Reporting and Analytics Aggregates 8.1

Deployment Guide

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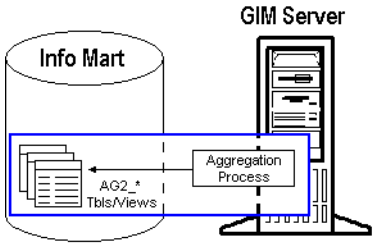
Preface

Welcome to the *Reporting and Analytics Aggregates 8.1 Deployment Guide.* This document introduces you to the configuration and installation procedures that are relevant to deployment of the Genesys Info Mart Aggregation Layer. This guide is valid only for the 8.1.*x* releases of Reporting and Analytics Aggregates (RAA).

This preface contains the following sections:

For information about related resources and the conventions that are used in this document, see the supplementary material starting on page 67.

About Reporting and Analytics Aggregates



Reporting and Analytics Aggregates

RAA 8.1 is an optional Genesys Info Mart process that users can add to a Genesys Info Mart environment to create and populate predefined aggregation tables and views within an 8.1 Genesys Info Mart. This aggregation process is essential for Genesys Interactive Insights (GI2) environments.

Note: If you intend to install GI2, you do not need to install RAA first, because the RAA installation package (IP) is included within the GI2 IP and is silently deployed with each GI2 installation.

Aggregation tables and views provide the metrics that summarize contact center activity by year, quarter, month, week, day, hour, and subhour to facilitate reporting. They serve as the primary source of data for GI2 reports and universe. The tables are indexed for performance and grouped conveniently into distinct subject areas that are keyed to various Info Mart dimension tables.

Refer to the *Reporting and Analytics Aggregates 8.1 Reference Manual* for detailed information about the aggregate tables, views, and subject areas. Refer to the *Reporting and Analytics Aggregates 8.1 User's Guide* for instructions on how to run the aggregation process, how to customize it to aggregate user data, and to see business views of the subject areas.

Intended Audience

This guide serves primarily two audiences: namely, network, IT, and contact center administrators for:

- Genesys Info Mart
- GI2

The guide assumes that both audiences have a basic understanding of:

- Computer-telephony integration (CTI) concepts, processes, terminology, and applications.
- Network design and operation.
- The administration and operation of your relational database management system (RDBMS).
- Your own network configurations.

Both audiences should also be familiar with Genesys Info Mart configuration. In addition, Genesys Info Mart-only users should be familiar with operation of the Genesys Info Mart Administration Console (and, in release 8.1.4, Genesys Info Mart Manager) and general Genesys Info Mart functionality.

Chapter Summaries

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

- Chapter 1, "Installing Reporting and Analytics Aggregates," beginning on page 11, describes how to install the stand-alone version of RAA.
- Chapter 2, "Post-Installation Setup," beginning on page 15, describes how to import into your Genesys Info Mart application the configuration file that is deployed during installation and how to ready the environment for aggregation.
- Chapter 3, "Configuring Genesys Info Mart for Aggregation," beginning on page 21, describes the configuration options that you can set to affect how data is aggregated.
- Chapter 4, "Aggregation Runtime Parameters," beginning on page 43, describes the runtime parameters that you can issue from the command line, a batch file, or a shell script.

- Chapter 5, "Application Files," beginning on page 51, describes the files that are deployed upon RAA installation.
- Chapter 6, "Uninstalling Reporting and Analytics Aggregates," beginning on page 55, describes how to uninstall an RAA installation, how to clean up aggregation-related database objects, and reconfigure your Genesys Info Mart application to prevent it from re-calling the aggregation process.
- Appendix, "Configuring Thresholds for Pre-8.1.1 Environments," beginning on page 61, describes the configuration sections and options that pertain to 8.0 and 8.1.0 RAA environments.

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New in This Release

This section describes the changes that have been incorporated within this guide since the 8.0.1 release of RAA:

Changes Introduced in Release 8.1.401

- This release introduces a new GUI, Genesys Info Mart Manager, which you can use to manage Genesys Info Mart jobs. Genesys Info Mart Manager provides the same functionality as the Genesys Info Mart

Administration Console. In addition, you can now issue (re-)aggregation requests from Genesys Info Mart Manager or the Genesys Info Mart Administration Console.

- Data purging is now supported. See page 50 for information about how to enable purging, and *Reporting and Analytics Aggregates 8.1 User's Guide* for information about configuring purging rules to control what data is purged, and on what schedule.
- RAA now provides split-media aggregation for new installations, which significantly enhances database performance by separating connection-oriented (online) and connection-less (offline) media in aggregate tables.
  - To support this change, aggregate data formerly stored in tables with the prefix `AG2_*` is now stored in tables with the prefix `AGT_*`, and the data is presented through views with the prefix `AG2_*`.
- Queue attached data is now supported by default for new installations: queue hierarchies now provide key columns that you can configure to join to two custom user data Info Mart dimension tables of your choice.

Changes Introduced in Release 8.1.104

- This release introduces the `materialize-subhour-in-db` option in the `[agg-feature]` section, and a new value for the `delFeature` and `setFeature` runtime parameters. See pages 30, 45, and 48 respectively.
- This release introduces a new re-aggregation command line option, `-insertPendingAgg`, which improves aggregation management. See page 43 for details.
- Queue attached data is now supported (but is not enabled by default). Queue hierarchies now provide key columns that you can configure to join to two custom user data Info Mart dimension tables of your choice. Contact Customer Care for information about enabling this feature.

Changes Introduced in Release 8.1.101.07

- The name of the aggregation patch file has been corrected. See page 53.
- This release introduces the `excludeConsult` option in the `[agg-feature]` section and a new value for the `delFeature` and `setFeature` runtime parameters. See pages 30, 45, and 48 respectively.

Changes Introduced in Release 8.1.101.05

- This release introduces an improved aggregation dispatcher that you control by setting values to three new options in Configuration Server:
  - `realtime-offset`, which is described on page 26
  - `writer-schedule`, page 27
  - `zone-offset`, page 29

As a result of this new feature, the `number-of-writers` configuration option (described on page 25) is obsolete in the 8.1.101 release. The addition of the following runtime parameters mirrors these options:

- `realtimeOffset`, page 48
- `writerSchedule`, page 50
- `zoneOffset`, page 50

Changes Introduced in Release 8.1.100

- The installation routine for Microsoft Windows platforms was improved to detect whether a prior RAA installation preexists. See pages 12–13.
- Two coding examples are included beginning on page 19 to describe the recreation of RAA schema views under unusual circumstances.
- The `Agg` value for the `category` parameter of the `level-of-log` option (on page 24) was corrected to provide the proper casing.
- The `default-tz-offsets` configuration option and `defaultTZoffsets` runtime parameter are introduced for specification of irregular time-zone offsets. See pages 24 and 45 respectively.
- A new configuration section and two new runtime parameters enable (or disable) aggregation of social-media measures. See pages 29, 45, and 48.
- More flexible threshold configuration is introduced on pages 33–42 that enables configuration by media type, by tenant, by `Script` object, and by DN. For backward compatibility, configuration options under the former threshold mechanism remains available and is described in the Appendix, "Configuring Thresholds for Pre-8.1.1 Environments," beginning on page 61.
- Sample scripts for customization of user data, partitioning, and conversion of subhour views to tables are deployed in the new `\script` subfolder. See page 53 for more information.
- The RAA standalone installation routine on UNIX platforms no longer prompts you to identify the Genesys Info Mart root directory. You can now have the RAA installation routine deploy files to any directory that you specify. See pages 13 and 51.

Changes Introduced in Release 8.1.000

- The `deadlock-threshold` configuration option and `deadlockThreshold` runtime parameter are exposed. See pages 24 and 45 respectively.
- The `printQuery` runtime parameter, which is described on page 48, is introduced.
- Scripts that are required for operation of the aggregation migration utility (introduced in the 8.1.0 release) have been added to the installation package. See page 52 for the contents of the `\agg` subdirectory.

- Several third-party drivers are included within the installation package. See page 52 for the current listing of deployed drivers.

Other Changes

Other changes, which include modifications to database schema and operation of the aggregation migration utility are provided in the *Reporting and Analytics Aggregates 8.1 Reference Manual* and the *Genesys Migration Guide* respectively. The *Reporting and Analytics Aggregates 8.1 User's Guide* provides new troubleshooting tips and additional database permissions for updating tenant aliases.

Chapter

1 Installing Reporting and Analytics Aggregates

This chapter provides the instructions for how to install Reporting and Analytics Aggregates (RAA) anew as well as how to upgrade a prior RAA release. This chapter also introduces the aggregation migration utility in the following sections:

For instructions on how to uninstall RAA, refer to Chapter 6.

Predeployment Considerations

- The only prerequisite for the installation of RAA 8.1 is that it should be installed only on a supported platform on which Genesys Info Mart has been installed (or upgraded). However, in order to run the aggregation process, the following conditions must be met: Genesys Info Mart 8.1 must be installed (or upgraded) on the target computer. (The *Genesys Info Mart 8.1 Deployment Guide* describes the installation of this product.)
- In environments where Genesys Info Mart has been upgraded, RAA schema views must be recreated. (Refer to page 19 for this information.)
- You must have administrative privileges on the target computer.
- You must have administrative access to Info Mart—the Genesys Info Mart database.
- You must have write access to the root directory of Genesys Info Mart. For UNIX plug-in mode, you must know where the location of this root directory is.

- Info Mart must have adequate table space for the creation of the aggregate tables and the population of their data. (Refer to the *Genesys Info Mart Database Sizing Spreadsheet* to estimate the space that is required given the configuration of objects in your contact center and expected interaction flow activity.)

Installing the Aggregation Layer

Once the predeployment conditions are met, you can install RAA on UNIX and/or Microsoft Windows platforms. Refer to the *Genesys Supported Operating Environment Reference Guide* for a listing of the specific supported platforms.

After you have installed RAA 8.1 successfully, perform the steps in Chapter 2, beginning on page 15, to complete the setup for running the aggregation process.

Installing RAA on UNIX

1. From the RAA image, locate the `install.sh` shell script.
2. Run this script from the command line by typing `sh install.sh`.
3. Specify the installation mode for aggregation: `GIM Plugin` or `Standalone`. This selection determines where the installation package will be deployed:
   - For `GIM Plugin`, the installer displays a list of directories where Genesys Info Mart is installed. You must select one of these directories.
   - In `Standalone` mode, you have to freedom to specify any directory.
4. Specify the destination directory into which you want to deploy RAA.

As soon as the installation process completes, a message announces that installation was successful. The routine creates a subdirectory (named `agg`) in the current directory and places RAA files in it. You can install more than one instance of RAA on UNIX platforms.

Installing RAA on Microsoft Windows

1. From the RAA image, locate and invoke the `setup.exe` file.
2. At the `Welcome` screen, click `Next`.
3. If the installation routine detects that an RAA application is already installed on the host, it displays a `Maintenance Setup Type` screen. At this screen, choose to do one of the following:
   - Install a new instance of the RAA application.

- Maintain an existing RAA application; choose the application that you want to remove from the list. One RAA instance only can reside on a Microsoft Windows host.

Click Next.

Otherwise, the installation routine displays the Select Installed Application screen that is mentioned in Step 4a.

4. To install a new instance, perform the following steps:
   a. At the Select Installed Application screen, select the Genesys Info Mart application into which you want to deploy the RAA option. Click Next.

      If RAA has already been installed for the Genesys Info Mart application that you selected, the installation routine prompts you to select another application.
   b. At the Ready to Install screen, click Install.

      The Wizard displays a progress-of-completion bar on the Installation Status screen while it copies the necessary files and registers dynamic-link libraries (DLLs).
   c. Proceed to Step 6.
5. If, at Step 3, you opted to maintain an existing RAA application, at the Welcome to the Maintenance screen, select Remove, confirm your selection by clicking Yes within the dialog box that appears, and click Next.

   The installation routine removes all deployed contents of the \agg folder and the folder itself if it does not contain other than deployed files.
6. At the Installation Complete or Maintenance Complete screen, click Finish.

The Wizard creates a Reporting and Analytics Aggregates program group inside the Genesys Solutions, program group with one menu item: ReadMe—a shortcut to information about the RAA installation package. The Wizard also creates a subfolder inside the Genesys Info Mart root folder—\agg—and deploys RAA-specific files therein. Refer to Chapter 5 on page 51 for a list of these files.

Upgrading RAA

The upgrade of RAA consists of re-installing the application and running the aggregation process in either integrated or autonomous mode. On Microsoft Windows platforms, you must uninstall RAA in order to re-install it. Running aggregation automatically creates the necessary tables and columns that are required to populate them.

1. Follow the instructions in the prior section, "Installing the Aggregation Layer", to reinstall the application.

Refer to the *Reporting and Analytics 8.1 Deployment Procedure* for additional steps that pertain to multiple-tenant and custom userdata environments.

2. Follow the instructions in the "Managing the Aggregation Process" chapter of the *Reporting and Analytics Aggregates User's Guide* to learn how to run aggregation in integrated or autonomous mode. This document also describes these modes of RAA operation.

