Genesys Interactive Insights User's Guide

Genesys Interactive Insights 8.5.0

12/29/2021

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Genesys Interactive Insights 8.5 User's Guide

Welcome to the *Genesys Interactive Insights User's Guide*. Genesys Interactive Insights (GI2) provides reports that summarize contact center activity and an entire universe of elements (the *GI2_Universe*) that support them.

This is the first page of this document. Use the navigation buttons on the left to move to other pages in the document, or the links at the bottom of the page to move forward/back through the document, one page at a time.

This guide picks up where the *Genesys Interactive Insights Deployment Guide* leaves off. Begin to use this document only after you have configured Genesys Info Mart 8.5 and its supporting applications to measure and record contact center activity, installed and set up your BusinessObjects Business Intelligence Platform (BI) 4.1 environment, and installed and imported the appropriate reports and universe. This document describes:

- how to manage the reports that are deployed with GI2,
- how to create or modify reports and the supporting universe elements using BI software,
- how universe elements are organized to paint a picture of contact center activity within your enterprise.

This document describes the 8.5.x release(s) of GI2. For other releases of GI2, visit the Genesys Customer Care website, or request the Documentation Library DVD, which you can order by email from Genesys Order Management at Genesys Order Management. GI2 8.5.x releases rely on BusinessObjects Business Intelligence Platform (BI) 4.1, which provides functionality similar to that provided by BO XI 3.1 in releases 8.1.1 and earlier, though the names of some applications, tools, and options differ.

BI 4.1 software

GI2 8.5.0 is powered by BI 4.1 software. This document does not describe in detail how to operate BI software, because that information is provided in documentation provided by SAP. For more information about the operation of BI Launch Pad, Web Intelligence, or the Design tools, refer to the BO/BI documentation, available from the following sources:

- from the SAP BusinessObjects Business Intelligence Platform Documentation CD,
- if you are a direct SAP customer, you can acquire the BusinessObjects documents from the SAP website,
- if you obtained BI software through Genesys, you can acquire BusinessObjects documents from this page on the SAP website.

Refer to the *Genesys Interactive Insights Universe Guide* for more information about GI2 universe elements and reports.

> **Tip**
> Because you can customize the appearance and functionality of BI user interfaces, screens shown in this guide might differ from what you see in your environment.

New In This Release

This section describes the changes that have been incorporated within this guide since the 8.5.0 release of GI2.

For information about what's new in the *software*, see the Genesys Interactive Insights Release Notes.

Genesys Interactive Insights 8.5.000.03

Added information about GI2 releases that are incompatible with BI 4.2.

Genesys Interactive Insights 8.5.000.02

This is the initial release of this new document.

Other Changes

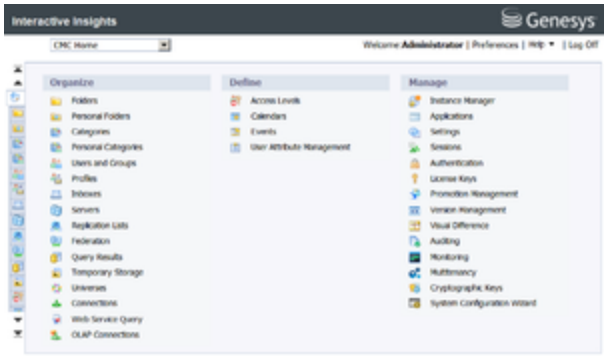
Changes pertaining to the the deployment and localization of GI2 are described in the *Genesys Interactive Insights Deployment Guide*. Also, refer to the *Genesys Interactive Insights Universe Guide* for information about the new reports and other new universe elements that were introduced or updated within the 8.5.x releases.

Licensing Restrictions

GI2 and Genesys Info Mart licensing allow you to add third-party data to enrich the reporting and analysis of your enterprise operations. You may use GI2, including the BI Web Intelligence component, to report on any Genesys data sources. However, when reporting on non-Genesys data sources, GI2 reports must contain data from at least one Genesys data source. The number of concurrent users who can operate BO software in your environment is controlled by the number of GI2 seats that you have purchased. To obtain unrestricted licenses that enable you to freely access data sources other than Genesys Info Mart, contact SAP.

GI2 8.5.0 is based on the *Enterprise Edition* of BI 4.1.

Managing the BI 4.1 Environment



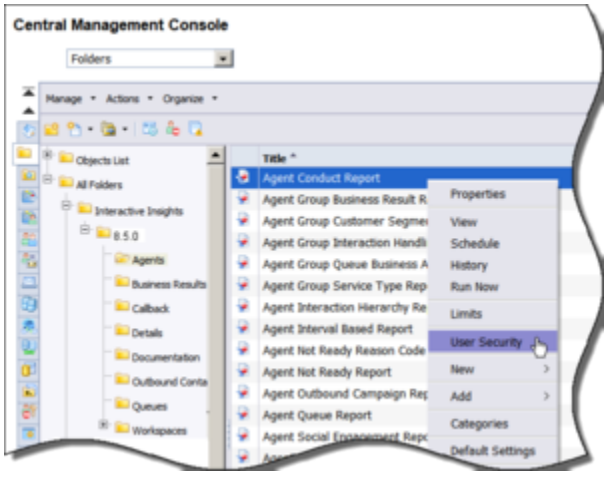
CMC Home Page

This page describes the BI environment. Genesys Interactive Insights (GI2) is based on BI 4.1, which you manage using the Central Management Console (CMC). The figure *CMC Home Page* shows the CMC home page, which summarizes the tasks that administrators can perform with this tool.

CMC is a web-based application that you can use to control individual preferences. The BI Administrator must grant permission for you to access the CMC.

Use BI software to perform the following key administrative tasks:

Managing Folders



Setting Folder Permissions Within CMC

BO software uses folders to organize repository documents. You control access to these folders and to specific items within them by setting permissions. The figure *Setting Folder Permissions Within CMC* shows user security permissions being invoked for a GI2 report.

Release-specific subfolders of the `Interactive Insights` root folder house report and documentation subfolders. This folder structure enables you to maintain any customizations that you applied to previous universes. In this document (and other GI2 documentation) text references and screen shots might omit the release-specific subfolders.

A BI 4.1 installation deploys many default folders—such as `Administration Tools`, `Auditor`, and `Report Samples`—that are not used by GI2. As the BI administrator, you can hide these folders to avoid confusion. To hide folders from select groups of users, apply **no-access** levels to those groups within the security profile of the folder's properties. Refer to the "Manually Setting Up GI2 Access Levels, Groups, and Permissions" section of the *Genesys Interactive Insights Deployment Guide* for further details.

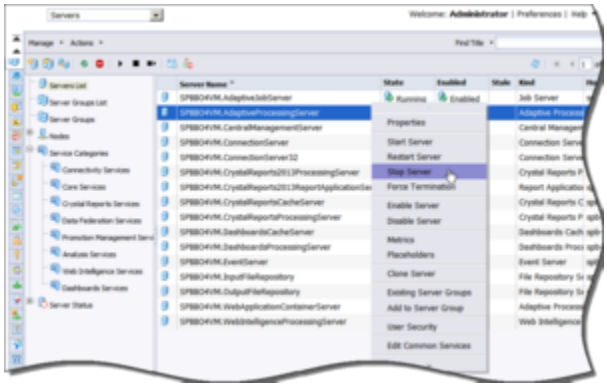
The *Genesys Interactive Insights Deployment Guide* instructs you to delete the root folder (`Interactive Insights`) prior to redeploying GI2 or reimporting the same GI2 universe version. Before you delete this folder, archive any custom reports that exist in the folder.

To prevent the installation routine from overwriting a preexisting universe (GI2_Universe), you must export the universe to an LCMBIAR file using Promotion Management in CMC. When you customize reports, consider using a storage location that minimizes the need to relocate these custom reports when new releases of GI2 become available.

Managing Servers

You can view and modify server settings and stop and start BI servers by using the CMC or Central Configuration Manager. Use either tool to troubleshoot your BI environment when you cannot access the GI2 universe or reports.

A BI installation deploys a set of servers; in some cases you may not need all of them. If you choose to stop servers you do not need, be sure to leave running all servers that are required by GI2. Refer to the *Business Intelligence Platform Administrator Guide* for a description of the servers and how to manage them (see BO/BI documentation).



Stopping the Adaptive Processing Server by Using CMC

The figure *Stopping the Adaptive Processing Server by Using CMC* shows the process to stop an unused server using the CMC. If you use BO functionality that requires these servers, such as scheduling reports or setting up rules or events, make sure that you leave the required servers running. Refer to the *Business Intelligence Platform Administrator Guide* for a description of the

servers and how to manage them (see BO/BI documentation).

Managing Connections

The GI2 installation routine copies a database connection object (GI2_GIM_DB) when it imports the GI2 universe into the BI repository. This connection is reserved for Genesys use; use or modify it only as directed. Refer to the *Genesys Interactive Insights Deployment Guide* for step-by-step instructions on how to link the GI2 Universe to your data source (your Info Mart database).

Managing the Universe

The BI 4.1 installation routine deploys several sample universes in the `Universes` root folder, including `eFashion`, `Monitoring TrendData`, and `Report Conversion Tool Audit`. These universes are not used by the GI2 reports, and you can ignore them. The installation routine deploys the GI2-specific universe (GI2_Universe) in a release-specific subfolder of the `Interactive Insights` root folder. You control which users have write access to the GI2_Universe by setting user permissions appropriately in CMC. Extend this permission only to those users who need it; editing the universe can affect report results for all who receive them, especially if the changes are imported back into the repository. The *Genesys Interactive Insights Universe Guide* describes which measures of the GI2 universe are directly used in the GI2 reports.

> **Important**
> BI 4.1 has no mechanism for tracking or reversing the changes made to a universe once it has been imported into the BI repository.

Managing Users, Groups, and Access Levels

The `insights.lcmbiar` file, which is deployed during installation of GI2, includes the groups that are shown in the following table and the corresponding access levels. To complete configuration, and make the various objects of the GI2 repository available to other users in your contact center, you should set up BI accounts using the identification information of the users. You can assign these users to the predefined Interactive Insights user groups using the predefined access levels, or you can assign users to groups that you create with custom permissions. For instructions on how to assign users in a BI environment, refer to the *Business Intelligence Platform Installation Guide* for your specific operating system (see BO/BI documentation).

Interactive Insights User Groups

The following table describes the user groups that are available in GI2:

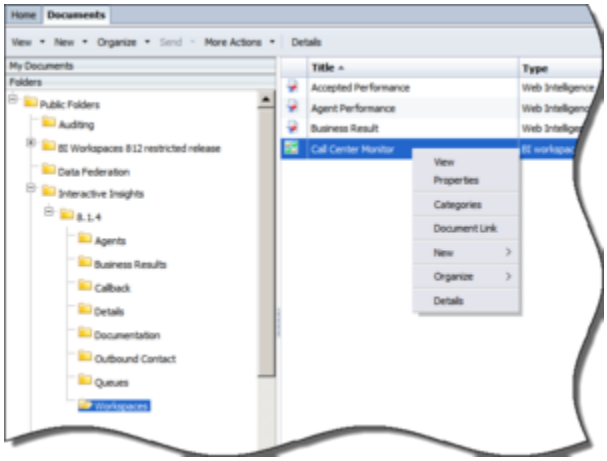
Group	Summary
Interactive Insights report developers	*Interactive Insights report developers* can create reports in Web Intelligence from scratch, delete them, and edit and view their underlying SQL. Report developers can also schedule reports for later running and distribution and save them in other formats, such as PDF and Microsoft Office Excel.
Interactive Insights report editors	*Interactive Insights report editors* can modify existing reports and copy them in order to create new reports. However, they cannot create new reports within the GI2 universe in any other manner. Report editors can also schedule reports and save results in other formats.
Interactive Insights report viewers	*Interactive Insights report viewers* can specify values at the user prompts when they run the reports, view report results, and modify reports—however they cannot save the modifications. Report viewers can also schedule reports and save results in different formats.
Interactive Insights report basic	*Interactive Insights report basic* users can see scheduled and existing report instances. A user within this group, however, cannot run reports or see the `Details` folder.
Interactive Insights access restrictions	*Interactive Insights access restrictions* users can see only certain data and reports. Users within this group have their access to data restricted based on geography, line of business, or organizational role. Specific data can also be blocked (such as system objects).

For information about tasks not covered here, refer to the *Business Intelligence Platform Administrator Guide* for additional information about working with Central Management Console (see BO/BI documentation).

Understanding Reports and Workspaces

This section helps you understand GI2 reports and BI Workspaces, how to work with them in Web Intelligence, and how to customize them to suit your needs. The GI2 reports and BI Workspaces for Genesys Info Mart compile contact center interaction activity and agent-summarized states for telephony and multimedia DNs. Agent-based reports and workspaces do not contain data that summarizes virtual interactions, virtual agent activity, and Interactive Voice Response (IVR) port activity. However, if IVRs are configured as handling resources in your environment, data that pertains to IVR ports is included in the business attribute and interaction detail workspaces reports.

About BI Workspaces



Managing Workspaces

BI Workspaces provide dashboard-like displays of one or more charts of contact center activity. Each workspace is effectively a container for specially-designed reports. This release provides one customizable workspace, **Call Center Monitor**, which is composed of the following reports, represented on four tabs:

- Accepted Performance— This tab links to the Interaction Traffic Report, displaying four charts.
- Agent Performance— This tab links to the Agent Summary Activity Report and the Agent Utilization Report, displaying two charts and a table that summarizes each agent's call volume, utilization, and revenue.
- Business Result— This tab links to the Interaction Volume Customer Segment Report, displaying four charts.

[+] Read More About BI Workspaces

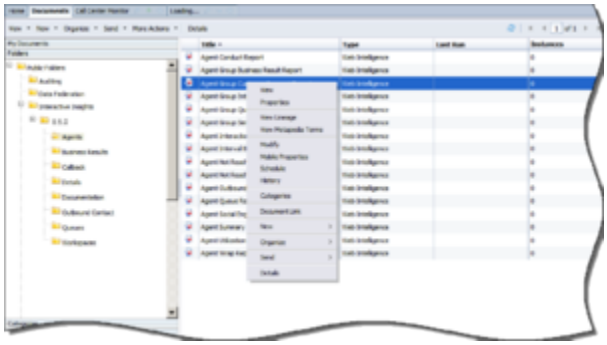
The workspace charts are designed using Web Intelligence, which is an application in the BusinessObjects (BO) Business Intelligence Platform suite. Workspaces are stored in one subfolder: `Workspaces`.

For optimal viewing of the workspaces, set your screen resolution to a width of at least 1280 pixels.

