Reporting and Analytics Aggregates Deployment Guide

After Installation — prepare the RAA environment

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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:

Contents

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.