Migrating Genesys Info Mart 7.6 Aggregation Tables

The initial 8.1 RAA release introduced a utility that migrates data from Info Mart 7.6 aggregate tables and associated dimensions into the 8.1.*x* schema. Refer to the *Genesys Migration Guide* for more information about this utility.

Note: To migrate from release 7.6 to release 8.1.4, you must migrate in two steps (from 7.6 to 8.1.103.01, and then to 8.1.4).

Chapter

2 Post-Installation Setup

Following installation, there are additional tasks that you must complete to ready your environment—whether it be a Genesys Info Mart–only environment or an environment that contains both Genesys Info Mart and Genesys Interactive Insights (GI2)—for aggregation. This chapter describes these tasks and contains the following sections:

Preparing the Aggregation Environment

To avail the aggregation layer to the Genesys Info Mart Server, the files that are deployed by the Reporting and Analytics Aggregates (RAA) installation routine must be positioned within the Genesys Info Mart root folder and the `GIM_EXT_LIBS` environment variable must be set to point to the aggregation Java archive (if it is not already set). Both Genesys Info Mart and GI2 audiences must perform these actions. (Aggregation becomes seamless for GI2 users only after all setup has been completed and aggregation starts for the first time.)

Note: The aggregation process can function from locations other than Genesys Info Mart's root directory. However, to facilitate troubleshooting, Genesys recommends that it be positioned there. The remaining preparatory steps presume this location.

1. From the appropriate directory (either the GI2 root directory or the RAA root directory) move (or copy) the \agg subdirectory and its contents to the Genesys Info Mart installation root directory, if it does not already exist there.
2. (Microsoft Windows only) From the Genesys Info Mart root directory, open the gim_etl_paths.bat batch file and add the following line to the bottom of the section that sets the GIM_EXT_LIBS environment variable, if it is not already present:

   ```
   set GIM_EXT_LIBS=%GIM_EXT_LIBS%;./agg/GIMAgg.jar
   ```

   Close and save the file.

   Note: The gim_etl_paths.bat file is deployed by the Genesys Info Mart installation routine.

3. (UNIX only) From the Genesys Info Mart root directory, open the gim_etl_paths file and add the following line to the bottom of the section that sets the GIM_EXT_LIBS environment variable, if it is not already present:

   ```
   GIM_EXT_LIBS="${GIM_EXT_LIBS}:./agg/GIMAgg.jar"
   ```

   Close and save the file.

   Note: The gim_etl_paths file is deployed by the Genesys Info Mart installation routine.

4. If it is already running, restart the Genesys Info Mart application so that it picks up environment changes and is aware of the GIMAgg.jar archive.

Importing Aggregation Options

The RAA installation routine deploys a configuration file—gim_agg_application_options.cfg—to the \agg subdirectory. This file contains the requisite configuration sections and options for running the aggregation process. This file also supplies default values for those options. All options contained in this file, and their defaults, are described in Chapter 3 beginning on page 21.

Within Configuration Manager, you can import the contents of this file into an existing Genesys Info Mart application (or into the Genesys Info Mart application template) to engage the aggregation process. When they are imported, the values of options in the configuration file might overwrite those that might already be set in your Genesys Info Mart Application object. Before you execute the following procedure to import the options, study the differences so that your application will continue to behave as expected following importation.

1. From Configuration Manager, open the properties of the targeted Genesys Info Mart `Application` and click `Export to Configuration File` to back up your current configuration. Save the file to a location of your choosing.

2. Click the `Import from Configuration File` button and navigate to the `\agg` subdirectory.
3. Select `gim_agg_application_options.cfg`, and click `Open`.
4. When Configuration Manager prompts you to overwrite the existing configuration, click `No`.

Warning! Selecting `Yes` will wipe out the current configuration and replace it with the contents of the imported file.

Selecting `No` enables Configuration Manager to import the sections and options that are defined in the configuration file such that they coexist with the current configuration.

Note: The `gim_agg_application_options.cfg` file does not contain the full default Genesys Info Mart configuration that is offered by the Genesys Info Mart application template. This configuration file contains only a small subset of options that are required for running the aggregation process.

5. Where the same options exist in both the configuration file and the current configuration, and where the values of these options differ, Configuration Manager prompts you to choose the preferred value, as shown in Figure 1. Click `Yes` or `No`, as appropriate.

Figure 1: Resolving Option Differences in Configuration

6. After you have resolved differences in configuration option values, select `OK` to save the configuration and close the application's properties.

The options are now defined within your Genesys Info Mart `Application` and will take effect during the next run of the appropriate Genesys Info Mart job. (The moment at which changes take effect is described for each option in Chapter 3.)

Fine-Tuning RAA Configuration

After you have imported the requisite aggregation options, you should tailor thresholds (such as the speed-of-accept, abandon-delay, short-abandoned, and short-talk thresholds) and other aggregation-related options to meet business objectives. These options are described in the next chapter, beginning on page 21.

Setting Up Attached Data

If you have configured custom dimensions in Info Mart that you want the aggregation process to recognize during aggregations, you must create and set up the `user-data-map.ss` file and position it inside the Genesys Info Mart root folder. Use this file to map hierarchies to your custom dimensions.

The `user-data-map.ss` file maps the `USER_DATA_KEY1` and `USER_DATA_KEY2` columns in the `H_AGENT`, `H_AGENT_CAMPAIGN`, `H_AGENT_QUEUE`, `H_CAMPAIGN`, and `H_ID` hierarchies (and, beginning with release 8.1.4, `H_QUEUE`, `H_QUEUE_ABN`, `H_QUEUE_ACC_AGENT`) to your custom dimensions.

For more information about the format of the `user-data-map.ss` file, or for descriptions of the hierarchies, see the *Reporting and Analytics Aggregates 8.1 User's Guide.*

Automatic Database Setup

In and of itself, the process of running the aggregation process creates all aggregation-related tables and views in Info Mart. All supporting database objects, including the internal queue—`PENDING_AGR` (consisting of data to be aggregated)—are also created. Furthermore, the aggregation engine creates new columns, as needed, on the fly, for any new measures that might be introduced in future RAA releases and hot fixes. The same is not necessarily true, however, for future Genesys Info Mart future releases and hot fixes, and under some circumstances, you must recreate RAA schema views. (Refer to the next section.)

In autonomous mode, invoke the aggregation process as described in the *Reporting and Analytics Aggregates 8.1 User's Guide.* In integrated mode, you invoke the aggregation process from the Genesys Info Mart Administration Console or Genesys Info Mart Manager, which are described in the *Genesys Info Mart 8.1 Operations Guide.* The modes of operation for the aggregation process are described in the *Reporting and Analytics Aggregates 8.1 User's Guide*.

Recreating RAA Schema Views

Upon initial startup of aggregation, within its main schema, RAA creates GI2-specific views for accessing certain Info Mart data. Among these views are:

- All `*_GI2` views, such as `SM_RES_SESSION_FACT_GI2` and `INTERACTION_TYPE_GI2`. These views supplement the corresponding Genesys Info Mart fact tables with timestamp information in Genesys Info Mart-default time zone.
- The `TODAY` and `RELATIVE_RANGE` views—which help the GI2 reports align Genesys Info Mart data with various time intervals in the Genesys Info Mart-default time zone.
- And `GI2_CONSTANTS`, which helps population of certain GI2 prompts.

For regular RAA or GI2 upgrades and hot fixes, whenever necessary—that is, whenever the structures of the underlying Info Mart tables change—RAA automatically re-creates these views. This event occurs upon invocation, when RAA detects that the `GI2 SCHEMA_VERSION` field in the `CTL_SCHEMA_INFO` Info Mart table is not current. There are some other circumstances, however, in which you must explicitly manipulate this value in order to trigger RAA view re-creation; most prominent—when the rollout of a Genesys Info Mart upgrade or hot fix changes its own tables' structures.

To instruct RAA to re-create GI2-specific schema views upon the next invocation in this scenario, stop Genesys Info Mart from running, then clear the Interactive Insights schema version by issuing the following code against Info Mart where RAA has been deployed.

Setting SCHEMA_VERSION to "0clean" (Oracle)

```
MERGE INTO CTL_SCHEMA_INFO d
USING (SELECT 'Interactive Insights' SCHEMA_NAME
    FROM dual ) s
ON ( d.SCHEMA_NAME = 'Interactive Insights' )
WHEN MATCHED THEN
UPDATE
SET d.SCHEMA_VERSION = '0clean'
WHEN NOT MATCHED THEN
INSERT (
        d.SCHEMA_NAME,
        d.SCHEMA_VERSION )
    VALUES (
        'Interactive Insights',
        '0clean' );

COMMIT;
```

Setting SCHEMA_VERSION to "0clean" (Microsoft SQL)

```
begin transaction;
DELETE FROM CTL_SCHEMA_INFO
WHERE SCHEMA_NAME = 'Interactive Insights';

INSERT
INTO CTL_SCHEMA_INFO
    ( SCHEMA_NAME,
      SCHEMA_VERSION )
    VALUES (
        'Interactive Insights',
        '0clean' );

COMMIT transaction;
```

In multi-tenant environments, there is yet another set of views that are used for tenant- and time-zone-specific data. RAA adds to its main schema additional views (prefaced `AGR_ALIAS_`*n*, where *n* is a random number) though which data is selected for the appropriate tenant. Each tenant schema includes:

- Tenant-specific views of all aggregated data (`AG2_*`), which are built from the `AGR_ALIAS_`*n* views, and
- The tenant's own set of `*_GI2, TODAY, RELATIVE_RANGE,` and `GI2_CONSTANTS` views.

You must update tenant aliases as well whenever RAA recreates GI2-specific schema views. Refer to the "Updating Tenant Aliases in Multi-Tenant Environments" chapter in the *Reporting and Analytics Aggregates 8.1 User's Guide* for more information.

Lastly, Genesys Info Mart also maintains main schema views and tenant views of Genesys Info Mart-only data that must be updated whenever Genesys Info Mart table structures change. Refer to the Genesys Info Mart documentation set for this information.

Chapter

3 Configuring Genesys Info Mart for Aggregation

This chapter describes the options that you can configure to affect whether the aggregation process is run, when it starts and stops, which data has higher priority for aggregation, which hierarchies are populated, and the time-range boundaries and thresholds that determine how data is grouped before it is aggregated. Most of these options belong to configuration sections that are prefaced `[agg...]` and which are unique to Reporting and Analytics Aggregates (RAA). They are not described in the Genesys Info Mart documentation set.

Descriptions of other section options on whose values the aggregation process depends are described in the *Genesys Info Mart 8.1 Deployment Guide*; some of these options are described in this document because RAA default values might differ from Genesys Info Mart-assigned default values.

RAA default values reflect those that are in effect when the `gim_agg_application_options.cfg` configuration file has been imported to the Genesys Info Mart application. (This procedure was described in section "Importing Aggregation Options" on page 16.) A Genesys Info Mart application without such configuration might have different defaults. Furthermore, the default values in this chapter do not necessarily reflect how the Genesys Info Mart application behaves when options are altogether absent from configuration.

This chapter contains the following sections:

Except where noted, the names of all configuration sections and options, as well as their values, are case sensitive. And, all sections are configured on the `Options` tab of the Genesys Info Mart `Application` object.

Note: The aggregation process overlooks the values of some options that are configured in the Genesys Info Mart application if the aggregation process is invoked in autonomous mode and the specified runtime parameters indicate different values. Refer to the *Reporting and Analytics Aggregates 8.1 User's Guide* for a discussion of the different modes of running aggregation and to Chapter 4 of this document, beginning on page 43, for a listing and description of runtime parameters.

Enabling Aggregation

The ETL section of a Genesys Info Mart `Application` provides the options you can use to configure the extraction, transformation, and loading of contact center data. This section also defines the location of the aggregation engine and must be named `[gim-etl]`. Table 1 describes the one option in this section that is related to aggregation. Other options that are available in this section are described in the *Genesys Info Mart 8.1 Deployment Guide.*

Table 1: ETL Configuration Option for Aggregation

Option	Description
aggregation-engine-class-name	Specifies the name of the Java class that controls the aggregation process. This value must be set to `GIMAgg.GimInterfaceImpl.AggregationImpl` to enable aggregation. Default Value: `GIMAgg.GimInterfaceImpl.AggregationImpl` Valid Values: `GIMAgg.GimInterfaceImpl.AggregationImpl, none` Changes Take Effect: Upon restart

Scheduling Aggregation

The schedule section of a Genesys Info Mart `Application` provides options for scheduling the extraction, transformation, loading, and aggregation of data. This section must be named `[schedule]`. Table 2 describes only those scheduling options that are related to the aggregation process. Other options that you can configure in this section are described in the *Genesys Info Mart 8.1 Deployment Guide.* Refer also to this guide to learn how to configure a continuous aggregation in integrated mode and not have the aggregation process terminate for any period of time.

