Server propagates attached data (UserData) by way of TEvents; this data is used for internal computations.</p> <p>To output UserData to the log, in the Filters section of the Stat Server application object, add a PairExist("key", "value") filter where key is the name of the UserData key; value may denote a specific value or "*".</p> <p>Setting this option does not affect Stat Server's processing of UserData. For memory, performance, and security reasons, however, Stat Server strips away any attached data that is not directly used for internal computations. Refer to the UserData property in the "Call Properties" table of the <i>Stat Server User's Guide</i> for more information.</p> <p>Default Value: no</p> <p>Valid Values: no, yes</p> <p>Changes Take Effect: Immediately upon notification</p>
suppress-agent-status-updates-for-ixn-server	<p>Enables suppression of EventCurrentAgentStatus notifications by Stat Server in environments that deploy multiple Stat Server applications. Disabling this statistic request from select clients avoids situations in which Stat Server clients receive multiple and identical notifications about current status for the same agent.</p> <p>Default Value: no</p> <p>Valid Values: no, yes</p> <p>Changes Take Effect: Immediately upon notification</p>
vag-statistics-active-agents-only	<p>Limits the membership of virtual agent groups to only those active agents satisfying a particular script condition. (An active agent is Person object that has been enabled in Configuration Server.)</p> <p>Default Value: no</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 2: Configuration Options for Operating Stat Server with a Database

Option	Description
binding-threshold	<p>Specifies the number of records in a binding block—that is, the number of records to be sent to the DBMS simultaneously. This option is enabled only if you have set the value of the <code>enable-binding</code> configuration option to <code>yes</code>. The default template does not include this option, nor does the Stat Server Wizard set it.</p> <p>Default Value: 10</p> <p>Valid Value: Any positive integer</p> <p>Changes Take Effect: When Stat Server is restarted</p>
enable-binding	<p>Specifies whether to enable binding functionality. By default, Stat Server uses a regular method of sending requests. If you set the value of this option to <code>yes</code>, Stat Server uses binding for sending requests. This option works in conjunction with the <code>binding-threshold</code> configuration option and is supported for Oracle, Microsoft SQL, Sybase, and DB2 relational database management systems. The default template does not include this option nor does the Stat Server Wizard set it.</p> <p>This option was previously named <code>OracleBinding</code>.</p> <p>Default Value: <code>no</code></p> <p>Valid Values: <code>yes</code>, <code>no</code></p> <p>Changes Take Effect: Immediately upon notification</p>
local-time-in-status-table	<p>Specifies whether to populate the <code>StartLocalTime</code> and <code>EndLocalTime</code> fields in the <code>STATUS</code> table. If you set the value of this option to <code>no</code>, or if you do not specify a value, the <code>StartLocalTime</code> and <code>EndLocalTime</code> fields do not store data. For Reporting applications, set this option to <code>no</code>; such reports do not use the local time fields, and setting this option to <code>yes</code> could impact performance. If you are not using any reporting applications, set this option to <code>yes</code>, and also set the <code>time-format</code> option to the desired format. Refer to Appendix, “Physical Data Models for Stat Server Tables” on page 93 for a complete description of the <code>STATUS</code> table.</p> <p>This option was previously named <code>LocalTimeInStatusTable</code>.</p> <p>Default Value: <code>off</code></p> <p>Valid Values: <code>on</code>, <code>off</code></p> <p>Changes Take Effect: Immediately upon notification</p> <p>Warning! Do not change the setting of this option in runtime if you have also set <code>enable-binding</code> to <code>yes</code>.</p>

Table 2: Configuration Options for Operating Stat Server with a Database (Continued)

Option	Description
login-table	<p>Specifies whether Stat Server writes records about login and logout TEvents directly into a database table called LOGIN. Refer to Appendix, “Physical Data Models for Stat Server Tables” on page 93 for a complete description of the LOGIN table.</p> <p>This option was previously named LoginTable.</p> <p>Default Value: off</p> <p>Valid Values: on, off</p> <p>Changes Take Effect: Immediately upon notification</p>
max-unsent-sql-statements	<p>Specifies the maximum number of SQL statements that Stat Server is allowed to maintain in memory. As soon as Stat Server’s connection to the RDBMS is broken, Stat Server starts storing SQL statements in memory. These statements will be issued against the Stat Server database once the connection is restored. If the number of SQL statements in memory exceeds the value specified by this option, data loss may result.</p> <p>To avoid data loss, Stat Server must remain connected to DB Server for the entire period that DB Server submits records to the RDBMS. Your addp timeout for connection from Stat Server to DB Server should be set as large as possible to prevent disconnection by addp.</p> <p>Data loss of the entire memory pool however, will result and the accumulation of SQL statements will begin anew, if the number of SQL statements in memory ever exceeds this option’s value.</p> <p>Please, be aware that setting this option’s value too high may cause your system to run out of memory. Configure this option in conformance with the amount of RAM installed on the machine where Stat Server operates.</p> <p>If you specify any value that is less than the default value of 100000, Stat Server resets it to 100000.</p> <p>Default Value: 100000 (SQL statements)</p> <p>Valid Values: values greater than 100,000 and less than 4,294,967,296 (2^{32}).</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 2: Configuration Options for Operating Stat Server with a Database (Continued)

Option	Description
multimedia-activity-in-status-table	<p>Specifies whether multimedia-related actions are counted while computing status values that are written to the STATUS table. (For a complete classification of actions, refer to the <i>Stat Server User's Guide</i>.) If this option is set to no, Stat Server ignores multimedia-related actions in its computation of place and agent status.</p> <p>Stat Server also reads the value of the multimedia configuration option in the TServer section of the monitored DN (whose type is Extension) to determine whether the corresponding DN is a multimedia DN, capable of processing interactions of different media types, such as those DNs that are controlled by a SIP-compliant T-Server.</p> <p>Default Value: yes</p> <p>Valid Values: no, yes</p> <p>Changes Take Effect: When Stat Server is restarted</p>
OracleBinding	See enable-binding.
OracleBindingThreshold	See binding-threshold on page 35 .
qinfo-table	<p>Specifies whether Stat Server writes records about queue statuses directly into a database table called QINF0. Refer to Appendix, “Physical Data Models for Stat Server Tables” on page 93 for a complete description of the QINF0 table.</p> <p>This option was previously named QInfoTable.</p> <p>Default Value: off</p> <p>Valid Values: on, off</p> <p>Changes Take Effect: Immediately upon notification</p>
status-table	<p>Specifies whether Stat Server writes records about agent statuses directly into a database table called STATUS. Refer to Appendix, “Physical Data Models for Stat Server Tables” on page 93 for a complete description of the STATUS table.</p> <p>This option was previously named StatusTable.</p> <p>Default Value: off</p> <p>Valid Values: on, off</p> <p>Changes Take Effect: Immediately upon notification</p>

Table 2: Configuration Options for Operating Stat Server with a Database (Continued)

Option	Description
status-table-update-end-time-at-end-only	<p>Setting this option to on enables Stat Server to set the EndTime and EndLocalTime fields of the STATUS table to 0 (zero) during updates, providing the corresponding status has not yet ended. Zero value implies 0 for INT fields, and "" (empty string) for CHAR/VARCHAR fields.</p> <p>As soon as the status completes, Stat Server updates those fields with the time that the status ended.</p> <p>Default Value: no</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: When Stat Server is restarted</p>
time-format	<p>Specifies the time format of data stored in the StartLocalTime and EndLocalTime fields in the STATUS table. You must set the local-time-in-status-table option (see page 35) to yes to use the time-format option.</p> <p>The format string consists of one or more codes preceded by a percent sign (%). Character strings that do not begin with % are copied unchanged to strDest.</p> <p>This option was previously named TimeFormat.</p> <p>Default Value: %m/%d/%Y %H:%M:%S</p> <p>Valid Values: See Table 3 for a complete listing of valid time formats.</p> <p>Changes Take Effect: When Stat Server is restarted</p> <p>This option was previously named TimeFormat.</p> <p>Example</p> <p>Suppose you are using the default time format %m/%d/%Y %H:%M:%S. If the start time for a particular state is Tuesday, January 1, 1999, at 3 PM and 10 seconds, character data stored in the STARTLOCALTIME field in the STATUS table is stored as 01/01/1999 15:00:10. Changing the format codes for the date in the time-format option to %Y/%m/%d means the date is stored in the international date format as 1999/01/01. Spaces can also be used. For example, %Y %m %d would store as 1999 01 01.</p>

Table 2: Configuration Options for Operating Stat Server with a Database (Continued)

Option	Description
use-server-id	<p>This option prevents constraint-violation errors from occurring in a database when more than one Stat Server application attempts to write to the same database. If only one Stat Server application writes to the same database table or you have set the value of the status-table option (see page 37) to no, you do not have to specify a value for this option. The default template does not include this option nor does the Stat Server Wizard set it.</p> <p>To set this option, enter any number from 0 to 63. Use a different value for each Stat Server application writing to the same database table. Each Stat Server application uses its assigned value to generate internally stored IDs.</p> <p>Note: Configure this option only for those Stat Server applications writing to the same database and monitoring different switches. Do not configure Stat Server application to write to the same database if they monitor the same switches.</p> <p>This option was previously named <code>UseServerID</code>.</p> <p>Default Value: No default value</p> <p>Valid Value: Any integer from 0 (zero) to 63</p> <p>Changes Take Effect: Immediately upon notification</p>
voice-reasons-table	<p>Specifies whether Stat Server stores the reasons for agents to change or continue Ready and NotReady states and AfterCallWork work mode. If this option is set to yes, Stat Server writes the reasons records directly into a database table called VOICE_REASONS. Refer to Appendix, “Physical Data Models for Stat Server Tables” on page 93, for a description of the VOICE_REASONS table.</p> <p>Default Value: no</p> <p>Valid Values: yes, no</p> <p>Changes Take Effect: Immediately upon notification</p>
warn-unsent-sql-statements	<p>Defines the threshold upon which Stat Server begins logging warning messages about the number of unsent SQL statements.</p> <p>To avoid data loss, Stat Server must remain connected to DB Server for the entire period that DB Server submits records to the RDBMS. Your addp timeout for connection from Stat Server to DB Server should be set as large as possible to prevent disconnection by addp.</p> <p>Default Value: 5000 (SQL statements)</p> <p>Valid Values: Any positive value less than that specified by the max-unsent-sql-statements configuration option</p> <p>Changes Take Effect: When Stat Server is restarted</p>

Table 3 lists the valid time-format codes you can use with the `time-format` configuration option.

Table 3: Valid Time-Format Codes

Format Code	Description
%a	Abbreviated weekday name
%A	Full weekday name
%b	Abbreviated month name
%B	Full month name
%c	Date and time representation appropriate for locale
%d	Day of month as decimal number (01–31)
%H	Hour in 24-hour format (00–23)
%I	Hour in 12-hour format (01–12)
%j	Day of year as decimal number (001–366)
%m	Month as decimal number (01–12)
%M	Minute as decimal number (00–59)
%p	Current locale’s AM/PM indicator for 12-hour clock
%S	Second as decimal number (00–59)
%U	Week of year as decimal number, with Sunday as first day of week (00–51)
%w	Weekday as decimal number (0–6; Sunday is 0)
%W	Week of year as decimal number, with Monday as first day of week (00–51)
%x	Date representation for current locale
%X	Time representation for current locale
%y	Year without century, as decimal number (00–99)
%Y	Year with century, as decimal number
%Z, %Z	Time-zone name or abbreviation; no characters if time zone is unknown
%%	Percent sign

Table 3: Valid Time-Format Codes (Continued)

Format Code	Description
<code>##c</code>	Long date and time representation, appropriate for current locale; for example, Wednesday, March 14, 2001, 12:41:29
<code>##x</code>	Long date representation, appropriate to current locale; for example, Wednesday, March 14, 2001
<code>#</code>	<p>The pound sign (#) can precede any formatting code. This changes the meaning of the format code as shown in entries with the pound sign in this table.</p> <p>Notes:</p> <ul style="list-style-type: none"> The pound sign is ignored in these format codes: <code>##a</code>, <code>##A</code>, <code>##b</code>, <code>##B</code>, <code>##p</code>, <code>##X</code>, <code>##z</code>, <code>##Z</code>, <code>##%</code> The pound sign in these format codes removes any leading zeroes: <code>##d</code>, <code>##H</code>, <code>##I</code>, <code>##j</code>, <code>##m</code>, <code>##M</code>, <code>##S</code>, <code>##U</code>, <code>##w</code>, <code>##W</code>, <code>##y</code>, <code>##Y</code>

Table 4: Java-Related Options in StatServer Section

Option	Description
<code>debug-level</code>	Adding Java to the value of this option enables Stat Server to log messages that are related to Java extension functionality. For the complete description of this option, see page 26 .
<code>enable-java</code>	<p>When you set the value of this option to <code>true</code>, Stat Server tries to load JVM at startup. The <code>jvm-path</code> configuration option described on page 43 defines the location of JVM. If you set this value to <code>false</code> at Stat Server startup, but later set it to <code>true</code>, Stat Server attempts to load JVM at runtime.</p> <p>Note: Stat Server ignores the change in setting from <code>true</code> to <code>false</code>. To unload JVM, you must stop Stat Server.</p> <p>Default Value: <code>false</code></p> <p>Valid Values: <code>true</code>, <code>false</code></p> <p>Changes take effect: Immediately</p>

Java Sections

Note: For this Stat Server release, Java functionality is reserved for use in conjunction with Genesys-provided reports for Outbound Contact, Multimedia (formerly known as Multi-Channel Routing), and the Voice Callback option of Enterprise Routing.