The figure *Managing Workspaces* shows the organization of the workspaces in the BI Workspaces folder and some of the operations that you can perform within Web Intelligence.

The data in the workspaces represents a snapshot of the database at a given point in time; to view current data, you must refresh the data (see Refreshing Data for related information on this topic). Also, consider scheduling regular runs of the constituent reports, as the workspaces do not display the date range over which the reports were run. Workspaces can display more than one chart from a single report, or can display charts from more than one report. You can refresh the data in a workspace either from the workspace itself, or by running each report before opening the workspace. When you refresh, the values that you specify at the user prompts apply only to the report for which the user prompt was invoked, with one exception: any associated (hyperlinked) standalone report inherits the prompt values from the called report only if these user prompts are populated.

About GI2 Reports



Managing Reports

The GI2 release for Genesys Info Mart 8.5 includes the following reports:

- 16 agent activity reports
- 7 queue activity reports
- 6 detail reports
- 2 callback reports
- 3 outbound contact reports
- 9 business attribute reports

All of these reports were designed using Web Intelligence. The reports use the hierarchies, classes, dimensions, details, conditions (filters), measures, and prompts that are defined in the corresponding Interactive Insights universe: `GI2_Universe`. The figure *Managing Reports* shows the organization of some of the reports in the `Agents` folder and some of the operations that you can perform within Web Intelligence. To learn about performing basic report operations, such as running and scheduling reports and printing, sharing, and exporting their results, refer to the BO/BI documentation.

- **[+] Common Elements of Design Across All Reports**

Viewing Reports Using Web Intelligence (top half)

Viewing Reports Using Web Intelligence (bottom half)

When you view, run on-demand, or modify a report, the report opens in the Web Intelligence interface, as depicted in the figure *Viewing Reports Using Web Intelligence*. As an administrator, you can configure permissions that determine whether Web Intelligence is available for each user and which operations each user can perform.

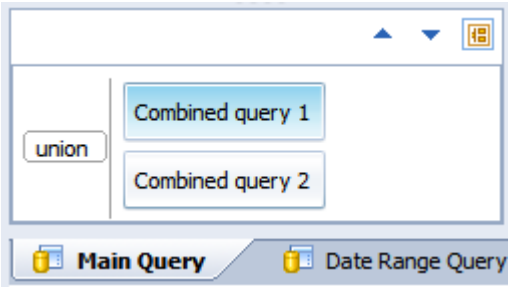
Main and Description Tabs

Each report includes a **User Prompt Input** area, a **Description** tab (in most reports) that describes the report's measures, and a **Main** tab (in most reports) that contains one report. A few reports have a different design:

- The Agent Summary Activity Report provides 4 reports displayed on 4 main tabs (**Active Time**, **% Active Time**, **Interaction Time**, and **% Interaction Time**).
- The Agent Utilization Report uses 2 main tabs (**Customer** and **Consult**).
- Instead of a main tab, the Business Executive Report provides 3 summary tabs (**Business Result**, **Customer Segment**, and **Service Type**).

Main and Date Range Queries

If your user account has access permissions of an Interactive Insights Editor or Developer, the **Edit** button is available to you, and you can click it to view and edit a report's layout and underlying query.

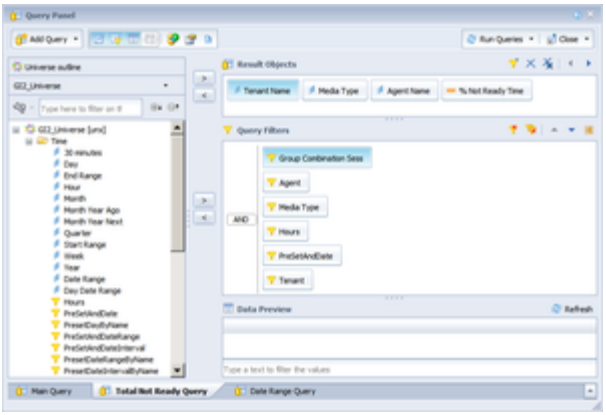


Combined Query

Right-click a report, and choose **Modify** to edit the report. Select the **Data Access** tab, and on the **Data Providers** sub-tab, click **Edit** (available only to Developer users), to open the **Query Panel** and show the report's building blocks, (as shown in *Cutaway of the Query Panel for the Agent Not Ready Reason Code Report*).

Most GI2 reports display the results of two queries, Main Query and Date Range Query. However, in order to achieve a particular end result, a few reports incorporate a third (or fourth) query. Two reports—the Interaction Volume Service Type Trend and the Agent Details Activity reports—use a combined query, as shown in the figure *Combined Query*.

If you have to customize reports, make sure that you are working with the correct query when there is more than one.

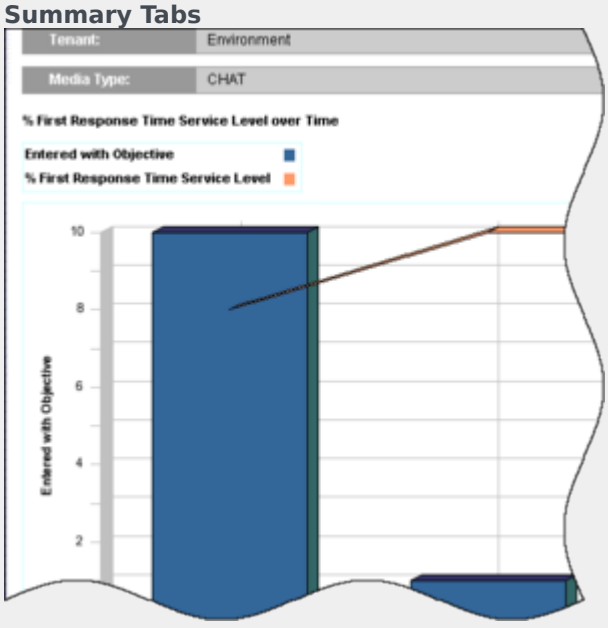


Cutaway of the Query Panel for the Agent Not Ready Reason Code Report

The figure *Cutaway of the Query Panel for the Agent Not Ready Reason Code Report* shows the Main Query, the Date Range Query, and the Total Not Ready Query of the Agent Not Ready Reason Code Report. Other reports that make use of three or more queries include the following:

- Agent Conduct Report
- Agent Interval Based Report
- Agent Not Ready Reason Code Report
- Agent Summary Activity Report
- Agent Wrap Report
- Business Metrics Executive Report
- Interaction Volume Summary Report

Summary Tabs



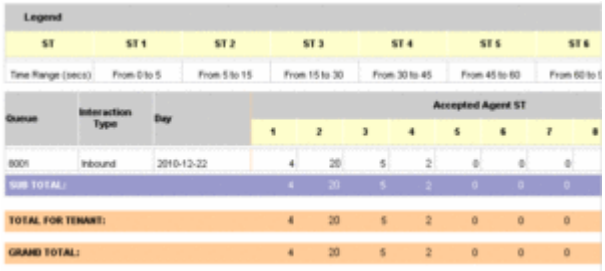
Summary Tab of the Interaction Volume Service Type Report

Many reports include one or more **Summary** tabs that highlight exceptional events that occur within your contact center or enterprise. Depending on the report, these exceptions might be highlighted in one or more colors to enable you to focus quickly on highly productive or problematic areas.

The figure *Summary Tab of the Interaction Volume Service Type Report* shows sample data on the **Summary** tab of the Interaction Volume Service Type Report. With the exception of the Interaction Flow Report, none of the detail reports (found in the Details folder) include a **Summary** tab.

- **[+] What Zero Signifies**

Whenever the underlying query for a GI2 report returns no rows, the report displays no data. For example, a query to retrieve activity for a particular agent for a shift that the agent did not work returns no data. On rare occasions, Web Intelligence returns the message `No data to retrieve in Main Query`.



Legend							
ST	ST 1	ST 2	ST 3	ST 4	ST 5	ST 6	
Time Range (secs)	From 0 to 5	From 5 to 15	From 15 to 30	From 30 to 45	From 45 to 60	From 60 to	

Queue	Interaction Type	Day	Accepted Agent ST							
			1	2	3	4	5	6	7	8
8001	Inbound	2010-12-22	4	20	5	2	0	0	0	
SUB TOTAL:			4	20	5	2	0	0	0	
TOTAL FOR TENANT:			4	20	5	2	0	0	0	
GRAND TOTAL:			4	20	5	2	0	0	0	

Zero Values in the Speed of Accept Report

For those GI2 reports that do return rows, but in which a particular field is not applicable, the reports return a value of `0`. For example, suppose that all interactions for a particular day were accepted within the first four service time intervals that were defined for a tenant, but none were accepted beyond the fourth interval. As a result, the Speed of Accept (seconds) Report—a portion of which is shown in the figure *Zero Values in the Speed of Accept Report*—displays `0` values for the each of the fifth through tenth intervals.

The reports also return `0` for measures when the underlying database columns on which measures are based hold 0 values. Additionally, when a report is based on a query that gathers data from more than one aggregation table, empty cells in reports are possible where other cells contain data.

For composite measures, such as percentages and averages, wherever a 0 count or 0 duration ensues, the reports display `0` for such measures. The average duration of calls placed on hold, for instance, is 0 in the circumstances where either no calls were placed on hold during the interval, or where the duration of held calls was 0 seconds (or a fraction of 1 second).

The custom reports that you create might behave differently depending on their design. Refer to BO/BI documentation for further information.

- **[+] Printing Reports**

GI2 reports are optimized for onscreen viewing, though where possible they are also designed to be legible when printed.

Some of the charts and tables that are presented on the **Summary** tabs of reports use background colors (for example, green, red, and yellow) to summarize the information that is provided in the main report tab; these colors might be difficult to differentiate when the report is printed to a black-and white printer.

Printing most reports requires tabloid-size paper (11"x17") and most reports are output with landscape orientation. Reports that contain a lot of data, such as the Queue Summary and Agent Utilization reports, encroach the minimum margin space that is required for some printers. If you find that your printed output is cropped at the margins, consider scaling down the report output to satisfy the minimum allowable margins for your printer. Typically, you can accomplish this either by adjusting the settings in the **Print** dialog box of your printer driver, or through the **Print Setup** or **Page Setup** menu items of the software application of the report output. As well, you can scale output with some of the supported BI output formats. Consult the software documentation of your targeted output format to learn about its ability to scale, as well as the hardware documentation for your specific printer for information about the minimum margin widths.

- **[+] Personalizing Report Instances**

Using the built-in features of BO, you can publish reports in a manner that limits the dataset that is exposed to report viewers when they open a report instance. Do this by personalizing the dataset to a dynamic profile that is defined in the Central Management Console (CMC).

> **Tip**
> In addition to (or instead of) using the method described in this section, you can restrict user access to data using integrated, role-based Data Access Restrictions, described in the *Genesys Interactive Insights Deployment Guide*.

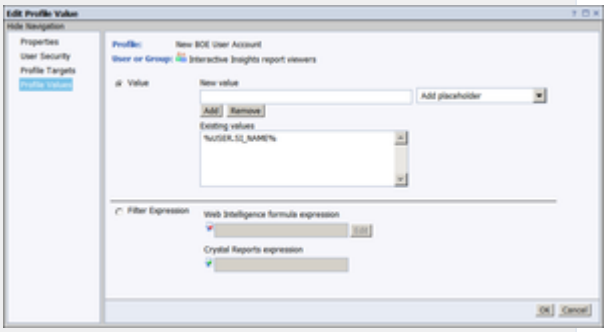
Use the following procedures to personalize BI reports, restrict data access, and send reports (containing the selected data) by email.

1. Creating a Dynamic Profile Within CMS.

The task of personalizing report instances begins with the creation of one user profile within the Central Management Server (CMS). Profiles work in conjunction with publications to personalize the content that users see. This sample profile will be dynamic—classifying users and groups, based on the user name that is issued to log in to BI LaunchPad. However, you can create other types of profiles that are based on other variables or on one or more fixed values.

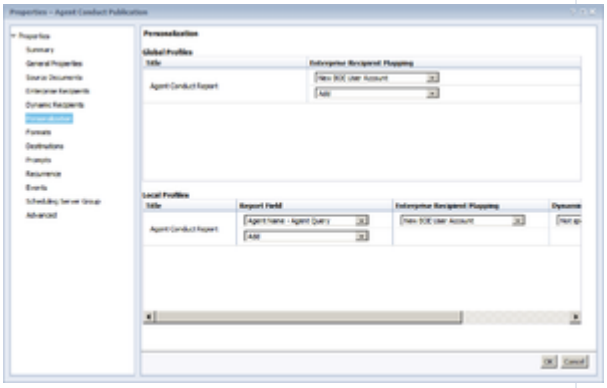
To create a dynamic profile, perform the following steps:

1. Log in to CMC as an Administrator, and select **Profiles**.



Setting a Dynamic Profile Value

2. Click **Manage** > **New** > **New Profile**.
3. Enter a title and (optionally) a description for the new profile, and click **OK**.
4. Open the profile and add a new profile value:
   a. Select **Profile Values**.
   b. Click **Add**, and then click **Choose** (next to **User or Group**).
   c. Select the targets of your publication from the list on the left, move them to the right, and then click **OK**.
   d. From the **Add Placeholder** list box, select **Title**.
   CMC autofills the **New value** field with a

	variable: `%USER.SI_NAME%`. e. Click **Add** to move this value to the **Existing values** list, as shown in the figure *Setting a Dynamic Profile Value*. f. Click **OK**, and then click **Close** to close the profile. Creating this dynamic profile enables you to concentrate configuration refinements to one BI object; you do not have to configure data-restriction rules individually for each recipient. Next, you must apply the profile to a publication that is distributed to report-viewer recipients. Refer to "Managing Profiles" in the relevant SAP *Administrator's Guide* for more information about creating profiles (see BO/BI documentation).
2. Applying the Profile to a Publication	The next step is to create a publication. Continuing with the example shown in *Step 1. Creating a Dynamic Profile Within CMS*, this step shows you how to create the *Agent Conduct Publication*, which uses the Agent Conduct Report as the source document. To this publication, you add the *BOE User Account* profile that was created earlier. Finally, you schedule the publication for distribution to all Interactive Insights report viewers. 1. Create a publication that points to a WebI report as the source document: a. Within BI LaunchPad, click **New** > **Publication**. b. In the **Title** field, enter `Agent Conduct Publication`. c. Click **Source Documents**, then click **Add**. Select the Agent Conduct Report as the source document, and click **Save and Close**.  Assigning a Local Profile to a Publication 2. Open and modify the publication's properties

	to associate with it the previously created profile: a. Double-click the new publication to open the Properties. b. From the list of Properties, select **Personalization**. c. In the **Local Profiles** section, from the **Report Field** list box, select a value that will serve as the filter. The figure *Assigning a Local Profile to a Publication* shows the **Agent Name** field from the report's **Agent** query selected for this option. The **Enterprise Recipient Mapping** list box appears. d. From the **Enterprise Recipient Mapping** list box, select the profile you created previously (in *Step 1. Creating a Dynamic Profile Within CMS*). e. Click **Destinations** and choose notification options (for example, select **Email** to send the report by email, and in the **Show options for selected destinations** list box, choose **Email**, and set appropriate options.). f. Click **Recurrence**, and from the **Run Object** list box, choose how often to send the notification (for example, select **Daily** to send it once per day). g. Click **OK** to save your changes. Note that, unlike most other Interactive Insights reports, the Agent Conduct Report is built from the unified results of two queries. Most other reports are built from one query. Refer to the relevant SAP *Publisher's Guide* for more information about creating and scheduling publications (see BO/BI documentation).
3. Modifying the Agent Name Dimension	The final step in personalizing a report is to modify the Agent Name Dimension. If you followed the example in *Step 1: Creating a Dynamic Profile Within CMS*, you defined a filter that is associated with BI account names (a dynamic profile, which changes according to the manner in which the user logs into BI LaunchPad). This filter limits the data that is exposed to users. As packaged, however, no GI2 report contains any object that directly correlates to BI account names. To complete this example, therefore, you must tailor one universe object to synchronize it with BI user account names, which ensures that users see only data

	from their own dataset.
	