Table 2: Scheduling Configuration Options for Genesys Info Mart Aggregation

Option	Description
run-aggregates	Specifies whether to start the aggregation process at the scheduled time (as determined by the `aggregate-schedule` configuration option). Default Value: `true` Valid Values: `true, false` Changes Take Effect: Immediately
aggregate-duration	Specifies the length of time within a 24-hour period that the aggregation process will run after it has been launched by the scheduler. The `run-aggregates` configuration option must be set to `true` and the `aggregate-schedule` must be set appropriately. Default Value: `23:00` (23 hours) Valid Values: `HH:mm`, where `HH` represents the number of hours (`0`–`24`) and `mm` represents the number of minutes (`0`–`59`) Changes Take Effect: Immediately
aggregate-schedule	Specifies the schedule that determines when the aggregation process will start. The `run-aggregates` configuration option must be set to `true`, in order for this option to take effect. Default Value: `0 1` (once a day starting at 1:00 AM) Valid Value: Valid CRON expression of two fields (see Examples, below) Changes Take Effect: Immediately Examples: • A value of `0 0` launches the aggregation process once a day at 00:00. • `0 0,3/2` launches aggregate process once a day at 00:00, 03:00, and every 2 hours thereafter.

[agg] Section

The aggregate section of a Genesys Info Mart `Application` defines the general behavior of the aggregation process. The values of options in this section impact all aggregation hierarchies. This section must be named `[agg]`. Table 3 describes the configuration options in this section.

Table 3: Configuration Options of the Aggregate Section

Option	Description
default-tz-offsets	Specifies the winter and summer Universal Coordinated Time (UTC) offset, in seconds, from the time zone of the DATE_TIME table for environments: • Whose offsets are other than in one hour increments—that is, whose offset is not evenly divisible by 3600. • That configure more than one time zone. The two offsets must be separated by a comma as shown in the example below. Default Value: 0,0 (indicating no offset at all) Valid Values: a,b where: a=number of seconds of the winter offset b=number of seconds of the summer offset For example, an offset of six and a half hours (UTC+06:30) with recognition of daylight saving time in the summer of one hour would be configured as follows: default-tz-offsets=23400,27000
deadlock-threshold	Specifies the time, in seconds, in which each aggregation writer thread must return the results of its aggregation of a batch of data. If a writer does not respond within this time frame, RAA assumes either that the process is deadlocked or that the database is too slow and cannot process aggregation in a timely fashion. When the deadlock-threshold time period has elapsed, RAA cancels all database queries and closes all sessions. To resume processing, aggregation must be restarted. Default Value: 3600 (1 hour) Valid Value: Any positive integer **Note:** Genesys recommends that you do not set this option's value to any value less than 900 seconds.
level-of-log	Specifies the detailed level of log messages that the Genesys Info Mart Server generates for aggregation-related activity. Default Value: .:INFO Valid Values: [category]:[<value>][,category:[<value>]...] where: category is either "." (for the root logging category) or "Agg" value corresponds to the desired level of log information: SEVERE—Genesys Info Mart Server logs only severe messages from the corresponding category. WARNING—Genesys Info Mart Server logs severe and warning messages from the corresponding category. INFO—Genesys Info Mart Server logs severe, warning, and informational messages from the corresponding category.

Table 3: Configuration Options of the Aggregate Section (Continued)

Option	Description
level-of-log (continued)	`CONFIG`—Genesys Info Mart Server logs severe, warning, informational, and configuration messages from the corresponding category. `FINE`—Same as `CONFIG` plus an even finer detail of messages from the corresponding category. `FINER`—Same as `FINE` plus an even finer detail of messages from the corresponding category. `FINEST`—Same as `FINER` plus an even finer detail of messages. `ALL`—Genesys Info Mart Server logs all messages. from the corresponding category. `OFF`—Genesys Info Mart Server logs no messages from the corresponding category.. The lower the `value`, the greater the detail that the Genesys Info Mart Server logs. When you specify no value at all, Genesys Info Mart Server uses the default value, `.:INFO`.
number-of-writers	Beginning with release 8.1.101, this option is obsolete. Refer instead to the description of the `writer-schedule` configuration option. For release 8.1.0 and prior releases, this option specifies the number of threads that the aggregation process dedicates to writing chunks of data to Info Mart. Each thread opens one connection to Info Mart. Upon startup, connections are opened, and aggregation jobs are assigned dynamically to these connections. If your environment uses a high-performance RDBMS, you might notice performance improvements when you increase the value of this option. Default Value: `4` Valid Values: `1–16` Changes Take Effect: Upon restart of the aggregation process

Table 3: Configuration Options of the Aggregate Section (Continued)

Option	Description
realtime-offset	Introduced in release 8.1.101, this option specifies the number of seconds that the upper boundary of Zone 1 is offset from aggregation. Zone 1 contains the most recent aggregation notification requests. Zone 1 represents a sliding window of time that is bound by two timestamps: • The moment in time (*t*) that the aggregation process is running minus the number of seconds specified by this option defines the end of the sliding window. • The moment of time represented by *t* minus the number of seconds specified by the `zone-offset` option marks the beginning of the sliding window. Once the aggregation process starts, every five minutes thereafter it redefines Zone 1 and the Zone 1 upper boundary. RAA will not aggregate data above this boundary. You specify a real-time offset in order to eliminate the overlap that might occur between the Genesys Info Mart ETL transformation process (writing data to Info Mart) and the RAA aggregation process (reading Info Mart data). With this offset, you can prevent RAA from aggregating data that is currently being transformed—data that is likely to be significantly changed by Genesys Info Mart ETL.
realtime-offset (continued)	Moreover, on some RDBMSs—Microsoft SQL Server, in particular—database locks could result if you specify too short a value for this option. To minimize this possibility, specify a large enough value to instruct RAA to avoid processing data that Genesys Info Mart ETL is likely currently writing. Default Value: `900` (15 minutes) Valid Values: `0`–`7200` (2 hours) Changes Take Effect: Upon restart of the aggregation process, in autonomous mode. Immediately upon every 5-minute reevaluation, in integrated mode. Use this option in conjunction with the `writer-schedule` and `zone-offset` configuration options to fine-tune aggregation dispatching.

Table 3: Configuration Options of the Aggregate Section (Continued)

Option	Description
sub-hour-interval	Specifies the lowest time level of aggregation, in minutes, for the AG2_*_SUBHR tables. Default Value: 30min Valid Values: 15min, 30min Changes Take Effect: On the next start of the Genesys Info Mart Server **Warning:** You must choose a value for this option before the aggregation engine writes data to the subhour aggregation tables and avoid changing it afterwards. Otherwise, aggregation results will be difficult to interpret. If you do want to change the value of this option and data has been written to the subhour tables, you must first stop aggregation and purge all data from the SUBHR tables before resetting the value of this option. In addition, if it is necessary to have data for the period of time that data was purged, you must rerun aggregation for that period. **Note:** As packaged, the GI2 reports require that this value be set to 30min. Refer to "Using 15-Minute Aggregation" in the *Genesys Interactive Insights User's Guide* for instructions on how to customize the Interactive Insights reports, so that they use a 15-minute value.
writer-schedule	Introduced in release 8.1.101, this option sets the schedule for the number of writers that RAA dedicates to the aggregation of notifications received in Zone 1 (Z1) and Zone 2 (Z2). For earlier releases, the number of writer threads that are dedicated to aggregation is controlled by the number-of-writers configuration option. Z1 consists of the more recent notifications about pending aggregation requests of the most recent data and is bound by the timestamps implied by the values of the realtime-offset and zone-offset configuration options. Z2 consists of notifications about older data and is bound only by the timestamp implied by the value of the zone-offset configuration option. (Refer to the descriptions of these options to learn how RAA determines these timestamps.)

Table 3: Configuration Options of the Aggregate Section (Continued)

Option	Description
writer-schedule (continued)	Default Value: `default=flex(3:1)` This means that the default schedule uses a flexible schedule of three writers that are dedicated to Z1 and one writer that is dedicated to Z2. Valid Values: `default=`*p*`(`*a*`:`*b*`)[,hour(`*HH-HH*`)=`*p*`(`*c*`:`*d*`)][,hour(`*HH-HH*`)=`*p*`(`*e*`:`*f*`)]` (no spaces) where: • The `default` keyword indicates that the writer assignments for each zone define the schedule for hours that you do not explicitly configure using the `hour` keyword. *p* represents the degree of pliability: `flex` (for a flexible schedule) or `strict`. A flexible schedule enables RAA to borrow writer threads from the other zone when there are insufficient idle threads dedicated to the current zone to handle aggregation requests. Conversely, RAA will never borrow threads when the degree of pliability is `strict`. `default=strict(3:5)` means that the default schedule mandates that 3 writers always be dedicated to Z1 and 5 always to Z2. The schedule indicated by the `hour` keyword supersedes the default schedule. • The `hour` keyword indicates that the immediate schedule defines the writer assignments for the indicated span of whole hours using a 24-hour clock. For example, `hour(8-19)` defines the immediate schedule from 8:00 am to 6:59 pm. `hour(20-7)` defines the immediate schedule from 8:00 pm to 6:59 am. There are no resets at midnight, and you can configure any number of hour constructs. RAA uses the schedule of the first encountered. • `a, c,` and `e` specify the number of writers for Zone 1. • `b, d,` and `f` specify the number of writers for Zone 2. And finally, the maximum number of writer Z1–Z2 pairings cannot exceed 10. `default=strict(10:0)` is valid whereas `hour(0,6)=flex(2,9)` is not; (2+9>10). Changes Take Effect: Upon the next start of the aggregation process in autonomous mode. Immediately upon every 5-minute reevaluation in integrated mode. Refer to the *Reporting and Analytics Aggregates 8.1 User's Guide* for an extended discussion of aggregation dispatching. Beginning in release 8.1.4, this parameter also accepts the argument `<hour(#-#)=purge>`, which enables and schedules purging of aggregate data. For information, see "writerSchedule" on page 50.

Table 3: Configuration Options of the Aggregate Section (Continued)

Option	Description
zone-offset	Introduced in release 8.1.101, this option specifies the length of Zone 1 (housing the most recent aggregation notification requests) in seconds. This option also indirectly defines the boundary between Zone 2 and Zone 1. The *zone offset* represents a sliding window of time bound by two timestamps: • The end of the sliding window is defined by the moment in time (*t*) that the aggregation process starts minus the number of seconds specified by the `realtime-offset` configuration option.
zone-offset (continued)	• The moment of time represented by *t* minus the real-time offset minus the number of seconds specified by this option marks the beginning of the sliding window. Note that the beginning of Zone 1 also marks the end of Zone 2. Refer to the *Reporting and Analytics Aggregates 8.1 User's Guide* for an illustration of zones 1 and 2 delineated by the zone and real-time offsets. Use this option in conjunction with the `realtime-offset` and `writer-schedule` configuration options to fine-tune aggregation dispatching. Default Value: `115200` (32 hours) Valid Values: integers between `8100` (>2 hours) and `800000000` (>25 years) inclusive. Use of the largest values is designed to effectively eliminate Zone 2. Changes Take Effect: Upon restart of the aggregation process

[agg-feature] Section

The aggregate-feature section of a Genesys Info Mart `Application` enables aggregation of special features. This section must be named `[agg-feature]`. Table 4 describes the one configuration option of this section.

Table 4: Configuration Options of the Aggregate-Feature Section

Option	Description

eServicesSM	Instructs RAA to:
	• Map `IRF_USER_DATA_KEYS.GEN_ES_KEY` to `USER_DATA_KEY1` in the `H_ID, H_AGENT, H_AGENT_GRP,` and `H_AGENT_QUEUE` hierarchies.
	• Populate aggregated data for the following social-media measures in some of the aforementioned hierarchies:
	`INFLUENCE` `ACTIONABILITY` `SENTIMENT`
	`INFLUENCE_ENTERED` `ACTIONABILITY_ENTERED` `SENTIMENT_ENTERED`
	`INFLUENCE_OFFERED` `ACTIONABILITY_OFFERED` `SENTIMENT_OFFERED`
	Refer to the *Reporting and Analytics Aggregates Reference Manual* for descriptions of these database fields.
	Default Value: none
	Valid Values: none. This option takes no values—its presence alone within the `[agg-feature]` section issues the described instructions to RAA.
	Changes Take Effect: Upon restart of the aggregation process
	To stop population of the aforementioned fields, remove this option from this section.

excludeConsult	Instructs RAA to exclude consult interactions in ACC and ABN queue aggregates, and count only customer calls (thus mimicking 8.1.1 behavior). Default Value: none (include consult interactions) Valid Values: none. This option takes no values—its presence alone within the `[agg-feature]` section issues the described instructions to RAA. Changes Take Effect: Upon restart of the aggregation process To have RAA include consult interactions, remove this option from this section.
materialize-subhour-in-db (Release 8.1.104 and later)	Instructs RAA to materialize RAA subhour views as tables. Default Value: none Valid Values: none. This option takes no values—its presence alone within the `[agg-feature]` section issues the described instructions to RAA. Changes Take Effect: Upon restart of the aggregation process Remove this option from this section to have RAA replace the SUBHR table with a view (for disposition based hierarchies only).

Disabling Aggregation in Certain Hierarchies

The disable-aggregates section of a Genesys Info Mart `Application` defines which aggregate hierarchies the aggregation process will not populate for each tenant and, by their omission, which hierarchies will be populated. The default behavior populates all aggregation hierarchies. This section must be named `[agg-populate-disable]`. Table 5 describes the one configuration option in this section.