Upon startup, Stat Server reads the `enable-java` configuration option to determine whether SSJE (Stat Server Java Extension) functionality is enabled. If the value of this option is `true`, Stat Server processes the information specified in the following Stat Server sections:

- `[java-config]`
- `[jvm-options]`
- `[java-extensions]`

using the following high-level procedure:

1. Stat Server verifies that the `[java-config]` section exists.
2. Stat Server verifies that the `jvm-path` option within that section has been specified.
3. Stat Server verifies that the `[jvm-options]` section exists.
4. If all three are true, Stat Server loads JVM from the path specified by `jvm-path` using any options you may have specified within the `[jvm-options]` section.
5. Stat Server loads Java classes from the Genesys Platform SDK (`kv65_adapter.jar` and `kvlists.jar`) and from the Stat Server Java SDK (`statserver.jar` and `statserver_impl.jar`).
6. Stat Server loads the Java libraries indicated by the `java-libraries-dir` configuration option of the `[java-config]` section.
7. If Stat Server successfully loads the Java host environment, Stat Server next tries to load Java Extensions (specified by the `java-extensions-dir` configuration option of the `[java-config]` section) from archives specified in the `[java-extensions]` section.
8. Stat Server takes the initial parameters for each `<extension.jar>` extension from the section where `java-extension-jar=<extension.jar>`, and uses them for this extension execution.

Each Java configuration section is further described in [Table 5](#). For those configuration options for which you specify `true/false` values, any of the following additional values are also valid:

- | | |
|-----------------------|-----------------------|
| • <code>yes/no</code> | • <code>1/0</code> |
| • <code>y/n</code> | • <code>on/off</code> |

These alternates may not be indicated in the table.

Table 5: Java Sections and Pertinent Configuration Options

Option	Description
java-config Section	
java-extensions-dir	<p>The value of this option must contain the path to the directory where all Java Extensions are stored.</p> <p>Default Value: <code>./java/ext</code></p> <p>Valid Value: Any valid, fully specified directory path</p> <p>Changes Take Effect: Upon Stat Server restart, or upon setting the <code>enable-java</code> configuration option to <code>true</code>.</p>
java-libraries-dir	<p>The value of this option must contain the path to the directory where all Java libraries are stored.</p> <p>Default Value: <code>./java/lib</code></p> <p>Valid Value: Any valid, fully specified directory path</p> <p>Changes Take Effect: Upon Stat Server restart, or upon setting the <code>enable-java</code> configuration option to <code>true</code>.</p>
java-extension-loading-timeout	<p>Specifies the length of time, in seconds, that Stat Server allocates for loading Java Extensions. If an Extension does not load within this timeout, Stat Server sends a message to its logs indicating so. Stat Server makes no further attempts to load the Extension during runtime.</p> <p>Default Value: <code>20</code></p> <p>Valid Values: positive integers</p> <p>Changes Take Effect: Upon Stat Server restart, or upon setting the <code>enable-java</code> configuration option to <code>true</code>.</p> <p>Only under rare circumstances should you change this option, such as if your particular Java Extension is very large or if its execution is very time consuming.</p>
jvm-path	<p>Contains the path to Java Virtual Machine: Stat Server supports JDK version 1.4 or 1.5.</p> <ul style="list-style-type: none"> • <code>jvm.dll</code> on Windows • <code>libjava.so</code>, <code>libjvm.so</code>, <code>libjvm.a</code>, or <code>libjvm.sl</code> on Unix <p>Default Value: <code>""</code> (Empty string)</p> <p>Valid Value: Any valid, fully specified path (including file name) to the particular file</p> <p>Changes Take Effect: Upon Stat Server restart, or upon setting the <code>enable-java</code> configuration option to <code>true</code>.</p>

Table 5: Java Sections and Pertinent Configuration Options (Continued)

Option	Description
<p>jvm-options Section</p> <p>The configuration options you specify for this section correspond to the Java executable (<code>java.exe</code> on Windows, <code>java</code> on UNIX), and command-line options specific to your branch and version of JVM. Refer to your JVM documentation to find out its applicable configuration options. For Solaris platforms, set the stack space to at least 4,096K. For example, for HotSpot JVM, configuring the following would accomplish this:</p> <pre>-XX:ThreadStackSize=4096</pre> <p>Note that Genesys neither recommends nor endorses any particular JVM.</p> <p>Configuration options follow the <code>Name/Value</code> format used in other Stat Server sections, where <code>Name</code> is the name of the Java command-line option. If you specify a value for a named configuration option in this section, Stat Server converts the two to <code>Name=Value</code> before passing the option to JVM. If you do not specify a value, Stat Server passes the name only.</p> <p>Please document the above as a configuration requirement on Solaris. Java Extensions now require more stack space than previously.</p>	
<p>Example 1</p>	<p>Assume that <code>foo</code> is a valid option requiring a value for your Java application. To specify a value of <code>some string</code>, create the following configuration option within the <code>[jvm-options]</code> section of your Stat Server application.</p> <pre>Name = -Dfoo Value = "some string"</pre> <p>Note: Include quotes in the value's definition if JVM requires them on the command line.</p>
<p>Example 2</p>	<p>This example demonstrates how to configure an option—the Java HotSpot Client VM—which does not require a value.</p> <pre>Name = -Client</pre> <p>Note: You must include the hyphen if JVM requires it.</p> <pre>Value = <null></pre>

Table 5: Java Sections and Pertinent Configuration Options (Continued)

Option	Description
java-extensions Section Default behavior creates neither this section nor any of its configuration options. You must manually add the section to the Stat Server Application object and provide an arbitrary section name. Use this section to pass initialization parameters to the Java Extension.	
<filename>.jar	<p>The name of this Java configuration option is the relative path of the Java Extension jar archive with respect to the SSJE installation directory described with [java-conf ig]/java-extensions-dir. The resulting combined path should point inside the SSJE installation directory (note that on UNIX systems, all symbolic links are resolved). Otherwise, Stat Server sends a security violation message to its log and does not load the corresponding SSJE. Furthermore, if Stat Server cannot match the resulting path to any existing Java Extension configured to be loaded, Stat Server ignores the content of this entire section.</p> <p>The corresponding value is either <code>false</code> (indicating that Stat Server is not to consider this particular Java Extension) or <code>true</code> (indicating that it is). The path is relative to that specified by the <code>java-extensions-dir</code> configuration option described on page 43; for example, <code>ext1.jar</code> or <code>subdir3/ext3.jar</code>.</p> <p>If you initially do not set this option when Stat Server first starts, but later set it, Stat Server attempts to dynamically load the extension at runtime. Refer to How to Configure a Particular Java Extension below for additional information.</p> <p>Default Value: No default value</p> <p>Valid Values: <code>false</code>, <code>true</code></p> <p>Changes Take Effect: during Java Extension initialization phase</p>
<filename>.jar (continued)	<p>If, during the configuration of your Stat Server Application object using the Stat Server Wizard, you select the <code>eServiceContactStat</code> check box, the wizard adds the <code>eServiceContactStat.jar</code> option to this section with a <code>yes</code> value. If you clear the check box, the wizard adds the option with a <code>no</code> value.</p> <p>Likewise, the Stat Server Wizard adds the <code>eServiceInteractionStat.jar</code> option to this section with either a <code>yes</code> or <code>no</code> value, depending on whether you select or clear the <code>eServiceInteractionStat</code> check box.</p>

Table 5: Java Sections and Pertinent Configuration Options (Continued)

Option	Description
<Name>	<p><Value></p> <p>You can specify additional configuration options following the Name/Value format used in other Stat Server sections, where Name is name of the parameter to be passed to SSJE and Value is the parameter's value. If you do specify a value for a parameter in this section, Stat Server converts the Name/Value pair to Name=Value before passing it to SSJE. If you do not specify a value, Stat Server passes only the name.</p> <p>Default Value: No default value</p> <p>Changes Take Effect: during Java Extension initialization phase</p>

How to Configure a Particular Java Extension

When Stat Server loads SSJE, Stat Server passes a set of parameters during the initialization phase. To specify those parameters in Stat Server, follow these steps:

1. Create a new configuration section, with an arbitrary name, on the Stat Server Options tab in Configuration Server.
2. Within this section, create the java-extension-jar option and, as its value, specify the relative path of the corresponding SSJE jar archive with respect to the SSJE installation directory; for example, MySSJE.jar.
3. Add any other options to this section. Stat Server passes the corresponding name:value pairs to SSJE during the initialization phase.

How to Configure a Particular Java Extension Stat Type

Some Stat Server clients (such as CC Analyzer) require an explicit statistical type (stat type) configuration in Configuration Server. Java stat types are configured slightly differently than regular stat types. To configure a particular stat type defined in a Java Extension:

1. Create a new section, with an arbitrary name, on the Stat Server Options tab in Configuration Server.
2. Within the newly created section, create these new mandatory options:
 - Category
 - Objects
 - JavaSubCategory

The first two are standard for all stat types. (Refer to the “Statistical Type Sections” section in the *Framework 7.6 Stat Server User's Guide* for a description of these and other options.)

The value of the third option must have the format *extension-jar-path:stat-type-name*, where:

- *extension-jar-path* is the relative path of the Java Extension jar archive with respect to the SSJE installation directory described by `[jvm-options]/java-extensions-dir`.
 - *stat-type-name* is the name of the stat type residing in SSJE.
3. Add any other options to the newly created section. Stat Server will pass the corresponding `name:value` pairs to SSJE whenever the statistics associated with this corresponding stat type are requested.

Changes from 7.0 to 7.6

Where the name of a configuration option changed between releases, Genesys continues to support the former name to maintain backward compatibility.

[Tables 6](#) through [9](#) list the changes in configuration options for releases 7.0.x through 7.6.x. Refer to “Log Option Changes from 7.0 to 7.6” on [page 73](#) for a listing of log-related option changes.

[Table 6](#) lists the changes made to Stat Server configuration options between the 7.0 and 7.1 releases.

Table 6: Stat Server Option Changes from 7.0 to 7.1

Option Name	Option Values	Type of Change	Details
max-client-connections	-1, 0, or any positive integer	Added	See page 31 .
status-table-update-end-time-at-end-only	yes, no	Added	Introduced in 7.1.000.14. See page 38 .
vag-statistics-active-agents-only	yes, no	Added	See page 34 .

[Table 7](#) lists the changes made to Stat Server configuration options between the 7.1 and 7.2 releases.

Table 7: Stat Server Option Changes from 7.1 to 7.2

Option Name	Option Values	Type of Change	Details
accept-clients-in-backup-mode	yes, no	Added	See page 24 .
ignore-disabled-objects-in-group-statistics	yes, no	Added	See page 30 .
ignore-disabled-objects-in-queue-statistics	yes, no	Added	See page 30 .
nec-position-extension-linked	yes, no	Added	See page 31 .
position-extension-linked	yes, no	Added	See page 32 .
reg-dns-chunk-delay	Seconds expressed as an integer	Added	See page 33 .
reg-dns-chunk-volume	Any positive integer	Added	See page 33 .
send-timeout	0-3600	Added	See page 33 .
voice-reasons-table	yes, no	Added	See page 39 .

[Table 8](#) lists the changes made to Stat Server configuration options between the 7.2 and 7.5 releases.

Table 8: Stat Server Option Changes from 7.2 to 7.5

Option Name	Option Values	Type of Change	Details
do-backup-in-background	yes, no	Added	See page 29 .
filters-allow-wildcards-in-values	yes, no	Added	See page 29 .
max-unsent-sql-statements	≥ 100000 and ≤ 4294967296 (2^{32})	Added	See page 36

[Table 9](#) lists the changes made to Stat Server configuration options between the 7.5 and 7.6 releases.

Table 9: Stat Server Option Changes from 7.5 to 7.6

Option Name	Option Values	Type of Change	Details
capacity-treat-acw-as-ixn	yes, no	Added	See page 25 .
debug-level	ClientX	New value	See page 26 .
multimedia-activity-in-status-table	yes, no	Added	See page 37 .
suppress-agent-status-updates-for-ixn-server	yes, no	Added	See page 34 .
warn-unsent-sql-statements	[5,000, <i>value of max-unsent-sql-statements option</i>)	Added	See page 39 .