	The User Name detail dimension is the closest universe object that can be associated with a BI account name. This requires that you configure BI user names in the same manner in which users are configured within Genesys Configuration Server. In the 8.5 release, however, no GI2 reports employ the User Name detail dimension in their design; the Agent Name dimension is used instead. Agent Name is a composite entity comprised of three components when their values are not `null`:
	
	• Last Name
	• First Name
	• Resource Name
	
	There are three solutions from which you can choose:
	
	• Modify all of the reports to substitute User Name for Agent Name, modify the report layouts that section and filter on this dimension, and conduct testing.
	• Add the User Name detail to the query and layout of those reports wherever the Agent Name dimension appears.
	• Alter the definition of the Agent Name dimension in the few classes where it exists.
	
	This example uses the third option. To modify the Agent Name definition:
	
	1. Open the Information Design Tool and navigate to the Agent\Activity class.
	2. Open the properties of the Agent Name dimension, clear the **WHERE** clause, and change the **Select** statement to the following:
	`@Select(Activity\User Name)`
	Or, mimic the User Name detail definition:
	`RESOURCE_GI2.RESOURCE_NAME`
	3. Save the definition by clicking **OK**.
	4. Repeat this modification for all other Agent Name dimensions that exist throughout the universe.
	5. Save the universe and export the changes back to the repository.
	6. Test by running agent-related reports and comparing results to expectations.
	
	Subsequently, when a BI user opens a report instance that was distributed by the publication, the results that the user sees are limited to only those records in which Agent Name is equivalent to the name of the user's own BI user account.

Limitations of personalization	The following limitations apply:

	Profiles filter the view of a document's content; profiles do not restrict the data that is being queried from the data source nor do they control users' access to data. If users have the appropriate rights to access documents in their original format, they can see the document's entire dataset. Altering the definition of the Agent Name dimension—or replacing this dimension altogether within the reports—is neither supported nor tested by Genesys Quality Assurance. Subsequent redesign and testing can be extensive, depending on the option that you choose to associate contact center objects with BI objects. Genesys has not assessed the full impact of such changes, such as the continued functionality of drill-down/drill-up operations.

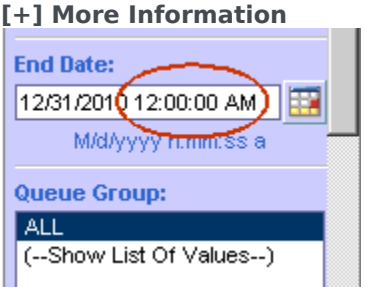
For additional information about working with reports, see the section Working With Reports in Web Intelligence.

Working With Reports in Web Intelligence

This section helps you work with reports in Web Intelligence. This section contains the following topics:

Using the Prompts

Each GI2 report contains several user prompts that filter the data that the report will retrieve (see the **User Prompt Input** area). The values specified at these prompts apply to all tabs of the report. If you clear the default specifications for these prompts without providing new values, you will not be able to run the report.

Hour Prompts	For the hourly reports, you must restrict your specification of hours to a range within one calendar day. **[+] More Information** For instance, if a shift operates from 9:00 PM of one day to 3:00 AM of the next day, the results can not appear within one report. Instead, run two reports—one from 9:00–11:59 PM of one day and the other report from 12:00–3:00 AM of the next day. Alternatively, you can customize the day-range prompts for the report to recognize hours.
Date Prompts	With the exception of the detail reports, BI LaunchPad and Web Intelligence ignore the time component of date prompts. **[+] More Information**  BI software Ignores the Time Component of Start and End Date Prompts This is common in the **Start Date**, **End Date**, and **Report Date** prompts of GI2 reports. Thus, if you select a specific time in conjunction with a specific date, the GI2 reports ignore the time and use only the specified date. The figure *BI software Ignores the Time Component of Start and End Date Prompts* highlights the time component that automatically appears with all date settings. Regardless of the time that appears in the prompts, GI2 uses the following times: • `12:00:00 AM` as the start time for all dates that are specified under **Start Date** • `11:59:59 PM` as the end time for all dates that

are specified under **End Date**—even though `12:00:00 AM` appears in this field

So, to run a report for one day—for example, for November 30, 2014—you would designate the following:

- `11/30/2014 12:00:00 AM` for the **Start Date** prompt (or any other time value)
- `11/30/2014 12:00:00 AM` for the **End Date** prompt (or any other time value)

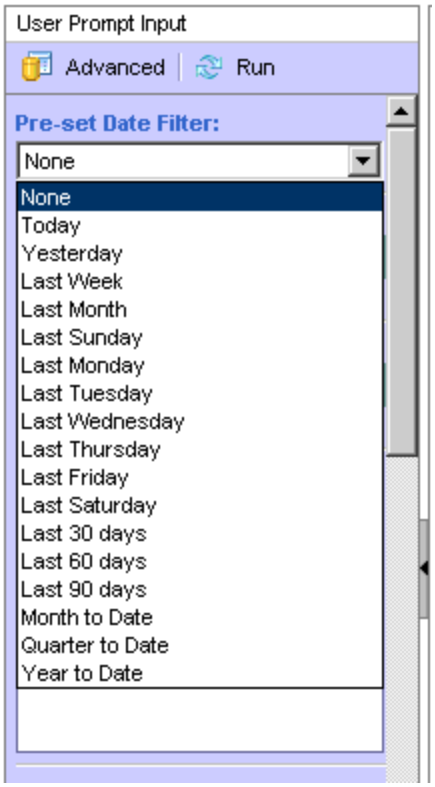
where these user prompts appear in the reports. Even though start and end appear to be the same moment in time, the report actually spans 24 hours. For the detail reports, the **Start Time** and **End Time** user prompts actually *do* recognize the time values that you designate, and you must indicate an appropriate time value along with a date.

Troubleshooting Date Prompts

When you select Date from a Calendar, BI can sometimes return the previous day's date. If this happens, you can correct the problem by setting the time zone to Coordinated Universal Time (UTC), using one of the following procedures:

For Microsoft Windows:

1. On the Microsoft Windows system where Tomcat is installed, open the Tomcat program group and select **Tomcat Configuration**.
2. In the Tomcat Configuration window, click the **Java** tab.
3. Under Java Options, append the parameter `-Duser.timezone=utc`.



Preset Date Prompts

For Linux:

1. Log in to the Linux account where BI software is running, and open `.bash_profile` for editing.
2. Add the following rows to the .bash_profile file:
   ```
   TZ=utc
   export TZ
   ```
3. Save the file, and restart Linux.

Preset Date Prompts

Each GI2 report also includes one preset date prompt (from the list in the figure *Preset Date Prompts*) that enables you to specify one date range—relative to the current date—in which to run reports.

The preset dates that are available to you can vary from report to report. With the exception of the **Today** and the **...to Date** preset dates, all preset dates exclude information that has been gathered about the current day. GI2 reports use the value that is specified in the preset date field over any other dates that are specified in the report's **Start Date**, **End Date**, and/or **Report Date** fields. For a report to recognize these other fields, you must set the preset date to **None**.

Free-Text Prompts	User prompts in some reports require that you type in values instead of selecting from a list.

	[+] More Information The Interaction Handling Attempt Report, for example, contains the following free-text prompts: • **Customer ID** • **From** • **To** • **Interaction ID** The values that you supply in these fields must match exactly the values that are to be retrieved from your data source. Wild-card characters and operators (such as ‹ and ›) are not recognized. To specify more than one value in a field, separate each value with a semicolon (;)—for example: `4155551234;5066746767;6504662829` To have Web Intelligence retrieve all values for these fields (satisfying the report's other conditions): • Type `0` in number-based free-text fields, such as **Interaction ID**. • Type ALL in character-based free-text fields, such as **Customer ID**. Running a report with these fields cleared will cause Web Intelligence to display a dialog box that prompts you to specify the missing values.
Prompt Interrelationships	With the exception of the Interaction Flow report, there are no interrelationships between the user prompts in GI2 reports, by default. **[+] More Information** (You can add interrelationships by customizing the reports to use cascading prompts, as described in Using Cascading Prompts.) From the perspective of BI LaunchPad or Web Intelligence, the selections that you make at one prompt are independent of the selections that you make at another. Although relationships between objects might be well defined within your data source, selecting a particular queue group from the Queue Group prompt, for instance, does not restrict the queues that are available at the Queue prompt to only those that belong to the selected queue group. Therefore, take care to make meaningful selections at all prompts. For the Interaction Flow report, the selections that you make at the **Target Agent** and **Target Queue** prompts are interdependent. Select **ALL** targeted queues, for instance, to return all interactions (meeting the report's other qualifications) that pass through any queue that is associated with the indicated agent at the **Target Agent** prompt, and vice versa. In addition, although the values you select at other prompts in this report are independent—bearing no relationship to each another—the report will retrieve all legs of an interaction in which the criteria that you specify indicate to retrieve fewer than the entire life of the interaction. Many of the reports have more than one date prompt, including **Pre-set Date Filter**, **Pre-set Day Filter**, **Start Date**, and **End Date** prompts. Know that the selection that is specified in the **Pre-set Date Filter** or **Pre-set Day Filter** trumps any other date specification that you make. Also, if your preset date selection is set to a date for which there is no data in your data

	mart, your report will return no results, regardless of any range of dates that you might have specified in the **Start Date** and **End Date** user prompts. For the report to recognize the values that you specify for **Start Date** and **End Date**, you must explicitly set the **Pre-set Date Filter** (or **Pre-set Day Filter**) prompt to **None**. Web Intelligence does not validate for meaningless input at the user prompts, such as end dates that fall before start dates.

Drilling Up and Drilling Down

The ability to drill up and drill down within a report to view results from a wider or narrower perspective is available through Web Intelligence. This feature is controlled by the ordering of dimensions in the hierarchies that are defined using the Information Design Tool.

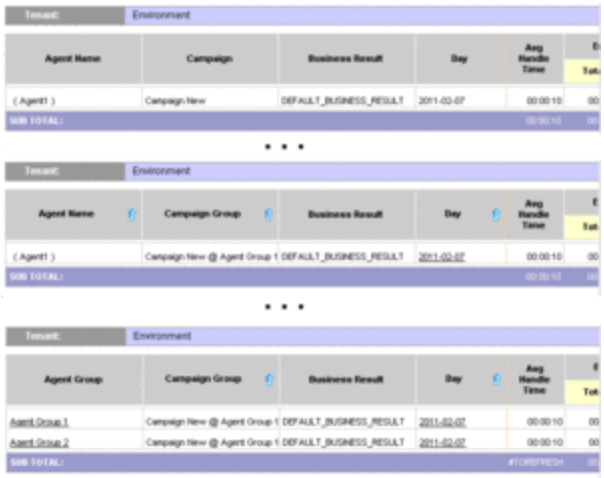
[+] Show Table: Hierarchies Inherent within GI2_Universe

Time Interval hierarchy:	**Year > Quarter > Month > Day > Hour > 30 minutes**
Service Type hierarchy:	**Service Type > Service Subtype**
Agent hierarchy:	**Agent Group > Agent Name**
Campaign Group hierarchy:	**Campaign Group > Campaign**
Queue hierarchy:	**Queue Group > Queue**
Interaction hierarchy:	**Interaction Type > Interaction Subtype**

> **Tip**
> The hierarchies in the Information Design Tool differ from those that are used for aggregation of Info Mart data, which are described in the *Reporting and Analytics Aggregates User's Guide*.

Drilling along the Campaign Group Hierarchy

Drill operations along the Campaign Group hierarchy can result in the display of duplicate rows in a report when agents belong to more than one agent group.



Drilling Anomaly When Agents Belong to more than one Group

When agent-campaign results are displayed, drilling down from campaign to campaign group and then drilling up from agent to agent group results in duplicate rows. The figure *Drilling Anomaly When Agents Belong to more than one Group* demonstrates this anomaly in three cutaway illustrations of the Agent Outbound Campaign Report.

Drill-Up Operations

Drill-up operations display results based on the criteria that you originally specify. For example, drilling up from a daily report instance that spans two days provides results for only the two days selected for the new report instance, which, according to the Time Interval hierarchy, is aggregated by month. Further drill-up from the one-month report instance provides partial quarter results—containing data only for those originally selected two days. The same is true if you drill-up to a year report. Reverse drilling also respects the original selection criteria.

Drill-Down Operations

You cannot drill down from aggregated results to the interaction- or interaction-segment level; however, the relevant data is available in the Info Mart database (if it has not been purged), and you can create reports to provide this level of detail. (The Interaction Detail reports provide interaction- and interaction-segment levels of detail without drilling from aggregated information.) The previously referenced Interaction hierarchy is based on an interaction's type and subtype (for example, `Inbound/InboundNew`), not on the legs of the interaction.

Refreshing Data

You should refresh report data whenever the aggregation process completes and prior to first opening the report. Indeed, for that report to display any results, you must refresh the data upon opening a report that has never been previously opened at all. The process of opening a report, in and of itself, does not refresh the report's data.