Table 5: Configuration Options for Populating Aggregate Data

Option	Description

default	Lists the hierarchies that the aggregation process will not populate. By default, the aggregation process populates all aggregation hierarchies.
	Default Value: No value specified
	Valid Values: A comma-separated list that contains of one or more of the following RAA hierarchies or no value at all:
	`H_AGENT` `H_I_ SESS_STATE` `H_QUEUE_GRP`
	`H_AGENT_GRP` `H_I_STATE_RSN` `H_AGENT_CAMPAIGN`
	`H_AGENT_QUEUE` `H_QUEUE` `H_CAMPAIGN`
	`H_ID` `H_QUEUE_ABN`
	`H_I_AGENT` `H_QUEUE_ACC_AGENT`
	Changes Take Effect: Upon start of the next aggregation cycle
	Note: Some hierarchies, such as `H_AGENT_GRP`, are populated entirely by using data from other hierarchies. So, for example, if you specify a value of `H_AGENT` only for this option, the aggregation process will not populate the `H_AGENT_GRP` hierarchy either, even though you did not specify this value. For more information about hierarchies, their interrelationships, and the aggregate tables to which data is written, refer to the *Reporting and Analytics Aggregates 8.1 User's Guide.*

Defining the DATE-TIME Calendar

The date-and-time section of a Genesys Info Mart `Application` provides the options that instruct how the Genesys Info Mart Server should populate and maintain data in the `DATE_TIME`– and custom-calendar tables. Refer to the *Genesys Info Mart 8.1 Reference Manual* for your RDBMS for information about this table. With respect to standard aggregation, this section must be named `[date-time]`. In addition, custom calendars can be defined within other user-defined `DATE_TIME` sections; however, standard aggregation does not recognize them. Refer to "Aggregation using Custom Calendars" in the

Reporting and Analytics Aggregates User's Guide to learn how to configure aggregation to recognize the custom calendars that you might establish in other user-defined DATE_TIME sections.

Simple Week Numbering

In relation to aggregation, the default settings for options in this section rely on simple-week numbering, which facilitates rollups of week results to annual results for custom reports. (Of the reports that are provided by GI2, none provides results that are aggregated by week.) Such settings are not ISO 8601-compliant. Refer to the *Genesys Info Mart 8.1 Deployment Guide* for descriptions of date-time options and examples on how to set them to be compliant with ISO 8601 standards.

Changing DATE_TIME Options

Runtime changes that you make to DATE_TIME configuration options—or changes that you make to these options after Info Mart initialization—can have a detrimental impact on report results. For instance, if you change the time zone option, date-time-tz, the reports can mix the results displaying data from different time zones within the same reporting interval, depending on when the option change occurred. To effect date-time configuration-option changes properly, change must be propagated beyond configuration-option settings—namely, data in the aggregation tables also should be re-aggregated. This presumes, of course, that the underlying fact data has not been purged already.

The following is the suggested procedure for changing date-time configuration options after Info Mart has been initialized. This procedure applies for all options except the date-time-min-days-ahead and date-time-max-days-ahead options:

1. Stop aggregation. (Refer to "Stopping the Aggregation Process" in the *Reporting and Analytics Aggregates 8.1 User's Guide.*)
2. Verify that data exists in the Genesys Info Mart FACT tables for the period of time that you want to re-aggregate.
3. Set date-time configuration options as desired.
4. Purge all records from the DATE_TIME table.
5. Run Job_MaintainGIM. (Among other functions, this job populates the DATE_TIME table. The job is described in the *Genesys Info Mart 8.1 Operations Guide.*)
6. Run re-aggregation in autonomous mode over the desired reporting interval. (This is described in "Reaggregating Data over a Certain Time Range" section in the *Reporting and Analytics Aggregates 8.1 User's Guide.*)

When re-aggregation is complete, report results will conform.

Setting Thresholds

The configuration of threshold options enables RAA to determine how to aggregate and write data to certain columns of the aggregate tables. You can configure thresholds for all of the disposition-based RAA hierarchies except `H_CAMPAIGN`. (Disposition-based hierarchies are described in the *Reporting and Analytics Aggregates 8.1 User's Guide*.) Threshold values are not applied to previously calculated aggregates unless re-aggregation for the reporting interval is performed. The *User's Guide* also describes how to re-aggregate data.

In addition, you can configure thresholds that RAA recognizes apart from those configured within the Genesys Info Mart `Application` object. Table 6 shows the RAA-specific configuration sections (all of which are prefaced with `[agg-gim-thld-...]`) that pertain to thresholds and the contact center objects in which RAA recognizes their configuration. Each section and its configuration options are described thereafter, beginning on page 35.

Note: Genesys Info Mart provides other options (such as `q-short-abandoned-threshold` and `q-answer-threshold`) to configure thresholds for other purposes. Beginning with release 8.1.1, RAA references these options to aggregate and write data to `*_80` columns, such as `SHORT_80`. To aggregate and populate data to the corresponding base column (for example, `SHORT`), you must configure the threshold options that are described in this section of this document.

Refer to Appendix, "Configuring Thresholds for Pre-8.1.1 Environments" on page 61 and the *Genesys Migration Guide* for additional information.

Table 6: Threshold Configuration Sections and Applicable Objects

Configuration Section	Configuration Server Object				
	GIM (Priority=1)	**Tenant** (2)	**Switch** (3)	**DN** (4)	**Script** (5)
[agg-gim-thld-AGENT-IXN]	✓	✓			
[agg-gim-thld-ID-IXN]	✓	✓			
[agg-gim-thld-QUEUE-ABN]	✓	✓			
[agg-gim-thld-QUEUE-ACC]	✓	✓			
[agg-gim-thld-QUEUE-IXN]	✓	✓	✓	✓	✓

You configure thresholds on the `Options` tab of your Genesys Info Mart `Application` object and/or on the `Annex` tab of all other contact center objects that are listed in Table 6.

Priority of Threshold Options across Different Configuration Objects

Options that you configure in one contact center object can override the values of options that you configure in other contact center objects. Table 6 also lists the priority—from least to greatest—in which RAA weighs option values that are set in different objects. RAA gives the greatest weight to threshold options that you configure in `Script` objects (if this object is applicable to a particular RAA configuration section) and the least weight to threshold options that you configure in the Genesys Info Mart `Application`. This means that option values that you configure in the Genesys Info Mart `Application` object will always be overridden by the values of comparable options that are configured elsewhere.

Priority of Threshold Options within Configuration Objects

Apart from the priorities that RAA recognizes across different configuration objects are additional priorities that RAA recognizes for options that you configure *within* each configuration object. In all threshold configuration sections, there is a `default` option whose value applies to all media. Over and above this option, you can define thresholds *by media* that trump the default.

A different cross-section of threshold prioritization within the `Tenant`, `Switch`, `DN`, and `Script` objects enables you to configure both `default` and media-specific values for a specific Genesys Info Mart application. Within the same object, for example, you could configure both `[agg-gim-thld-QUEUE-IXN]` and `[agg-gim-thld-QUEUE-IXN-MyGIM]` sections. In this example, the default and media-specific configuration of thresholds in the `[agg-gim-thld-QUEUE-IXN-MyGIM]` section trump the ones in the `[agg-gim-thld-QUEUE-IXN]` section.

Table 7 ranks the priority—from least to greatest—in which RAA weighs option values within any particular configuration section. This ranking is valid for all threshold configuration sections (see Table 6 on page 33), where configuration is applicable. Table 7 shows prioritization for two different parent nodes: for `Script` objects and for `DN` objects.

In Table 7, the `Def` abbreviation is used for the `default` configuration option and the `Media` abbreviation is used for any media-specific option that you might configure.

Table 7: Prioritization* of Threshold Options within a Configuration Section

Configuration Server Object													
GIM		Tenant				Switch				DN			
		Section		Section-<*GIMAppl*>		Section		Section-<*GIMAppl*>		Section		Section-<*GIMAppl*>	
Def	Media	Def	Media	Def	Media	Def	Media	Def	Media	Def	Media	Def	Media
1	2	3	5	4	6	7	9	8	10	11	13	12	14

GIM		Tenant				Script			
		Section		Section-<*GIMAppl*>		Section		Section-<*GIMAppl*>	
Def	Media	Def	Media	Def	Media	Def	Media	Def	Media
1	2	3	5	4	6	7	9	8	10

* The object assigned the greatest number has the highest priority for recognition. For example, a threshold option configured at the DN level supersedes the threshold option configured at the switch level.

The following subsections define each configuration section that pertains to RAA thresholds and each section's options.

[agg-gim-thld-AGENT-IXN] Section

This section must be named either `[agg-gim-thld-AGENT-IXN]` or `[agg-gim-thld-AGENT-IXN-<GIMApplObj>]` where `<GIMApplObj>` is the name of a configured Genesys Info Mart application within the same configuration environment—for example, `[agg-gim-thld-AGENT-IXN-MyGIM]`. The thresholds that you configure in this section affect measures whose definition relies on the definition of short-engagement (or short-talk) in the `H_AGENT`, `H_AGENT_GRP`, `H_AGENT_CAMPAIGN`, and `H_AGENT_QUEUE` hierarchies.

Table 8 describes the configuration options of this section.

Table 8: Configuration Options for Agent-Interaction Thresholds

Option	Description
default	Specifies one threshold that defines the amount of time, in seconds, in which the useful exchange of information with customers (for those interactions that an agent accepts) could not have taken place, such as when an agent accepts and then immediately releases the interaction—whether intentionally or not. This option controls what data the aggregation process writes to the `SHORT` field of the `AG2_AGENT_*` aggregate tables. (Refer to the *Reporting and Analytics Aggregates Reference Manual* for information about this group of tables.) Default Value: `5` Valid Values: From `0` to ($2^{31}-1$) Changes Take Effect: Upon start of the next aggregation cycle **Note:** Similar to the `[agg-gim-thld-QUEUE-ABN]` section (described on page 38), this option actually enables the configuration of up to 19 thresholds; however, for the initial 8.1.1 release, RAA populates no database columns that are based on values that are defined in the 2nd through 19th positions.
<media>	Similar to the previously described `default` option of this section, this option specifies one short-engagement threshold that defines the amount of time, in seconds, in which the useful exchange of information with customers could not have taken place on the specific media that is identified by the name of this option. This name must correspond to a value that exists in the `MEDIA_TYPE.MEDIA_NAME_CODE` field of Info Mart—for example: `email=300` (5 minutes) For the named media only, the value of this option overrides the default value. Default Value: The value specified by the `default` option. Valid Values: `0` – ($2^{31}-1$) Changes Take Effect: Upon the next run of aggregation.

[agg-gim-thld-ID-IXN] Section

This section must be named `[agg-gim-thld-ID-IXN]` or `[agg-gim-thld-iD-IXN-<GIMApplObj>]` where `<GIMApplObj>` is the name of a configured Genesys Info Mart application within the same configuration environment—for example, `[agg-gim-thld-ID-IXN-MyGIM]`. The values that you configure in this section affect those measures in the `H_ID` hierarchy whose definition relies on one of the following thresholds:

- Short-abandoned threshold—the number of seconds that you determine to be too few or an insufficient amount of time for any contact center interaction to have been answered or accepted by first handling resource before that interaction was abandoned by the customer or dropped for any other reason.

- Acceptance threshold—the number of seconds that you determine to be too great for any contact center interaction not to have been answered or accepted by a first handling resource.
- Response threshold—the number of seconds that you determine to be too great for any accepted contact center interaction not to have had a response sent.
- Finish threshold—the number of seconds that you determine to be too great for any accepted contact center interaction not to have been completed.

Refer to column descriptions of the `AG2_ID` table in the *Reporting and Analytics Aggregates Reference Guide* to learn which measure definitions rely on the values of the aforementioned thresholds.

Table 9 describes the configuration options of the `[agg-gim-thld-ID-IXN]` section.

Table 9: Configuration Options for Tenant-Based Thresholds

Option	Description
default	Specifies four values that correspond respectively to the short-abandoned, acceptance, response, and finish thresholds. Default Values: `5, 15, 3600, 7200` Valid Values: `a, b, c, d` where each letter is an integer from `0` to $2^{31}-1$ that represents one of the following thresholds: • a=short-abandoned threshold • b=acceptance threshold • c=response threshold • d=finish threshold This sequence does not have to increase monotonically. Changes Take Effect: Upon start of the next aggregation cycle If you specify fewer than four thresholds, the aggregation process internally supplies a value of `0` for each unspecified threshold; that is: `5, 15` is equivalent to `5, 15, 0, 0`. **Note:** Similar to the `[agg-gim-thld-QUEUE-ABN]` section (described on page 38), this option actually enables the configuration of up to 19 thresholds; however, for the initial 8.1.1 release, RAA populates no database columns based on values that are defined in the 5th through 19th positions.