Chapter

5

Other Factors Affecting Stat Server

Stat Server receives events from the Genesys applications that are configured in Stat Server's application connections and processes them within the confines of Stat Server's configuration. In addition, Stat Server directly reads general information about the switch underlying these applications. Stat Server uses this information, in part, to determine which action(s) to generate and report to its clients. Though Stat Server does not read the values of the configuration options of such applications, Stat Server does consider certain attributes about these applications (such as their type and version) in its handling of events that originate from these applications.

This chapter describes factors other than Stat Server's own configuration that have an impact on Stat Server output. It contains the following sections:

- [Switch and DN Attributes, page 51](#)
- [Resource Attributes, page 52](#)
- [Virtual Agent Group Definitions, page 52](#)

For information about manipulating Stat Server behavior through the configuration of Stat Server options, refer to the previous chapter "[Fine-Tuning Stat Server Configuration](#)" on [page 23](#).

Switch and DN Attributes

In support of reporting for multimedia DNs, whenever Stat Server detects a multimedia DN, Stat Server now reads the DN's attributes, and those of its switch, to determine whether the DN is capable of handling multiple, simultaneous interactions of differing media types. Stat Server looks for the following:

- A DN switch type of either of the following:
 - VoIPSMCPSwitch (Voice over IP SMCP Switch in Configuration Manager).

- SIPSwitch (SIP Switch in Configuration Manager)
- A DN type of CFGExtension (Extension in Configuration Manager)
- A value of yes in the [TServer]/multimedia configuration option for the DN. (This option is defined on the Annex tab of the DN object in Configuration Manager.)
- Version 7.6.x or greater of T-Server, if the switch type is SIPSwitch.

Stat Server uses the switch's media attributes as the default for all Extension DNs that belong to it.

If these criteria are met, Stat Server 7.6 supports routing of interactions with chat or voice media types to multimedia DNs. (For more information on this subject, refer to “Capacity Planning for Multimedia DNs” in the *Genesys 7.6 Resource Capacity Planning Guide*.) Previously, Stat Server supported routing of voice interactions only to such DN types.

In addition, Stat Server regularly references a switch's type and a DN's type to perform many other operations, such as checking for stuck calls or processing ACW notifications.

Resource Attributes

For calculation of group- and queue-related statistics, Stat Server considers whether member Person and Place objects have been enabled in Configuration Server, depending on the setting of the `ignore-disabled-objects-in-group-statistics` and `ignore-disabled-objects-in-queue-statistics` Stat Server configuration options. This property of contact center resource is but one attribute that Stat Server directly reads about a configuration object. Stat Server, for instance, also reads the properties of agent group and place group objects to determine if origination DNs have been configured therein (on the Advanced tab of the object's properties in Configuration Manager). If configured, Stat Server reflects the events occurring at these origination DNs for agent group and place group statistics computations—Stat Server also generates retrospective, interaction-related actions reflecting regular DNs onto these origination DNs.

Virtual Agent Group Definitions

For agent group objects, Stat Server also reads the `script` configuration option (located in the `virtual` section of the Annex tab) to determine the objects to which actions apply. Refer to the “Virtual Agent Groups” chapter of the *Framework 7.6 Stat Server User's Guide* for more information about how to define this object.



Chapter

6

Common Log Options

This chapter describes log configuration options that are common to all Genesys server applications and applicable to any Framework server component. This chapter includes the following sections:

- [Mandatory Options, page 53](#)
- [Log Section, page 53](#)
- [Log-Extended Section, page 69](#)
- [Log-Filter Section, page 71](#)
- [Log-Filter-Data Section, page 72](#)
- [Log Option Changes from 7.0 to 7.6, page 73](#)

Mandatory Options

You do not have to configure any common log options to start Server applications.

Log Section

You must name this section log. [Table 10](#) lists the log configuration options available to you. Note that to use these options, you must actively set them, either using the Stat Server Wizard or manually on the `Options` tab of the Stat Server Application object within Configuration Manager. The default Stat Server application template includes only the `verbose` option.

Table 10: Log Options

Option	Description												
verbose	<p>Determines if a log output is created. If it is, this option specifies the minimum level of log events generated. The log events levels, starting with the highest-priority level, are standard, interaction, trace, and debug. Refer to “Log Output Options” on page 62 for more information.</p> <p>Default Value: all</p> <p>Valid Values:</p> <table> <tr> <td>all</td><td>All log events (that is, log events of standard, trace, interaction, alarm, and debug levels) are generated if you set the debug-level option in the statserver section to all.</td></tr> <tr> <td>debug</td><td>The same as all.</td></tr> <tr> <td>trace</td><td>Log events of trace and higher levels (that is, log events of standard and interaction levels) are generated, while log events of the debug level are not.</td></tr> <tr> <td>interaction</td><td>Log events of the interaction and higher levels (that is, log events of standard and interaction levels) are generated, while log events of the trace and debug levels are not generated.</td></tr> <tr> <td>standard</td><td>Log events of the standard level are generated, while log events of the interaction, trace, and debug levels are not generated.</td></tr> <tr> <td>none</td><td>Produces no output.</td></tr> </table> <p>Changes Take Effect: Immediately</p> <p>Refer to the <i>Framework 7.6 Deployment Guide</i> or to <i>Framework 7.6 Solution Control Interface Help</i> for more information on the standard, trace, interaction, and debug log levels.</p>	all	All log events (that is, log events of standard, trace, interaction, alarm, and debug levels) are generated if you set the debug-level option in the statserver section to all.	debug	The same as all.	trace	Log events of trace and higher levels (that is, log events of standard and interaction levels) are generated, while log events of the debug level are not.	interaction	Log events of the interaction and higher levels (that is, log events of standard and interaction levels) are generated, while log events of the trace and debug levels are not generated.	standard	Log events of the standard level are generated, while log events of the interaction, trace, and debug levels are not generated.	none	Produces no output.
all	All log events (that is, log events of standard, trace, interaction, alarm, and debug levels) are generated if you set the debug-level option in the statserver section to all.												
debug	The same as all.												
trace	Log events of trace and higher levels (that is, log events of standard and interaction levels) are generated, while log events of the debug level are not.												
interaction	Log events of the interaction and higher levels (that is, log events of standard and interaction levels) are generated, while log events of the trace and debug levels are not generated.												
standard	Log events of the standard level are generated, while log events of the interaction, trace, and debug levels are not generated.												
none	Produces no output.												
buffering	<p>Turns operating system file buffering on or off. This option applies only to stderr and stdout output (see page 62). Setting this option to true increases output performance.</p> <p>Note: When you enable buffering, messages may appear in the log with a delay.</p> <p>Default Value: true</p> <p>Valid Values:</p> <table> <tr> <td>true</td><td>Enables buffering</td></tr> <tr> <td>false</td><td>Disables buffering.</td></tr> </table> <p>Changes Take Effect: Immediately</p>	true	Enables buffering	false	Disables buffering.								
true	Enables buffering												
false	Disables buffering.												

Table 10: Log Options (Continued)

Option	Description
segment	<p>Specifies if there is a segmentation limit for a log file. If there is, this option sets the unit of measurement along with the maximum size. If the current log segment exceeds the size set by this option, the current file is closed and a new file is created.</p> <p>Default Value: <code>false</code></p> <p>Valid Values:</p> <p><code>false</code> No segmentation allowed.</p> <p><code><number> KB</code> Sets the maximum segment size in kilobytes. The minimum segment size is 100 KB.</p> <p><code><number> MB</code> Sets the maximum segment size in megabytes.</p> <p><code><number> hr</code> Sets the number of hours for the segment to stay open. The minimum number is 1 hour.</p> <p>Changes Take Effect: Immediately</p>
keep-startup-file	<p>Specifies whether a startup segment of the log, containing the initial Stat Server configuration, is to be kept. If it is, you can set this option to <code>true</code> or to a specific file size. A <code>true</code> setting means that the size of the initial segment will be equal to the size of the regular log segment defined by the <code>segment</code> option (defined on page 55). Stat Server ignores this option if you set the <code>segment</code> option to <code>false</code>.</p> <p>Default Value: <code>false</code></p> <p>Valid Values:</p> <p><code>false</code> No startup segment of the log is kept.</p> <p><code>true</code> A startup segment of the log is kept. The size of the segment equals the value of the <code>segment</code> option.</p> <p><code><number> KB</code> Sets the maximum size, in kilobytes, for a startup segment of the log.</p> <p><code><number> MB</code> Sets the maximum size, in megabytes, for a startup segment of the log.</p> <p>Changes Take Effect: After restart</p>

Table 10: Log Options (Continued)

Option	Description
expire	<p>Determines if log files expire. If they do, this option sets the measurement for determining when they expire, along with the maximum number of files (segments) or days before the files are removed.</p> <p>Default Value: <code>false</code></p> <p>Valid Values:</p> <p><code>false</code> No expiration. All generated segments are stored.</p> <p><code><number></code> Sets maximum number of log files to store. Specify a number from <code>file</code> or 1-100. <code><number></code></p> <p><code><number> day</code> Sets the maximum number of days before log files are deleted. Specify a number from 1-100.</p> <p>Changes Take Effect: Immediately</p> <p>Note: If you incorrectly set an option's value—such as setting values outside the range of valid values—Stat Server automatically resets the value to 10.</p>
messagefile	<p>Specifies the file name for application-specific log events. The name must be valid for the operating system on which the application is running. The option value can also contain the absolute path to the application-specific <code>.lms</code> file. Otherwise, Stat Server looks for the file in its working directory.</p> <p>Default Value: <code>statserver.lms</code></p> <p>Valid Values: <code><string>.lms</code></p> <p>Changes Take Effect: After Stat Server restarts if Stat Server finds <code>statserv.lms</code> at startup or immediately if Stat Server cannot find this file at startup</p> <p>Warning! If Stat Server cannot find its message file upon startup, it will not be able to generate Stat Server-specific log events or send them to Message Server.</p>

Table 10: Log Options (Continued)

Option	Description
message_format	<p>Specifies the format of log record headers that an application uses when writing logs in the log file. Using compressed log record headers improves application performance and reduces the log file's size.</p> <p>Default Value: <code>short</code></p> <p>Valid Values:</p> <p><code>short</code> An application uses compressed headers when writing log records in its log file.</p> <p><code>full</code> An application uses complete headers when writing log records in its log file.</p> <p>Changes Take Effect: Immediately</p> <p>With the value set to <code>short</code>:</p> <ul style="list-style-type: none"> • A header of the log file or the log file segment contains information about the application (such as the application name, application type, host type, and time zone) while single log records within the file or segment omit this information. • A log message priority is abbreviated to <code>std</code>, <code>Int</code>, <code>Trc</code>, or <code>Dbg</code>, for standard, interaction, trace, or debug messages respectively. • Message ID does not contain the prefix <code>GCTI</code> or the application type ID. <p>A log record in the <code>short</code> format looks like this:</p> <pre>2007-05-07T18:15:33.952 Std 05060 Application started</pre> <p>A log record in the <code>full</code> format looks like this:</p> <pre>2007-05-07T18:11:38.196 Standard localhost cfg_dbserver GCTI-00-05060 Application started</pre> <p>Note: Whether the <code>full</code> or <code>short</code> format is used, time is printed as specified by the <code>time_format</code> option.</p>
time_convert	<p>Specifies the system in which an application calculates the log record time when generating a log file. The time is converted from the time in seconds since the Epoch (00:00:00 UTC, January 1, 1970).</p> <p>Default Value: <code>Local</code></p> <p>Valid Values:</p> <p><code>local</code> Time of log-record generation expressed as a local time, based on the time zone and any seasonal adjustments. Time zone information of the application's host computer is used.</p> <p><code>utc</code> Time of log-record generation expressed as Coordinated Universal Time (UTC).</p> <p>Changes Take Effect: Immediately</p>

Table 10: Log Options (Continued)

