Reporting and Analytics Aggregates Deployment Guide

RAA 9.0.0

1/3/2022

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Reporting and Analytics Aggregates 9.0 Deployment Guide

Welcome to the *Reporting and Analytics Aggregates 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 9.0.x releases of Reporting and Analytics Aggregates (RAA).

About Reporting and Analytics Aggregates

RAA 9.0 provides the mechanism for creating, maintaining, and populating a subset of tables and views in a Genesys Info Mart 8.5 database that provide aggregated data of contact center operations for reporting and analytical purposes. This aggregation layer is both an optional component of Genesys Info Mart 8.5 and a necessary and transparent component of Genesys Customer Experience Insights (GCXI).

Reporting and Analytics Aggregates Product Alert

Reporting and Analytics Aggregates (RAA) 9.0 is an optional add-on to Genesys Info Mart 8.5 and a mandatory component of Genesys CX Insights. A compatible release of Genesys Info Mart must be installed and operational prior to RAA installation. The following software releases interoperate correctly:

RAA Release	Genesys Info Mart Release	Java
9.0.006.01 (100.0.006.0100)	8.5.015.19 (recommended) • 8.5.011.18 (minimum) • 8.5.015.15+ enable-sdr-bot • 8.5.014.19+ enable-gpr/user-data-gen-dim • 8.5.014.04+ enable-chat-thread • 8.5.013.05+ enable-media-neutral	1.8
9.0.004.01 (100.0.004.0100)	8.5.015.19 (recommended) • 8.5.011.18 (minimum) • 8.5.015.15+ enable-sdr-bot • 8.5.014.19+ enable-gpr/user-	1.7

RAA Release	Genesys Info Mart Release	Java
	data-gen-dim • 8.5.014.04+ enable-chat-thread • 8.5.013.05+ enable-media-neutral	
9.0.002.00	8.5.015.19 (recommended) • 8.5.011.18 (minimum) • 8.5.015.15+ enable-sdr-bot • 8.5.014.19+ enable-gpr/user-data-gen-dim • 8.5.014.04+ enable-chat-thread • 8.5.013.05+ enable-media-neutral	1.7
9.0.001.10	8.5.015.19 (recommended) • 8.5.011.18 (minimum) • 8.5.015.15+ enable-sdr-bot • 8.5.014.19+ enable-gpr/user-data-gen-dim • 8.5.014.04+ enable-chat-thread • 8.5.013.05+ enable-media-neutral	1.7
9.0.001.07	8.5.015.19 (recommended) • 8.5.011.18 (minimum) • 8.5.015.15+ enable-sdr-bot • 8.5.014.19+ enable-gpr/user-data-gen-dim • 8.5.014.04+ enable-chat-thread • 8.5.013.05+ enable-media-neutral	1.7
9.0.001.03	8.5.015.19 (recommended) • 8.5.011.18 (minimum)	1.7

RAA Release	Genesys Info Mart Release	Java
	• 8.5.015.15+ enable-sdr-bot • 8.5.014.19+ enable-gpr/user-data-gen-dim • 8.5.014.04+ enable-chat-thread • 8.5.013.05+ enable-media-neutral	

- In PostgreSQL deployments, Reporting and Analytics Aggregates (RAA) requires that the Info Mart schema name must either be `public` or be the same as the `User ID`.

New In This Release

This section describes the changes that have been incorporated within this guide since the 9.0.0 release of Reporting and Analytics Aggregates (RAA).

For information about what's new in the *software*, see the *Reporting and Analytics Aggregates Release Notes*.

Reporting and Analytics Aggregates 9.0.001.03

This is the first release of RAA 9.0.0.

Do I Need to Install RAA?

Reporting and Analytics Aggregates (RAA) 8.5 is an optional Genesys Info Mart process that you can add to a Genesys Info Mart environment to create and populate predefined aggregation tables and views within the Info Mart.

> **Important**
>
> RAA is required to support Genesys Customer Experience Insights (GCXI) 9.0 (and was required for the now-deprecated Genesys Interactive Insights GI2).

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 GCXI. 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 Reference Manual* for detailed information about the aggregate tables, views, indexes, and subject areas. Refer to the *Reporting and Analytics Aggregates 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.

How do I Install RAA?

This page explains how you can perform a new installation of Reporting and Analytics Aggregates (RAA), or how you can upgrade from a prior RAA release.

What Do I Need to Do Before I Deploy RAA?

Prior to installing RAA 9.0, ensure that:

- A supported release of Genesys Info Mart 8.5 is installed (or upgraded) on the target computer.
  - The *Genesys Info Mart Deployment Guide* describes the installation of Genesys Info Mart.
  - For information about compatible releases, see the Product Alert.
- In environments where Genesys Info Mart has been upgraded, you must recreate RAA schema views, as described in How Do I Recreate Schema Views?
- You have administrative privileges on the target computer.
- You have administrative access to the Genesys Info Mart database.
- You have write access to the root directory of Genesys Info Mart. For UNIX plug-in mode, you must know the location of the root directory.
- The Info Mart database has 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.

What Are the Installation Steps?

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. Install RAA using one of the following procedures:

Procedure: Installing RAA on UNIX

Steps

1. From the RAA image, locate the `install.sh` shell script, and run the script from the command line by typing `sh install.sh`
2. The installer prompts you to enter the installation mode. Enter 1 for GIM Plugin mode.
3. The installer prompts you to enter the directory in which to install RAA. Enter the full path to the GIM root folder.

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 a single UNIX platform.

Next Steps

After you have installed RAA successfully, perform the steps in After Installation, What Additional Steps Do I Perform? to complete the setup for running the aggregation process.

Procedure: Installing RAA on Microsoft Windows

Steps

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. Only one RAA instance can reside on a Microsoft Windows host.
4. Click **Next**. Otherwise, the installation routine displays the **Select Installed Application** screen.
5. If you chose to install a new instance:
   a. At the **Select Installed Application** screen, select the Genesys Info Mart application into which you want to deploy the RAA option. Click **Next**.
   b. If RAA has already been installed for the Genesys Info Mart application that you selected, the

installation routine prompts you to select another application.

c. 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).

6. If you chose to maintain an existing RAA application, at the **Welcome to the Maintenance** screen, select **Remove**, and confirm your selection by clicking **Yes** within the dialog box that appears.
7. Click **Next**. The installation routine removes all deployed contents of the **\agg** folder and the folder itself, unless it contains other than deployed files.
8. At the **Installation Complete** or **Maintenance Complete** screen, click **Finish**.

Within the **Genesys Solutions** program group, the wizard creates a **Reporting and Analytics Aggregates** 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 What Application Files Are Installed? for a list of these files.

Next Steps

After you have installed RAA successfully, perform the steps in After Installation, What Additional Steps Do I Perform? to complete the setup for running the aggregation process.

Can I Upgrade From an Earlier Release of RAA?