Table 9: Configuration Options for Tenant-Based Thresholds (Continued)

Option	Description
<media>	Specifies four values that correspond respectively to the short-abandoned, acceptance, response, and finish thresholds for the specific media that is identified by the name of this option. This name must correspond to a value that exists in the MEDIA_TYPE.MEDIA_NAME_CODE field of Info Mart—for example: voice=5,10,15,20 For the named media only, the value of this option overrides the previously defined default value. Default Value: The value specified by the default option. Valid Values: Same as the default option. Changes Take Effect: Upon the next run of aggregation.

[agg-gim-thld-QUEUE-ABN] Section

This section must be named [agg-gim-thld-QUEUE-ABN] or [agg-gim-thld-QUEUE-ABN-<GIMApplObj>] where <GIMApplObj> is the name of a configured Genesys Info Mart application within the same configuration environment—for example, [agg-gim-thld-QUEUE-ABN-MyGIM]. The thresholds that you configure in this section pertain to the H_QUEUE_ABN hierarchy. You can configure up to 19 abandon-in-queue thresholds for classifying abandoned interactions.

Refer to column descriptions of the H_QUEUE_ABN hierarchy in the *Reporting and Analytics Aggregates Reference Guide* to learn which measure definitions rely on the values of thresholds in this section.

Table 10 describes the configuration options of the [agg-gim-thld-QUEUE-ABN] section.

Note: Beginning with release 8.1.1, the [agg-time-range-ABN] section is no longer supported. You must rename it [agg-gim-thld-QUEUE-ABN]. Refer to the *Genesys Migration Guide* for further information.

Table 10: Configuration Options for Classifying Abandoned-in-Queue Interactions

Option	Description
default	Specifies up to 19 thresholds for the time, in seconds, that interactions are abandoned. This option controls what data the aggregation process writes to the ABANDONED_STI columns of the AG2_QUEUE_ABN_* aggregate tables.

Table 10: Configuration Options for Classifying Abandoned-in-Queue Interactions (Continued)

Option	Description
default (continued)	Default Value:5, 15, 30, 45, 60, 90, 120, 180, 240, 3600, 7200, 14400, 28800, 43200, 57600, 72000, 86400, 172800, 259200 Valid Values: a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s (19 integers) where each letter represents an integer from 0 to $2^{31}-1$ and the sequence must increase monotonically. Specifying a 0 value at any position terminates the sequence from that point at which 0 was specified. Changes Take Effect: Upon start of the next aggregation cycle To illustrate, RAA attributes an interaction to the ABANDONED_STI_1 column if the amount of time that elapsed before the interaction was abandoned, x, falls within the first bucket: $0 < x <= 1stThreshold$ (where 1stThreshold, by default, is 5 seconds) Interactions are attributed to the ABANDONED_STI_18 column if they were abandoned within the 18th bucket, which is defined, by default, as: $86400 < x_i <= 172800$ (where i is a specific interaction) And ABANDONED_STI_20 receives the tally of all interactions that were abandoned beyond the 19th threshold (259200 seconds or 3 days, by default). If you specify fewer than 19 thresholds, the aggregation process internally supplies a value of 0 for each unspecified threshold to terminate the sequence; that is: 5, 15, 30 is equivalent to 5, 15, 30, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0.
<*media*>	Specifies up to 19 thresholds for the time, in seconds, of abandonment for interactions of the media type that is identified by the name of this option. This name must correspond to a value that exists in the MEDIA_TYPE.MEDIA_NAME_CODE field of Info Mart—for example: voice=5, 15, 30, 45, 60, 90, 120, 180, 240, 3600, 7200, 1440, 28800, 43200, 57600, 72000, 86400, 172800, 259200 For the named media only, the value of this option overrides the previously defined default value. Default Value: The value specified by the default option. Valid Values: Same as the default option. Changes Take Effect: Upon the next run of aggregation. If specified, the value of this option overrides values that are specified by the default option.

[agg-gim-thld-QUEUE-ACC] Section

This section must be named [agg-gim-thld-QUEUE-ACC] or [agg-gim-thld-QUEUE-ACC-<GIMApplObj>], where <GIMApplObj> is the name of a configured

Genesys Info Mart application within the same configuration environment—for example, [agg-gim-thld-QUEUE-ACC-MyGIM]. The thresholds that you configure in this section pertain to the H_QUEUE_ACC_AGENT hierarchy. You can configure up 19 thresholds for classifying speed-of-accept times for the first handling of interactions that are distributed from a particular queue.

Refer to column descriptions of the H_QUEUE_ACC_AGENT hierarchy in the *Reporting and Analytics Aggregates Reference Guide* to learn which measure definitions rely on the values of thresholds in this section.

Table 11 describes the configuration options of the [agg-gim-thld-QUEUE-ACC] section.

Note: Beginning with release 8.1.1, the [agg-time-range-ACC] section is no longer supported. You must rename it [agg-gim-thld-QUEUE-ACC]. Refer to the *Genesys Migration Guide* for further information.

Table 11: Configuration Options for Classifying First-Response-from-Queue Interactions

Option	Description
default	Specifies up to 19 thresholds of agent-response times, in seconds, for the first-handling of contact center interactions. This option controls what data the aggregation process writes to the ACCEPTED_AGENT_STI columns of the AG2_QUEUE_ACC_AGENT_* aggregate tables. Default Value:5, 15, 30, 45, 60, 90, 120, 180, 240, 3600, 7200, 14400, 28800, 43200, 57600, 72000, 86400, 172800, 259200 Valid Values: a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s where each letter represents an integer from 0 to $2^{31}-1$ and the sequence must increase monotonically. Specifying a 0 value at any position terminates the sequence from that point at which 0 was specified. Changes Take Effect: Upon start of the next aggregation cycle
default (continued)	To illustrate, RAA attributes an interaction to the ACCEPTED_AGENT_STI_1 column if the agent's response time, x, for the interaction falls within the first bucket: $0 < x <= 1stThreshold$, where 1stThreshold, by default, is 5 seconds Interactions are attributed to the ACCEPTED_AGENT_STI_9 column if the agents' response times fall within the 9th bucket, which is defined, by default, as: $180 < x_i <= 240$, where i is a specific interaction And ACCEPTED_AGENT_STI_20 receives the tally of all interactions in which agent-response times fall beyond the 19th threshold (259200 seconds or 3 days, by default). If you specify fewer than 19 thresholds, the aggregation process internally supplies a values of 0 for each unspecified threshold to terminate the sequence; that is: 5, 15, 30 is equivalent to 5, 15, 30, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0.

Table 11: Configuration Options for Classifying First-Response-from-Queue Interactions (Continued)

Option	Description
<*media*>	Specifies up to 19 thresholds of agent-response times, in seconds, for interactions of the media type that is identified by the name of this option. This name must correspond to a value that exists in the `MEDIA_TYPE.MEDIA_NAME_CODE` field of Info Mart; for example: `voice=5,15,30,45,60,90,120,180,240,3600,7200,1440,28800,43200,57600,72000,86400,172800,259200` For the named media only, the value of this option overrides the previously defined default value. Default Value: The value specified by the `default` option. Valid Values: Same as the `default` option. Changes Take Effect: Upon the next run of aggregation.

[agg-gim-thld-QUEUE-IXN] Section

This section must be named `[agg-gim-thld-QUEUE-IXN]` or `[agg-gim-thld-QUEUE-IXN-<GIMApplObj>]`, where `<GIMApplObj>` is the name of a configured Genesys Info Mart application within the same configuration environment—for example, `[agg-gim-thld-QUEUE-IXN-MyGIM]`. The values that you configure in this section affect measures in the `H_QUEUE` and `H_QUEUE_GRP` hierarchies—measures whose definition relies on two sets of the following thresholds:

- Short-abandoned threshold—the number of seconds in queue that you determine to be an insufficient amount of time for interactions to have been distributed before that interaction was abandoned by the customer or dropped for any other reason.
- Acceptance threshold—the number of seconds that you determine to be too great for queued interactions to be distributed to a first handling resource.
- Accepted-by-agent threshold—the number of seconds that you determine to be too great for queued interactions to be distributed to an agent resource.

One set of each of these thresholds is exclusively for consult interactions; the other set is for interactions that exclude consultations.

Refer to columns descriptions of the `H_QUEUE` and `H_QUEUE_GRP` hierarchies in the *Reporting and Analytics Aggregates Reference Guide* to learn which measure definitions rely on the values of the aforementioned thresholds.

Table 12 describes the configuration options of the `[agg-gim-thld-QUEUE-IXN]` section.

Table 12: Configuration Options for Classifying Queued Interactions

Option	Description
default	Specifies up to six values that correspond respectively to the short-abandoned, acceptance, and accepted-by-agent thresholds for nonconsult and consult interactions. Default Value: `5, 15, 15, 5, 15, 15` Valid Values: `a, b, c, d, e, f` where each letter is an integer from `0` to $2^{31}-1$ that represents one of the following thresholds: • `a`=short-abandoned threshold for other than consult interactions • `b`=acceptance threshold for other than consult interactions • `c`=accepted-by-agent threshold for other than consult interactions • `d`=short-abandoned threshold for consult interactions • `e`=acceptance threshold for consult interactions • `f`=accepted-by-agent threshold for consult interactions The sequence that is specified as the value of this option does not have to increase monotonically. Changes Take Effect: Upon start of the next aggregation cycle If you specify fewer than six thresholds, the aggregation process internally supplies values of `0` for the unspecified thresholds; that is: `5, 15, 0, 5` is equivalent to `5, 15, 0, 20, 0, 0`. **Note:** Similar to the `[agg-gim-thld-QUEUE-ABN]` section, this option actually enables the configuration of up to 19 thresholds; however, for the initial 8.1.1 release, RAA populates no database columns based on values that are defined in the 7th through 19th positions.
<*media*>	Specifies up to six values that correspond to the short-abandoned, acceptance, and accepted-by-agent thresholds for interactions of the media type that is identified by the name of this option. This name must correspond to a value that exists in the `MEDIA_TYPE.MEDIA_NAME_CODE` field of Info Mart—for example: `voice=5, 15, 30, 5, 15, 30` For the named media only, the value of this option overrides the previously defined default. Default Value: The value specified by the `default` option. Valid Values: Same as the `default` option. Changes Take Effect: Upon the next run of aggregation.

Chapter

4 Aggregation Runtime Parameters

In addition to the values of configuration options that are set within the Genesys Info Mart `Application` object, you can affect how the aggregation engine operates by specifying certain runtime parameters when the aggregation engine is invoked manually or via a batch or shell script.

This chapter contains the following sections:

Command-Line Format

Invoke the aggregation engine from the command line using this format:

`java -jar agg/GIMAgg.jar -user=<dbo> -pass=<password> -jdbcurl=<URL> <OtherParams>` on UNIX platforms

or

`java.exe -jar agg\GIMAgg.jar -user=<dbo> -pass=<password> -jdbcurl=<URL> <OtherParams>` on Windows platforms

where `<OtherParams>` are one or more of the following optional parameters:

```
-conf paramFile
-insertPendingAggRaw ALLTENANTS:ALLSETS:<startKey>:<endKey>
-insertPendingAgg <AGR_SET>:<START>:<END>
-deadlockThreshold 1000
-defaultTZoffsets offsetFromUTC
-delFeature=eServicesSM, excludeConsult, or materialize-subhour-in-db
-getFeatures
-insertTimeRange <TENANT>:<RANGE_TYPE_CODE>:<RANGE_TYPE>:
   <BOUND1>:<BOUND2>:...:<BOUND19>
-levelOfLog level
```

```
-numberOfWriters num0-16
-printQuery aggQuery
-realtimeOffset numOfSec
-setFeature=eServicesSM, excludeConsult, or materialize-subhour-in-db
-subHourInterval 15minOr30min
-updateAliases AliasFile
-writerSchedule default=p(a:b)[,hour(HH-HH)=p(c:d)]
    [,hour(HH-HH)=p(e:f)]
-zoneOffset numOfSec
```

A hyphen (–) precedes each parameter, as shown in the preceding syntax. The options use camel case and are optional unless otherwise specified. Refer to the "Runtime Parameters" section below for a description of each parameter and its permissible values. Invoking aggregation is discussed further in the *Reporting and Analytics Aggregates User's Guide.*

Reporting and Analytics Aggregates (RAA) recognizes other parameters as well that are reserved for use by the aggregation migration utility (which is described in the *Genesys Migration Guide*). These reserved parameters are for internal use only are not described in the documentation.

Note: The values of the runtime parameters that are described in this chapter supersede the values of comparable configuration options that are set in the Genesys Info Mart `Application` object.

Runtime Parameters

Most of the parameters listed in Table 13 are options that apply to aggregation in autonomous mode. However, when you invoke the following parameters, aggregation does not run, and the function associated with the parameter is performed instead:

- `insertPendingAggRaw`
- `insertPendingAgg`
- `setFeature`
- `delFeature`
- `printQuery`
- `updateAliases`

These parameters can be invoked only one at a time; to invoke more than one, you must issue the aggregation command more than once.

Note: The values of the runtime parameters that are described in this chapter supersede the values of comparable configuration options that are set within the Genesys Info Mart `Application` object in Configuration Server.