Option	Description
time_format	<p>Specifies how to represent the time in a log file when an application generates log records.</p> <p>Default Value: <code>time</code></p> <p>Valid Values:</p> <p><code>time</code> Time string is formatted according to the HH:MM:SS.sss (hours, minutes, seconds, and milliseconds) format.</p> <p><code>locale</code> Time string is formatted according to the system's locale.</p> <p><code>ISO8601</code> Date in the time string is formatted according to ISO 8601 format. Fractional seconds are given in milliseconds.</p> <p>Changes Take Effect: Immediately</p> <p>A log record's time field in ISO8601 format looks like this:</p> <p><code>2007-07-24T04:58:10.123</code></p>
print-attributes	<p>This log option has no effect on Stat Server.</p> <p>Default Value: <code>false</code></p> <p>Valid Values: <code>true</code>, <code>false</code></p> <p>Changes Take Effect: Immediately</p>
check-point	<p>Specifies how often, in hours, Stat Server generates a check-point log event to divide the log into sections equal in time. By default, Stat Server generates this log event every hour. Setting the option to <code>0</code> prevents generation of check-point events.</p> <p>Default Value: <code>1</code></p> <p>Valid Values: <code>0-24</code></p> <p>Changes Take Effect: Immediately</p>
memory	<p>If configured, specifies the name of the file to which Stat Server regularly prints a snapshot of the memory output (see page 62). The new snapshot overwrites previously written data. If Stat Server terminates abnormally, this file contains the latest log messages. Memory output is not recommended for processors with a CPU frequency lower than 600 MHz.</p> <p>Note: If the file specified as the memory file is located on a network drive, Stat Server does not create a snapshot file (with the extension <code>*.memory.log</code>).</p> <p>Default Value: No default value</p> <p>Valid Values: <code><string></code> (memory file name)</p> <p>Changes Take Effect: Immediately</p>

Table 10: Log Options (Continued)

Option	Description
memory-storage-size	<p>If configured, specifies the buffer size for log output to the memory. Refer also to “Log Output Options” on page 62 for more information.</p> <p>Default Value: 2 MB</p> <p>Valid Values:</p> <p><number> KB Size of the memory output, in kilobytes. The minimum value is 128 KB.</p> <p><number> MB Size of the memory output, in megabytes. The maximum value is 64 MB.</p> <p>Changes Take Effect: When memory output is created</p>
spool	<p>Specifies the folder, including full path to it, in which Stat Server creates temporary log-related files. If you change this value while Stat Server is running, the change does not affect the currently open network output.</p> <p>Default Value: The Stat Server working directory</p> <p>Valid Values:</p> <p><path> The full path of the folder</p> <p>Changes Take Effect: Immediately</p>
compatible-output-priority	<p>Specifies whether Stat Server uses 6.x output logic.</p> <p>Default Value: false</p> <p>Valid Values:</p> <p>true The log of the level specified by one of the log output options described on page 63 is sent to the specified output.</p> <p>false The log of the level specified by one of the log output options described on page 63 and higher levels is sent to the specified output.</p>

Table 10: Log Options (Continued)

Option	Description
compatible-output-priority (continued)	<p>Changes Take Effect: Immediately</p> <p>For example, you configure the following options in the <code>log</code> section for a 6.x application and for a 7.x application:</p> <pre>[log] verbose = all debug = file1 standard = file2</pre> <p>Stat Server 6.x log file content is as follows:</p> <ul style="list-style-type: none"> • <code>file1</code> contains debug messages only. • <code>file2</code> contains standard messages only. <p>Stat Server 7.x log file content is as follows:</p> <ul style="list-style-type: none"> • <code>file1</code> contains debug, trace, interaction, and standard messages. • <code>file2</code> contains standard messages only. <p>If you set <code>compatible-output-priority</code> to <code>true</code> in a Stat Server 7.x application, the content of its log file is the same as for a Stat Server 6.x application.</p> <p>Warning! Genesys does not recommend changing the default value of the <code>compatible-output-priority</code> option unless you have specific reasons to use the 6.x log output logic—that is, to mimic the output priority as implemented in releases 6.x. Setting this option to <code>true</code> affects log consistency.</p>

The configuration options listed in [Table 11](#) enable you to generate debug logs containing information about specific Stat Server operations. You designate these options in the `log` section of the Stat Server application.

Warning! Genesys advises you to use these options only when requested by Genesys Technical Support. .

Table 11: Debug Log Options

Option	Description
x-conn-debug-open	<p>Generates debug log records about “open connection” Stat Server operations.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <ul style="list-style-type: none"> 0 Log records are not generated. 1 Log records are generated. <p>Changes Take Effect: After restart</p>

Table 11: Debug Log Options (Continued)

Option	Description
x-conn-debug-select	<p>Generates debug log records about “socket select” Stat Server operations.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <p>0 Log records are not generated.</p> <p>1 Log records are generated.</p> <p>Changes Take Effect: After restart</p>
x-conn-debug-timers	<p>Generates debug log records about Stat Server operations involved in creating and deleting system timers.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <p>0 Log records are not generated.</p> <p>1 Log records are generated.</p> <p>Changes Take Effect: After restart</p>
x-conn-debug-write	<p>Generates debug log records about Stat Server write operations over TCP sockets.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <p>0 Log records are not generated.</p> <p>1 Log records are generated.</p> <p>Changes Take Effect: After restart</p>
x-conn-debug-security	<p>Generates debug log records about security-related operations, such as Transport Layer Security (TLS) and security certificates. This option has no effect on Stat Server 7.6, which does not support TLS operations.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <p>0 Log records are not generated.</p> <p>1 Log records are generated.</p> <p>Changes Take Effect: After restart</p>
x-conn-debug-api	<p>Generates debug log records about connection library function calls.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <p>0 Log records are not generated.</p> <p>1 Log records are generated.</p> <p>Changes Take Effect: After restart</p>

Table 11: Debug Log Options (Continued)

Option	Description
x-conn-debug-dns	<p>Generates debug log records about DNS operations.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <p>0 Log records are not generated.</p> <p>1 Log records are generated.</p> <p>Changes Take Effect: After restart</p>
x-conn-debug-all	<p>Generates debug log records about open connection, socket select, timer creation and deletion, write, security-related, DNS operation, and connection library function calls. This option is the same as enabling or disabling all of the previous x-conn-debug-⟨op type⟩ options.</p> <p>The value of this option supersedes any value(s) set in the other x-conn-debug options.</p> <p>Default Value: 0</p> <p>Valid Values:</p> <p>0 Log records are not generated.</p> <p>1 Log records are generated.</p> <p>Changes Take Effect: After restart</p>

Log Output Options

To configure log outputs, set log level options ([all](#), [alarm](#), [standard](#), [interaction](#), [trace](#), [memory](#), and/or [debug](#)) to the desired types of log output (stdout, stderr, network, memory, and/or [filename] for log file output).

You can use:

- One log level option to specify different log outputs.
- One log output type for different log levels.
- Several log output types simultaneously for logging the events of the same or different log levels.

You must separate the log output types by a comma when you are configuring more than one output for the same log level. See “Examples” on [page 67](#).

Note: The log output options are activated according to the setting of the `verbose` configuration option.

Warnings!

- If you direct log output to a file on the network drive, an application does not create a snapshot log file (with the extension *.snapshot.log) in case it terminates abnormally.
- Directing log output to the console (by using the `stdout` or `stderr` settings) can affect application performance. Avoid using these log output settings in a production environment.

Table 12: Log Output Options

Option	Description
all	<p>Specifies the outputs to which Stat Server sends all log events. You must separate log output types with commas when you configure more than one output type.</p> <p>Default Value: <code>stdout</code></p> <p>Valid Values:</p> <p><code>stdout</code> Log events are sent to the standard output (<code>stdout</code>).</p> <p><code>stderr</code> Log events are sent to the standard error output (<code>stderr</code>).</p> <p><code>network</code> Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores log events in the Log Database.</p> <p>Setting the <code>all</code> log level option to <code>network</code> enables Stat Server to send log events of <code>standard</code>, <code>interaction</code>, and <code>trace</code> levels to Message Server. Log events of <code>debug</code> level are neither sent to Message Server nor stored in the Log Database.</p> <p><code>memory</code> Log events are sent to the memory output on the local disk. This output is the safest in terms of Stat Server performance.</p> <p><code>[filename]</code> Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.</p> <p>Changes Take Effect: Immediately</p> <p>For example, <code>all = stdout, logfile</code></p> <p>Note: To ease the troubleshooting process, consider using unique names for log files that different applications generate.</p>

Table 12: Log Output Options (Continued)

Option	Description
alarm	<p>Specifies the outputs to which Stat Server sends log events of Alarm level. You must separate log output types with commas when you configure more than one output type.</p> <p>For example, <code>alarm = stdout, logfile</code></p> <p>Default Value: No default value</p> <p>Valid Values (log output types):</p> <p><code>stdout</code> Log events are sent to the standard output (<code>stdout</code>).</p> <p><code>stderr</code> Log events are sent to the standard error output (<code>stderr</code>).</p> <p><code>network</code> Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores log events in the Log Database.</p> <p>Setting the <code>all</code> log level option to <code>network</code> enables Stat Server to send log events of Standard, Interaction, and Trace levels to Message Server. Log events of debug level are neither sent to Message Server nor stored in the Log Database.</p> <p><code>memory</code> Log events are sent to the memory output on the local disk. This output is the safest in terms of Stat Server performance.</p> <p><code>[filename]</code> Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.</p> <p>Changes Take Effect: Immediately</p>
standard	<p>Specifies the outputs to which Stat Server sends log events of the Standard level. You must separate log output types with commas when you configure more than one output type.</p> <p>For example, <code>standard = stderr, network</code></p> <p>Default Value: No default value</p> <p>Valid Values (log output types):</p> <p><code>stdout</code> Log events are sent to the standard output (<code>stdout</code>).</p> <p><code>stderr</code> Log events are sent to the standard error output (<code>stderr</code>).</p> <p><code>network</code> Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores the log events in the Log Database.</p> <p><code>memory</code> Log events are sent to the memory output on the local disk. This is the safest output in terms of Stat Server performance.</p> <p><code>[filename]</code> Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.</p> <p>Changes Take Effect: Immediately</p>

Table 12: Log Output Options (Continued)

Option	Description										
interaction	<p>Specifies the outputs to which Stat Server sends log events of the <code>Interaction</code> and higher levels (that is, log events of <code>Standard</code> and <code>Interaction</code> levels). You must separate log outputs with commas when you configure more than one output type.</p> <p>For example, <code>interaction = stderr, network</code></p> <p>Default Value: No default value</p> <p>Valid Values (log output types):</p> <table> <tr> <td><code>stdout</code></td><td>Log events are sent to the standard output (<code>stdout</code>).</td></tr> <tr> <td><code>stderr</code></td><td>Log events are sent to the standard error output (<code>stderr</code>).</td></tr> <tr> <td><code>network</code></td><td>Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores the log events in the Log Database.</td></tr> <tr> <td><code>memory</code></td><td>Log events are sent to the memory output on the local disk. This is the safest output in terms of Stat Server performance.</td></tr> <tr> <td><code>[filename]</code></td><td>Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.</td></tr> </table> <p>Changes Take Effect: Immediately</p>	<code>stdout</code>	Log events are sent to the standard output (<code>stdout</code>).	<code>stderr</code>	Log events are sent to the standard error output (<code>stderr</code>).	<code>network</code>	Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores the log events in the Log Database.	<code>memory</code>	Log events are sent to the memory output on the local disk. This is the safest output in terms of Stat Server performance.	<code>[filename]</code>	Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.
<code>stdout</code>	Log events are sent to the standard output (<code>stdout</code>).										
<code>stderr</code>	Log events are sent to the standard error output (<code>stderr</code>).										
<code>network</code>	Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores the log events in the Log Database.										
<code>memory</code>	Log events are sent to the memory output on the local disk. This is the safest output in terms of Stat Server performance.										
<code>[filename]</code>	Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.										
trace	<p>Specifies the outputs to which Stat Server sends log events of <code>Trace</code> and higher levels (that is, log events of <code>Standard</code>, <code>Interaction</code>, and <code>Trace</code> levels). You must separate log outputs with commas when you configure more than one output type.</p> <p>For example, <code>trace = stderr, network</code></p> <p>Default Value: No default value</p> <p>Valid Values (log output types):</p> <table> <tr> <td><code>stdout</code></td><td>Log events are sent to the standard output (<code>stdout</code>).</td></tr> <tr> <td><code>stderr</code></td><td>Log events are sent to the standard error output (<code>stderr</code>).</td></tr> <tr> <td><code>network</code></td><td>Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores the log events in the Log Database.</td></tr> <tr> <td><code>memory</code></td><td>Log events are sent to the memory output on the local disk. This output is the safest in terms of Stat Server performance.</td></tr> <tr> <td><code>[filename]</code></td><td>Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.</td></tr> </table> <p>Changes Take Effect: Immediately</p>	<code>stdout</code>	Log events are sent to the standard output (<code>stdout</code>).	<code>stderr</code>	Log events are sent to the standard error output (<code>stderr</code>).	<code>network</code>	Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores the log events in the Log Database.	<code>memory</code>	Log events are sent to the memory output on the local disk. This output is the safest in terms of Stat Server performance.	<code>[filename]</code>	Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.
<code>stdout</code>	Log events are sent to the standard output (<code>stdout</code>).										
<code>stderr</code>	Log events are sent to the standard error output (<code>stderr</code>).										
<code>network</code>	Log events are sent to Message Server, which can reside anywhere on the network. Message Server stores the log events in the Log Database.										
<code>memory</code>	Log events are sent to the memory output on the local disk. This output is the safest in terms of Stat Server performance.										
<code>[filename]</code>	Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory.										