The upgrade of RAA consists of re-installing the application and running the aggregation process in either integrated or autonomous mode.

1. On Microsoft Windows platforms, you must uninstall RAA before you can re-install it. Follow the instructions in How Do I Uninstall RAA? to learn more about uninstalling RAA. This step is not required on UNIX platforms.
2. Follow the instructions in What Are the Installation Steps?, to reinstall the application. Refer to the *Reporting and Analytics Deployment Procedure*, available on docs.genesys.com for additional steps that pertain to multiple-tenant and custom userdata environments.
3. Run aggregation to automatically create the necessary tables and columns that are required to populate them. Follow the instructions on the How Do I Manage the Aggregation Process? page of the *Reporting and Analytics Aggregates User's Guide* to learn more about integrated and autonomous aggregation modes.

What Steps are Required to Migrate Genesys Info Mart 7.6

Aggregation Tables?

To migrate from release 7.6 to release 9.0.x, you must migrate in two steps (from 7.6 to 8.1.103.01, and then to 9.0.x). RAA provides a utility (described in the *Genesys Migration Guide*) that migrates data from Info Mart 7.6 aggregate tables and associated dimensions into the 8.1.x schema.

After Installation, What Additional Steps Do I Perform?

After you install Reporting and Analytics Aggregates (RAA), there are additional tasks that you must complete to prepare your environment for aggregation. These steps apply to environments that include only Genesys Info Mart, as well as environments that also include Genesys CX Insights (GCXI). This page describes these tasks, as follows:

How Do I Prepare the Environment for Aggregation?

To make the aggregation layer available to the Genesys Info Mart Server, you must copy files that are deployed by the RAA installation routine into the Genesys Info Mart root folder, and ensure that the GIM_EXT_LIBS environment variable points to the aggregation Java archive. You must also ensure that the JDBC driver version configured for the aggregation process to use is consistent with Genesys Info Mart requirements.

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

The following two procedures describe the steps you must perform to integrate RAA with Genesys Info Mart and thereby support Genesys CX Insights:

- Preparing the Aggregation Environment
- Configuring the JDBC Driver for RAA

Procedure: Preparing the Aggregation Environment

Purpose: Follow the steps in this procedure to change the location of the **\agg** subdirectory to the recommended location.

Steps

1. From the appropriate root directory (GCXI/RAA) copy the **\agg** subdirectory and its contents (or make a link) 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, optionally make a backup copy of the **gim_etl_paths.bat** batch file.
3. (Microsoft Windows only) Open the **gim_etl_paths.bat** batch file for editing, 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.
4. (UNIX only) From the Genesys Info Mart root directory, optionally make a backup copy of the **gim_etl_paths** file.
5. (UNIX only) Open the **gim_etl_paths** file for editing, 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.

   > **Tip**
   > The **gim_etl_paths** file and **gim_etl_paths.bat** file are deployed by the Genesys Info Mart installation routine.

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

JDBC drivers provided in the RAA Installation Package (IP)

The RAA IP provides JDBC drivers as described in the table **Provided Driver Versions**. Genesys recommends that you verify whether the provided driver is compatible with your database, and if it is not, configure a suitable alternative version.

Provided Driver Versions

Driver	Provided Version
PosrgreSQL JDBC	42.2.5.jre7
jTDS JDBC	1.3.1
Oracle JDBC	12.1.0.2
Microsoft JBDC	6.2.2.jre7

Procedure: Configuring the JDBC Driver for RAA

Purpose: To create a symbolic link to supersede the default JDBC driver configuration in RAA, to ensure consistency with Genesys Info Mart JDBC driver requirements.

The procedure creates a symbolic link in the RAA installation directory pointing to the desired .jar file you installed for Genesys Info Mart in the JDBC installation directory. The name of the symbolic link must be the path to the applicable library in the installation directory, with the path ending in one of the following RDBMS-specific symbolic link identifiers:

- jdbc_driver_mssql
- jdbc_driver_oracle
- jdbc_driver_postgre

For details about the applicable library path, see step 2, below.

Perform this procedure after you first install RAA and every time the JDBC driver version for Genesys Info Mart is subsequently changed. You must also repeat this procedure after RAA migration, to re-create the symbolic link in the applicable library.

Prerequisites

- You have installed:
  - An up-to-date version of the JDBC driver for your RDBMS, as required by Genesys Info Mart (see Preparing the Genesys Info Mart Server host)
  - The Genesys Info Mart release 8.5.x application (see Installing the Genesys Info Mart Application)
  - The RAA application (see How do I install RAA?)
- You have administrative privileges on the Genesys Info Mart Server host.

Steps

1. Verify that a symbolic link with the link name specified in step 2 does not already exist in the **agg\lib** directory. If necessary, delete existing symbolic links.
2. Create a symbolic link (symlink) to the .jar file installed for Genesys Info Mart use in the JDBC installation directory.

   On Windows

   In a command window, execute the following command:

```
mklink C:\<gim_etl-installation-path>\agg\lib\jdbc_driver_<RDBMS> C:\<jdbc-
 driver-dir>\<jar>
```

where:

- <gim_etl-installation-path> is the fully qualified path to the directory that contains the **lib**, **resources**, and **sql_scripts** subdirectories from the Genesys Info Mart IP and the **agg** subdirectory from the RAA IP. The path must include the applicable **SystemDrive** or **HomeDrive** designations.
- jdbc_driver_<RDBMS> is the RDBMS-specific identifier for the link, as described above.
- <jdbc-driver-dir> is the fully qualified path where you installed the JDBC driver for Genesys Info Mart. The path must include the applicable **SystemDrive** or **HomeDrive** designations.
- <jar> is the name of the .jar file for the driver version you installed for Genesys Info Mart.

Windows Example

After the following command is executed:

```
C:\>mklink C:\Genesys\gcti\GIM\agg\lib\jdbc_driver_mssql C:\Genesys\JDBC\mssql-
 jdbc-6.2.2.jre8.jar
```

the **C:\Genesys\gcti\GIM\agg\lib** directory will include a symlink named **jdbc_driver_mssql** pointing to **mssql-jdbc-6.2.2.jre8.jar** in the **C:\Genesys\JDBC** directory.

On UNIX

In a command window, execute the following command:

```
ln -s /<jdbc-driver-dir>/<jar>  /<gim_etl-installation-path>/agg/lib/
 jdbc_driver_<RDBMS>
```

where:

- <jdbc-driver-dir> is the fully qualified path where you installed the JDBC driver for Genesys Info Mart. The path must include the root directory.
- <jar> is the name of the .jar file for the driver version you installed for Genesys Info Mart.
- <gim_etl-installation-path> is the fully qualified path to the directory that contains the **lib**, **resources**, and **sql_scripts** subdirectories from the Genesys Info Mart IP and the **agg** subdirectory from the RAA IP. The path must include the root directory.
- jdbc_driver_<RDBMS> is the RDBMS-specific identifier for the link, as described above.