Refreshing the report's data is important if the report was previously saved with its results; if the data is not refreshed, Web Intelligence uses instead the data that is saved within the report's cube, which might contain outdated data. (Refer to BusinessObjects documentation for information about the content of report cubes.) You must also refresh a report upon drill when the report contains smart measures—measures whose aggregation function is `Database delegated`. By design, instead of the cell's value, Web Intelligence, displays #T0REFRESH as a place-holder until the report is refreshed.

To refresh a report's data, click **Refresh Data**. The Web Intelligence status bar reflects the last date and time when the report was refreshed. If a report has never been refreshed, the Status bar displays the following message:
`Refresh Date: Data is not refreshed.`

The aggregation process runs continuously throughout the day within the time frame that is determined by configuration options in the **[schedule]** section of the Genesys Info Mart **Application** object. Refer to the *Genesys Interactive Insights Deployment Guide* for information about these options, and to determine the schedule setting in your environment.

> **Tip**
>
> When aggregation values are not available at the time that a query is run, delegated measures can return #T0REFRESH values in some reports. To prevent this, you can enable an automatic refresh option either on the server, or on a per-document basis. For more information, see the Genesys Interactive Insights Release Note.

For additional information about Web Intelligence, refer to the BO/BI documentation.

Understanding the Universe

This section provides general information about the GI2 Universe, and helps you understand how to use the Information Design Tool.
The universe for GI2 consists of the following elements:

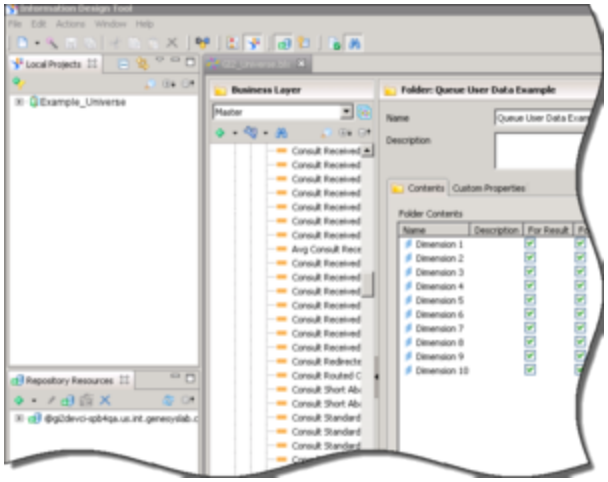
- nearly 600 measures
- 60 conditions (otherwise known as filters)
- several queue, agent, and time-related dimensions
- hierarchies
- lists of values
- hidden elements

You organize and manage these elements using the Information Design Tool (see the figure *The Information Design Tool*). Note, however, that if your universe uses the BOE 3.1 UNV format, you must manage it using the Universe Design Tool.

[+] More Information

Most of the elements used by the GI2 reports are defined in the universe. Other elements—such as the labels, the page footer, column headers, and a portion of report headers—are defined in the report structure using Web Intelligence. Note that there are many universe elements that are not used in any report. The *Genesys Interactive Insights Universe Guide* describes each element and the reports that rely on them.

Universe restructuring should be performed only by users who possess a profound understanding of Info Mart tables and columns and commensurate knowledge of BI software. Genesys does not support modifications to universe elements beyond those customizations described in Customizing the GI2 Universe and Reports. Because universe elements serve as the semantic layer for all users, Genesys recommends that you do not allow your general user population to modify universe elements. For information about controlling the rights of GI2 (BO) users, see the BO/BI Documentation.



The Information Design Tool

The GI2 Universe in the Information Design Tool

The GI2 Universe in the Information Design Tool

The elements within the GI2 universe constitute the business-friendly semantic layer of Genesys Info Mart.

[+] More Information

This universe contains:

- Predefined SQL-based objects that map to SQL structures (tables, columns, database functions) in the Info Mart database.
- A schema of the tables and joins that are used in the Info Mart.

The Information Design Tool is the BusinessObjects tool that was used to define this layer and the tool that you can use (if your account has the appropriate rights) to:

- Modify the objects to affect which results are retrieved by the GI2 reports.
- Create new universe objects (or universes) for use in Web Intelligence reports.
- See the *extended* definitions of objects that belong to the GI2 universe. (*Basic* descriptions of measures are visible to all users in the BI LaunchPad and Web Intelligence interfaces.)

- Specify connection parameters to one or more database middleware.

Through Web Intelligence, report users connect seamlessly to the GI2 universe and run queries against their data mart. Report users can perform data analysis and create new reports, choosing objects from the GI2 universe, without ever seeing or having to understand the complex queries or data structures of their underlying data mart.

Supported Alternate Definitions of the % Accepted Measure

For instructions on how to use this component, refer to the *Information Design Tool User Guide* available from SAP. Certain modifications to universe elements are supported; these are indicated in the description of a particular measure in the *Genesys Interactive Insights Universe Guide*. In addition, if alternate definitions exist, they are provided in the measure's properties on the **Source Information** tab, which is shown in the figure *Supported Alternate Definitions of the % Accepted Measure*. In the Information Design Tool, supported alternate definitions begin with the phrase "Developer use only". (You might have to scroll to read all of the alternate definitions.) Refer to Customizing Measure Definitions for the preferred procedure for changing these definitions.

For more information about the universe, see the following pages:

- Measure Names
- Classification of Measures
- Available Media Types
- Source of Aggregated Information
- Measure Maps
- Media-Neutral Measure Mapping

Measure Names

Use the information on this page to understand measure naming and reference metric IDs.

Reference Metric ID

Reference Metric ID of the Queue\Entered Measure

Many classes contain measures with names that match measures in other classes. However, the full name of a measure includes the class in which the measure belongs, which thereby makes it unique. Because the full name can be quite long, most measures have been assigned a reference metric ID which appears on the **Source Information** tab of the measure's properties. This ID is informational only and is not referenced by any of the reports. Should you need to contact Genesys Customer Care for assistance, this ID might be useful when you are describing a particular measure.

The figure *Reference Metric ID of the Queue\Entered Measure* shows the ID that is assigned to the Entered measure that belongs to the Q Customer class in GI2_Universe. By contrast, the reference ID of the like-named measure in the BA Customer class is T_ENTERED.

Naming Convention

Detail measures are sourced from the following Genesys Info Mart tables:

- SM_RES_STATE_FACT
- SM_RES_STATE_REASON_FACT
- MEDIATION_SEGMENT_FACT
- INTERACTION_RESOURCE_FACT

All interval measures are sourced from aggregation tables that contain "_I_" in the database object name—for example:

- AG2_I_AGENT_SUBHR
- AG2_I_STATE_RSN_SUBHR
- AG2_I_SESS_STATE_SUBHR

No special naming convention identifies a table as one that contains disposition measures, other than disposition measures are all sourced from AG2_* tables that do not to use "_I_" in the table name—for instance:

- AG2_AGENT_CAMPAIGN_HOUR
- AG2_AGENT_QUEUE_HOUR
- AG2_CAMPAIGN_HOUR
- AG2_QUEUE_HOUR
- AG2_QUEUE_ABN_HOUR
- AG2_QUEUE_ACC_AGENT_HOUR
- AG2_QUEUE_GRP_HOUR
- AG2_ID_HOUR
- AG2_AGENT_HOUR
- AG2_AGENT_GRP_HOUR

Each hierarchy contains seven tables and/or views, which have the following suffixes: _SUBHR, _HOUR, _DAY, _WEEK, _MONTH, _QRTR, and _YEAR.

Classification of Measures

All measures are classified as one of three types:

- Detail
- Interval
- Disposition

The *Genesys Interactive Insights Universe Guide* identifies each measure's classification. Measures can also be described as measuring either *customer* or *consult* interactions, and for consult interactions, as either *warm* or *simple* consultations. The following subsections describe each of these classifications.

Detail Measures

Detail measures provide the measure of one and only one activity, in contrast to interval and disposition measures, which aggregate information about a number of interactions that occur over a period of time. Some examples of detail measures include the following:

- Flow\Duration
- Session\Active Time
- State\Reason Time
- Ixn State\Duration
- Handling Attempt\Queue Time
- *Flow User Data Example\Detail 8*
- *Handling User Data Example\Detail 16*

(*Flow User Data Example\Detail 8* and *Handling User Data Example\Detail 16* are hidden universe measures that appear in italic font both in this document and in the Information Design Tool.) Note the distinction between these detail measures and BO's terminology for Detail objects—such as the User Name detail object of the Agent Name dimension. The two concepts are entirely different.

Interval Measures

Interval measures measure the activities occurring within the reporting interval as they occur, regardless of whether or not the interactions complete during the interval and whether or not the interval completes.

Counts and durations of such measures are clipped where interactions cross over multiple intervals and are attributed to each of the intervals in which the activities occur. In scenarios in which an

interaction is waiting in queue when the hour changes, the time that the interaction actually waited in queue during the first interval is attributed to the first interval. For example, if an interaction is waiting in queue from 3:58–4:03 PM, two minutes is attributed to the first interval (3:30–3:59 PM), and the remaining three minutes is attributed to the second interval (4:00–4:29 PM).

Furthermore, a count is attributed to each interval in which the interaction persists—that is, a count of 1 for the interaction that is waiting in queue during the first interval, and another count of 1 for the same interaction, waiting in queue, during the second interval.

Interval measures provide an interpretation of the activity that occurred during an interval. Some examples of interval measures include the following:

- Interaction State\Consult Received Time
- Interaction State\Hold
- Summarized State\Active Time
- Summarized State\Busy

The Ixn State class in the GI2 universe houses additional interval measures.

Disposition Measures

Disposition measures provide an interpretation of the count and duration of contact center activity, attributing their measure to the interval in which an interaction was received by the contact-center resource—whether the resource is a mediation DN or a handling resource, such as an agent. In scenarios in which an agent talks to a customer over day boundaries, all of the talk time is attributed to the first reporting interval and no time is attributed to the latter interval. For example, if an agent talks to a customer over day boundaries (11:45 PM –12:15 AM), all of the talk time (30 minutes) is attributed to the first reporting interval (Day 1) and no time is attributed to the latter interval(s) (Day 2).

Likewise, the count (of 1 interaction) gets attributed to the first interval; no count at all gets attributed to the second. As such, disposition measures are additive; their counts from one interval can be added to the counts of other intervals to obtain a total count of activity across all intervals, without double counting.

The following are examples of disposition measures:

- Activity\Avg Consult Received Time
- BA Customer\% Transfer Initiated Agent
- Q Customer\Hold
- Agent Contact\Preview

Special Note about Campaign Disposition Measures

For measures that are associated with outbound campaigns, counts and durations are attributed to the interval in which contact attempts were made. This differs from prior releases, in which such measures were attributed to the interval in which the outbound campaign group session was started.

Customer versus Consult Interactions

The GI2 universe contains objects that measure only the customer-related legs of interactions or the consultation-related legs of interactions—described as customer interaction and consult interaction, respectively, within GI2 documentation. These terms are defined in the “Dictionary of Data Elements” appendix of the *Genesys Interactive Insights Universe Guide*. This distinction enables you to create reports that summarize activities that better align with a contact center’s core business.

Some universe measures mix together these different parts of an interaction’s life cycle—most predominantly, those that are in the Q Customer & Consults class. Some measures co-mingle customer interactions with a subset of consult interactions, or warm consultations (discussed in the *Genesys Interactive Insights Universe Guide*.)

The following table summarizes whether measures in each universe class incorporate customer-related activity or consultation-related activity; and, if the latter, what type of consultation activity is measured therein. A few universe measures are related neither to customer nor consultation activity; this is indicated in the N/A column. (The Bound measures in the Service Objects class, for example, do not measure contact center activity; they are provided in an administrative capacity for the derivation of other measures.): <toggledisplay showtext="[+] Show Table: Customer vs. Consult Interactions in the Universe" hidetext="[-] Hide Table: Customer vs. Consult Interactions in the Universe">

Class\ Measure	Customer	Simple Consult	Warm Consult	Warm & Simple	N/A
Abandoned Waiting STI class*	*	*			
Accepted Agent STI class*	*				
Activity class: All Consult Warm measures			*		
Activity class: All other Consult measures		*			
Activity class: All Accepted, Offered, Responses measures	*		*		
Activity class: Handle	*			*	
Activity class: All other measures	*				
Agent Contact class: All Consult Warm			*		

Class\ Measure	Customer	Simple Consult	Warm Consult	Warm & Simple	N/A
measures					
Agent Contact class: All other Consult measures		*			
Agent Contact class: All other measures	*				
BA Consults class: All Consult Warm measures			*		
BA Consults class: All other Consult measures		*			
BA Customer class*: All Accepted measures	*		*		
BA Customer class*: All other measures	*				
Queue\Q Consults class: All Consult Warm measures			*		
Queue\Q Consults class: All other Consult measures		*			
Contact Attempt class*	*				
Queue\Q Customer class: All Accepted measures (but not the Accept measures)	*		*		
Queue\Q Customer class: All Entered, Distribute(d),	*		*		

Class\ Measure	Customer	Simple Consult	Warm Consult	Warm & Simple	N/A
and Offered measures					
Queue\Q Customer class: All other measures	*				
Queue\Q Customer & Consults class*	*			*	
Flow class\ Duration	*			*	
Handling Attempt class: All Customer measures	*				
Handling Attempt class: All Conference measures	*				
Handling Attempt class: Revenue, Satisfaction	*			*	
Handling Attempt class: Queue Time, Response Time, Routing Point Time, and Total Duration measures	*			*	
Interaction State class	*			*	
Ixn State class*	*			*	
Service Objects class*					*
Session class*	*			*	
State class*	*			*	
State and Reason class*	*			*	
Summarized State class*	*			*	
Transfer class*	*				

Available Media Types

The *Genesys Interactive Insights Universe Guide* lists which media types can yield results different from zero for each measure in the universe. For example, the available media types for the Consult Standard Abandoned Waiting measure in the Q Consults class is described as "Voice, Open (Sync)", indicating that voice and all open synchronous media types are available.