Table 12: Log Output Options (Continued)

Option	Description
debug	<p>Specifies the outputs to which Stat Server sends log events of debug and higher levels (that is, log events of standard, trace, interaction, and debug levels). You must separate log output types with commas when you configure more than one output type.</p> <p>For example, <code>debug = stderr, /usr/local/genesys/logfile</code></p> <p>Default Value: No default value</p> <p>Valid Values (log output types):</p> <ul style="list-style-type: none"> <code>stdout</code> Log events are sent to the standard output (<code>stdout</code>). <code>stderr</code> Log events are sent to the standard error output (<code>stderr</code>). <code>memory</code> Log events are sent to the memory output on the local disk. This output is the safest in terms of Stat Server performance. <code>[filename]</code> Log events are stored in a file with the specified name. If you do not specify a path, the file is created in Stat Server's working directory. <p>Changes Take Effect: Immediately</p> <p>Note: Log events of debug level are never sent to Message Server nor stored in the Log Database.</p>

Log File Extensions

You can use the following file extensions to identify log files that Stat Server creates for various types of output:

- `*.log`—Assigned to log files when you configure output to a log file. For example, if you set `standard = statservlog`, Stat Server prints log messages into a text file called `statservlog.<time_stamp>.log`.
- `*.qsp`—Assigned to temporary (spool) files when you configure output to the network, but the network is temporarily unavailable. For example, if you set `standard = network`, Stat Server prints log messages into a file called `statserv.<time_stamp>.qsp` during the time the network is unavailable.
- `*.snapshot.log`—Assigned to files containing the output snapshot when you configure output to a log file. The file contains the last log messages that Stat Server generates before abnormal termination. For example, if you set `standard = statservlog`, Stat Server prints the last log message into a file called `statserv.<time_stamp>.snapshot.log` in case of failure.

Note: Provide `*.snapshot.log` files to Genesys Technical Support when reporting a problem.

- `*.memory.log`—Assigned to log files that contain the memory output snapshot when you configure output to memory and redirect the most recent memory output to a file. For example, if you set `standard = memory` and `memory = statserv`, Stat Server prints the latest memory output to a file called `statserv.<time_stamp>.memory.log`.

Examples

This section presents examples of a log section you might configure for an application operating in production mode and in two lab modes, debugging and troubleshooting.

Production Mode Log Section

```
[log]
verbose = standard
standard = network, statservlogfile
```

With this configuration, Stat Server generates only log events of the Standard level and sends them to the standard output, to Message Server, and to a file named `statservlogfile`, which Stat Server creates in its working directory. Genesys recommends that you use this or a similar configuration in a production environment.

Warning! Directing log output to the console (by using the `stdout` or `stderr` settings) can affect application performance. Avoid using these log output settings in a production environment.

Lab Mode Log Section

```
[log]
verbose = all
all = stdout, /usr/local/genesys/statservlogfile
trace = network
```

With this configuration, Stat Server generates log events of the standard, interaction, trace, and debug levels, and sends them to the standard output and to a file named `statservlogfile`, which Stat Server creates in the `/usr/local/genesys/` directory. In addition, Stat Server sends log events of the standard, interaction, and trace levels to Message Server. Use this configuration to test new interaction scenarios in a laboratory environment. Be sure to appropriately set the `debug-level` option in the `statserv` section.

Failure-Troubleshooting Log Section

```
[log]
verbose = all
standard = network
all = memory
```

```
memory = statservlogfile  
memory-storage-size = 32 MB
```

With this configuration, Stat Server generates log events of the standard level and sends them to Message Server. It also generates log events of the standard, interaction, trace, and debug levels, and sends them to the memory output. The most current log is stored to a file named `statservlogfile`, which the application creates in its working directory. An increased memory storage enables Stat Server to save more log information generated before a failure. Use this configuration when trying to reproduce an application failure. The memory log file would contain the snapshot of Stat Server's log at the moment of failure. This should help you and Genesys Technical Support identify the reason for the failure. Be sure to appropriately set the `debug-level` option in the `statserver` section.

Note: If you are operating Stat Server on Unix and do not specify any files in which to store the memory output snapshot, the core file that Stat Server produces before terminating contains the most current Stat Server log. Provide the Stat Server's core file to Genesys Technical Support when reporting problems.

Log-Extended Section

This section must be named `log-extended`.

Table 13: Extended Log Options

Option	Description												
level-reassign- <eventID>	<p>Specifies one of five log levels for log event <code><eventID></code>, which may differ from its default level, or disables logging of the named event altogether. This option is useful if you want to change the behavior of what Stat Server logs. If no value is specified, then the named log event retains its default level.</p> <p>These options can be deactivated with the <code>level-reassign-disable</code> configuration option described below.</p> <p>Default Value: Default value of log event <code><eventID></code>. Refer to the <i>Common Log Events Help</i> or <code>statserver.lms</code> (located in the directory where Stat Server is installed) for a listing of each of Stat Server's the default levels.</p> <p>Valid Values:</p> <table> <tr> <td><code>alarm</code></td><td>The log level of log event <code><eventID></code> is set to <code>alarm</code>.</td></tr> <tr> <td><code>standard</code></td><td>The log level of log event <code><eventID></code> is set to <code>standard</code>.</td></tr> <tr> <td><code>interaction</code></td><td>The log level of log event <code><eventID></code> is set to <code>interaction</code>.</td></tr> <tr> <td><code>trace</code></td><td>The log level of log event <code><eventID></code> is set to <code>trace</code>.</td></tr> <tr> <td><code>debug</code></td><td>The log level of log event <code><eventID></code> is set to <code>debug</code>.</td></tr> <tr> <td><code>none</code></td><td>Log event <code><eventID></code> is not recorded in a log.</td></tr> </table> <p>Changes Take Effect: Immediately</p>	<code>alarm</code>	The log level of log event <code><eventID></code> is set to <code>alarm</code> .	<code>standard</code>	The log level of log event <code><eventID></code> is set to <code>standard</code> .	<code>interaction</code>	The log level of log event <code><eventID></code> is set to <code>interaction</code> .	<code>trace</code>	The log level of log event <code><eventID></code> is set to <code>trace</code> .	<code>debug</code>	The log level of log event <code><eventID></code> is set to <code>debug</code> .	<code>none</code>	Log event <code><eventID></code> is not recorded in a log.
<code>alarm</code>	The log level of log event <code><eventID></code> is set to <code>alarm</code> .												
<code>standard</code>	The log level of log event <code><eventID></code> is set to <code>standard</code> .												
<code>interaction</code>	The log level of log event <code><eventID></code> is set to <code>interaction</code> .												
<code>trace</code>	The log level of log event <code><eventID></code> is set to <code>trace</code> .												
<code>debug</code>	The log level of log event <code><eventID></code> is set to <code>debug</code> .												
<code>none</code>	Log event <code><eventID></code> is not recorded in a log.												
level-reassign-disable	<p>When this option is set to <code>true</code>, the original (default) log level of all log events in the <code>[log-extended]</code> section are restored. This option is useful when you want to use the default levels, but not delete the customization statements.</p> <p>Default Value: <code>false</code></p> <p>Valid Values: <code>true</code>, <code>false</code></p> <p>Changes Take Effect: Immediately</p> <p>Defined: <code>Options</code> tab of <code>Application</code> object</p>												

Warning! Use caution when making these changes in a production environment.

Depending on the log configuration, changing the log level to a higher priority may cause the log event to be logged more often or to a greater number of outputs. This could affect system performance.

Likewise, changing the log level to a lower priority may cause the log event to be not logged at all, or not logged to specific outputs, thereby losing important information. The same applies to any alarms associated with that log event.

In addition to the precautionary message above, take note of the following:

- Logs can be customized only by release 7.6 or later applications.
- When the log level of a log event is changed to any level except none, it is subject to the other settings in the [log] section at its new level. If set to none, it is not logged and therefore not subject to any log configuration.
- Changing the log level of a log using this feature changes only its priority; it does not change how that log is treated by the system. For example, increasing the priority of a log to Alarm level does not mean that an alarm will be associated with it.
- Each application in an HA pair can define its own unique set of log customizations, but the two sets are not synchronized with each other. This can result in different log behavior depending on which application is currently in primary mode.
- This feature is not the same as a similar feature in Universal Routing Server, version 7.2 or later. In this Framework feature, the priority of log events are customized. In the URS feature, the priority of debug messages only are customized. Refer to the *Universal Routing Server 7.6 Reference Manual* for more information about the URS feature.
- You cannot customize any log event that is not in the unified log record format. Log events of the Alarm, Standard, Interaction, and Trace levels feature the same unified log record format.

Example

This is an example of using customized log level settings, subject to the following log configuration:

```
[log]
verbose=interaction
all=stderr
interaction=log_file
standard=network
```

Before the log levels of the log are changed:

- Log event 1020, with default level standard, is output to stderr and the log file, and sent to Message Server.
- Log event 2020, with default level standard, is output to stderr and the log file, and sent to Message Server.
- Log event 3020, with default level trace, is output to stderr.
- Log event 4020, with default level debug, is output to stderr.

Extended log configuration section:

```
[log-extended]
level-reassign-1020=none
level-reassign-2020=interaction
level-reassign-3020=interaction
level-reassign-4020=standard
```

After the log levels are changed:

- Log event 1020 is disabled and not logged.
- Log event 2020 is output to stderr and the log file.
- Log event 3020 is output to stderr and the log file.
- Log event 4020 is output to stderr and the log file, and sent to Message Server.

Log-Filter Section

This section must be called `log-filter`. [Table 14](#) describes the option you configure in this section.

Table 14: Log-Filter Option

Option	Description						
default-filter-type	<p>Specifies the default manner in which KVList information (including UserData, Extensions, and Reasons) is presented in the Stat Server log. Stat Server applies this option to all KVList pairs, except the ones explicitly defined within the <code>log-filter-data</code> section (see page 72).</p> <p>Default Value: <code>copy</code></p> <p>Valid Values:</p> <table> <tr> <td><code>copy</code></td><td>The keys and values of the KVList pairs are copied to the log.</td></tr> <tr> <td><code>hide</code></td><td>The keys of the KVList pairs are copied to the log; the values are replaced with strings of asterisks.</td></tr> <tr> <td><code>skip</code></td><td>The KVList pairs are not copied to the log.</td></tr> </table> <p>Changes Take Effect: Immediately</p>	<code>copy</code>	The keys and values of the KVList pairs are copied to the log.	<code>hide</code>	The keys of the KVList pairs are copied to the log; the values are replaced with strings of asterisks.	<code>skip</code>	The KVList pairs are not copied to the log.
<code>copy</code>	The keys and values of the KVList pairs are copied to the log.						
<code>hide</code>	The keys of the KVList pairs are copied to the log; the values are replaced with strings of asterisks.						
<code>skip</code>	The KVList pairs are not copied to the log.						

Example

```
[log-filter]
default-filter-type=copy
```

Here is an example of a log using the default log filter settings:

```
message RequestSetCallInfo
    AttributeConsultType      3
```

```

AttributeOriginalConnID    008b012ece62c8be
AttributeUpdateRevision    2752651
AttributeUserData          [111] 00 27 01 00..
        'DNIS'              '8410'
        'PASSWORD'          '111111111'
        'RECORD_ID'         '8313427'
AttributeConnID            008b012ece62c922

```

Log-Filter-Data Section

This section must be called `log-filter-data`. [Table 15](#) describes the options you configure in this section.

Table 15: Log-Filter-Data Options

Option	Description
<key name>	<p>Specifies the manner in which the KVList pair, defined by the key name (this option's name), is presented in the Stat Server log. Setting this option supersedes the manner in which KVList information is presented as defined by the <code>default-filter-type</code> option in the <code>log-filter</code> section for the given KVList pair.</p> <p>Default Value: <code>copy</code></p> <p>Valid Values:</p> <p><code>copy</code> The key and value of the given KVList pair are copied to the log.</p> <p><code>hide</code> The given KVList key is copied to the log; the KVList value is replaced with a string of asterisks. (See the example below.)</p> <p><code>skip</code> The KVList pair is not copied to the log.</p> <p>Changes Take Effect: Immediately</p>

Example

```
[log-filter-data]
PASSWORD=hide
```

Here is an example of the log with the `PASSWORD` option set to `hide`:

```

message RequestSetCallInfo
    AttributeConsultType    3
    AttributeOriginalConnID 008b012ece62c8be
    AttributeUpdateRevision 2752651
    AttributeUserData       [111] 00 27 01 00
        'DNIS'              '8410'
        'PASSWORD'          '****'
        'RECORD_ID'         '8313427'

```


AttributeConnID

008b012ece62c922

Log Option Changes from 7.0 to 7.6

[Table 16](#) documents the changes in common log configuration options between the 7.0 and 7.1 releases.