UNIX Example

After the following command is executed:

```
$ ln -s /genesys/jdbc/ojdbc7-12.1.0.2.0.jar  /genesys/gim/agg/lib/
 jdbc_driver_oracle
```

the **/genesys/gim/agg/lib** directory will include a symlink named **jdbc_driver_oracle** pointing to **ojdbc7-12.1.0.2.0.jar** in the **/genesys/jdbc** directory.

3. Confirm that the JDBC driver version (in other words, the name of the .jar file) specified in the CLASSPATH matches the version you specified when you created the symbolic link.
4. Start or restart LCA (if applicable), the Genesys Info Mart application, and the aggregation process. If you are upgrading the JDBC driver during runtime, suspend the ETL and aggregation schedules and ensure that all currently running jobs have completed before you initiate the switchover to the new environment settings.

Next Steps

After the next run of the aggregation job, check the **gim_etl.log** to verify that the correct JDBC driver version is being used.

How Do I Configure 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 How Do I Configure Genesys Info Mart for Aggregation?.

Within Configuration Manager, you can import the contents of this file to an existing Genesys Info Mart application (or to the Genesys Info Mart application template) to engage the aggregation process. After 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.

Procedure: Importing Aggregation Options

Purpose: To import RAA aggregation settings into the Genesys Info Mart application.

Steps

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**.

> **Important**
>
> Selecting **Yes** would wipe out the current configuration and replace it with the contents of the imported file.

When you select **No**, Configuration Manager imports the sections and options that are defined in the configuration file so that they coexist with the current configuration.

> **Tip**
>
> 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.

Resolving Option Differences in Configuration

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 the Figure **Resolving Option Differences in Configuration**. Click **Yes** or **No**, as appropriate.
6. After you have resolved differences in configuration option values, select **OK** to save the configuration and close the application properties.

Next Steps

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

How Do I Configure Genesys Info Mart for Aggregation?.)

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 How Do I Configure Genesys Info Mart for Aggregation?.

How Do I Set 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 the **user-data-map.ss** file and save it to 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 following hierarchies to your custom dimensions:

- H_AGENT
- H_AGENT_CAMPAIGN
- H_AGENT_QUEUE
- H_CAMPAIGN
- H_ID
- H_QUEUE
- H_QUEUE_ABN
- H_QUEUE_ACC_AGENT

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 User's Guide*.

How Do I Set Up the Database?

Running the aggregation 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. The aggregation engine creates new columns as needed for any new measures that are introduced in future RAA releases, however this may not always be the case for future Genesys Info Mart releases. Therefore, under some circumstances, you must recreate RAA schema views following Genesys Info Mart updates. (Refer to the next section, How Do I Recreate Schema Views?.)

In autonomous mode, invoke the aggregation process as described in the *Reporting and Analytics*

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

How Do I Recreate RAA Schema Views?

In many cases, you won't need to recreate schema views. When aggregation first starts up, RAA creates GCXI-specific views (within its main schema) for accessing certain Genesys Info Mart data. Among these views are:

- All views (for example SM_RES_SESSION_FACT_GI2, INTERACTION_ TYPE_GI2). These views supplement the corresponding Genesys Info Mart fact tables with timestamp information in the Genesys Info Mart-default time zone.
- The TODAY and RELATIVE_RANGE views—which help the reports align Genesys Info Mart data with various time intervals in the Genesys Info Mart-default time zone.
- *_CONSTANTS, which helps population of certain prompts.

For most RAA or GCXI updates, RAA automatically re-creates the views whenever necessary—that is, whenever the structures of the underlying Info Mart tables change. 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; for example when the rollout of a Genesys Info Mart update changes its own table structures.

Procedure: Recreating RAA Schema Views

Purpose: To instruct RAA to re-create GCXI-specific schema views upon the next invocation. Note that the name 'Interactive Insights" is used internally for Genesys CX Insights.

Steps

1. Stop Genesys Info Mart.
2. Clear the Interactive Insights schema version by issuing one of the following pieces of code against Info Mart where RAA has been deployed.
   - **For Oracle**—Setting SCHEMA_VERSION to "0clean"

```
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;
```

- **For Microsoft SQL or PostgreSQL**—Setting SCHEMA_VERSION to “0clean”

```
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;
```

Additional Steps for Multi-tenant Environments

In multi-tenant environments, an additional set of views is used for tenant- and time-zone-specific data. RAA adds these additional views (prefaced *AGR_ALIAS_n*, where n is a random number) to its main schema. Each tenant schema includes:

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

You must update tenant aliases whenever RAA recreates GCXI-specific schema views. Refer to the *Reporting and Analytics Aggregates User’s Guide* for more information about updating tenant aliases.

Finally, Genesys Info Mart also maintains main schema views and tenant views of Genesys Info Mart-only data. You update these views whenever the Genesys Info Mart table structures change. Refer to

the Genesys Info Mart documentation for this information.

How Do I Configure Genesys Info Mart for Aggregation?

This page describes the options that you can configure to control 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 with **[agg...]** and are unique to Reporting and Analytics Aggregates (RAA). They are not described in the Genesys Info Mart documentation set.

Descriptions of other configuration section options on whose values the aggregation process depends are described in the *Genesys Info Mart Deployment Guide*; some of these options are described in this document because RAA default values might differ from Genesys Info Mart-assigned default values. For information about how to configure options using Genesys Administration Extension (GAX), see the *Genesys Administrator Extension Help*.

RAA default values reflect those that are in effect when the **gim_agg_ application_options.cfg** configuration file is imported to the Genesys Info Mart application. The import procedure is described in How Do I Configure Aggregation Options? A Genesys Info Mart application without this configuration might have different defaults. Furthermore, the default values given on this page do not necessarily reflect how the Genesys Info Mart application behaves when options are altogether absent from configuration.

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

> **Important**
>
> If the aggregation process is invoked in autonomous mode, the aggregation process ignores the values of some options that are configured in the Genesys Info Mart application and uses the values specified by the runtime parameters. Refer to the *Reporting and Analytics Aggregates User's Guide* for a discussion of the different modes of running aggregation and to Can I Control Aggregation at Runtime? for a listing and description of runtime parameters.

How Do I Enable 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]**.

The following ETL configuration option in the **[gim-etl]** section pertains to aggregation: aggregation-

engine-class-name

The option **agg-jdbc-url** is described in What Options Can I Configure on the Info Mart DAP?

How Do I Schedule 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]**.

The following configuration options in the **[schedule]** pertain to scheduling the aggregation process:

run-aggregates

Section: schedule
Default Value: true
Valid Values: true, false
Changes Take Effect: Immediately

Specifies whether to start the aggregation process at the scheduled time (as determined by the **aggregate-schedule** configuration option).

aggregate-duration

Section: schedule
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

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.

aggregate-schedule

Section: schedule
Default Value: 0 1 (once a day starting at 1:00 AM)

Valid Values: Valid CRON expression of two fields
Changes Take Effect: Immediately

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.