The following table summarizes the applicable media types for groupings of measures across all of the classes in which they are found. “All Abandon measures”, for instance, applies to all of those that measure the abandonment of interactions, whether they be consultations that were abandoned, abandoned inviting and waiting measures, short-abandoned measures, standard abandons, or abandoned-within-a-service-time-interval measures including durations, counts, maximums, averages, and percentages thereof:

[+] Applicable Media Types Within the Universe

	Voice Media	Sync Media	All Media	N/A
All Abandon measures		X		
All Accepted/Not Accepted measures			X	
All Active Time measures			X	
All Bound measures and Is Current Data				X
All Busy measures			X	
All Clear measures			X	
All Conference measures			X	
All Consult measures			X	
All Dial measures	X			
All Distributed measures			X	
All Duration measures (not to be confused with all measures that measure duration)			X	
All Engage measures			X	
All Entered measures			X	
All Finish measures			X	

	Voice Media	Sync Media	All Media	N/A
All Handle measures			X	
All Hold measures	X			
All Invite measures			X	
All Offered measures			X	
All Outbound measures	X			
All Ready/Not Ready/Occupancy measures			X	
All Redirected measures			X	
All Rejected measures			X	
All Response, No Response, and Responded measures			X	
All Revenue and Satisfaction measures			X	
All Routed Other measures			X	
All Skill measures			X	
All Stuck measures			X	
All Transfer measures			X	
All Unknown measures			X	
All Warm measures	X			
All Wrap measures	X			

Where the listed applicable media types for a particular measure within the group differs from the norm, the differences are footnoted at the bottom of the table. For those measures that can be classified as belonging to more than one grouping (that is, represented by two or more rows in the table), the most restrictive media-type rule applies.

For example, the Consult Received Warm Wrap Time measure can be classified under:

- “All Consult measures”, which apply to all but Chat media.
- “All Warm measures”, which apply only to Voice media.
- “All Wrap measures”, which apply only to Voice media.

The last two media rules are the most restrictive of the three; therefore, they apply to the Consult Received Warm Wrap Time measure.

Source of Aggregated Information

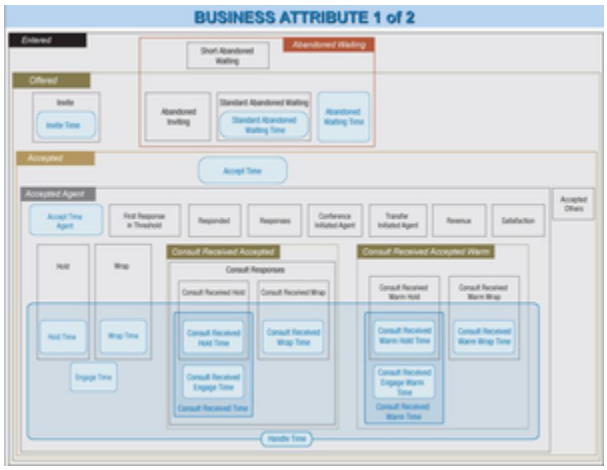
The tables that are created and populated by the aggregation engine are the immediate source of aggregated contact center data for GI2 reports. This engine is deployed seamlessly with GI2 installations, and is described in the RAA documentation. The reports are built on data from these tables,and enable you to view the performance of contact center resources as interactions pass through the resources or are handled by them, dimensioned by the following Info Mart dimension tables:

- CALLING_LIST
- CAMPAIGN
- DATE_TIME
- RESOURCE_
- RESOURCE_GROUP_COMBINATION
- GROUP_
- MEDIA_TYPE
- USER_DATA_CUST_DIM
- TENANT
- TIME_RANGE
- INTERACTION_TYPE
- INTERACTION_DESCRIPTOR
- RESOURCE_STATE
- RESOURCE_STATE_REASON

The “Interactive Insights Reports” chapter of the *Genesys Interactive Insights Universe Guide* lists the supporting tables for each report and some of the configuration options that control the Genesys Info Mart Server’s population of the tables. Also, the *Reporting and Analytics Aggregates User’s Guide* provides business views of each aggregate subject area. See the *Genesys Info Mart User’s Guide* to learn how data is populated to the Info Mart database.

Measure Maps

Several measure maps that illustrate the relationships among measures in the universe are available in the Documentation folder in BI LaunchPad. The same folder contains the *Genesys Interactive Insights Universe Guide*, this User's Guide, and a graphic illustrating the synchronicity of interactions. The measure maps that are available include the following:



The Business Attribute (1 of 2) Measure Map

- Agent Activity
- Agent Activity – Interaction State
- Agent Activity – Summarized State
- Business Attribute 1 of 2
- Business Attribute 2 of 2
- Agent Contact
- Contact Attempt
- Queue 1 of 2
- Queue 2 of 2

The figure *The Business Attribute (1 of 2) Measure Map* shows one of the two Business Attribute measure maps.

Media-Neutral Measure Mapping

GI2 reports internal and outbound interactions (in addition to inbound interactions) across chat and email media channels (in addition to the voice channel). In order for measures to apply to media other than voice media, the GI2 language uses media-neutral object names instead of replicating like measures and assigning them media-identifying names. You might be accustomed to viewing results that use voice-centric terminology, especially if your contact center monitors voice-only interactions. For example, while "Avg Engage Time" describes the average length of an active telephone conversation, the meaning of "Avg Talk Time" is more immediately understood.

- The following table facilitates this transition to media-neutral terminology by providing a mapping of industry-common terms to the names of GI2's media-neutral measures:
  [+] Mapping Media-Neutral Measures to Voice Terminology

Voice-Centric Term	Media-Neutral Term in GI2
Abandoned while Ringing	Abandoned Inviting
ACW (after-call work)	Wrap
Answer	Accept (for Chat) Response (for E-mail)
Answered in Threshold	Accepted in Threshold
ASA (Average Speed of Answer)	Average Accept Time
Dialing	Inviting or Invite
Login Time	Active Time
Ringing	Alerting or Alert Inviting or Invite (Both Ringing and Dialing constitute Inviting measures.)
Talk	Engage

- The following table illustrates how Genesys Info Mart prescribes some media-neutral states to interactions that differ slightly from how GI2 reflects interaction (ixn) states in the names of some measures:
  [+] Mapping of Genesys Info Mart Ixn States to GI2 Ixn States

Genesys Info Mart Classification	GI2 Classification
Initiate	This is reflected in the Dialing component of Inviting measures.
Alert	Alerting. This is reflected in the Alerting component of Inviting measures.
Connect	Engaged.
Hold	Hold.
Wrap	Wrap.
Unknown	Unknown.

This difference is most visible in data that is retrieved by the Agent Details Activity Report. For online media, for example, the

report reports the state of an interaction as connected (`Connect`), whereas you might otherwise expect to see it classified as Engaged. Read more about Genesys Info Mart's classification of interaction states in the relevant reference manual (available in the Genesys Info Mart documentation set); they are described under the INTERACTION_RESOURCE_STATE table.

Customizing the GI2 Universe and Reports

This section provides general guidelines for how to customize the GI2 universe and reports to achieve additional functionality. Emphasis is placed on customizing a copy of the reports and/or making a copy of the universe.

BI software does not maintain older versions of reports, and once you save changes to a report and export universe elements to the repository, you cannot restore the previous version.

After you have customized definitions in the universe, remember that you must save the universe and export it back to the BI repository so that your changes are made available to report users, using the procedure described in the "Linking the Universe to Your Data Mart > Publishing the Universe Back to the Repository" section of the *Genesys Interactive Insights Deployment Guide*.

> **Warning**
> Carefully design and implement all Universe customizations, and test them fully in your own environment before placing them into production. Genesys does not support the implementation of the procedures in this chapter other than where explicitly recommended. Genesys Quality Assurance has not tested these procedures, but believes that, if you use them as general guidelines, they will enhance your GI2 experience.

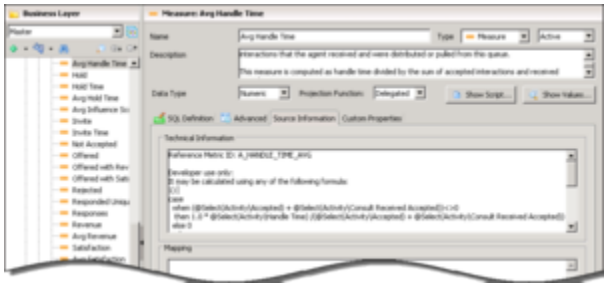
For additional information, see the following sections:

- Customizing Measure Definitions
- Distinguishing Same-Named Queues
- Creating Week-Level Reports
- Using 15-Minute Aggregation
- Removing Fields from Reports
- Using Attached Data
- Changing the Forecast
- Using Cascading Prompts
- Reporting Outside the GMT Time Zone
- Setting the Scope of Analysis
- Troubleshooting Incompatibility

Customizing Measure Definitions

Genesys supports limited customization of the following measures in GI2_Universe:

Activity Class Avg Handle Time Handle Time	**Queue Class** % Accepted % Accepted 80 Avg Handle Time Handle Time
BA Customer Class % First Response Time Service Level	**Summarized State Class** % Occupancy



Alternate Definition of the Activity\Avg Handle Time Measure

The supported alternate definitions for each measure are provided in the measure **Source Information** properties in the Information Design Tool, as shown in the figure *Alternate Definition of the Activity\Avg Handle Time Measure*. Alternate definitions are not provided within the documentation.

Composite measures are based on the definitions of their supporting measures, which have definitions that might also be customizable. So, if you customize one definition, be sure to consider customizing the supported definitions for the entire family of measures that is affected by your change. Also, keep in mind that some of the measures are used by more than one report; the Activity\Avg Handle Time measure, for instance, is used by the following seven reports:

- Agent Conduct Report
- Agent Group Business Result Report
- Agent Group Customer Segment Report
- Agent Group Interaction Handling Report
- Agent Group Service Type Report
- Agent Queue Report
- Agent Utilization Report

Alternate Field, Showing Whether Customization Is Supported

Changing a measure definition in the Information Design Tool affects all of the reports in which the measure is used. Refer to the description of each measure in the *Genesys Interactive Insights Universe Guide* for a listing of GI2 reports that employ the measure.

To determine if customization for a particular measure is supported, look for the measure in the *Genesys Interactive Insights Universe Guide*; in the Universe Guide, the value in the **Alternate?** field indicates whether customization is supported (as shown in the figure *Alternate Field, Showing Whether Customization Is Supported* which shows part of the Universe Guide entry for the Activity\ Avg Handle Time measure).

How To Change a Measure Definition

1. In the Information Design Tool, click a measure to display the measure properties.
2. Verify that the correct **Projection Function** is assigned. (The Information Design Tool might reset this value to `Sum` when you make certain changes to measures.)
3. On the **Source Information** tab, copy the appropriate alternate definition from the **Technical Information** field. There might be more than one definition from which you can choose.
4. On the **SQL Definition** tab, replace the definition that is listed in the **Select** field with the alternate definition that you copied.
5. In the **Description** field, edit the measure description to match the definition that you chose.
6. Save and close the universe.
7. Export the universe back to the repository so that the changes that you make are available to all users.

The Report Description Tab in Web Intelligence

To ensure that report users see accurate descriptions, you must also update measure descriptions, as appropriate, in the reports in which the customized measures are used. The reports do not inherit descriptions from the Information Design Tool; you must update them manually. You can find the descriptions on the **Descriptions** tab of each report in Web Intelligence, as shown in the figure *The Report Description Tab in Web Intelligence*.

You can also create new measures (based on the definitions of existing universe measures) by using the **Formula Toolbar** (available when you Modify a report in Web Intelligence). New measures you create using this method are available only within the Web Intelligence document in which you create them. In general, Genesys does not recommend this approach to define new measures. Ensure that only qualified personnel use the custom formula capability.

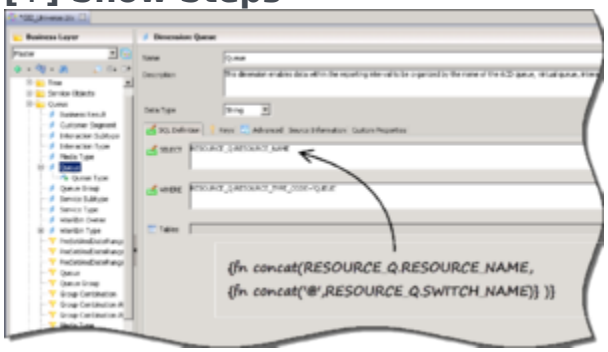
Distinguishing Same-Named Queues

This page describes steps you can take to reset dimensions to distinguish queues with matching names. GI2 expects contact center objects to be uniquely named, and while this is usually true in single-switch environments, it might not be true in more complex environments that employ more than one switch. In such scenarios, the names of queue objects could be identical from one switch to the next.

Because the contact center objects in your enterprise might not have unique names, the queue-based GI2 reports consider only a queue's name when retrieving data about queue objects. The reports do not filter data based on the switch from which the data originated, so queue-based GI2 reports display the results for all queue objects sharing the same name instead of only the results from the intended queue.

To reset the definition of queue dimensions to recognize the queue's switch:

[+] Show Steps



Distinguishing Queues

1. Open the GI2 Universe.
2. In the definitions of all Queue dimensions, wherever they occur, replace the **SELECT** statement with the following:
   `{fn concat(RESOURCE_Q.RESOURCE_NAME, {fn concat('@',RESOURCE_Q.SWITCH_NAME)} )}`
3. Make similar modifications in other queue-type dimensions, such as Last Queue, Source Last Queue, and Target Last Queue.
4. Save the universe and test the results.
5. Export the universe back to the repository.

   Queue-based reports now display the name of the queue's switch along with the name of the queue object instead of displaying only the queue's name. However, in some cases the `queue@switch` values might be too long to fit within the report headers, labels, and table cells where they might occur. The Interaction Flow Report, for instance, populates the names of queue objects in tables cells under the Source and Target columns of the report. You can adjust the layout of this and other reports for better presentation.

Creating Week-Level Reports

GI2 includes no weekly reports, although the Genesys Info Mart server regularly aggregates and populates week-level data in the AG2_*_WEEK tables in the Info Mart database. You can use these tables as the source for week-level GI2 reports that you can create, either:

- Drillable week-level reports
- Week-level-only reports

If you want week-level-only reports without the ability to drill-up or drill-down functionality to the other aggregation levels, follow the steps in Week-Level-Only Reports to replace the time dimension that is used in the reports with the **Week** dimension.

Drillable Week-Level-Reports

For drillable week-level reports, you must do the following:

[+] Show Steps

1. Redefine the **Day** dimension to be a week-compatible day or create a new day-type dimension altogether (see Creating a Week-Compatible Day Dimension).
2. Modify the universe **Time** hierarchy to define one drill path along the desired dimensions (which includes the **Week** dimension). Refer to BO/BI documentation for details about editing hierarchies.
3. Replace the time dimension used in the applicable reports with the **Week** dimension (to create week-level reports). If, however, you want report users to be able to drill up for week-level results, this step is not necessary.

BI software enables you to create hierarchies to facilitate multidimensional analysis in the reports. You can create and maintain two or more time-related hierarchies within one universe, for example:

- 30 minutes > Hour > Day > Week and
- 30 minutes > Hour > Day > Month > Quarter > Year

However, if you create such a sophisticated system, you may experience complications with respect to performing drill operations in the reports. If hierarchies share the same dimensions, as previously demonstrated, drill operations become less convenient. No further modification to the reports is required to enable users to drill up for week-level results. However, you must inform your users of a week's boundaries, as they are defined within your data mart. This is discussed in Understanding Week Boundaries.