Table 16: Common Log Option Changes from 7.0 to 7.1

Option Name	Option Values	Type of Change	Details
Log Section			
keep-startup-file	false, true, <number> KB, <number> MB	Added	See the description on page 55 .

[Table 17](#) documents the changes in common log configuration options between release 7.1 and the latest release 7.2.

Table 17: Common Log Option Changes from 7.1 to 7.2

Option Name	Option Values	Type of Change	Details
Log-Filter Section—Introduced in 7.2			
default-filter-type	copy, hide, skip	Added	See the description on page 71 .
Log-Filter-Data Section—Introduced in 7.2			
<key name>	copy, hide, skip	Added	See the description on page 72 .

There are no changes in common log configuration options between releases 7.2 and 7.5. Common log changes that were introduced in the 7.6 Framework release are not supported in Stat Server 7.6.

[Table 18](#) documents the changes in common log configuration options between release 7.5 and the latest release 7.6.

Table 18: Common Log Option Changes from 7.5 to 7.6

Option Name	Option Values	Type of Change	Details
x-conn-debug-open	0, 1	Added	See the description on page 60 .
x-conn-debug-select	0, 1	Added	See the description on page 61 .

Table 18: Common Log Option Changes from 7.5 to 7.6 (Continued)

Option Name	Option Values	Type of Change	Details
x-conn-debug-timers	0, 1	Added	See the description on page 61 .
x-conn-debug-write	0, 1	Added	See the description on page 61 .
x-conn-debug-security	0, 1	Added	See the description on page 61 .
x-conn-debug-api	0, 1	Added	See the description on page 61 .
x-conn-debug-dns	0, 1	Added	See the description on page 62 .
x-conn-debug-all	0, 1	Added	See the description on page 62 .
Log-Extended Section—Introduced in 7.6			
level-reassign- <eventID>	alarm, standard, trace, interaction, debug, none	Added	See the description on page 69 .
level-reassign-disable	true, false	Added	See the description on page 69 .



Chapter

7

Installing Stat Server

You must configure a Stat Server Application object before installing the Stat Server application. Read [Chapter 3](#) for this and other important information. You need not uninstall prior releases of Stat Server to install a newer release. This chapter, nonetheless, provides uninstallation procedures to address the case where you want to permanently remove Stat Server from your machine.

This chapter contains the installation procedures for Stat Server and includes the following topics:

- [Installing Stat Server Following Wizard Configuration, page 75](#)
- [Installing Stat Server Following Manual Configuration, page 76](#)
- [Installing Java Extensions, page 78](#)
- [Uninstalling the Stat Server Application, page 80](#)

Installing Stat Server Following Wizard Configuration

This section describes how to install Stat Server following wizard configuration.

On UNIX

1. In the directory to which you copied the Stat Server installation package, locate the `install.sh` shell script.
2. Run this script from the command line by typing: `sh install.sh`.
3. When prompted, specify the host name of the computer on which you want Stat Server installed.
4. Specify the destination directory into which you want Stat Server installed.
5. If prompted for which version of the product to install (32- or 64-bit), choose the version appropriate for your environment.

As soon as the installation process completes, a message announces that installation was successful. The process creates a directory with the name specified during the installation, and places Stat Server in it. The installation routine then prompts you to install each of the Stat Server Java Extensions (MCR, OCC, and VCB) if the Extension installation packages were also deployed. Follow the steps described for each Extension starting with [Step 2](#) on [page 78](#).

On Windows

1. Open the directory to which you copied the Stat Server installation package.
2. Locate and double-click `setup.exe` to start installation.
3. If the installation routine detects previously installed Stat Server applications on your machine, you are prompted to do one of the following:
 - Install a new instance.
 - Perform maintenance on the existing application. To do this, select your Stat Server application.
4. Specify the destination directory into which you want Stat Server installed.
5. Click `Install` and `Finish` to complete the installation.

The installation routine installs your Stat Server application automatically as a Windows Service.

If you run the Stat Server installation package from the Real-Time Metrics Engine CD, Stat Server automatically installs the MCR, OCC, and VCB Stat Server Java Extensions as well.

Installing Stat Server Following Manual Configuration

This section describes how to install Stat Server on UNIX and Windows platforms if you manually configured a Stat Server Application object within Configuration Manager.

On UNIX

1. On the Real-Time Metrics Engine 7.6 product CD in the appropriate `statserver/operating_system/` directory, locate the `install.sh` shell script.
2. Run this script from the command line by typing `install.sh`.

3. When prompted, specify the host name of the computer on which you want to install Stat Server.
4. When prompted, specify:
 - a. The host name of the computer on which Configuration Server is running.
 - b. The port client that applications use to connect to Configuration Server.
 - c. The user name used to log in to the Configuration Layer.
 - d. The password used to log in to the Configuration Layer.
5. The installation displays the list of Application objects of StatServer type configured for this host. Type the number of the Stat Server Application you want installed.
6. Specify the destination directory into which you want Stat Server installed.
7. If prompted for which version of the product to install, (32- or 64-bit), select the version appropriate for your environment.

As soon as the installation process completes, a message announces that installation was successful. The process creates a directory with the name specified during the installation, and places Stat Server in it. The installation routine then prompts you to install each of the Stat Server Java Extensions (MCR, OCC, and VCB) if the Extension installation packages were also deployed. Follow the steps described for each Extension, starting with [Step 2 on page 78](#).

On Windows

1. From the Real-Time Metrics 7.6 CD, go to the \statserver\windows subdirectory.
2. Locate and double-click setup.exe to start installation.
3. If the installation routine detects previously installed Stat Server applications on your machine, you are prompted to either install a new instance or perform maintenance on the existing application. Select the former.
4. Specify the parameters for connecting to the Configuration Server where your Stat Server Application object has been configured.
5. Select your Stat Server application.
6. Specify the destination directory into which you want Stat Server installed.
7. Click Install and Finish to complete the installation.

The installation routine installs your Stat Server application automatically as a Windows Service.

If you run the Stat Server installation package from the Real-Time Metrics Engine CD, Stat Server automatically installs the MCR, OCC, and VCB Stat Server Java Extensions as well.

Installing Java Extensions

Before installing a Stat Server Java Extension, you must have configured a Stat Server Application object and installed the Stat Server application on your machine. Genesys provides the MCR, OCC, and VCB Java Extensions, which are delivered in five .jar files:

- eServiceContactStat.jar
- eServiceInteractionStat.jar
- eServiceSystemStat.jar
- OCCStatExtension.jar
- VCBStatExtension.jar

You deploy these files in three separate installations.

Installing the Multimedia Extensions

You can install the eService Java Extensions, which are used for Multimedia (formerly known as Multi-Channel Routing, or MCR), on Windows and/or UNIX platforms.

- On Windows**
1. In the \ext\mcr\ subdirectory of your deployed Stat Server installation package, locate and double-click setup.exe.
 2. If the installation routine detects one or more previously installed extensions on your machine, you are prompted to either install a new instance or perform maintenance on the existing extension. Select the former.
 3. When prompted, specify the root folder of the Stat Server installation (for example, C:\GCTI\StatServer_1), and click Next.

The installation routine deploys the eServiceContactStat.jar, eServiceInteractionStat.jar, and eServiceSystemStat.jar files in the \java\ext\ subdirectory of your installed application.

- On UNIX**
1. On the Real-Time Metrics Engine CD, navigate to the /ext/mcr/ subdirectory.
 2. Run the install.sh script from the command line by typing:


```
sh install.sh
```
 3. When prompted, specify the full destination path where you want the MCR extension deployed on your machine.

If the installation routine detects one or more installed extensions in the specified path, it prompts you to overwrite them or exit.

The installation routine deploys the eServiceContactStat.jar, eServiceInteractionStat.jar, and eServiceSystemStat.jar files in the /java/ext subdirectory of the path that you specified.

Installing the Outbound Contact Extension

You can install the `OCCStatExtension` Java Extension, which is used for the Outbound Contact solution, on Windows and/or UNIX platforms.

- On Windows**
1. In the `\ext\occ\` subdirectory of your deployed Stat Server installation package, locate and double-click `setup.exe`.
 2. When prompted to specify the destination folder, indicate the root folder of the Stat Server installation (for example, `C:\GCTI\StatServer_1`) and click `Next`.

Note: Select this folder carefully. The default choice provided by the installation routine likely differs from your intended destination.

The installation routine deploys `OCCStatExtension.jar` in the `\java\ext\` subdirectory of your installed application.

- On UNIX**
1. On the Real-Time Metrics Engine CD, navigate to the `/ext/occ/` subdirectory.
 2. Run the `install.sh` script from the command line by typing:

```
sh install.sh
```
 3. When prompted, specify the full destination path where you want the OCC extension deployed on your machine.
If the installation routine detects one or more installed extensions in the specified path, it prompts you to overwrite them or exit.

The installation routine deploys `OCCStatExtension.jar` in the `/java/ext` subdirectory of the path that you specified.

Installing the Voice Callback Extension

You can install the `VCBStatExtension` Java Extension, which is used for the Voice Callback option of Enterprise Routing, on Windows or UNIX platforms.

- On Windows**
1. In the `\ext\vcb\` subdirectory of your deployed Stat Server installation package, locate and double-click `setup.exe`.
 2. When prompted to specify the destination folder, indicate the root folder of the Stat Server installation (for example, `C:\GCTI\StatServer_1`) and click `Next`.

Note: Select this folder carefully. The default choice provided by the installation routine likely differs from your intended destination.

The installation routine deploys `VCBStatExtension.jar` in the `\java\ext\` subdirectory of your installed application.

- On UNIX**
1. On the Real-Time Metrics Engine CD, navigate to the `/ext/vcb/` subdirectory.
 2. Run the `install.sh` script from the command line by typing:

```
sh install.sh
```
 3. When prompted, specify the full destination path where you want the VCB extension deployed on your machine.
 If the installation routine detects one or more installed extensions in the specified path, it prompts you to overwrite them or exit.
 The installation routine deploys `VCBStatExtension.jar` in the `/java/ext` subdirectory of the path that you specified.

Uninstalling the Stat Server Application

To uninstall a Stat Server application, you must first stop it. Refer to “Stopping Stat Server” on [page 86](#) for this information. Uninstalling the Stat Server application differs from uninstalling its `Application` object in Configuration Server, which is described in “Stat Server Wizard—Uninstall Mode” on [page 21](#).

Use either of the following two methods for uninstalling a Stat Server application from your machine:

- From the Control Panel
- During installation maintenance

From the Control Panel

1. Open Add/Remove Programs.
2. Locate and select the desired Genesys Stat Server 7.6 application.
3. Click Remove.

During Installation Maintenance

1. From the path where the Stat Server Wizard deployed your installation package, or from the Real-Time Metrics Engine CD, double-click `setup.exe`.
2. Navigate to the Maintenance Setup Type screen and select the Maintenance of the existing installation option.
3. Select your Stat Server application from the list box and click Next.
4. At the Welcome screen, click Remove, and then Next.
5. At the Confirm Uninstall page, click Yes.
6. At the Maintenance Complete screen, click Finish.
7. At the After Installation screen, click Next. (This screen appears only on a Windows 2003 platform).

The Uninstall Wizard removes program registry entries, all shared and standard program files originally deployed by the installation routine, and then the program folder (or directory) itself, if it is empty.

So that you can reuse them later if desired, the Uninstall Wizard does not delete:

- The Stat Server database.
- The Stat Server Application object from the Configuration Server Database.
- Any log, snapshot, batch, or personal files in the Stat Server working directory.
- The java folder, unless you specifically uninstall Stat Server Java Extensions.

Refer to “Stat Server Wizard—Uninstall Mode” on [page 21](#) to remove the Application object from Configuration Server.



Chapter

8

Starting and Stopping Stat Server

This chapter contains procedures for starting and stopping Stat Server on the supported platforms. Start procedures assume that you have properly configured and installed Stat Server. If not, refer to [Chapters 3 and 7](#).

This chapter contains these sections:

- [What Must Be Running Prior to Start, page 83](#)
- [Starting Stat Server, page 84](#)
- [Stopping Stat Server, page 86](#)

You can start and stop your entire solution, including Stat Server, from the Solution Control Interface (SCI), which is the recommended approach. This chapter describes this method as well.

What Must Be Running Prior to Start

Genesys recommends that you start Stat Server with the following applications already running:

- Configuration Server
- RDBMS (if you use Stat Server with database functionality)
- DB Server (if you use Stat Server with database functionality)
- Java Runtime Environment (JRE) 1.4 or later (if you have configured Stat Server Java Extensions)

Note: Genesys does not support JRE 1.6.