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Other options that you can configure in the **[schedule]** section are described in the *Genesys Info Mart Options Reference*. You can use the *Reporting and Analytics Aggregates User's Guide* to learn how to configure continuous aggregation in integrated mode without having the aggregation process terminate for any period of time.

What Options Can I Configure in the [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]**.

The following configuration options in the **[agg]** section pertain to the aggregation process:

agg-level-<level>-delay

Section: agg
Default Value: 0
Valid Values: Any positive integer
Changes Take Effect: After restart

Specifies the minimum delay (seconds) between aggregation runs, on a level-by-level basis. This option is available beginning with RAA release 8.5.001.45, and applies to materialized levels only (day and higher).

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deadlock-threshold

Section: agg

Default Value: 1800 (30 min)
Valid Values: Any positive integer
Changes Take Effect: After restart

Specifies the amount time, in seconds, within which each aggregation writer thread must return the results of its aggregation of a batch of data. If a writer thread 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.

more...

default-tz-offsets

Section: agg
Default Value: 0,0
Valid Values: a,b
where: a = the number of seconds of the winter offset and b = the number of seconds of the summer offset.
Changes Take Effect: After restart

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 in increments other than one hour—that is, whose offset is not evenly divisible by 3600.
- That configure more than one time zone.

more...

level-of-log

Section: agg
Default Value: `.:INFO`
Valid Values: `[category]:[<value>][,category:[<value>]...]`
where `category` is either "`.`" (for the root logging category) or "`Agg`", and `value` corresponds to the desired level of log information: SEVERE, WARNING, INFO, CONFIG, FINE, FINER, FINEST, ALL, OFF.
Changes Take Effect: After restart

Specifies the detail level of log messages that the Genesys Info Mart Server generates for aggregation-related activity, by category. Specify “.” for the root logging category; otherwise, specify “Agg”.

The lower the value level, 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. Valid levels of log detail are:

- `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.
- `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.

more...

realtime-offset

Section: agg
Default Value: 900 (15 minutes)
Valid Values: 0–7200 (2 hours)

Changes Take Effect: Either:

- In autonomous mode, upon restart of the aggregation process.
- In integrated mode, immediately upon every 5-minute reevaluation.

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. Use this option in conjunction

with the writer-schedule and zone-offset configuration options to fine-tune aggregation dispatching.

more...

sub-hour-interval

Section: agg
Default Value: `30min`
Valid Values: `15min, 30min`
Changes Take Effect: After restart

Specifies the lowest time level of aggregation, in minutes, for the AG2_*_SUBHR tables.

more...

warning-threshold

Section: agg
Default Value: 300 seconds (5 minutes)
Valid Values: Any positive integer
Changes Take Effect: After restart
Introduced: 8.5.005.02

Specifies the amount of time, in seconds, within which aggregation is expected to complete. If it has not completed within the specified period of time, the plan of the SQL query of aggregation is written to the log with the log level WARNING.

writer-schedule

Section: agg
Default Value: `default=flex(3:1)`
(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. Where:

  - 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.

  This parameter also accepts the argument `hour(#-#)=purge`, which enables and schedules purging of aggregate data. For more information about purging, see **RAA Aggregation Runtime Parameters** in the *Reporting and Analytics Aggregates Deployment Guide*. 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. The maximum number of writer Z1–Z2 pairings must not exceed 10. `default=strict(10:0)` is valid, whereas `hour(0,6)=flex(2,9)` is not; (2+9>10).

Changes Take Effect: Either:

- In autonomous mode, upon the next start of the aggregation process.
- In integrated mode, immediately upon every 5-minute reevaluation.

writer-schedule controls the schedule for the number of writers that RAA dedicates to the aggregation of notifications received in Zone 1 (Z1) and Zone 2 (Z2).

- 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.)

For more information about aggregation dispatching, see **How Do I Configure Genesys Info Mart for Aggregation?** in the *Reporting and Analytics Aggregates Deployment Guide*.

zone-offset

Section: agg
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: After restart of the aggregation process

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.

more...

What Options Can I Configure in the [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]**.

The following configuration options in the **[agg-feature]** section pertain to aggregation:

enable-callback

Section: agg-feature
Default Value: No default value
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: After restart of the aggregation process
Introduced: 8.1.405.02

Instructs RAA to aggregate the AGT_CALLBACK table.

more...

enable-sdr-survey

Section: agg-feature
Default Value: No default value
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: After restart of the aggregation process

Introduced: 8.5.001.48

Instructs RAA to enable SDR Survey tables: SDR_SURVEY_ANS, SDR_SURVEY. To have RAA exclude SDR Survey data, remove this option from this section.

more...

eServicesSM

Section: agg-feature
Default Value: No default value
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:

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, and populate aggregated data for social-media measures in some of the aforementioned hierarchies.

more...

excludeConsult

Section: agg-feature
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: After restart of the aggregation process
Introduced: 8.1.101.07

Instructs RAA to exclude consult interactions in ACC and ABN queue aggregates, and count only customer calls (thus mimicking release 8.1.1 behavior).

more...

materialize-subhour-in-db

Section: agg-feature
Default Value: No default value
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: After restart of the aggregation process
Introduced: 8.1.400.23

Instructs RAA to materialize RAA subhour views as tables.

more...

ms-sql-std-edition

Section: agg-feature
Default Value: No default value
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

Instructs RAA to enable support for MS SQL Server Standard Edition. Note that support for MS SQL Server Standard Edition is enabled automatically in most release 8.5 deployment scenarios, so this option is not needed in most deployments.

no-queue-user-data

Section: agg-feature
Default Value: No default value

Valid Values: Either:

- `WORKBIN_KEY`—if the deployment includes preexisting customization with USER_DATA_KEY1, USER_DATA_KEY2, and INTERACTION_DESCRIPTOR_KEY columns.
- `INTERACTION_DESCRIPTOR_KEY`—if the deployment includes preexisting customization only with USER_DATA_KEY1, and USER_DATA_KEY2 columns.

Changes Take Effect: After restart of the aggregation process.

Instructs RAA to ignore prexisting customizations and use out-of-box definitions.

more...

partitioned-gim

Section: agg-feature
Default Value: No default value
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: After restart of the aggregation process
Introduced: 8.5.000.02

Instructs RAA to apply the partition kit.

more...

What Options Can I Configure on the Info Mart DAP?

You can configure Info Mart database access point (DAP) application options that pertain to aggregation. The section must be named **[gim-etl]**. The following configuration options in the **[gim-etl]** section pertain to aggregation:

agg-jdbc-url

Section: gim-etl
Default Value: No default value
Valid Values: Any valid JDBC URL
Changes Take Effect: On restart of the Genesys Info Mart Server.