Week-Level-Only Reports

The **Week** dimension is omitted from the **Time** hierarchy in GI2 reports, which disables drilling up or down for week-level results. You can, however, create new copies of some of the reports and customize them to summarize contact center activity in week-only time buckets. For Week-level-only reports, you cannot drill along the **Time** hierarchy. You can enable week-level reporting in all reports except those reports in the **Details** folder.

To create Week-Level-Only Reporting:

Customize a copy of a GI2 report as follows:

[+] Show Steps

1. In BI LaunchPad, select the report to copy and customize, then click **Organize** > **Copy**, and then **Organize** > **Paste** to create a copy of the report.
2. Select the newly-created copy of the report, and click **More Actions** > **Modify**.
3. Edit the report to add the Week dimension to both the report's query and the report's layout.
4. (Optional) Edit the prompts to display a selection of dates along week boundaries. This is a complex task. Alternatively, you can inform your report users of the week boundaries as defined within your data mart. Refer to Understanding Week Boundaries for information on this topic.
5. Remove any other time dimension from both the report query and its layout.
6. Save the report.
7. Test your changes by running the report and verifying its results.

Creating a Week-Compatible Day Dimension

You must create a week-compatible day dimension if you intend to enable your report users to drill up from or drill down to day-level results in the reports that you customize. In the default configuration, the **Day** dimension in the **Time** class is a month-compatible day, sourced from the LABEL_YYYY_MM_DD column of the DATE_TIME table. This field references the particular day with respect to the month and year in which the day falls; days are consequently numbered as 01 through 31. To reference a particular day within a given week, source the **Day** dimension from the CAL_DAY_NUM_IN_WEEK field of this table, which stores the day number of a week—starting with 1 for the first day of the week and ending with 7 for the last day of the week.

To this end, within the Information Design Tool, you can do either of the following:

- Redefine the existing Day dimension. If you choose this method, the new definition affects the results of all other reports that provide day- and month-level results.
- Create and define a new dimension, such as Day in Week. If you choose this, you must substitute the new dimension, in both the query panel and report layout, in all reports for which you want to generate week-level results.

When you have finished customizing the universe, you must export your work to the BI repository so that this redefined or new dimension is made available to report users. This procedure is described in the "Linking the Universe to Your Data Mart > Publishing the Universe Back to the Repository" section of the *Genesys Interactive Insights Deployment Guide*.

Understanding Week Boundaries

The boundaries of 15-minute, hour, day, month, quarter, and year aggregation levels are very well defined within any given Gregorian calendar year because each denomination represents an integral fraction of that year; there are four whole quarters in a year, 12 full months, 365 (or 366) complete days, and one year in a year. No single hour splits in such a way that part of the hour resides in one year and the other part in the next, as is precisely the case for the beginning and/or ending weeks of any given year.

Over and above this dual membership in each year, your system locale settings specify your preferred date-related conventions, which include the definition of a week and on which day the week begins. Different cultures observe different date conventions. As such, these variations in what constitutes a week merit special discussion.

Week Boundaries, as Defined in Genesys Info Mart

The beginning of whole weeks in the Info Mart database is determined by the settings of the **[date-time]/first-day-of-week** Genesys Info Mart configuration option in the **[date-time]** section. By default, each week begins on Sunday and ends on Saturday. If report users specify any other week range in the **User Prompt Input** area of the week reports that you create in Web Intelligence, such as Monday to Sunday (when the default settings are used), the generated results display data for two partial weeks instead of one seven-day period.

[+] More Information

In the Monday–Sunday example, this breaks down to:

- Six days, Monday–Saturday, for the first partial week and
- One day, Sunday–Sunday, for the second partial week.

In addition, the first and last weeks of the year could be partial weeks, depending on how the **simple-week-numbering** Genesys Info Mart option is configured. A `true` value for this option mandates that Week 1 begin with January 1 and that the last week end with December 31. Simple week numbering is not the default.

There are other configuration options in the **[date-time]** section that affect the content of a week, including the following:

- min-days-in-first-week
- date-time-min-days-ahead
- date-time-max-days-ahead

Refer to the *Reporting and Analytics Aggregates Deployment Guide* for more information about these and other week-related options. (The Genesys Info Mart 8.x release also supports ISO-8601–compliant weeks which this section does not address.) Refer also to the discussion of the DATE_TIME table in the relevant Genesys Info Mart reference manual for more information about the definition of a week that is used by Genesys Info Mart.

Using 15-Minute Aggregation

All of the included GI2 reports (except for the reports in the **Details** folder) enable drill-down of results to a 30-minute level, by default, to enable you to review performance of your contact center for each half-hour of a day. The **sub-hour-interval** Genesys Info Mart configuration option (in the **[agg]** section) allows you to change this value. The Genesys Info Mart Server accepts a value of `15min` for this option, which enables 15-minute aggregations, and therefore reporting at a 15-minute level. To enable 15-minute reporting in the GI2 reports, change **sub-hour-interval** to 15, rerun the aggregation job, and customize the universe and reports to use the **15 minutes** dimension.

Note that the *Reporting and Analytics Aggregates Deployment Guide* recommends that you set the aggregation level during the initial installation of Genesys Info Mart, and not change it thereafter.

Note that either 15 or 30 minutes is allowed—but not both simultaneously. Therefore, drill-up operations from the 15-minute level in the GI2 reports that you customize take you directly to hour-level results, and not to 30-minute results.

To Enable 15-minute Aggregation

Except where indicated, the following activities can be performed only on Microsoft Windows platforms:

[+] Show Steps

1. In the Genesys Configuration Manager, open the Genesys Info Mart Application object that controls Info Mart population.
2. Stop the aggregation process:
   a. In the Genesys Info Mart **Application** object, in the **[schedule]** section, change the **run-aggregates** configuration option to `false`.
   b. If **Job_AggregateGIM** is running, stop it using the Genesys Info Mart Manager.
   c. Wait until the current aggregation cycle completes. The following message appears in the Genesys Info Mart log when it is done:
   `Stopped processing pending aggregation`
3. As an optional but recommended step, disable the scheduler by setting the **run-scheduler** (in the **[schedule]** section) configuration option to `false`, and use the Genesys Info Mart Manager to ensure that no jobs are running.

> **Important**
> The following steps are database-intensive, so it is best to reduce the load and execute them when contact center activity is at a minimum.

4. In the **[agg]** section, set the **sub-hour-interval** option to `15min` and save your changes.

> **Tip**
> Set the value of this option before the Genesys Info Mart Server runs for the first time and avoid changing it thereafter.

5. Reaggregate data following the instructions provided in the *Reporting and Analytics Aggregates User's Guide* (see Reaggregating Data over a Certain Time Range). You can perform this step on any supported platform. This step submits a request to delete and replace previously aggregated rows for the specified time period. When the next aggregation cycle starts and completes, the AG2_*_SUBHR tables contains data that is aggregated in 15-minute chunks.
6. If you disabled the scheduler in Step 3, re-enable it by setting **run-scheduler** to `true`.
7. Restart aggregation:
   a. Reset **run-aggregates** to `true`.
   b. Open the Genesys Info Mart Manager, and start **Job_AggregateGIM**.
   Perform this operation during the time of day when the reaggregation process does not interfere with ETL processing of new data or with end-user querying of existing Genesys Info Mart data.
8. Close the Genesys Configuration Manager, and open the the Information Design Tool application.
9. Under the **Time** class, rename the **30 minutes** dimension appropriately—for example, to **15 minutes**. Genesys recommends that you rename the existing dimension instead of creating a new one.
10. In the dimension's properties, set the **SELECT** statement to either of the following and apply your changes:
    - `DATE_TIME.LABEL_YYYY_MM_DD_HH24_15INT`

      OR

    - `LABEL_YYYY_MM_DD_HH_15INT`

    If you choose the latter, you will not be able to distinguish between 12 AM and 12 PM in your week reports.
11. Save the universe, and export the universe back to the repository.

Your GI2 reports now display subhour results at the 15-minute level when you drill down from hour results.

Removing Fields from Reports

As you customize the GI2 reports to meet your business's needs, there are some specific rules that you should observe with regard to removing undesired dimensions and/or measures from the reports. If you do not follow these recommendations, then under some circumstances, you might encounter database and/or other errors when you run reports.

Remove Objects from the Presentation Layer

If you remove a measure or dimension from the report's query, you must also remove it from the presentation layer. (The converse is not necessarily true, however. If you remove a measure from the presentation layer, you need not remove it from the report's query—though doing so can improve report performance.)

Remove Combination Objects

If the measure or dimension that you plan to remove from a report is the last one that belongs to a particular class, then in addition to removing that dimension or measure, you must also remove any corresponding **Combination** condition that pertains only to that dimension or measure.

The **Combination** conditions (such as **Group Combination Sess** and **Group Combination**) are distinguished from the non-**Combination** conditions in that they provide filtering only against a named series of aggregate tables. For example, whereas the **Queue Group** condition (a non-**Combination** condition) can be used to filter mediation DN groups from any Info Mart table that stores queue-related data, the **Group Combination ABN** condition can be used only to filter queue group–related data from the AG2_QUEUE_ABN_* series of Info Mart tables.

If the **Combination** condition remains among a report's query filters when no measures remain to gather data from the aggregate table, the query returns a database error when it is executed against the Info Mart database. You are likely to encounter this situation when you are removing measures from reports that query more than one series of aggregate tables.

Using Attached Data

This section provides information to help you customize the GI2 universe and reports to provide results that are dimensioned by your own business's user data.

Configuring Social Media User Data

The Social Engagement Report relies on how user data is configured in your environment, and on the strategies you use to route interactions. This section describes how to set up your environment to report on social media user data. The Social Engagement Report and the universe objects that directly support it are described in the *Genesys Interactive Insights Universe Guide*. Perform the following steps to configure social media user data:

[+] Show Steps

1. Review the routing strategies in your environment with respect to user data and update them as appropriate. Note that the default Genesys-provided routing strategies do not set the **Sent** reason when responses are sent. You must design your strategy to change the **StopProcessing** reason from `Normal` to `Sent` when this event occurs. If you do not do so, the GI2 third-party media reports generate results for transfers only—not for responses.
2. In the `ccon_adata_spec_GIM_example.xml` file that is provided within the Genesys Info Mart installation package, uncomment the appropriate rows to enable Interaction Concentrator (ICON) to record data for the following user data keys:
   - Classify_Actionability_CtgRelevancy
   - Classify_Sentiment_CtgRelevancy
   - KloutScore
   - CtgName
   - Screen_Sentiment_CtgName
   - Screen_Actionability_CtgName
   - Classify_Actionability_CtgName
   - Classify_Sentiment_CtgName
   - desktop_influence

   Place this file in ICON's root directory. Refer to Steps 1 and 2 of Enabling Reporting on User Data in the *Genesys Info Mart Deployment Guide* for detailed instructions.
3. Run `make_gim_UDE_template_<rdbms>.sql` against the Info Mart database to create the database objects for social media detail reporting. This SQL script is deployed in the `\script` subfolder as part of a GI2 installation. Refer to the Application Files chapter of the *Reporting and Analytics Aggregates Deployment Guide* for more information.
4. Run aggregation in autonomous mode and specify the **setFeature** runtime parameter as follows:
   `-setFeature=eServicesSM`

This parameter enables RAA to aggregate social media data, including mapping GEN_ES_KEY (in the IRF_USER_DATA_KEYS table) to USER_DATA_KEY1 in the H_ID, H_AGENT, and H_AGENT_QUEUE hierarchies. Note that USER_DATA_KEY1 can be mapped only once per hierarchy. If you previously mapped this field to CUSTOM_KEY_10 (as instructed in step 2 of Example - Product Line and Product) for the **Product Line** example, then consider mapping USER_DATA_KEY2 to CUSTOM_KEY_10 instead. Refer to the *Reporting and Analytics Aggregates User's Guide* to learn how to run aggregation in this autonomous mode.

Your environment is ready to process social media user data for each interaction, and RAA is equipped to aggregate this data. You can now use the Agent Social Engagement and Social Engagement reports to retrieve meaningful data.

The following section describes additional hidden universe objects, some of which indirectly support social media user data reporting.

Hidden User Data Objects in GI2_Universe

Universe objects that report on user data, and which are visible to report designers and viewers, are described in the *Genesys Interactive Insights Universe Guide*. Some objects, however, are hidden in the universe.

The table following table lists those hidden objects that are related to user data. You must properly set up your environment and unhide these objects before you can use them to create reports.