Starting Stat Server

You can start Stat Server in any of the following ways:

- From the Genesys SCI
- Manually on UNIX
- Manually on Windows
- On Windows as a Windows Service

Note: Prior to opening statistics at startup, Stat Server now checks that the binary format of the backup file is compatible with the running instance of Stat Server.

Starting Stat Server Using SCI

1. From the Applications view in SCI, select your Stat Server Application object on the list pane.
2. Click the Start button on the toolbar, or select Start from either the Action menu or the shortcut menu. (Right-clicking your Application object displays the shortcut menu.)
3. Click Yes in the confirmation box that appears. Your Stat Server application starts.

For information about how to use SCI, refer to *Framework 7.6 Solution Control Interface Help*.

Starting Stat Server on UNIX

1. Go to the directory where you have installed Stat Server.
2. At the command line, type:

```
./run.sh
```

Or, type the name of the Stat Server executable followed by the appropriate command-line parameters using the following syntax:

```
./statserv -host hostname -port portno -app application
```

where:

- *hostname* refers to the name of the host on which Configuration Server is running.
- *portno* refers to the communication port that client applications must use to connect to Configuration Server.
- *application* refers to the name of the Stat Server Application object as defined to the Configuration Server.

Note: If the host or application name contains spaces or hyphens (-), enclose it in double quotation marks.

For example, to start Stat Server with parameters specifying the host as `cs-host`, port as `2020`, and name as `Stat Server 03`, type:

```
./statserv -host "cs-host" -port 2020 -app "Stat Server 03"
```

Starting Stat Server on Windows

Start Stat Server from the Start menu or open a console window, go to the directory where Stat Server is installed, and type the following command:

```
./statserv.exe -host hostname -port portno -app application
```

where:

- *hostname* refers to the name of the host on which Configuration Server is running.
- *portno* refers to the communication port that client applications must use to connect to Configuration Server.
- *application* refers to the name of the Stat Server Application object as defined to the Configuration Server.

Note: If the host or application name contains spaces or hyphens (-), enclose it in double quotation marks.

For example, to start Stat Server with parameters specifying the host as `cs-host`, port as `2020`, and name as `Stat Server 03`, type:

```
./statserv.exe -host "cs-host" -port 2020 -app "Stat Server 03"
```

If you used the Stat Server Wizard to configure Stat Server, the configuration process created a batch file named `StatServer_run.bat` and placed it in the Stat Server working directory. This file contains the complete command, with configured parameters, you need to start Stat Server. Simply double-click this file to start the application.

Starting Stat Server as a Windows Service

1. Open the Windows Control Panel and double-click the Services icon. The Services dialog box opens.
2. Select your Stat Server service from the list and click Start. (If you did not install Stat Server as a Windows Service, your application does not appear for selection in the Services list box.)

Note: Since you can install the Local Control Agent (LCA) as a Windows Service with the user interface disabled, all servers started through SCI, in this case, are started without a console, unless you specifically select the Allow Service to Interact with Desktop check box for both LCA and Stat Server.

Stopping Stat Server

You can stop Stat Server in any of the following ways:

- From the Genesys Solution Control Interface (SCI). (This is the recommended method.)
- Manually on UNIX.
- Manually on Windows.
- Via the Windows Control Panel.

Note: Be sure that the autorestart property is cleared for the Stat Server Application in the Configuration Manager to prevent Stat Server from self-starting.

Stopping Stat Server Using SCI

If you are using LCA and a Solution Control Server (SCS), you can stop Stat Server from SCI:

1. From the Applications view in SCI, select your Stat Server Application object on the list pane.
2. Click Stop on the toolbar, or select Stop either from the Action or the shortcut menu. (Right-clicking your Application object opens the shortcut menu.)
3. Click Yes in the box that appears to confirm your command.

SCI stops your Stat Server application.

Stopping Stat Server on UNIX

Stop Stat Server on UNIX using any one of the following methods:

- On the command line, type `kill -SIGTERM processid` where *processid* is Stat Server's UNIX process ID.
- Press ^C from the active Stat Server window.
- If you are using LCA and SCS, you can stop Stat Server from running on UNIX using SCI (described in the preceding subsection).

Stopping Stat Server on Windows

If Stat Server is running as an application—not as a Windows Service—switch to its console window and press **Ctrl+Break** to stop it. If you are running Stat Server as a Windows NT Service, you should stop it only from the Services Control Manager.

To stop Stat Server running as a Windows NT Service:

1. Open the Control Panel and double-click the Services icon. The Services dialog box opens.
2. Select your Stat Server service from the list and click **Stop**.



Chapter

9

Application Files

The Stat Server installation routine creates a root application folder with two subfolders:

- java
- sql_scripts

Tables 19, 20, and 21 in this chapter describe the files comprising each folder.

Warning! Do not attempt to run the SQL scripts manually because of the potential for data loss. They are intended only for Stat Server's internal use and advanced database administrators.

Table 19: Contents of the Root Folder

File Name	Description
common.lms	File storing log messages common to all Genesys components.
ip_description.xml	File storing installation package content.
read_me.html	File containing general information about the installation package.
startServer.bat	Batch file containing the Stat Server executable and command-line parameters used to start Stat Server.
statserv.exe	Application executable.
StatServer.lms	File storing Stat Server-specific log messages.
statserv.pdb	File for advanced troubleshooting of Stat Server on Windows operating systems.

Table 19: Contents of the Root Folder (Continued)

File Name	Description
java subfolder	Subfolder. See Table 21 for folder contents.
sql_scripts subfolder	<p>Subfolder containing five subfolders, holding SQL scripts for each of the following RDBMS types:</p> <ul style="list-style-type: none"> • Sybase • Informix • DB2 • Oracle • Microsoft SQL <p>See Table 20 for the contents of each subfolder.</p>

Table 20: Contents of the sql_scripts/[dbtype] Subfolder

File Name	Description
login_[dbtype].sql	SQL script that creates the LOGIN table (and indexes and procedures, as necessary) for a Sybase, Informix, DB2, Oracle, or Microsoft SQL RDBMS.
qinfo_[dbtype].sql	SQL script that creates the QINFO table (and indexes and procedures, as necessary) for a Sybase, Informix, DB2, Oracle, or Microsoft SQL RDBMS.
status_ltime_[dbtype].sql	SQL script that creates the STATUS table (and indexes and procedures, as necessary) for a Sybase, Informix, DB2, Oracle, or Microsoft SQL RDBMS. This STATUS table includes two fields, StartLocalTime and EndLocalTime, to store the start and end times in the local time zone.
status_[dbtype].sql	SQL script that creates the STATUS table (and indexes and procedures, as necessary) for a Sybase, Informix, DB2, Oracle, or Microsoft SQL RDBMS.
voice_reasons_[dbtype].sql	SQL script that creates the VOICE_REASONS table (and indexes and procedures, as necessary) for a DB2, Informix, or Microsoft SQL RDBMS.

Table 21: Contents of the java Subfolder

File Name	Description
ssjclldr.class	Java class loader; a member of the Stat Server Java host environment
statserver.jar	Library that is part of the Stat Server Java SDK, which, in turn, is part of the Stat Server Java host environment
statserver_impl.jar	A member of the Stat Server Java host environment
kvlists.jar	Library that is part of the Stat Server Java SDK, which, in turn, is part of the Stat Server Java host environment. Stat Server uses this file in conjunction with Stat Server Java extensions.
kv65_adapter.jar	Library that is part of the Stat Server Java SDK, which, in turn, is part of the Stat Server Java host environment
ext folder	Directory to store the Genesys solution-specific extensions, such as: <ul style="list-style-type: none"> • eServiceContactStat.jar • eServiceInteractionStat.jar • eServiceSystemStat.jar • OCCStatExtension.jar • VCBStatExtension.jar
lib folder	Directory to store the Genesys' solution-specific libraries, such as: <ul style="list-style-type: none"> • dsw_api_java.jar • dsw_extension_core.jar • dsw_transformers.jar



Appendix

Physical Data Models for Stat Server Tables

This appendix describes the database tables to which Stat Server stores data if the `status-table`, `qinfo-table`, `login-table`, and/or `voice-reasons-table` configuration options are enabled. (These configuration options are described in [Table 2](#) beginning on [page 35](#).) The information in this appendix is divided among the following topics:

- [Introduction, page 93](#)
- [Table Schema by RDBMS, page 94](#)
- [Table and Column Descriptions, page 95](#)

Introduction

Stat Server stores status data about agents in the `STATUS` table and data about queues in the `QINFO` table. Stat Server also maintains information about agent login and logout events in its `LOGIN` table. These tables are independent and do not reference each other. Genesys Info Mart and custom reporting use these tables.

The `VOICE_REASONS` table stores hardware and software reasons for agents to change or continue the `Ready` and `NotReady` states and the `AfterCallWork` work mode, when handling voice interactions. Genesys Info Mart uses this table and makes this data available for custom reporting.

`DBID` refers to the database identifier that the Configuration Layer assigns to a telephony object when an enterprise is configured. For example, after you set up an agent either manually in the `Persons` folder of Configuration Manager or using the Framework Configuration Wizard, the Configuration Layer assigns a unique `DBID` to that agent.

Note: Stat Server, while functioning in backup mode, does not write data to its database, even if configured to do so. This enables the primary or backup Stat Server, while functioning as the primary application, to store data to the same database.

Table Schema by RDBMS

Figures 1 through 5 depict Stat Server table schema for the supported RDBMSs.

Note: Data from the VOICE_REASONS table is not available for custom reporting directly from the Stat Server database. Therefore, the structure of the VOICE_REASONS table is not provided in this guide.

STATUS		QINFO		LOGIN	
ID	NUMERIC(20)	QueueDBID	INTEGER	SWITCHDBID	INTEGER
AgentDBID	INTEGER	ConnID	NUMERIC(20)	DNDBID	INTEGER
PlaceDBID	INTEGER	Status	INTEGER	QUEUEDBID	INTEGER
Status	INTEGER	StartTime	INTEGER	AGENTDBID	INTEGER
StartTime	INTEGER	Duration	INTEGER	PLACEDBID	INTEGER
Duration	INTEGER	EndTime	INTEGER	STATUS	INTEGER
EndTime	INTEGER			TIME	INTEGER
ConnID	NUMERIC(20)			LOGINID	CHAR(200)
StartLocalTime	VARCHAR(50)				
EndLocalTime	VARCHAR(50)				

Figure 1: Table Schema for a DB2 Stat Server Database

STATUS		QINFO		LOGIN	
ID	NUMERIC(20)	QueueDBID	INTEGER	SWITCHDBID	INTEGER
AgentDBID	INTEGER	ConnID	NUMERIC(20)	DNDBID	INTEGER
PlaceDBID	INTEGER	Status	INTEGER	QUEUEDBID	INTEGER
Status	INTEGER	StartTime	INTEGER	AGENTDBID	INTEGER
StartTime	INTEGER	Duration	INTEGER	PLACEDBID	INTEGER
Duration	INTEGER	EndTime	INTEGER	STATUS	INTEGER
EndTime	INTEGER			TIME	INTEGER
ConnID	NUMERIC(20)			LOGINID	CHAR(255)
StartLocalTime	CHAR(50)				
EndLocalTime	CHAR(50)				

Figure 2: Table Schema for an Informix Stat Server Database

STATUS		QINFO		LOGIN	
ID	numeric(20)	QueueDBID	int	SWITCHDBID	int
AgentDBID	int	ConnID	numeric(20)	DNDBID	int
PlaceDBID	int	Status	int	QUEUEDBID	int
Status	int	StartTime	int	AGENTDBID	int
StartTime	int	Duration	int	PLACEDBID	int
Duration	int	EndTime	int	STATUS	int
EndTime	int			TIME	int
ConnID	decimal(20)			LOGINID	char(255)
StartLocalTime	varchar(50)				
EndLocalTime	varchar(50)				

Figure 3: Table Schema for a Microsoft SQL Stat Server Database

STATUS		QINFO		LOGIN	
ID	NUMBER(20)	QueueDBID	INTEGER	SWITCHDBID	INTEGER
AgentDBID	INTEGER	ConnID	NUMBER(20)	DNDBID	INTEGER
PlaceDBID	INTEGER	Status	INTEGER	QUEUEDBID	INTEGER
Status	INTEGER	StartTime	INTEGER	AGENTDBID	INTEGER
StartTime	INTEGER	Duration	INTEGER	PLACEDBID	INTEGER
Duration	INTEGER	EndTime	INTEGER	STATUS	INTEGER
EndTime	INTEGER			TIME	INTEGER
ConnID	NUMBER(20)			LOGINID	CHAR(255)
StartLocalTime	VARCHAR2(50)				
EndLocalTime	VARCHAR2(50)				

Figure 4: Table Schema for an Oracle Stat Server Database

STATUS		QINFO		LOGIN	
ID	numeric(20)	QueueDBID	int	SWITCHDBID	int
AgentDBID	int	ConnID	numeric(20)	DNDBID	int
PlaceDBID	int	Status	int	QUEUEDBID	int
Status	int	StartTime	int	AGENTDBID	int
StartTime	int	Duration	int	PLACEDBID	int
Duration	int	EndTime	int	STATUS	int
EndTime	int			TIME	int
ConnID	decimal(20)			LOGINID	char(255)
StartLocalTime	varchar(50)				
EndLocalTime	varchar(50)				
PK_STATUS	primary				

Figure 5: Table Schema for a Sybase Stat Server Database

Table and Column Descriptions

The Stat Server database contains four tables:

- LOGIN, described on [page 96](#)
- QINFO, described on [page 97](#)
- STATUS, described on [page 98](#)
- VOICE_REASONS, described on [page 100](#)

Note: The VOICE_REASONS table is not included in Stat Server deployment for Sybase and Informix RDBMSs.