In an Oracle RAC configuration in which you want aggregation to use a separate node, specifies the connection parameters for the JDBC connection to the Info Mart database for Reporting & Analytics Aggregates (RAA). If this option is defined, the aggregation process uses the connection string specified by **agg-jdbc-url** instead of the **jdbc-url** connection string. For the required syntax for this option, consult the vendor documentation for your JDBC driver.

For performance reasons, Genesys recommends that you divide processing by function, allocating separate functions to specific nodes in the cluster. Use the Oracle RAC Server Control Utility (SRVCTL) to configure named services, including a named service for RAA, and associate those services with particular nodes. For more information, see *Oracle RAC Configuration* and *DAP Objects for Genesys Info Mart* in the Genesys Info Mart 8.x chapter in the *Genesys Hardware Sizing Guide*.

Example for Oracle
Oracle requires the following format to specify connection parameters for the Oracle thin client:

```
jdbc:oracle:thin:@(DESCRIPTION = (LOAD_BALANCE=OFF)(ADDRESS = (PROTOCOL =
```

```
TCP)(HOST = <database_host_name>)(PORT = 1521))(CONNECT_DATA = (SERVER =
DEDICATED)(SERVICE_NAME=<named service>)))
```

more...

For more information, see the extended description of agg-jdbc-url in the *Genesys Info Mart Options Reference*.

Can I Disable Aggregation in Specified 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]**.

The following configuration options in the **[agg-populate-disable]** section pertain to aggregation:

default

Section: agg-populate-disable
Default Value: No default value

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_AGENT_GRP
- H_AGENT_QUEUE
- H_ID
- H_I_AGENT
- H_I_ SESS_STATE
- H_I_STATE_RSN
- H_QUEUE
- H_QUEUE_ABN
- H_QUEUE_ACC_AGENT
- H_QUEUE_GRP
- H_AGENT_CAMPAIGN

- H_CAMPAIGN

Changes Take Effect: Upon start of the next aggregation cycle

Lists the hierarchies that the aggregation process will not populate. By default, the aggregation process populates all aggregation hierarchies.

more...

How Do I Define 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 Reference Manual* for your RDBMS for information about this table (available from Genesys Info Mart documentation). 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 Configuring aggregation across more than one time zone 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 Gensys CX Insights, none provides results that are aggregated by week.) The default settings are not ISO 8601-compliant. Refer to the *Genesys Info Mart Options Reference* 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.

Procedure: Changing DATE_TIME Options

Purpose: To change 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.

Steps

1. Stop aggregation. Refer to How Do I Stop the Aggregation Process? in the *Reporting and Analytics Aggregates 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 Operations Guide*.
6. Run re-aggregation in autonomous mode over the desired reporting interval. Reaggregating data over a specified period of time is described in the How Do I Re-aggregate Data? section in the *Reporting and Analytics Aggregates User's Guide*.

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

What Are Aggregation Thresholds?

Threshold options enable 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 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. Genesys Info Mart provides other options (such as **q-short-abandonedthreshold** and **q-answer-threshold**) to configure thresholds for other purposes. 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.

In the following table, the RAA-specific configuration sections (all of which are prefaced with **[agg-gim-thld-...]**) pertain to thresholds and the contact center objects in which RAA recognizes their configuration. Each section and its configuration options are described thereafter.

Threshold Configuration Sections and Applicable Objects

Configuration Section	Configuration Server Object1				
	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]	✓	✓	✓	✓	✓

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 here.

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. The **Threshold Configuration Sections and Applicable Objects** table also lists the priority—from lowest to highest—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 lowest 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. In addition, you can define thresholds on a media level that take precedence over 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.
For example, within an object, 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 take precedence over the ones in the **[agg-gim-thld-QUEUE-IXN]** section.

The following table ranks the priority—from lowest to highest—in which RAA weighs option values within any particular configuration section. This ranking is valid for all threshold configuration sections (described in **Threshold Configuration Sections and Applicable Objects**, where

configuration is applicable. Prioritization is indicated for two different parent nodes: for Script objects and for DN objects. The abbreviation **Def** indicates the default configuration option and the abbreviation **Media** indicates any media-specific option that you might configure.

Prioritization* of Threshold Options within a Configuration Section

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

Genesys Info Mart		Tenant Section		Tenant Section-<GIMAppl>		Switch Section		Switch Section-<GIMAppl>	
Def	Media	Def	Media	Def	Media	Def	Media	Def	Media
1	2	3	4	5	6	7	8	9	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.

What Threshold Options Can I Configure?

The following configuration sections pertain to RAA thresholds:

- **[agg-gim-thld-AGENT-IXN]** Section — This section must be named either: **[agg-gim-thld-AGENT-IXN]** or **[agg-gimthld-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. Following are the configuration options for Agent-Interaction Thresholds (in the **[agg-gim-thld-AGENT-IXN]** section):

  ### default

  Section: agg-gim-thld-AGENT-IXN
  Default Value: 5
  Valid Values: From `0` to $(2^{31}-1)$
  Changes Take Effect: After start of the next aggregation cycle

  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.

  For information about this group of tables, see the Reporting and Analytics Aggregates Physical Data Model documentation for your RDBMS:

  - Microsoft SQL Server

- Oracle
- PostgreSQL

<media>

Section: agg-gim-thld-AGENT-IXN
Default Value: The value specified by the default option.
Valid Values: From `0` to (`2^31-1`)
Changes Take Effect: After the next run of aggregation.

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.

more...

- **[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 a 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. To learn which measure definitions rely on the values of the aforementioned threshold, see the column descriptions of the Table-AGT_ID table in the Reporting and Analytics Aggregates Physical Data Model documentation for your RDBMS (Microsoft SQL Server, PostgreSQL, or Oracle). Following are the configuration options for Tenant-Based Thresholds (in the **[agg-gim-thld-ID-IXN]** section):

default

Section: agg-gim-thld-ID-IXN
Default Value: `5,15,3600,7200`

Valid Values: `a,b,c,d` where each letter represents 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

The sequence of values does not have to consist of increasing values.

Changes Take Effect: After start of the next aggregation cycle

Specifies four values that correspond respectively to the short-abandoned, acceptance, response, and finish thresholds.

more...

<media>

Section: agg-gim-thld-ID-IXN
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.

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.

more...

- **[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. To learn which measure definitions rely on the values of thresholds in this section, see the column descriptions of the H_QUEUE_ABN hierarchy in the Reporting and Analytics Aggregates Physical Data Model documentation for your RDBMS (Microsoft SQL Server, PostgreSQL, or Oracle).

> **Important**
>
> 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.

Following are the configuration options for Classifying Abandoned-in-Queue Interactions (in the **[agg-gim-thld-QUEUE-ABN]** section):

default

Section: agg-gim-thld-QUEUE-IXN
Default Value: `5,15,15,5,15,15`

Valid Values: `a,b,c,d,e,f` where each letter represents 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

Specifies up to 6 threshold values as comma separated int values, in seconds, defining two sets of each of the following thresholds: short-abandoned, acceptance, and accepted-by-agent:

- The first set of each threshold is for interactions that exclude consultations.
- The second set of each threshold is exclusively for consult interactions.