Table 13: Aggregation Runtime Parameters

Runtime Parameter	Description
conf	Specifies the file name from which the aggregation engine reads parameter values that are not specified at the command line. Precede this file with a relative path or absolute path, if the file is not located in the same directory as the aggregation jar archive. If absent, the aggregation engine uses only those parameters that are issued at the command line—for example: `java -jar agg/GIMAgg.jar -conf runagg`
defaultTZoffsets	Specifies the winter and summer UTC offset, in seconds, of the time zone of the `DATE_TIME` table for environments: • Whose offsets are other than in one hour increments—that is, whose offset is not evenly divisible by 3600. • That configure more than one time zone in aggregation. For example, a time-zone offset of six and a half hours (`UTC+06:30`) with recognition of daylight saving time in the summer of one hour would be indicated as follows: `java -jar agg/GIMAgg.jar -conf runagg -defaultTZoffsets 23400,27000`
deadlockThreshold	Specifies the time, in seconds, in which each aggregation writer thread must return the results of its aggregation of a batch of data. If a writer does not respond within this time frame, RAA assumes either that the process is deadlocked or that the database is too slow and cannot process aggregation in a timely fashion. When the deadlock time period has elapsed, RAA cancels all database queries and closes all sessions. To resume processing, aggregation must be restarted. Refer to the `deadlock-threshold` option on page 24 for additional information.
delFeature=eServicesSM	Stops aggregation of social-media data. To restart aggregation of social-media data, use the `setFeature` runtime parameter, which is described on page 48.
delFeature=materialize-subhour-in-db (Release 8.1.104 and later)	Instructs RAA not to materialize RAA subhour views as tables. To materialise the subhour level, see the `setFeature=materialize-subhour-in-db` option, described on page 48.
delFeature=excludeConsult	Includes consult interactions in `ACC_*` and `ABN_*` queue aggregates. To exclude consult interactions, see the `setFeature=excludeConsult` option, described on page 48.
getFeatures (Release 8.1.104 and later)	Submits a request to display a list of the features currently enabled in the database.

Table 13: Aggregation Runtime Parameters (Continued)

Runtime Parameter	Description

insertPendingAgg (Release 8.1.104 and later)	Submits a request to run the aggregation engine over the specified time period at some later time. The value for this parameter must follow this format:
	`-insertPendingAgg <AGR_SET>:<START>:<END>`
	where:
	• `<AGR_SET>` indicates what set to aggregate (ALLSETS, or an aggregate set name). Aggregate set name is formatted as follows: `<HIERARCHY_NAME>-<AGG_LEVEL>[.Flavor]`.
	Where:
	◦ `<HIERARCHY_NAME>` is the name of the hierarchy to be aggregated.
	◦ `<AGG_LEVEL>` is the aggregation level (`SUBHOUR, HOUR, DAY, MONTH, QUARTER, YEAR`).
	◦ `[.Flavor]` indicates what data to include (Online or Offline).
	• `<START>` is a value in the format `YYYY-MM-DD`
	• `<END>` is a value in the format `YYYY-MM-DD`
	For example:
	`... -insertPendingAgg ALLSETS:2014-01-01:2014-12-31`
	Refer to the *Reporting and Analytics Aggregates 8.1 User's Guide* for more information, and for information about performing re-aggregation*.

*Notes: • A request to re-aggregate data for a specific time range first deletes aggregated data from that time range (to prevent duplicate data from being written to Info Mart). Before you issue a re-aggregation command, make sure that facts for your selected time range exist in the Info Mart database and have not been purged. Otherwise, you could be left with no aggregates at all for that time range. • When RAA is running in integrated mode, re-aggregation is possible only if `Job_AggregateGIM` is already running. If you attempt to pass re-aggregation job parameters when `Job_AggregateGIM` is not running, Genesys Info Mart simply starts aggregation, ignoring the job parameters. In this case, you can re-aggregate by issuing the command, with the re-aggregation parameters, a second time.	

Table 13: Aggregation Runtime Parameters (Continued)

Runtime Parameter	Description

insertPendingAggRaw	Submits a request to run the aggregation engine over the specified time period at some later time. The value for this parameter must follows this format:
	`-insertPendingAggRaw ALLTENANTS:ALLSETS:<startKey>:<endKey>`
	where:
	`<startKey>` is a `DATE_TIME_KEY` value from the `DATE_TIME` table that indicates the beginning of the reporting interval.
	`<endKey>` is a `DATE_TIME_KEY` value from the `DATE_TIME` table that indicates the end of the reporting interval.
	For example:
	`... -insertPendingAggRaw ALLTENANTS:ALLSETS:1256084100:1259748000`
	Refer to the *Reporting and Analytics Aggregates 8.1 User's Guide* for examples on how to determine start-time and end-time keys.

jdbcurl	Specifies the string that is sent to the JDBC driver to indicate the database that the Genesys Info Mart server is to use. Specifying this parameter is mandatory, and it must be formatted as follows: • `jdbcurl=oracle:thin:@<dbhost>:<dbport>:<SID>` (for Oracle) • `jdbcurl=jtds:sqlserver://<dbhost>:<dbport>;DatabaseName=<dbname>` (for Microsoft SQL Server)
levelOfLog	Specifies the detailed level of log messages that the GIM Server generates for aggregation-related activity—for example: `... -levelOfLog=.:INFO` Refer to the `level-of-log` option on page 24 for additional information.
numberOfWriters	Beginning with release 8.1.102, this parameter is no longer supported. Refer instead to the description of the `writerSchedule` runtime parameter. Specifies the number of threads up to 16 that the aggregation process dedicates to writing data chunks to Info Mart. Each thread opens one connection to Info Mart. Upon startup, connections are opened, and aggregation jobs are dynamically assigned to these connections. If your environment uses a high-performance RDBMS, you might notice performance improvements when you increase the value of this option. Refer to the `number-of-writers` option on page 25 for additional information.
pass	Is the unencrypted password of the database owner. Specifying this parameter is mandatory—for example: `java -jar agg/GIMAgg.jar -user=Administrator -pass=$y5t3m`

Table 13: Aggregation Runtime Parameters (Continued)

Runtime Parameter	Description
printQuery	Logs the `SELECT` statement of the specified aggregation query, based solely on its definition within internal RAA files—for example: `java -jar ./agg/GIMAgg.jar -printQuery QUEUE_ACC_AGENT -levelOfLog=.:FINEST` You must specify a log level of `FINEST` in conjunction with use of this parameter, and you must reissue this command for each desired `SELECT` statement. Because this parameter grabs the query's definition entirely from internal files, it does not require that you specify database-connectivity parameters. This particular example provides the SQL statement for the `QUEUE_ACC_AGENT` query. Refer to the *Reporting and Analytics Aggregates 8.1 User's Guide* for the names of other RAA queries.
realtimeOffset	Specifies the number of seconds that the upper boundary of Zone 1 is offset from aggregation. For example: `... -realtimeOffset 7200` Use this runtime parameter in conjunction with the `writerSchedule` and `zoneOffset` parameters to fine-tune aggregation dispatching. Refer to the description of the `realtime-offset` configuration option on page 26 for the default and valid values of this parameter as well as an explanation as to why you should define a real-time offset.

setFeature=eServicesSM	Maps `IRF_USER_DATA_KEYS.GEN_ES_KEY` to `USER_DATA_KEY1` in the `H_ID`, `H_AGENT`, `H_AGENT_GRP`, and `H_AGENT_QUEUE` hierarchies, and turns on aggregation of the following social-media measures.
	`INFLUENCE` `ACTIONABILITY` `SENTIMENT`
	`INFLUENCE_ENTERED` `ACTIONABILITY_ENTERED` `SENTIMENT_ENTERED`
	`INFLUENCE_OFFERED` `ACTIONABILITY_OFFERED` `SENTIMENT_OFFERED`
	Note: Not all of these measures exist in all of the aforementioned hierarchies. Refer to the *Reporting and Analytics Aggregates Reference Manual* for more information.
	To instruct RAA to cease aggregating social-media data, issue the `delFeature` runtime parameter, which is described on page 45.

setFeature=excludeConsult	Excludes consult interactions in `ACC_*` and `ABN_*` queue aggregates, causing RAA to count only customer calls (thus mimicking 8.1.1 behavior).
setFeature=materialize-subhour-in-db (Release 8.1.104 and later.)	Instructs RAA to materialize RAA subhour views as tables.

Table 13: Aggregation Runtime Parameters (Continued)

Runtime Parameter	Description
subHourInterval	Specifies the lowest time level of aggregation, in minutes, for the `AG2_*_SUBHR` tables. You must choose a value for this option at deployment and avoid changing it afterwards. The value for this parameter is either `15min` or `30min`—for example: `... -subHourInterval 15min` Refer to the `sub-hour-interval` option on page 27 for additional information.
updateAliases	Specifies the name of the file that defines which tenants map to which tenant accounts. Using tenant aliases enables automated maintenance of aliases in all configured tenant accounts. Precede this file by a relative path or, if the file is not located in the same directory as the aggregation jar archive, an absolute path. The aggregation module only maintains those tables and views that are related to aggregation. You must run an alias update each time a tenant is added or removed from configuration or the definition of any of the aggregates changes—for example: `java -jar agg/GIMAgg.jar -conf runagg -updateAliases AliasFile` The *Reporting and Analytics Aggregates 8.1 User's Guide* describes how to format the alias mapping file.
user	Is the account name of the database owner. Specifying this parameter is mandatory—for example: `java -jar agg/GIMAgg.jar -user=Administrator -pass=$y5t3m`

Table 13: Aggregation Runtime Parameters (Continued)

Runtime Parameter	Description

writerSchedule	Sets the schedule for the number of writers that RAA dedicates to the aggregation of notifications received in Zone 1 and Zone 2. For earlier releases, the number of writer threads that are dedicated to aggregation is controlled by the `numberOfWriters` configuration option.
	The value for this parameter is a schedule of hours, without spaces, that defines writer assignments. For example:
	`... -writerSchedule default=strict(3:5),hour(8-19)=flex(3:5), hour(20-7)=strict(1:7)`
	Refer to the description of the `writer-schedule` configuration option on page 27 for detailed information about the keywords available to you in order to define this parameter and for the definitions of Zone 1 and Zone 2.
	Beginning in release 8.1.4, this parameter also accepts the argument `hour(#-#)=purge`, which enables and schedules purging of aggregate data.
	For example:
	`-writerSchedule default=flex(3:1),hour(1-2)=purge`
	Schedules all-day aggregation with 3 writers allocated to zone1, and 1 writer allocated to zone2 (with ability to borrow writers from idle zones) and schedules purging to occur between 1am and 2am (in the time zone of the java process (GMT, if RAA is embedded with Genesys Info Mart)
	For information about configuring purging rules, see the *Reporting and Analytics Aggregates 8.1 User's Guide.*

zoneOffset	Specifies the length of Zone 1 in seconds. This option also indirectly defines the boundary between Zone 2 and Zone 1. Use this runtime parameter in conjunction with the `realtimeOffset` and `writerSchedule` parameters to fine-tune aggregation dispatching. Refer to the description of the `zone-offset` configuration option on page 29 for the default and valid values of this parameter as well as an explanation as to why you should define a zone offset.

Chapter

5 Application Files

For a Reporting and Analytics Aggregates (RAA) standalone installation on UNIX platforms, files are written to the directory that you specify during installation. The RAA installation on Microsoft Windows platforms and the plug-in installation on UNIX platforms deploys files to the `\agg` subdirectory of the Genesys Info Mart root directory.

Table 14 describes the contents of the root RAA root directory when RAA is installed in stand-alone mode. Table 15 describes the contents of the `\agg` subdirectory. Tables 16–18 describe the contents of the subdirectories of `\agg`.

Table 14: Contents of the RAA Root Directory

File Name	Description
`agg`	Subfolder that contains files that support the RAA 8.1 component of Genesys Info Mart. See Table 15.
`ip_description.xml`* (UNIX only)	File that lists the contents of the installation package
`ospatchlist.txt`	List of patches that are installed on UNIX hosts.
`read_me.html`* (UNIX only)	File that contains general information about the installation package

*. On Microsoft Windows platforms, these files are written to an InstallShield-specific folder.

Table 15: Contents of the agg Folder

File Name	Description
`76agg_migrate.bat` (Windows) `76agg_migrate.sh` (UNIX) (for RAA 8.1.103 or earlier only)	Script that performs migration of 7.6 aggregate data to 8.1. Refer to the *Genesys Migration Guide* for information about this utility.
`gim_agg_application_options.cfg`	File that contains configuration sections, configuration options, and default values for importing into an existing Genesys Info Mart application (see Chapter 2, "Importing Aggregation Options," on page 16).
`GIMAgg.jar`	Main archive of the aggregation engine
`lib`	Subfolder that contains third-party libraries and drivers that are referenced by the aggregation engine.
`thirdparty\licenses`	The required notices and licenses for use and distribution of third-party software.
`script`	Provides customization scripts for configuring user data to generate social media metrics.