The LOGIN Table

The LOGIN table contains the history of login and logout activity for resources on both voice and multimedia channels. Stat Server writes to this table if the [login-table](#) configuration option is set to yes.

Stat Server detects login activity, for T-Server and SIP Server clients, upon receipt of an EventAgentLogin TEvent; Stat Server detects logout upon receipt of EventAgentLogout.

For medias reported through Interaction Server, the pair of EventAgentLogin and EventMediaAdded events are used in Stat Server logic to determine agent readiness to process interactions on a particular media channel. The EventMediaRemoved and EventAgentLogout pair are the triggering logout events.

[Table 22](#) describes the LOGIN table's fields, which are presented in order of appearance.

Table 22: Field Descriptions for the LOGIN Table

Field Name	Description
SWITCHDBID	The DBID of the switch at whose DN the agent has logged in or out.
DNDBID	The DBID of the DN at which the agent has logged in or out. This value is 0 (zero) if the agent has logged in to or logged off a media channel.
QUEUEDBID	The DBID of the ACD queue where the agent has logged in or out.
AGENTDBID	The DBID of the agent who has logged in or out.
PLACEDBID	The DBID of the place where the agent has logged in or out.
STATUS	1 if the agent has logged in. 0 if the agent has logged out.
TIME	Time, in seconds since 1 January 1970 UTC (Universal Time Coordinated), when the related login or logout event occurred.
LOGINID	The login ID of the resource for this record. The initial size of this field, as defined in the login.sql script for your RDBMS, is 255 characters, but you can adjust it as appropriate for your environment. Where the agent has logged in to or logged off a media channel, this field stores the media type. Stat Server gathers this information from the MediaType attribute of the triggering TEvent.

The QINFO Table

The QINFO table contains the history of voice interaction activities from the perspective of one or more mediation DNs that are registered to the Stat Server application. Stat Server writes to this table if the `qinfo-table` configuration option is set to yes. Table 23 describes this table's fields, which are presented in their order of appearance.

Table 23: Field Descriptions for the QINFO Table

Field Name	Description																														
QueueDBID	The queue’s DBID.																														
ConnID	<p>An identifier that T-Server assigns to the connected call. The value in this field is 0 (zero) if the status is not related to the call.</p> <p>In multi-site scenarios, if the first transfer connection ID differs from the current connection ID associated with the call, the value stored in this field is the first transfer connection ID. Prior to Stat Server release 7.0.3, this field stored the current connection ID.</p>																														
Status	<p>The status of the transition of a call through a queue whose DBID is displayed in the QueueDBID field (of this table). The possible values of 1–9 indicate the following statuses and durations:</p> <table><thead><tr><th>Call Status</th><th>Code</th><th>Duration</th></tr></thead><tbody><tr><td>Diverted from queue</td><td>1</td><td>Time in queue</td></tr><tr><td>Abandoned within queue</td><td>2</td><td>Time in queue</td></tr><tr><td>Diverted from queue (answered while ringing)</td><td>3</td><td>Time in queue plus time spent ringing</td></tr><tr><td>Diverted from queue (abandoned while ringing)</td><td>4</td><td>Time in queue plus time spent ringing</td></tr><tr><td>Party changed from queue (for consultation calls only)</td><td>5</td><td>Time in queue plus time spent ringing until party changed</td></tr><tr><td>Diverted from queue (forwarded)</td><td>6</td><td>Time in queue</td></tr><tr><td>Call cleared^a (for virtual queues only)</td><td>7</td><td>Time in queue</td></tr><tr><td>Call cleared after being stuck on a distribution DN</td><td>8</td><td>Time in queue</td></tr><tr><td>Call cleared after being stuck while ringing at an agent’s DN</td><td>9</td><td>Time at DN</td></tr></tbody></table>	Call Status	Code	Duration	Diverted from queue	1	Time in queue	Abandoned within queue	2	Time in queue	Diverted from queue (answered while ringing)	3	Time in queue plus time spent ringing	Diverted from queue (abandoned while ringing)	4	Time in queue plus time spent ringing	Party changed from queue (for consultation calls only)	5	Time in queue plus time spent ringing until party changed	Diverted from queue (forwarded)	6	Time in queue	Call cleared ^a (for virtual queues only)	7	Time in queue	Call cleared after being stuck on a distribution DN	8	Time in queue	Call cleared after being stuck while ringing at an agent’s DN	9	Time at DN
Call Status	Code	Duration																													
Diverted from queue	1	Time in queue																													
Abandoned within queue	2	Time in queue																													
Diverted from queue (answered while ringing)	3	Time in queue plus time spent ringing																													
Diverted from queue (abandoned while ringing)	4	Time in queue plus time spent ringing																													
Party changed from queue (for consultation calls only)	5	Time in queue plus time spent ringing until party changed																													
Diverted from queue (forwarded)	6	Time in queue																													
Call cleared ^a (for virtual queues only)	7	Time in queue																													
Call cleared after being stuck on a distribution DN	8	Time in queue																													
Call cleared after being stuck while ringing at an agent’s DN	9	Time at DN																													
StartTime	A sequence number representing the date and time when the status displayed in the Status field (of this table) began. The sequence begins with January 1, 1970, 12:01 AM UTC and increments every second. For example, 878159351 represents October 29, 1997, 13:09:11. Each new second represents an increment of 1 in the sequence.																														

Table 23: Field Descriptions for the QINFO Table (Continued)

Field Name	Description
Duration	The duration, in seconds, of the status displayed in the Status field.
EndTime	A sequence number representing the date and time when the status displayed in the Status field (of this table) ended. The sequence begins with January 1, 1970, 12:01 AM, UTC, and increments each second. For example, 878159351 represents October 29, 1997, 13:09:11. Each new second represents an increment of 1 in the sequence.

- a. Indicates that a call was cleared from a virtual queue (diverted to an agent's DN from another virtual queue). This status is based on the `CallCleared` retrospective, instantaneous action. (Refer to the *Framework 7.6 Stat Server User's Guide* for a description of this action.)

The STATUS Table

The STATUS table contains the history of status changes for agent and place resources. Place status is determined by the highest priority action (as defined by Stat Server status priority tables) that occurs at the DNs it includes.

Starting with the 7.6.1 release, Stat Server supports status reporting for multimedia DNs—DNs capable of handling multiple simultaneous interactions. By setting the `multimedia-activity-in-status-table` configuration option to yes, Stat Server selectively accounts for non-voice-related actions on multimedia DNs in the status records that are written to this table.

Stat Server writes to this table only if the `status-table` configuration option is set to yes. Table 24 describes this table's fields, which are presented in their order of appearance.

Table 24: Field Descriptions for the STATUS Table

Field Name	Description
ID	A unique key field used for internal purposes. Upon reaching 4,294,967,296 (that is, 2^{32}), Stat Server restarts the counter reusing all values starting from 1, provided that no records are associated with the IDs to be reused. Warning! To store new records after the number of records in the STATUS table reaches 4,294,967,296, clear the STATUS table. To keep previous records, back up this table's data into a backup database prior to clearing the table.
AgentDBID	The database ID (DBID) of an agent or 0 (zero).
PlaceDBID	The DBID of the place associated with the agent whose ID is displayed in the AgentDBID field of this table or 0 (zero).

Table 24: Field Descriptions for the STATUS Table (Continued)

Field Name	Description																														
Status	<p>The status of the agent whose DBID appears in the AgentDBID field or the status of the place whose DBID appears in the PlaceDBID field. If the values in the AgentDBID and PlaceDBID fields are both not 0, then the agent and his or her place share the same status.</p> <p>The following lists STATUS field values and their significance:</p> <table> <tr><td>4</td><td>WaitForNextCall (Ready)</td></tr> <tr><td>5</td><td>OffHook</td></tr> <tr><td>6</td><td>CallDialing</td></tr> <tr><td>7</td><td>CallRinging</td></tr> <tr><td>8</td><td>NotReadyForNextCall</td></tr> <tr><td>9</td><td>AfterCallWork</td></tr> <tr><td>13</td><td>CallOnHold</td></tr> <tr><td>16</td><td>ASM_Engaged</td></tr> <tr><td>17</td><td>ASM_Outbound</td></tr> <tr><td>18</td><td>CallUnknown</td></tr> <tr><td>19</td><td>CallConsult</td></tr> <tr><td>20</td><td>CallInternal</td></tr> <tr><td>21</td><td>CallOutbound</td></tr> <tr><td>22</td><td>CallInbound</td></tr> <tr><td>23</td><td>LoggedOut</td></tr> </table>	4	WaitForNextCall (Ready)	5	OffHook	6	CallDialing	7	CallRinging	8	NotReadyForNextCall	9	AfterCallWork	13	CallOnHold	16	ASM_Engaged	17	ASM_Outbound	18	CallUnknown	19	CallConsult	20	CallInternal	21	CallOutbound	22	CallInbound	23	LoggedOut
4	WaitForNextCall (Ready)																														
5	OffHook																														
6	CallDialing																														
7	CallRinging																														
8	NotReadyForNextCall																														
9	AfterCallWork																														
13	CallOnHold																														
16	ASM_Engaged																														
17	ASM_Outbound																														
18	CallUnknown																														
19	CallConsult																														
20	CallInternal																														
21	CallOutbound																														
22	CallInbound																														
23	LoggedOut																														
StartTime	A sequence number representing the date and time when the status displayed in the Status field (of this table) began. The sequence begins with January 1, 1970, 12:01 AM UTC and increments each second. For example, 878159351 represents October 29, 1997, 13:09:11. Each new second is represented by an increment of 1 in the sequence.																														
Duration	The duration, in seconds, of the status displayed in the Status field in this table.																														
EndTime	<p>A sequence number representing the date and time when the status displayed in the Status field (of this table) ended. The sequence begins with January 1, 1970, 12:01 AM, UTC, and increments each second. For example, 878159351 represents October 29, 1997, 13:09:11. Each new second is represented by an increment of 1 in the sequence.</p> <p>Beginning with the 7.1 release, this field holds a 0 (zero) value if the status does not complete.</p>																														
ConnID	<p>An identification number T-Server assigns to the connected call. The value in this field is 0 (zero) if the status is not related to a call.</p> <p>In multi-site scenarios, if the first transfer connection ID differs from the current connection ID associated with the call, the value stored in this field is the first transfer connection ID. Prior to Stat Server release 7.0.3, this field stored the current connection ID.</p>																														

Table 24: Field Descriptions for the STATUS Table (Continued)

Field Name	Description
StartLocalTime	A string containing a user-defined format for the local time of status start. The format of the start local time is controlled by the time-format option. This field is populated if the local-time-in-status-table configuration option has been enabled.
EndLocalTime	A string that contains a user-defined format for the local time of status end. The format of the end local time is controlled by the time-format option. This field is populated if the local-time-in-status-table configuration option has been enabled.

The VOICE_REASONS Table

Stat Server writes to the VOICE_REASONS table if the [voice-reasons-table](#) configuration option is set to yes in the Stat Server application. This table contains the history of hardware and software reasons for each agent to change or continue the Ready and NotReady states and the AfterCallWork work mode when handling voice interactions. (Hardware reasons are reported by the switch whereas software reason are established at a software level by a request from a software application, such as an agent desktop.)

Stat Server retrieves Reasons information from data that is attached to the EventAgentReady and EventAgentNotReady TEvents for a DN assigned to a place that has a logged-in agent. Stat Server inserts reason records into the table retroactively—a record is added only after the Reasons value or work mode has changed or the DN state associated with the reason has ended.

The data from the Stat Server's VOICE_REASONS table is not available for custom reporting off the Stat Server database directly; therefore, no description of the VOICE_REASONS table structure is provided in this guide.

Reasons data is available to users of Genesys Info Mart release 7.2 and higher. Refer to the *Genesys Info Mart Operations Guide* for information about Reasons data in the Info Mart database.



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