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`.

<media>

Section: agg-gim-thld-QUEUE-IXN
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.

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.

more...

- **[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.
  To learn which measure definitions rely on the values of thresholds in this section, see the column

descriptions of the H_QUEUE_ACC_AGENT hierarchy in the Reporting and Analytics Aggregates Physical Data Model documentation for your RDBMS (Microsoft SQL Server, PostgreSQL, or Oracle).

> **Important**
>
> 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.

Following are the configuration options for Classifying First-Response-from-Queue Interactions (in the **[agg-gim-thld-QUEUE-ACC]** section):

default

Section: agg-gim-thld-QUEUE-ACC
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

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.

more...

<media>

Section: agg-gim-thld-QUEUE-ACC
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.

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.

more...

- **[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. To learn which measure definitions rely on the values of the aforementioned thresholds, see the columns descriptions of the H_QUEUE and H_QUEUE_GRP hierarchies in the Reporting and Analytics Aggregates Physical Data Model documentation for your RDBMS (Microsoft SQL Server, PostgreSQL, or Oracle). Following are the configuration options for Classifying Queued Interactions (in the **[agg-gim-thld-QUEUE-IXN]** section):

default

Section: agg-gim-thld-QUEUE-IXN
Default Value: `5,15,15,5,15,15`

Valid Values: `a,b,c,d,e,f` where each letter represents 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

Specifies up to 6 threshold values as comma separated int values, in seconds, defining two sets of each of the following thresholds: short-abandoned, acceptance, and accepted-by-agent:

- The first set of each threshold is for interactions that exclude consultations.
- The second set of each threshold is exclusively for consult interactions.

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`.

<media>

Section: agg-gim-thld-QUEUE-IXN
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.

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.

more...

How Do I Control Aggregation at Runtime?

In addition to the configuration options that you can set within the Genesys Info Mart Application object, you can also tailor how aggregation works by specifying certain *runtime parameters* when invoking the aggregation engine manually or from a batch or shell script.

Invoking Aggregation From the Command Line

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

- on UNIX platforms: `java -jar agg/GIMAgg.jar -user=<dbo> -pass=<PASSWORD> -jdbcurl=<URL> <OTHERPARAMS>`
- on Windows platforms: `java.exe -jar agg\GIMAgg.jar -user=<dbo> -pass=<PASSWORD> -jdbcurl=<URL> <OTHERPARAMS>`