Table 16: Contents of the lib Subfolder

File Name	Description
`agg-module-classpath.jar`	File for internal use
`aggrapi.jar`	Genesys Info Mart aggregation API
`aopalliance-1.0.jar`	Third-party library
`cglib-nodep-2.2.2.jar`	Third-party Apache library
`guice-3.0.jar.jar`	Third-party library
`javax.inject-1.jar`	Third-party Apache library
`jtds-1.3.0.jar`	Third-party Microsoft SQL JDBC driver
`kawa-1.14.jar`	Third-party library
`lib.jar`	Genesys Aggregation library
`meta-8.1.400.00.jar`	Aggregation metadata jar.
`ojdbc6-11.2.0.3.jar`	Oracle JDBC driver

Table 16: Contents of the lib Subfolder (Continued)

File Name	Description
postgresql-9.3-1101.jdbc41.jar	Third-party library
sqljdbc4-3.0.jar	Microsoft JDBC driver for SQL Server

Table 17: Contents of the script Subfolder

File Name	Description
make_gim_UDE_template_mssql.sql make_gim_UDE_template_oracle.sql	Sample scripts that create the database objects for mapping and storing user data for social media metrics. **Note:** A similar file, make_gim_UDE_template.sql, is also deployed by the Genesys Info Mart installation package. This file contains different content.
partition-kit.ss partition-kit-GIM811-MSSQL.ss partition-kit-GIM811.ss	Schema file that, when placed in the Genesys Info Mart root directory, alters RAA hierarchies to function with Info Mart partitioning. **Warning!** There are limitations with the use of this file. Before using this file, please contact Genesys Customer Care for deployment instructions.
patch-agg-subhour.ss (8.1.103.03 and earlier releases)	Schema file that, when placed in the Genesys Info Mart root directory, materializes RAA subhour views as tables. **Warning!** Before using this file, contact Genesys Customer Care for more information.
patch-agg-MSSQL-nolock.ss	Schema file that, when placed in the Genesys Info Mart root directory, helps to prevent deadlock problems. **Warning!** Before using this file, contact Genesys Customer Care for more information.
purge.ss	Schema file that contains example purging rules. To purge aggregate data, customize the rules within this file, place the file in the Genesys Info Mart root directory, and enable purging. **Note:** Purge is not supported in 8.1.1 releases, including 8.1.104 and later.

Table 18: Contents of the thirdparty\licenses Subfolder

File Name	Description
asm-license.txt	License that permits use and distribution of the ASM library for generating bytecode in Java-class file format
cglib_LICENSE.txt	License that permits use and distribution of the Apache software
cglib_NOTICE.txt	The required notice for use and distribution of Apache software
guice_LICENSE.txt	License that permits use and distribution of the guice.jar library
guice_NOTICE.txt	The required notice for use and distribution of the guice.jar library
jdts_LICENSE.txt	GNU Lesser General Public license that permits use and distribution of the jtds.jar library
kawa_LICENSE.txt	License that permits use and distribution of the kawa.jar library

Chapter

6 Uninstalling Reporting and Analytics Aggregates

In addition to installing Reporting and Analytics Aggregates (RAA), the setup file that is deployed with an RAA installation also uninstalls this application by deleting the majority of files that are deployed during installation and the application instance from the Microsoft Windows registry. This wizard-driven utility, however, does not remove all traces of RAA from your computer. The uninstall routine, for example, does not:

- Stop the aggregation process.
- Reconfigure the Genesys Info Mart `Application` to prevent it from calling the aggregation process.
- Drop the aggregate tables and views (`AG2_*`), or the internal aggregate-related tables (`AGR_*`) that support them, from Info Mart.
- Delete the `\agg` subdirectory, if it has been moved.

Additional manual cleanup is required to finish the task—if this meticulous level of detail is the course of action that you choose to take. On UNIX platforms, you do not have to uninstall the previous RAA version in order to reinstall it or to install a new version.

This chapter guides you through the steps that you must perform to uninstall RAA completely. It contains the following sections:

The RAA Uninstall Routine

You can uninstall RAA by using either the setup file that is provided in the installation package or the `Add/Remove Programs` utility that is assessed from the Windows Control Panel.

From Installation Maintenance

1. From the RAA installation package, double-click the `setup.exe` file.
2. From the `Welcome` page, click `Remove`.

From the Control Panel

1. Select and open `Add/Remove Programs`.
2. Select the `Reporting and Analytics Aggregates 8.1` application.
3. Click `Add/Remove`.

This routine deletes the program instance in the Microsoft Windows registry and all files from the root directory that were *deployed* by the RAA installation routine. Any additional files that have been placed in this directory after initial deployment, such as any log or personal files, remain. And, if you directed the RAA installation routine to deploy files to the GIM root directory, other Genesys Info Mart files that are unrelated to Genesys Info Mart aggregation will remain. Consider backing up this direc-tory before you delete any of its files. Next, perform the additional manual steps that are listed in the following sections to complete the uninstall.

Reconfiguring the GIM Application to Disable Aggregation

If you have uninstalled the RAA application (described in the previous section), you must also reconfigure the Genesys Info Mart application to prevent it from performing data aggregation and attempting to write data to the aggregation tables. If you do not, errors will be logged. Table 19 provides a listing of the applicable Genesys Info Mart configuration options and their the settings, to reflect a discontinued use of aggregation.

Table 19: Turning Off Aggregation

[Section] Option	Set Value to ...
`[schedule]` `run-aggregates`	`false`
`[gim-etl]` `aggregation-engine-class-name`	`none` (or, remove this option from configuration altogether)

You might also choose to remove all configuration sections that are prefaced with `[agg...]`, such as `[agg-gim-thld-QUEUE-ACC]`. Take care, however, before removing any other configuration sections or options that are described in Chapter 3. They might be necessary for other Genesys Info Mart functions.

Dropping RAA-Specific Database Objects

The following is a listing of the tables, views, and indexes that the RAA installation routine creates. To complete the uninstallation, consider dropping these objects from your database. Doing so will free up table space and improve Info Mart performance.

Please note, however, that this step is optional, and that the following tables list the objects that apply in RAA release 8.1.104 and earlier. For 8.1.400 and later releases, the list of objects you can choose to remove is similar, but also includes all `AGT_*` tables.

Note: The temporary database objects that are created by the aggregation migration utility are listed in the *Genesys Migration Guide*.

Info Mart's Aggregation-Related Views

- AG2_AGENT_WEEK
- AG2_AGENT_QRTR
- AG2_AGENT_YEAR
- AG2_AGENT_CAMPAIGN_WEEK
- AG2_AGENT_CAMPAIGN_QRTR
- AG2_AGENT_CAMPAIGN_YEAR
- AG2_AGENT_GRP_WEEK
- AG2_AGENT_GRP_QRTR
- AG2_AGENT_GRP_YEAR
- AG2_AGENT_QUEUE_WEEK
- AG2_AGENT_QUEUE_QRTR
- AG2_AGENT_QUEUE_YEAR
- AG2_CAMPAIGN_WEEK
- AG2_CAMPAIGN_QRTR
- AG2_CAMPAIGN_YEAR
- AG2_I_AGENT_WEEK
- AG2_I_AGENT_QRTR
- AG2_I_AGENT_YEAR
- AG2_I_SESS_STATE_WEEK
- AG2_I_SESS_STATE_QRTR
- AG2_I_SESS_STATE_YEAR
- AG2_I_STATE_RSN_WEEK
- AG2_I_STATE_RSN_QRTR
- AG2_I_STATE_RSN_YEAR
- AG2_ID_WEEK
- AG2_ID_QRTR
- AG2_ID_YEAR
- AG2_QUEUE_WEEK
- AG2_QUEUE_QRTR
- AG2_QUEUE_YEAR
- AG2_QUEUE_ABN_WEEK
- AG2_QUEUE_ABN_QRTR
- AG2_QUEUE_ABN_YEAR
- AG2_QUEUE_ACC_AGENT_WEEK
- AG2_QUEUE_ACC_AGENT_QRTR
- AG2_QUEUE_ACC_AGENT_YEAR
- AG2_QUEUE_GRP_WEEK
- AG2_QUEUE_GRP_QRTR
- AG2_QUEUE_GRP_YEAR
- AGR_DEPENDENCY
- AGR_DIMENSION
- AGR_LEVEL
- AGR_METRIC
- AGR_QUERY
- AGR_SCN
- AGR_SET
- AGR_TABLE
- AGR_TIME_RANGE_MAP

Info Mart's Aggregation-Related Tables

- AG2_AGENT_SUBHR
- AG2_AGENT_HOUR
- AG2_AGENT_DAY
- AG2_AGENT_MONTH
- AG2_AGENT_CAMPAIGN_SUBHR
- AG2_AGENT_CAMPAIGN_HOUR
- AG2_AGENT_CAMPAIGN_DAY
- AG2_AGENT_CAMPAIGN_MONTH
- AG2_AGENT_GRP_SUBHR
- AG2_AGENT_GRP_HOUR
- AG2_AGENT_GRP_DAY
- AG2_AGENT_GRP_MONTH
- AG2_AGENT_QUEUE_SUBHR
- AG2_AGENT_QUEUE_HOUR
- AG2_AGENT_QUEUE_DAY
- AG2_AGENT_QUEUE_MONTH
- AG2_CAMPAIGN_SUBHR
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- AG2_I_AGENT_HOUR
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- AGR_DEPENDENCY_I
- AGR_HIERARCHY
- AGR_HIERARCHY_I
- AGR_LEVEL
- AGR_LEVEL_I
- AGR_LOCK
- AGR_MODULES
- AGR_MODULES_I
- AGR_NOTIFICATION
- AGR_OPTIONS
- AGR_OPTIONS_I
- AGR_QUERY
- AGR_QUERY_I
- AGR_SCFG
- AGR_SCFG_MAP
- AGR_SCFG_MAP_I
- AGR_SCFG_SCHEDULE
- AGR_SCN
- AGR_SCN_I
- AGR_SEQUENCE
- AGR_SET
- AGR_SET_I
- AGR_TABLE
- AGR_TABLE_I
- AGR_TIME_RANGE
- AGR_TIME_RANGE_MAP
- AGR_TIME_RANGE_MAP_I
- AGR_TIME_RANGE_SCHEDULE
- AGR_TIME_ZONE
- AGR_TIME_ZONE_I
- PENDING_AGR

Info Mart's Aggregation-Related Indexes

- RESOURCE.IDX_AGR_RESOURCE_NAME
- RESOURCE.IDX_AGR_RESOURCE_AG_NAME_
- RESOURCE_.IDX_RES_KEY_TYPE_CODE
- INTERACTION_RESOURCE_FACT.IDX_IRF_IID
- IXN_RESOURCE_STATE_FACT.IDX_IRSF_IRF
- IRF_USER_DATA_GEN_1.IDX_IRFUG_GSWCAG
- SM_RES_STATE_FACT.IDX_RSF_AGR_DB
- SM_RES_SESSION_FACT.IDX_RSSF_AGR_DB
- IXN_RESOURCE_STATE_FACT.IDX_IRSF_AGR_DB
- SM_RES_STATE_REASON_FACT.IDX_RSRF_AGR_DB
- INTERACTION_RESOURCE_FACT.IDX_IRF_AGR_DB

Info Mart's Aggregation-Related Rows and Columns

The installation routine also adds the following rows and columns to existing tables:

- Adds three rows to the CTL_SCHEMA_INFO table (the Genesys Info Mart Server creates this table) where schema_name=:
  - 'Genesys Aggregator'
  - 'Infomart Aggregation'
  - 'Interactive Insights'
- Adds the DURATION_BUCKET column to the following tables on Microsoft SQL Server platforms:
  - INTERACTION_RESOURCE_FACT
  - IXN_RESOURCE_STATE_FACT
  - SM_RES_SESSION_FACT
  - SM_RES_STATE_FACT
  - SM_RES_STATE_REASON_FACT

Deleting the \agg Directory

If you moved the \agg directory or there are other than deployed files in the directory, the uninstall routine will not delete it. You can delete it manually to complete the uninstallation.

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Appendix

Configuring Thresholds for Pre-8.1.1 Environments

The RAA 8.1.1 release introduced an improved mechanism for aggregating data based on a wider selection and more flexible configuration of thresholds. Beginning on page 33, Chapter 3 describes the new configuration sections and options that support this threshold mechanism.

This appendix describes the options and runtime parameter that support configuration of thresholds that use functionality that is available in the RAA 8.1.0 and prior releases. The information in this appendix is not supported for new RAA 8.1.1 deployments.

This chapter contains the following sections:

For upgraded environments, RAA 8.1.1 continues to support the use of configuration options in some of these sections—and the aggregation of data thereof—for backward compatibility. Be advised, however, that in future releases, RAA aggregation of data that is based on the threshold options described in this appendix will be discontinued.

The names of all configuration sections and options, as well as their values, are case sensitive.

[agg-time-range-ABN] Section

The abandon time-range section of a Genesys Info Mart `Application` provides options you can use to configure up to 19 thresholds for classifying, by tenant, when interactions are abandoned. This section must be named `[agg-time-range- ABN]`. Table 20 describes the configuration options of this section.