[+] Predefined, Hidden User Data Objects

Class and Member		User Data Table and Field	Char or Numeric
Agent\Activity			
M	Actionability	AG2_AGENT_*.ACTIONABILITY AG2_AGENT_GRP_*.ACTIONABILITY AG2_AGENT_QUEUE_*.ACTIONABILITY	Numeric
M	Influence Score	AG2_AGENT_*.INFLUENCE AG2_AGENT_GRP_*.INFLUENCE AG2_AGENT_QUEUE_*.INFLUENCE	Numeric
M	Offered with Actionability	AG2_AGENT_*.ACTIONABILITY_OFFERED AG2_AGENT_GRP_*.ACTIONABILITY_OFFERED AG2_AGENT_QUEUE_*.ACTIONABILITY_OFFERED	Numeric
M	Offered with Influence	AG2_AGENT_*.INFLUENCE_OFFERED	Numeric

Class and Member		User Data Table and Field	Char or Numeric
		AG2_AGENT_GRP_*.INFLUENCE_OFFERED AG2_AGENT_QUEUE_*.INFLUENCE_OFFERED	
M	Offered with Sentiment	AG2_AGENT_*.SENTIMENT_OFFERED AG2_AGENT_GRP_*.SENTIMENT_OFFERED AG2_AGENT_QUEUE_*.SENTIMENT_OFFERED	Numeric
M	SentimentScore	AG2_AGENT_*.SENTIMENT AG2_AGENT_GRP_*.SENTIMENT AG2_AGENT_QUEUE_*.SENTIMENT	Numeric
Agent\Activity\Activity User Data Example			
D	Dimension 1 Dimension 2 ... Dimension 5	USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_1 USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_2 USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_5	Char
D	Dimension 6 ... Dimension 10	USER_DATA_CUST_DIM_2.DIM_ATTRIBUTE_1 USER_DATA_CUST_DIM_2.DIM_ATTRIBUTE_5	Char
D	Screen Actionability Category	USER_DATA_GEN_ES.SCREEN_ACTIONABILITY_CTGNAME	Char
D	Screen Sentiment Category	USER_DATA_GEN_ES.SCREEN_SENTIMENT_CTGNAME	Char
Business Attribute\BA Customer			
M	Actionability Score	AG2_ID_*.ACTIONABILITY	Numeric
M	Entered with Actionability	AG2_ID_*.ACTIONABILITY_ENTERED	Numeric
M	Entered with Influence	AG2_ID_*.INFLUENCE_ENTERED	Numeric
M	Entered with Sentiment	AG2_ID_*.SENTIMENT_ENTERED	Numeric
M	Influence Score	AG2_ID_*.INFLUENCE	Numeric
M	Sentiment Factor	a factor of BA User Data Example\Classify Sentiment Category	Numeric
M	Sentiment Score	AG2_ID_*.SENTIMENT	Numeric
Business Attribute\BA User Data Example			
D	Dimension 1	USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_1	Char

Class and Member		User Data Table and Field	Char or Numeric
	Dimension 2 ... Dimension 5 Dimension 6 ... Dimension 10	USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_2 ... USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_5 USER_DATA_CUST_DIM_2.DIM_ATTRIBUTE_1 ... USER_DATA_CUST_DIM_2.DIM_ATTRIBUTE_5	
D	Screen Actionability Category	USER_DATA_GEN_ES.SCREEN_ACTIONABILITY_CTGNAME	Char
D	Screen Sentiment Category	USER_DATA_GEN_ES.SCREEN_SENTIMENT_CTGNAME	Char
Flow\Flow User Data Example			
M	Detail 1 Detail 2 ... Detail 14 Detail 15 Detail 16	IRF_USER_DATA_CUST_1.CUSTOM_DATA_1 IRF_USER_DATA_CUST_1.CUSTOM_DATA_2 ... IRF_USER_DATA_CUST_1.CUSTOM_DATA_14 IRF_USER_DATA_CUST_1.CUSTOM_DATA_15 IRF_USER_DATA_CUST_1.CUSTOM_DATA_16	Char Char Char Numeric Numeric
Handling Attempt\Handling User Data Example			
M	Detail 1 Detail 2 ... Detail 14 Detail 15 Detail 16	IRF_USER_DATA_CUST_1.CUSTOM_DATA_1 IRF_USER_DATA_CUST_1.CUSTOM_DATA_2 ... IRF_USER_DATA_CUST_1.CUSTOM_DATA_14 IRF_USER_DATA_CUST_1.CUSTOM_DATA_15 IRF_USER_DATA_CUST_1.CUSTOM_DATA_16	Char Char Char Numeric Numeric
Queue User Data Example			
D	Dimension 1 Dimension 2 ... Dimension 5	USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_1 USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_2 ... USER_DATA_CUST_DIM_1.DIM_ATTRIBUTE_5	Char
D	Dimension 6 ...	USER_DATA_CUST_DIM_2.DIM_ATTRIBUTE_1 ... USER_DATA_CUST_DIM_2.DIM_ATTRIBUTE_5	Char

Class and Member		User Data Table and Field	Char or Numeric
	Dimension 10		

Using the Predefined User Data Objects

If the user data that you configured within your environment exactly matches the sample tables that have been imported into GI2_universe—as well as their structure—all you have to do to use the predefined user data objects in custom reports is make visible the corresponding universe elements and save and export the universe to the BI repository. The objects will be revealed to report designers and can be used in reports just like any other universe object. If, however, your user data configuration employs different tables or table structure, perform the following steps within Web Intelligence to avail their use to report designers:

[+] Show Steps

1. If necessary, add the appropriate user data table(s) to GI2 universe schema. (See step 4 of Example - Product Line and Product.)
2. To use the predefined user data objects, show only those objects that you intend to use. User data classes, dimensions, and measures are marked as hidden within the universe so that they are not available to report designers before their time.
3. Alter user data object definitions, as needed:
   - For instance, fields in the IRF_USER_DATA_CUST_* tables could be numeric or character.
   - Perhaps your user data table is named differently from that which is used in the table above.
   - Perhaps you want the dimension or detail to reference a field different from that which is already defined for the object.
   - Perhaps you want to reference a list of values and have the dimension available as a user prompt on a custom report. (See step 5 of Example - Product Line and Product)
   - Perhaps you want to rename the predefined classes, dimensions, or measures.
4. Save the universe and export it to the BI repository.

Special Note about Numeric User Data

The Customer Perspective Report includes four measures that are based on numeric user data—**Revenue**, **Satisfaction**, **Avg Revenue**, and **Avg Satisfaction**. Running aggregation (to populate the data for this report) will yield errors if users are permitted to attach non-numeric data for these business attributes to interactions. You must ensure that the resources that set the values of Revenue and Satisfaction user data keys are configured or trained, as applicable, to record numerical values only. Refer to Check for Incorrect Data Type in the *Reporting and Analytics Aggregates User's Guide* to learn how to recover from this situation.

In addition to the information on this page, see:

- Example - Product Line and Product

Example - Product Line and Product

This customization example adds two dimensions to the Info Mart database that are derived from string-based attached data that might exist in your environment. These dimensions (Product Line and Product) form a Product hierarchy within the GI2 universe that you can drill. You can add these dimensions to the GI2 reports to provide results by product, by product line, or by any other dimension that you choose to substitute in this example.

The general steps for customization are the following:

1. Create and populate one or more user data tables in the Info Mart database.	**[+] Show Steps** ## Creating User Data Dimension Tables Within the Info Mart database, create and populate a custom user data dimension table—for example, USER_DATA_CUST_DIM_10. The USER_DATA_CUST_DIM_x tables store information about changes in data that accompany telephony events that are recorded by Interaction Concentrator (ICON) and further processed by Genesys Info Mart ETL runtime processes. Genesys Info Mart writes to these tables up to five descriptors of your business data. This example populates two fields: PRODUCT_LINE with product line data and PRODUCT_CODE with product code data. Refer to the relevant Genesys Info Mart Reference Manual (available on docs.genesys.com) for the complete data model of the USER_DATA_CUST_DIM_* tables.
2. Configure user data keys in the aggregation tables to point to your user data table(s) and populate the aggregation tables.	**[+] Show Steps** ## Mapping User Data Keys and Columns The information in this section describes how to configure user data keys and columns in the Info Mart database Mapping and Aggregation tables. ### User Data Mapping Tables in the Info Mart Deployment-specific attributes, in the form of user-defined attached data, are represented in the Genesys Info Mart model both by low-cardinality data (in string format) and high-cardinality data (in numeric, date/time, and string formats).

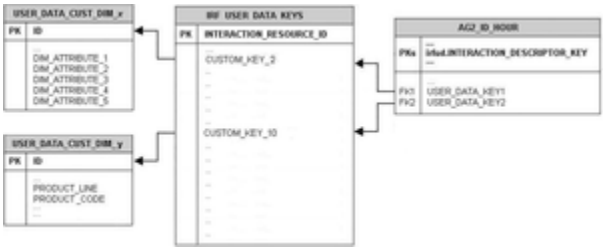
	Low-cardinality-string user data that is associated with an interaction resource—such as automobile models and product codes—is stored in the IRF_USER_DATA_KEYS and USER_DATA_CUST_DIM_x dimension tables. High-cardinality user data that is associated with an interaction resource—such as prices, number of widgets sold, and dates—is stored in the IRF_USER_DATA_GEN_1 and IRF_USER_DATA_CUST_x fact extension tables. In addition to these tables are the CTL_UD_TO_UDE_MAPPING and CTL_UDE_KEYS_TO_DIM_MAPPING tables that you must update:
	• CTL_UD_TO_UDE_MAPPING ties in user data keys that are defined in the underlying ICON application with user data columns that are defined in the previous tables.
	• CTL_UDE_KEYS_TO_DIM_MAPPING maps the user data dimension tables (USER_DATA_CUST_DIM_x) to IRF_USER_DATA_KEYS.
	Execute the sample script (Sample SQL Script for Creating and Mapping User Data) to set up user data mapping and recording in your environment. Also, refer to the:
	• *Interaction Concentrator Deployment Guide*.
	• `make_gim_UDE_template.sql` script, provided with Genesys Info Mart deployment. Note that RAA deploys similar scripts—`make_gim_UDE_template_<rdbms>.sql`. These scripts, however, hold entirely different content and are designed to configure user data for social media measures.
	• Mapping User Data Worksheet in the *Genesys Info Mart Deployment Guide*. This worksheet contains several columns that you can use to record information about the specific attached data key in use in your environment. Consider adding each custom attached data table in use within your environment to this worksheet.
	  • Refer to Special Note about Numeric User Data for information about configuring keys for Revenue and Satisfaction user data.
	  • The instructions in step 4 (below) for adding user data dimensions to the universe and customizing the GI2 reports apply to all of the fields in this worksheet.
	Predefined attached data also appears in other Info Mart database tables, including the following:
	• INTERACTION_DESCRIPTOR (fields CUSTOMER_SEGMENT, SERVICE_TYPE, SERVICE_SUBTYPE, BUSINESS_RESULT)
	• STRATEGY
	• REQUESTED_SKILL

- ROUTING_TARGET

Using the attached data from these tables falls outside the scope of this section. Several GI2 reports, however, are provided for all of the attached data-related fields in the INTERACTION_DESCRIPTOR table.

Configuring User Data Keys in the Aggregation Tables

The AG2_AGENT, AG2_AGENT_CAMPAIGN, AG2_AGENT_QUEUE, AG2_CAMPAIGN, and AG2_ID aggregate tables provide two key columns each that you can configure to join to two user data dimension tables of your choice. (Recall that the user data dimension tables store low cardinality, string data only.) The AG2_AGENT_GRP aggregate tables also provide two such columns, but their values are inherited from the AG2_AGENT tables. The USER_DATA_KEY fields are not available in the agent session, agent states, agent interval, and queue-only aggregate tables.



Mapping User Data Keys in the Aggregate Tables/Views to User Data Dimensions

These columns are:

- USER_DATA_KEY1—A key that points to one dimension table, such as USER_DATA_CUST_DIM_10, storing five dimensions
- USER_DATA_KEY2—A key that points to a second dimension table, storing another five dimensions

These two fields provide access to a total of 10 attached data dimensions—or two hierarchies—for each aggregate table and view, as shown in the figure to the right. You must configure the aggregation job to aggregate and populate these fields.

Our product-line example uses the business attribute aggregate set, AG2_ID_*, which consists of four tables and three views. We must configure the USER_DATA_KEY1 column in each to point to the custom user data dimension table, USER_DATA_CUST_DIM_10. For more information about how to map the USER_DATA_KEY2 field, see How Do I Configure User Data for Aggregation? in the *Reporting and Analytics Aggregates User's Guide*.

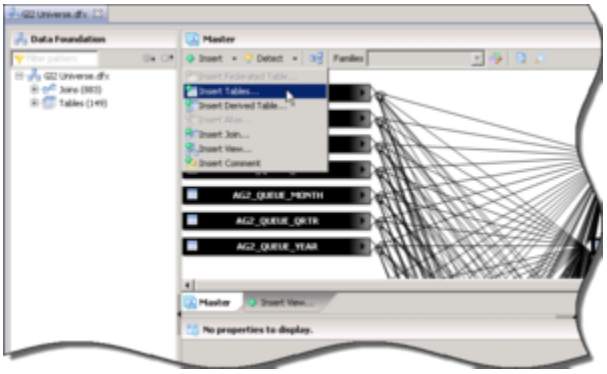
1. Create a text file having the following content on a single line:
   `(map-user-data-key (hierarchy: H_ID)`

	`(dimension: USER_DATA_KEY1) (expression: irfud.CUSTOM_KEY_10))` 2. Save the file in the Genesys Info Mart root directory with the name `user-data-map.ss`. The next time Genesys Info Mart Server restarts, the aggregation process detects this file, and aggregation begins. Refer to the *Reporting and Analytics Aggregates Reference Manual* for a data model of the aggregation tables in the Info Mart database, and the relevant Genesys Info Mart Reference Manual (available on docs.genesys.com for the structure of the USER_DATA_CUST_DIM_* tables.
3. Set Genesys Info Mart and Interaction Concentrator configuration options for collection of user data.	**[+] Show Steps** ## Setting Configuration Options Several options are available that you can use to configure what data is written to the Info Mart database, and how long data is retained. In particular, you can configure storage of user data as follows: • On Interaction Concentrator, by means of the attached data specification file (`adata_spec.xml`) and ICON configuration options, such as **EventData**, for event-based user data. • On Genesys Info Mart, by means of customizable SQL scripts to create mapping and storage tables in the Info Mart database. Some of these options apply specifically to user data. Interim releases of Genesys Info Mart and Interaction Concentrator might also introduce new configuration options that affect results. Review the following documents for a listing and description of these options: • *Genesys Info Mart Deployment Guide* • *Genesys Info Mart Release Notes* • *Interaction Concentrator Deployment Guide* • *Interaction Concentrator Release Notes*
4. Add the attached data tables to the universe structure.	**[+] Show Steps**

Adding Attached Data Tables to the Universe

After you have created and populated a user data table, you must add it to the universe and define joins between the user data table and those aggregate tables from which you plan to dimension data in the Interactive Insights reports. Note that you can use your RDBMS to define joins between tables or you can define these joins within the Information Design Tool. This section illustrates defining joins within the Information Design Tool.

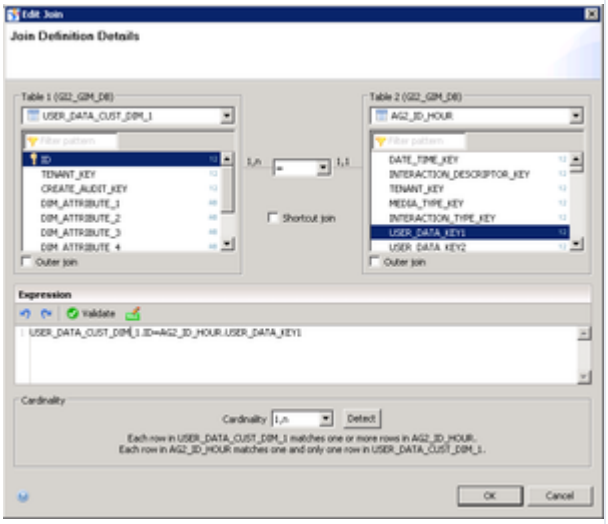
The GI2_universe schema includes custom user data tables: USER_DATA_CUST_DIM_1, USER_DATA_CUST_DIM_2, IRF_USER_DATA_CUST_1, and IRF_USER_DATA_CUST_2 with the appropriate joins and contexts already defined. If, however, you choose to include user data tables that are named or structured differently, you must add the tables to the universe schema yourself.