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

```
-agg_level_<level>_delay=<SECONDS>
-conf paramFile
-insertPendingAggRaw <TENANT>:<SET>:<STARTKEY>:<ENDKEY>
-insertPendingAggRaw <TENANT>:<SET>:DATES_FROM:<FACT_TABLE>
-insertPendingAgg <AGR_SET>:<START>:<END>
-insertPendingAgg <AGR_SET>:DATES_FROM:<FACT_TABLE>
-deadlockThreshold 1000
-defaultTZoffsets offsetFromUTC
-delFeature=eServicesSM, excludeConsult, or materialize-subhour-in-db
-getFeatures
-levelOfLog level
-printQuery aggQuery
-printQuery ALL
-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 additional parameters 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 and are not described in the documentation.

> **Important**
> The values of the runtime parameters that are described on this page supersede the values of comparable configuration options that are set in the Genesys Info Mart Application object.

RAA Aggregation Runtime Parameters

Most of the parameters listed in the table below 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**

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

> **Important**
> The values of the runtime parameters that are described on this page supersede the values of comparable configuration options that are set within the Genesys Info Mart Application object in Configuration Server.

Runtime Parameter	Description
-agg-jdbc-url	Specifies the connection parameters for the JDBC connection to the Info Mart database for Reporting & Analytics Aggregates (RAA). More information: agg-jdbc-url
agg_level_<level>_delay	This parameter limits the frequency with which RAA performs aggregation. This parameter applies to materialized levels only (DAY and higher).

Runtime Parameter	Description

	Examples:
	• To perform MONTH-level aggregation no more than twice a day, enter either of the following strings:
	`-agg_level_month_delay=60*60*12`
	`-agg_level_month_delay=43200`
	• To perform DAY-level aggregation no more than every 3 hours, enter either of the following strings:
	`-agg_level_day_delay=10800`
	`-agg_level_day_delay=60*60*3`
	The value you specify represents a *minimum* period of time (in seconds) that must elapse between aggregation runs for data at a specified level, however, the actual time between aggregation runs is usually greater than the specified delay value. The exact time when aggregation occurs varies depending both on the time when the first aggregation run occurred, and on the Zone in which the data falls:
	• Data in Zone 1 is delayed up to an additional 15 minutes.
	• Data in Zone 2 is delayed up to an additional hour.
	The time when aggregation occurs may also vary if the aggregation job is inserted using `-insertPendingAgg`.
	For additional information refer to the description of the **agg-level-<LEVEL>-delay** option on the How Do I Configure Genesys Info Mart for Aggregation? page.

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 this parameter or file is missing, 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 in increments other than one hour—that is, whose offset is not evenly divisible by 3600, and that configure more than one time zone in aggregation. For example: A time-zone offset of six and a half hours

Runtime Parameter	Description
	(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 description of the **deadlock-threshold** option (see What Options Can I Configure in the [agg] Section?) for additional information.
delFeature=eServicesSM	Stops aggregation of social-media data. To restart aggregation of social-media data, use the **setFeature** runtime parameter.
delFeature=materialize-subhour-in-db	Instructs RAA not to materialize RAA subhour views as tables. To materialize the subhour level, see the **setFeature=materialize-subhour-in-db** option.
delFeature=excludeConsult	Includes consult interactions in ACC_* and ABN_* queue aggregates. To exclude consult interactions, see the *setFeature=excludeConsult* option.
getFeatures	Submits a request to display a list of the features currently enabled in the database.

insertPendingAgg	Submits a request to run the aggregation engine over the specified time period at some later time. The following formats are supported:
	
	`-insertPendingAgg <AGR_SET>:<START>:<END>`
	
	OR
	
	`-insertPendingAgg <AGR_SET>:DATES_FROM:<FACT_TABLE>`
	
	Where:
	
	• <AGR_SET> indicates what set to aggregate (ALLSETS, or an aggregate set name). Aggregate set name is formatted as follows:
	
	`<HIERARCHY_NAME>-`

Runtime Parameter	Description

	`<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
	• <FACT TABLE> is the name of the fact table from which to retrieve start and end time values. The start and end values are retrieved from the MIN and MAX values of the START_DATE_TIME_KEY field in the specified fact table.
	
	For example:
	`... -insertPendingAgg ALLSETS:2014-01-01:2014-12-31`
	
	Refer to the description in the *Reporting and Analytics Aggregates 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.

insertPendingAggRaw	Submits a request to run the aggregation engine over the specified time period at some later time. The following formats are supported:

Runtime Parameter	Description

	`-insertPendingAggRaw <TENANT>:<SET>:DATES_FROM:<FACT TABLE>`
	
	OR
	
	`-insertPendingAggRaw <TENANT>:<SET>:<STARTKEY>:<ENDKEY>`
	
	where:
	
	• <TENANT> is a TENANT_KEY value from TENANT table that indicates a tenant (or ALLTENANTS value).
	• <SET> is a AGR_SET_KEY value from AGR_SET table or (ALLSETS value).
	• <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.
	• <FACT TABLE> is the name of the fact table from which to retrieve start and end time values. The start and end values are retrieved from the MIN and MAX values of the START_DATE_TIME_KEY field in the specified fact table.
	
	For example:
	
	`-insertPendingAggRaw ALLTENANTS:ALLSETS:1256084100:1259748000`
	
	Refer to the *Reporting and Analytics Aggregates User's Guide* for examples of 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. Format this required parameter as follows:
	
	For PostgreSQL:
	
	`-jdbcurl=jdbc:postgresql://<dbhost>:<dbport>/<dbname>`
	
	For Oracle:
	
	`-jdbcurl=oracle:thin:@<dbhost>:<dbport>:<SID>`
	
	For Microsoft SQL Server:
	
	`-jdbcurl=jdbc:jtds:sqlserver://<dbhost>:<dbport>;DatabaseName`

Runtime Parameter	Description
levelOfLog	Specifies the detailed level of log messages that the GIM Server generates for aggregation-related activity. For example: `... -levelOfLog=.:INFO` Refer to the description of the **level-of-log** option (see What Options Can I Configure in the [agg] Section?) for additional information.
pass	The unencrypted password of the database owner. Format this required parameter as follows: `java -jar agg/GIMAgg.jar -user=Administrator -pass=$y5t3m`

printQuery	Displays or prints the SELECT statement of the specified aggregation query, based solely on its definition within internal RAA files.
	For example:
	• To display the SQL statement for the QUEUE_ACC_ AGENT query:
	`java -jar ./agg/GIMAgg.jar -printQuery QUEUE_ACC_AGENT`
	• To print the statement of all existing queries to a file:
	`java -jar ./agg/GIMAgg.jar -printQuery ALL> logfile.sql`
	Because this parameter grabs the query's definition entirely from internal files, it does not require that you specify database-connectivity parameters. Refer to the *Reporting and Analytics Aggregates 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 `realtimeOffset` and `writerSchedule` parameters to fine-tune aggregation dispatching. Refer to the description of the **realtime-offset** configuration option (see What Options Can I Configure in the [agg] Section?) 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, based on user data stored in the USER_DATA_GEN_ES and USER_DATA_GEN_ESF tables:

Runtime Parameter	Description
	• INFLUENCE • INFLUENCE_ENTERED • INFLUENCE_OFFERED • ACTIONABILITY • ACTIONABILITY_ENTERED • ACTIONABILITY_OFFERED • SENTIMENT • SENTIMENT_ENTERED • SENTIMENT_OFFERED 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.
setFeature=excludeConsult	Excludes consult interactions in ACC_* and ABN_* queue aggregates, causing RAA to count only customer calls (thus mimicking release 8.1.1 behavior).
setFeature=materialize-subhour-in-db	Instructs RAA to materialize RAA subhour views as tables.
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 description of the **sub-hour-interval** option (see What Options Can I Configure in the [agg] Section?) 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:

Runtime Parameter	Description
	`java -jar agg/GIMAgg.jar -conf runagg -updateAliases AliasFile` The *Reporting and Analytics Aggregates User's Guide* describes how to format the alias mapping file.
user	The account name of the database owner. Format this required parameter as follows: `java -jar agg/GIMAgg.jar -user=Administrator -pass=$y5t3m`

writerSchedule	Sets the schedule for the number of writers that RAA dedicates to the aggregation of notifications received in Zone 1 and Zone 2. 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 (see What Options Can I Configure in the [agg] Section?) 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. This parameter also accepts the argument `hour(#-#)=purge`, which enables and schedules purging of aggregate data.
	For example, to schedule 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):
	
	`-writerSchedule default=flex(3:1),hour(1-2)=purge`
	
	For information about configuring purging rules, see the *Reporting and Analytics Aggregates User's Guide*. Prior to release 8.1.102, the number of writer threads dedicated to aggregation was controlled by the **numberOfWriters** configuration option.

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-**

Runtime Parameter	Description
	offset configuration option (see What Options Can I Configure in the [agg] Section?) for the default and valid values of this parameter as well as an explanation as to why you should define a zone offset.

What Application Files Are Installed?

This page describes the files that are installed by Reporting and Analytics Aggregates (RAA). The directory where application files are installed varies as follows:

- For standalone installations on UNIX platforms, files are written to the directory that you specify during installation.
- For plug-in installation on UNIX platforms, files are written to the **\agg** subdirectory of the Genesys Info Mart root directory.
- For installations on Microsoft Windows platforms, files are written to the **\agg** subdirectory of the Genesys Info Mart root directory.

The following tables describe the content of each folder:

RAA root directory

The contents of the root RAA root directory (when RAA is installed in stand-alone mode)

File Name	Description
agg	Subfolder that contains files that support the RAA component of Genesys Info Mart. See The contents of the agg subdirectory.
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

agg subdirectory

The contents of the agg subdirectory

File Name	Description
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 How Do I Configure Aggregation Options?).
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.

Subdirectories within the agg directory

The following tables describe the contents of the subdirectories of **agg**.

The contents of the `lib` subdirectory (this is an example, only — the contents of this directory vary from one release to the next)

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

The contents of the script subdirectory

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. Important A similar file, **make_gim_UDE_template.sql**, is also deployed by the Genesys Info Mart installation package. This file contains different content.
make_gim_UDE_template_partitioned_postgres.sql	Sample script that creates the database objects for mapping and storing user data for social media metrics for partitioned PostgreSQL databases.
patch-agg-MSSQL-nolock.ss	Schema file that, when placed in the Genesys Info Mart root directory, helps to prevent deadlock problems. Important Before using this file, please contact Genesys

	Customer Care for deployment instructions.
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.
In some releases, the *scripts* subdirectory also contained user-defined **partition-kit.ss** files. These files are no longer used; if they are present from a previous release, remove them to prevent errors.	

The contents of the third-party licenses subdirectory

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

How Do I Uninstall RAA?

You can uninstall Reporting and Analytics Aggregates (RAA) using the setup utility (the same one used for installation). This wizard-driven utility deletes most of the files that are deployed during installation, and removes the application instance from the Microsoft Windows registry, however it does not remove all traces of RAA from your computer. For example, it 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, unless that directory is in the default location.

Optionally, you can manually clean up these remaining issues (steps 2 through 4, below).

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

> **Tip**
> On UNIX platforms, you do not have to uninstall the previous RAA version to reinstall it or to install a new version.

1. Run the Uninstall Routine

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

Procedure: Uninstall From Installation Maintenance

Purpose: To uninstall RAA using the Installation Maintenance.

Steps

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

OR

Procedure: Uninstall From the Control Panel

Purpose: To uninstall RAA using the Control Panel.

Steps

1. Open **Add/Remove Programs**.
2. Select the Reporting and Analytics Aggregates 8.x application.
3. Click **Add/Remove**.

Using either procedure, 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 directory before you delete any of its files.

Next, perform the additional manual steps that are listed in the following sections to complete the uninstall.

2. Disable Aggregation in the GIM Application

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.

The Table **Turning Off Aggregation** provides a listing of the applicable Genesys Info Mart configuration options and their the settings, to reflect a discontinued use of aggregation.

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)

Optionally, 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 How Do I Configure Genesys Info Mart for Aggregation?. They might be necessary for other Genesys Info Mart functions.

3. Delete RAA-Specific Database Objects

The following list shows the tables, views, and indexes that the RAA installation routine creates. To complete the uninstallation, consider dropping these objects from your database, as well as all AGT* tables. Doing so will free up table space and improve Info Mart performance. Please note, however, that this step is optional.

Aggregation-related Views and Tables