Table 20: Thresholds for Classifying Abandoned Interactions

Option	Description
default	Specifies up to 19 thresholds for the time, in seconds, that interactions are abandoned. This option controls what data the aggregation process writes to the ABANDONED_STI columns of the AG2_QUEUE_ABN_* aggregate tables. (Refer to the *Reporting and Analytics Aggregates Reference Manual* for information about this group of tables.) Default Value: 5, 15, 30, 45, 60, 90, 120, 180, 240, 3600, 7200, 14400, 28800, 43200, 57600, 72000, 86400, 172800, 259200 Valid Values: a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s (19 integers) where each letter represents an integer from 0 to $2^{31}-1$ and the sequence must increase monotonically. Changes Take Effect: Upon start of the next aggregation cycle To illustrate, interactions are attributed to the ABANDONED_STI_1 column if the amount of time that elapsed before the interactions were abandoned, x_i, falls within the first bucket: 0 < x_i <= 1stThreshold (where 1stThreshold, by default, is 5 seconds and i represents a specific interaction) Interactions are attributed to the ABANDONED_STI_18 column if they were abandoned within the 18th bucket, which is defined, by default, as: 86400 < x_i <= 172800 And, ABANDONED_STI_20 receives the tally of all interactions that were abandoned beyond the 19th threshold (259200 seconds or 3 days, by default). If you specify fewer than 19 thresholds, the aggregation process internally supplies values of 0 for the unspecified thresholds; that is: 5, 15, 30 is equivalent to 5, 15, 30, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0. **Note:** The value of this option is not applied to previously calculated aggregates, unless re-aggregation for the reporting interval is performed.
name	Specifies the type of time range. This field could be useful in locales where time range code is not sufficiently descriptive. Default Value: Abandoned Valid Value: Any text string Changes Take Effect: Upon the next run of aggregation **Note:** The Genesys Info Mart Server recognizes other types of time ranges that are defined in other sections. Refer to the name option of the [agg-time-range-ACC] and [agg-time-range-MISC] sections for additional information.

Table 20: Thresholds for Classifying Abandoned Interactions (Continued)

Option	Description
tenant-<*tenantID*>	Specifies up to 19 thresholds (similar to the previously described `default` option) of interaction-abandon times, in seconds, for the tenant that is identified by the number portion of the name of this option, *<tenantID>*. This number must correspond to the ID that is defined in Info Mart for the intended tenant and the option name must follow the naming convention of "`tenant`"+ "–" + *tenantID*. Default Value: Refer to the default value of the `default` option. Valid Values: Refer to the valid values of the `default` option. Changes Take Effect: Upon the next run of aggregation. If specified, the value of this option overrides the values that are specified by the `default` option.

[agg-time-range-ACC] Section

The first-response time-range section of a Genesys Info Mart application provides options you can use to configure up to 19 thresholds for classifying agent-response times for the first handling of interactions by tenant. This section must be named `[agg-time-range-ACC]`. Table 21 describes the configuration options of this section.

Table 21: Thresholds for Classifying First-Response Times

Option	Description
default	Specifies up to 19 thresholds of agent-response times, in seconds, for the first-handling of contact center interactions. This option controls what data the aggregation process writes to the `ACCEPTED_AGENT_STI` columns of the `AG2_QUEUE_ACC_AGENT_*` aggregate tables. (Refer to the *Reporting and Analytics Aggregates Reference Manual* for information about this group of tables.) Default Values: `5, 15, 30, 45, 60, 90, 120, 180, 240, 3600, 7200, 14400, 28800, 43200, 57600, 72000, 86400, 172800, 259200` Valid Values: `a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s` where each letter represents an integer from `0` to $2^{31}-1$ and the sequence must increase monotonically. Changes Take Effect: Upon start of the next aggregation cycle

Table 21: Thresholds for Classifying First-Response Times (Continued)

Option	Description
default (continued)	To illustrate, interactions are attributed to the ACCEPTED_AGENT_STI_1 column if the agent's response times, x_a, for the interactions fall within the first bucket: $0 < x_a <= 1stThreshold$ (where 1stThreshold, by default, is 5 seconds and a represents a specific agent). Interactions are attributed to the ACCEPTED_AGENT_STI_9 column if the agent's response times fall within the 9th bucket, which is defined, by default, as: $180 < x_a <= 240$ And ACCEPTED_AGENT_STI_20 receives the tally of all interactions in which agents respond beyond the 19th threshold (259200 seconds or 3 days, by default). If you specify fewer than 19 thresholds, the aggregation process internally supplies values of 0 for the unspecified thresholds—that is: 5, 15, 30 is equivalent to 5, 15, 30, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0. **Note:** The value of this option is not applied to previously calculated aggregates, unless re-aggregation for the reporting interval is performed.
name	Specifies the type of time range. This field could be useful in locales in which the time-range code is not sufficiently descriptive. Default Value: Accepted Valid Value: Any text string Changes Take Effect: Upon start of the next aggregation cycle **Note:** The Genesys Info Mart Server recognizes other types of time ranges that are defined in other sections. Refer to the name option of the [agg-time-range-ABN] and [agg-time-range-MISC] sections for additional information.
tenant-<*tenantID*>	Specifies up to 19 thresholds (similar to the previously described default option) of agent-response times, in seconds, for the first handling of contact center interactions for the tenant that is identified by the number portion of the name of this option, *<tenantID>.* This number must correspond to the ID that is defined in Info Mart for the intended tenant, and the option name must follow the naming convention of "tenant"+ "–" + *tenantID.* Default Value: Refer to the default value of the default option. Valid Values: Refer to the valid values of the default option. Changes Take Effect: Upon the next run of aggregation. If specified, the values of this option override the values that are specified by the default option.

[agg-time-range-MISC] Section

The miscellaneous time-range section of a Genesys Info Mart `Application` provides options you can use to configure short-engagement (or short-talk) thresholds for each tenant. This section must be named `[agg-time-range-MISC]`. Table 22 describes the configuration options of this section.

Table 22: Miscellaneous Thresholds for Classifying Interactions

Option	Description
default	Specifies one threshold that defines the amount of time, in seconds, in which the useful exchange of information with customers (for those interactions that an agent accepts) could not have taken place, such as when an agent accepts and then immediately releases the interaction—whether intentionally or not. This option controls what data the aggregation process writes to the `SHORT_80` column of the `AG2_AGENT_*` aggregate tables. (Refer to the *Reporting and Analytics Aggregates Reference Manual* for information about this group of tables.) Default Value: `5` Valid Values: From `0` to $2^{31}-1$ Changes Take Effect: Upon start of the next aggregation cycle **Note:** The value of this option is not applied to previously calculated aggregates, unless re-aggregation for the reporting interval is performed.
name	Specifies the type of time range. This field could be useful in locales in which the time-range code is not sufficiently descriptive. Default Value: `Miscellaneous` Valid Value: Any text string Changes Take Effect: Upon start of the next aggregation cycle **Note:** The Genesys Info Mart Server recognizes other types of time ranges that are defined in other sections. Refer to the `name` option of the `[agg-time-range-ABN]` and `[agg-time-range-ACC]` sections for additional information.
tenant-<*tenantID*>	Specifies one short-engagement threshold (similar to the previously described `default` option) for the tenant that is identified by the number portion of the name of this option, *<tenantID>*. This number must correspond to the ID that is defined in Info Mart for the intended tenant and the option name must follow the naming convention of "`tenant`"+ "–" + *tenantID*. Default Value: Refer to the default value of the `default` option. Valid Values: Refer to the valid values of the `default` option. Changes Take Effect: Upon the next run of aggregation. If specified, the value of this option overrides the values that are specified by the `default` option.

insertTimeRange Parameter

Use the `insertTimeRange` runtime parameter to specify time-range parameters when invoking aggregation in autonomous mode. Table 23 describes this parameter.

Table 23: Aggregation Runtime Parameters

Runtime Parameter	Description

insertTimeRange	Specifies the boundaries for the specified tenant of the time ranges that are used in conjunction with the `Speed of Accept` and `Abandon Delay` GI2 reports in release 8.1.1 and earlier. The value for this parameter follows the format:
	`-insertTimeRange <TENANT>:<RANGE_TYPE_CODE>:<RANGE_TYPE>:<BOUND1>:<BOUND2>:...:<BOUND19>`
	where:
	<*TENANT*> is the tenant's ID as recorded within Info Mart or the term `ALLTENANTS`, which indicates that the defined ranges apply to all tenants.
	<*RANGE_TYPE_CODE*> is one of the following:
	`ABN`, for abandon-delay time ranges
	`ACC`, for speed-of-accept time ranges
	`MISC`, for some other time range
	<*RANGE_TYPE*> is one of the following and corresponds to the range-type code that was specified previously:
	`Abandoned`
	`Accepted`
	`Miscellaneous`
	<*BOUND1*> is the inclusive, numerical upper boundary of the 1st time range.
	<*BOUND2*> is the inclusive, numerical upper boundary of the 2nd range.
	....
	<*BOUND19*> is the inclusive, numerical upper boundary of the 19th range.
	The values that are set by this runtime parameter override the values that are set by the `default` configuration options in the `[agg-time-range-ABN]`, `[agg-time-range-ACC]`, and `[agg-time-range-MISC]` configuration sections (described beginning on page 61)—for example:
	`... -insertTimeRange ALLTENANTS:ABN:Abandoned:30:60:90`

Related Documentation Resources

The following resources provide additional information that is relevant to this software. Consult these additional resources, as necessary.

Reporting and Analytics Aggregates

- *Reporting and Analytics Aggregates 8.1 User's Guide,* which describes the different modes of running aggregation, the aggregation hierarchies, and how to configure Reporting and Analytics Aggregates (RAA) to aggregate data based on these user-defined dimensions.
- *Reporting and Analytics Aggregates 8.1 Reference Manual,* which describes Genesys Info Mart aggregate tables and subject areas.

Genesys Info Mart

- *Genesys Info Mart 8.1 Deployment Guide*, for information about configuring the ICON and Genesys Info Mart servers to recognize user data.
- *Genesys Info Mart 8.1 Reference Manual* for your RDBMS, which describes the Genesys Info Mart's core `FACT` and dimension tables and the supporting subject areas.

Genesys

- *Genesys Technical Publications Glossary,* available on the Genesys Documentation website, provides a comprehensive list of the Genesys and computer-telephony integration (CTI) terminology and acronyms used in this document.
- *Genesys Migration Guide*, available on the Genesys Documentation website and which ships on the Genesys Documentation Library DVD, provides documented migration strategies for Genesys product releases. Contact Genesys Customer Care for more information.

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

- *Genesys Supported Operating Environment Reference Guide*
- *Genesys Supported Media Interfaces Reference Manual*

Consult these additional resources, as necessary:

- *Genesys Interoperability Guide,* which provides information on the compatibility of Genesys products with various Configuration Layer Environments; Interoperability of Reporting Templates and Solutions; and Gplus Adapters Interoperability.
- *Genesys Licensing Guide,* which introduces you to the concepts, terminology, and procedures that are relevant to the Genesys licensing system.

For additional system-wide planning tools and information, see the release-specific listings of System-Level Documents on the Genesys Documentation website (docs.genesys.com).

Genesys product documentation is available on the:

- Genesys Customer Care website at http://genesys.com/customer-care.
- Genesys Documentation site at http://docs.genesys.com/.
- Genesys Documentation Library DVD, which you can order by e-mail from Genesys Order Management at orderman@genesys.com.

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. The following is a sample version number:

81ii_dep-raa_02-2013_v8.1.104.00

You will need this number when you are talking with Genesys Customer Care about this product.

Screen Captures Used in This Document

Screen captures from the product graphical user interface (GUI), as used in this document, can sometimes contain minor spelling, capitalization, or grammatical errors. The text that accompanies and explains the screen captures corrects such errors *except* when such a correction would prevent you from installing, configuring, or using the product successfully. 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.

Type Styles

Table 24 describes and illustrates the type conventions that are used in this document.

Table 24: Type Styles

Type Style	Used For	Examples
Italic	• Document titles • Emphasis • Definitions of (or first references to) unfamiliar terms • Mathematical variables Used also to indicate placeholder text within code samples or commands, in the special case in which angle brackets are a required part of the syntax (see the note about angle brackets on page 70).	Please consult the *Genesys Migration Guide* for more information. Do *not* use this value for this option. A *customary and usual* practice is one that is widely accepted and used within a particular industry or profession. The formula, $x + 1 = 7$ where x stands for . . .

Table 24: Type Styles (Continued)

Type Style	Used For	Examples
Monospace font (Looks like `teletype` or `typewriter text`)	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. • Code samples. Used also for any text that users must enter manually during a configuration or installation procedure, or on a command line.	Select the `Show variables on screen` check box. In the `Operand` text box, enter your formula. Click `OK` to exit the `Properties` dialog box. T-Server distributes the error messages 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. Enter `exit` on the command line.
Square brackets ([ ])	A particular parameter or value that is optional within a logical argument, a command, or some programming syntax. That is, the presence of the parameter or value is not required to resolve the argument, command, or block of code. The user decides whether to include this optional information.	`smcp_server -host [/flags]`
Angle brackets (< >)	A placeholder for a value that the user must specify. This might be a DN or a port number that is specific to your enterprise. **Note:** In some cases, angle brackets are required characters in code syntax (for example, in XML schemas). In these cases, italic text is used for placeholder values.	`smcp_server -host <confighost>`

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