```
AG2_*
AGT_*
AGR_*
*_GI2
GI2_*
PENDING_AGR
RELATIVE_RANGE
TODAY
```

Aggregation-related Indexes

```
RESOURCE_.IDX_AGR_RESOURCE_NAME
RESOURCE_.IDX_AGR_RESOURCE_AG_NAME
RESOURCE_.IDX_RES_KEY_TYPE_CODE
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
```

Aggregation-related Rows and Columns

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

Three rows in the CTL_SCHEMA_INFO table (the Genesys Info Mart Server creates this table), where: schema_name=:

```
'Genesys Aggregator'
'Infomart Aggregation'
'Interactive Insights'
```

The DURATION_BUCKET column in 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
```

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

4. Additional Steps

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

What Additional Resources Are Available?

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

Genesys CX Insights

Documentation for Genesys Customer Experience Insights (CX Insights) is available on the Genesys Documentation website:

- *Genesys CX Insights Deployment Guide*, which will help you install, start, stop, and uninstall the Genesys-provided image of MicroStrategy and the CX Insights Project and reports.
- *Genesys CX Insights User's Guide*, which includes a report- customization example that displays aggregated results that are sectioned by your own custom user data.
- *Genesys CX Insights Projects Reference Guide*, which describes objects that are used in Genesys CX Insights projects and reports, focusing on metrics, attributes, and the folders that are used to organize them.
- *Genesys CX Insights Hardware Sizing Guide*, which provides information about hardware sizing for typical contact center scenarios.
- Genesys CX Insights Release Notes, Product Alerts, and What's New are available on the GCXI page of the Genesys documentation site.

MicroStrategy

Documentation for MicroStrategy software is available on the MicroStrategy Learning Center or Help page, or in an electronic format that you can download to your mobile device (QR codes).

Easy search for MicroStrategy topics

- MicroStrategy Community Search Page

> **Tip**
> On the Community Search Page, filter your search results by selecting the Document Version (such as **2020**).

Following are some popular topics, and where to find information about them on the MicroStrategy Wiki:

The latest information from MicroStrategy

- What's New in MicroStrategy
- Key information about MicroStrategy Web
- Key information about MicroStrategy Developer

Analyzing data in a MicroStrategy report or dashboard

- Basic Reporting Guide
- Mobile Analysis Guide

Creating dashboards and reports

- Enterprise Reporting
  - Document Creation Guide
  - Dashboard and Widgets Guide
- Slice and Dice Analysis
  - Basic Reporting Guide
  - Advanced Reporting Guide
- Advanced and Predictive Analysis
  - Advanced Reporting Guide
  - Function Reference Guide
- Alerts and Proactive Notification
  - System Administration Guide
  - Mobile Analysis Guide
- OLAP Analysis
  - In-memory Analytics Guide
- Integrate data reporting with Microsoft Office
  - MicroStrategy Office User Guide

Installing or upgrading MicroStrategy

- Installation and Configuration Guide
- Upgrade Guide

Modelling your data and designing a project

- Project Design Guide

- MDX Cube Reporting Guide

Configuring and Administering MicroStrategy

- System Administration Guide
- Timeout settings in MicroStrategy Web
- User Session Idle Timeout

MicroStrategy Quick Start

- Quick Start Guide

Docker

- About Docker

Kubernetes Installation

- Kubernetes Getting Started
- Installing kubeadm

OpenShift

- OpenShift documentation

Helm

- Helm documentation

Genesys Info Mart

Documentation for Genesys Info Mart is available on the Genesys Documentation website:

- *Genesys Info Mart Operations Guide*, for information about Genesys Info Mart jobs such as `Job_AggregateGIM` and the Genesys Info Mart Manager for managing Genesys Info Mart jobs.
- *Genesys Info Mart Deployment Guide*, for information about configuring the Genesys Info Mart and Interaction Concentrator servers to recognize user data.

Reporting and Analytics Aggregates

Documentation for Reporting and Analytics Aggregates (RAA) is available on the Genesys Documentation website:

- *Reporting and Analytics Aggregates Deployment Guide*, which describes the runtime parameters and configuration options mentioned in this document.
- *Reporting and Analytics Aggregates 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.
- The Physical Data Model documentation for your RDBMS, which describes the aggregate tables and subject areas:
  - *Reporting and Analytics Aggregates Physical Data Model for a Microsoft SQL Server Database*
  - *Reporting and Analytics Aggregates Physical Data Model for an Oracle Database*
  - *Reporting and Analytics Aggregates Physical Data Model for a PostgreSQL Database*

Genesys

Additional documentation for Genesys products is available, as follows:

- The Genesys Glossary provides a comprehensive list of the Genesys and computer-telephony integration (CTI) terminology and acronyms.
- *Genesys Migration Guide*, available on the Genesys Documentation website, provides documented migration strategies for Genesys product releases. Contact Genesys Customer Care for more information.
- Release Notes and Product Advisories for each Genesys product, which are available on the Genesys Documentation website.

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

- The Genesys CX Insights page in the *Genesys Supported Operating Environment Reference Guide*
- *Genesys Supported Media Interfaces Reference Manual*
- *Genesys Hardware Sizing Guide*, which provides information about Genesys hardware sizing guidelines for the Genesys 8.x releases. 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).

Other Genesys product documentation is available on the:

- Genesys My Support website (formerly Customer Care)
- Genesys Documentation website
- Genesys Documentation Library DVD, which you can order by email from Genesys Order Management at Genesys Order Management.