Inserting a table

Our product-line example relies on data that is stored in the USER_DATA_CUST_DIM_10 table, so we must perform the following steps:

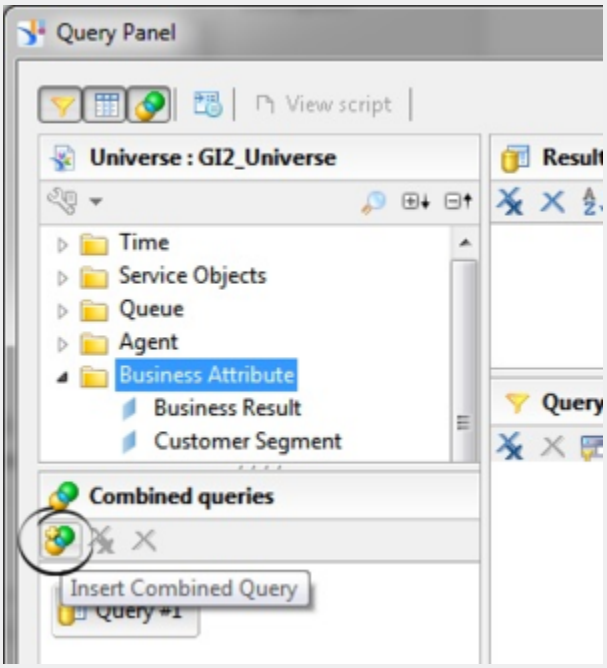
1. Open the GI2_Universe Data Foundation in the Information Design Tool.
2. From the menu bar, select **Insert Object** > **Insert Tables** to open the **Insert Tables** Browser and locate your attached data table.
3. Select your table—USER_DATA_CUST_DIM_10, using this example—and click **Finish**. A symbol for the table appears in the Structure panel.



The Edit Join Dialog Box

4. From the **Insert** menu, select **Insert Join** to display the **Edit Join** dialog box, shown in the figure *The Edit Join Dialog Box*. Here, we will add joins between the attached data table and each variation of an aggregate table:
   a. From the **Table 1** drop-down list, select the **USER_DATA_CUST_DIM_10** table, and select **ID** from the list.
   b. From the comparison drop-down list, select the equal sign (=).
   c. From the **Table 2** drop-down list, select the **AG2_ID_HOUR** table, and select **USER_DATA_KEY1** from the list.
   d. Set the cardinality for one (1) to many (N).
   e. Click **OK**.
5. Reopen the **Edit Join** dialog box and repeat steps a through e to establish joins between the attached data table and each of the remaining AG2_ID_* tables and views:
   - AG2_ID_DAY
   - AG2_ID_MONTH
   - AG2_ID_SUBHR
   - AG2_ID_WEEK
   - AG2_ID_QRTR
   - AG2_ID_YEAR

Next, we add these new joins to the contexts that already exist in the universe so that any join paths will automatically be

	resolved when report queries are run against the Info Mart database.
5. Add LOV, dimensions, and filters.	**[+] Show Steps** ## Adding Dimensions and Filters to the Universe With the user data tables added to the universe, joins established between them, and the aggregate tables and contexts defined, we can now add two new dimensions and filters to the universe. These objects are used in the report that we will create. ### Adding LOV Before we create the dimensions, we must add LOV that will be associated with the dimensions. Complete the following steps to add and define Product and Product Line LOV.  Insert Combined Query 1. In the Information Design Tool, in the Business Layer list, click **Parameters and Lists of Values**. 2. On the menu bar for List of Values, click **Insert Object -> List of Values based on business layer objects**.

The properties for the new LOV appears.

3. In the **Name** field, enter `lov_product_line`.
4. Click **Edit Query**.
   The **Query Panel** appears.
5. In the **Query Panel**, select the **Business Attribute\Product Line** dimension.
6. If the **Combined Queries** panel is not visible, click **Show/Hide Combined Queries Panel**, then click **Insert Combined Query**, and create a combined query, selecting the dimensions **Service Objects** and **All**.
7. Save the universe.
8. Repeat steps 1 through 7 for the Product code (in the **Name** field, enter `lov_product`).
9. Publish the universe to a repository.

Creating Dimensions Based on User Data

Complete the following steps to add and define the **Product** and **Product Line** dimensions to the **Business Attribute** class.

1. Within the Information Design Tool, in the **Business Layer** list, click the **Business Attribute** class.
2. On the menu bar, click **Insert** > **Dimension**.
   The properties for the new dimension appear.
3. In the name field, enter the name `Product Line`, and set other properties of this object as follows:
   a. Set the data type to `String` and the **Select** statement to `USER_DATA_CUST_DIM_10.PRODUCT_LINE`.
   b. On the **Advanced** tab, select the **Associate a List of Values** checkbox, and select an appropriate name for the product line list of values, such as `lov_product_line`.
4. Repeat steps 1 through 3 to create the **Product Code** dimension, setting the **Select** statement to `USER_DATA_CUST_DIM_10.PRODUCT_CODE` and the list of values to `lov_product`.
5. Save the universe and export it to the repository.

The sample report that we create offers report users the

opportunity to select one or more products or product lines in which to generate results. One way to utilize this capability is to prepare two filter universe objects that populate two product-oriented user prompts in our report. To do so, first create necessary parameters, and then create fileters based on them:

Creating Parameters

Complete the following steps to add and define the Parameters required for filtering.

1. In the Information Design Tool, click the **Parameters and Lists of Values** class.
2. On the menu bar for Parameters, click **Insert Parameter**.
   The properties for the new Parameter appear.
3. In the **Name** field, enter `Product Line`.
4. In the **Prompt Text** field, enter `Product Line:`.
5. Next to **Associate a List Of Values**, click the **...** button.
   The **Select a List of Values** dialog box appears.
6. Select **List of Values defined in the business layer**, and select **product_line_lov** from the list.
7. Click the **Set default Value** radio button, and from the list, select **ALL**.
8. Save the universe.
9. Publish the universe to a repository.

Creating Filters

Complete the following steps to add and define Filters based on the LOV we previously created.

1. In the Information Design Tool, in the Business Layer list, click the **Business Attribute** class.
2. On the menu bar, click **Insert Object** > **Filter**.
   The properties for the new filter appear.
3. Rename the Filter as **Product Line**, and set its **Where** clause to the following:
   ```
   @Select(Business Attribute\Product Line)
   IN @Prompt(Product Line:) OR ' ALL' in
   @Prompt(Product Line:)
   ```
4. On the menu bar, click **Insert Object** > **Filter**.
   The properties for the new filter appear.
5. Rename the Filter as **Product Code**, and set its

	Where clause to the following: `@Select(Business Attribute\Product Code) IN @Prompt(Product Code:) OR ' ALL' in @Prompt(Product Code:)` Refer to BO/BI documentation for more information about how to define filters.
6. Define a hierarchy within the universe for attached data that has parent-child relationships, such as Product Line and Product.	**[+] Show Steps** ## Defining a Hierarchy to the Universe This example created two dimensions that share a parent-child relationship: a product belongs to a specific product line, and a product line consists of one or more products. The custom dimensions that you create might not share this section. We continue this example by defining a Product hierarchy, which makes drill up and drill down functionality available along product lines in the reports that you customize.  Defining the Product Hierarchy 1. Open the Business Layer by clicking the business layer name in the **Local Projects** view. 2. In the Business Layer list, click the **Navigation Path** class. The **Navigation Path** properties appear, as shown in the figure *Defining the Product Hierarchy*. 3. In the **Name** field, type a suitable name for the hierarchy—for example, `Business Attribute - Product`. Keep this hierarchy highlighted. 4. Click **Add**, and in the **Available Dimensions** list, in the **Business Attribute** class, select the **Product Line** and **Product Code** dimensions. 5. Click **OK** to save this new hierarchy and close the editor. 6. Save the universe and publish it to the repository.
7. Save the universe and export it to the repository.	

8. Customize the Interactive Insights reports to include your attached data dimensions.	**[+] Show Steps** ## Creating a Product-Line Business Attribute Report Using the dimensions that you added to the universe in step 5, you can now build one or more business attribute reports that provide the results of your contact center activity by product line and product. The easiest way to create one such report is to make a copy of the Interaction Volume Service Type Report, and tailor it to use the **Product Line** and **Product** dimensions (instead of **Service Type** and **Service Subtype** dimensions) using the following steps: 1. Within BI LaunchPad, copy Interaction Volume Service Type Report to a working folder. 2. Open the report properties, and rename the report appropriately—for example, Interaction Volume Product Line Report. Change its description, as desired, and save your changes. 3. Edit the text on the **Description** tab, as appropriate, and click **Save and Close**. 4. Right-click a report, and in the context menu, select **Modify** to open the report for editing. Complete the following steps: a. On the **Data Access** tab, **Data Providers** sub-tab, click **Edit Data**. b. In the **Query Panel**, browse in the hierarchical list on the left, and double-click the **Product Line** dimension to copy it into the **Result Objects** window. (Do *not* yet remove the **Service Type** dimension from the **Result Objects** window.) c. Close the **Query Panel**. d. Edit the report structure on both the **Summary** and **Main** tabs to replace the 'Service Type' dimension, labels, and text with 'Product Line', wherever it occurs. Do the same for 'Service Subtype', replacing it with 'Product Code'. e. Replace the **Service Type** section with a **Product Line** section: i. Right click the report and choose **Show Structure**. ii. Select the **Service Type** section and change the formula from `=[Service Type]` to `=[Product Line]`.

f. Click **Edit Data Provider**, and in the **Query Panel**, in the **Query Filters** field, replace the **Service Type** and **Service Subtype** dimensions with **Product Line** and **Product Code**, respectively. Close the **Query Panel**.

g. Save and test your changes.

5. When you are satisfied with the report results, click **Edit Data Provider**, and in the **Query Panel**, edit the report query to remove the **Service Type** dimension from the **Result Objects** window, save, and retest the report.

Sample SQL Script for Creating and Mapping User Data

The following sample script provides the SQL code that is used for this example.

[+] Show Sample Code

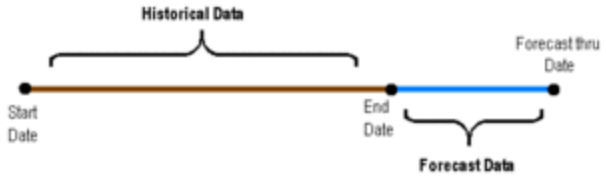
Note that this is a sample script only. You should validate it for use within your environment.

```
IF EXISTS ( SELECT 1
    FROM sysobjects
    WHERE id = object_id('USER_DATA_CUST_DIM_10') AND type = 'U' )
    DROP TABLE USER_DATA_CUST_DIM_10
GO

CREATE TABLE USER_DATA_CUST_DIM_10 (
    ID               INT identity     ,
    TENANT_KEY       INT NOT NULL     ,
    CREATE_AUDIT_KEY INT NOT NULL     ,
    PRODUCT_LINE     VARCHAR(170) NOT NULL DEFAULT 'none',
    PRODUCT_CODE     VARCHAR(170) NOT NULL DEFAULT 'none',
    DIM_ATTRIBUTE_3  VARCHAR(170) NOT NULL DEFAULT 'none',
    DIM_ATTRIBUTE_4  VARCHAR(170) NOT NULL DEFAULT 'none',
    DIM_ATTRIBUTE_5  VARCHAR(170) NOT NULL DEFAULT 'none',
    CONSTRAINT PK_USER_DATA_CUST_DIM_10 PRIMARY KEY(ID) )
GO

SET IDENTITY_INSERT USER_DATA_CUST_DIM_10 ON;

-- This row is for the predefined key 'UNKNOWN'. It is
-- mandatory. Do not remove it!
INSERT INTO USER_DATA_CUST_DIM_10 (
    ID,
    TENANT_KEY,
    CREATE_AUDIT_KEY )
VALUES ( -1, -1, -1 ) ;
GO

-- This row is for the predefined key 'NO_VALUE'. It is
-- mandatory. Do not remove it!
```

```
INSERT INTO USER_DATA_CUST_DIM_10 (
    ID,
    TENANT_KEY,
    CREATE_AUDIT_KEY )
VALUES ( -2, -2, -1 ) ;
GO

SET IDENTITY_INSERT USER_DATA_CUST_DIM_10 OFF;

-- Add a foreign key reference column from IRF_USER_DATA_KEYS
-- to the user data dimension table.
--
-- Note: Adding columns to a sizeable IRF_USER_DATA_KEYS table
-- could consume significant DBMS resources and time. Consider the
-- tradeoff between:
-- (1) adding redundant columns initially and adding/activating
--     mapping later and
-- (2) adding columns later.

ALTER TABLE IRF_USER_DATA_KEYS
   ADD CUSTOM_KEY_10 INT NOT NULL DEFAULT -2
GO

-- Add mapping between user data dimension table and
-- IRF_USER_DATA_KEYS to CTL_UDE_KEYS_TO_DIM_MAPPING

INSERT INTO CTL_UDE_KEYS_TO_DIM_MAPPING (
    DIM_TABLE_NAME,
    DIM_TABLE_PK_NAME,
    UDE_KEY_NAME )
VALUES (
    'USER_DATA_CUST_DIM_10',
    'ID',
    'CUSTOM_KEY_10' )
GO

-- Add mapping between user data keys and user data tables to
-- CTL_UD_TO_UDE_MAPPING.
--
-- Note: ICON should be configured to record these user data keys.

INSERT INTO CTL_UD_TO_UDE_MAPPING (
    ID              ,
    UD_KEY_NAME     ,
    UDE_TABLE_NAME  ,
    UDE_COLUMN_NAME ,
    PROPAGATION_RULE,
    DEFAULT_VALUE   ,
    ACTIVE_FLAG )
VALUES (
    103                     ,
    'CustomProductLine'     ,
    'USER_DATA_CUST_DIM_10',
    'PRODUCT_LINE'          ,
    'CALL'                  ,
    ''                      ,
    1 )
GO

INSERT INTO CTL_UD_TO_UDE_MAPPING (
    ID              ,
    UD_KEY_NAME     ,
    UDE_TABLE_NAME  ,
```

```
    UDE_COLUMN_NAME ,
    PROPAGATION_RULE,
    DEFAULT_VALUE   ,
    ACTIVE_FLAG  )
VALUES (
    104                     ,
    'CustomProductCode'     ,
    'USER_DATA_CUST_DIM_10',
    'PRODUCT_CODE'          ,
    'CALL'                  ,
    ''                      ,
    1  )
GO
```

Changing the Forecast



Time Ranges for the Interaction Volume Service Type Trend Report

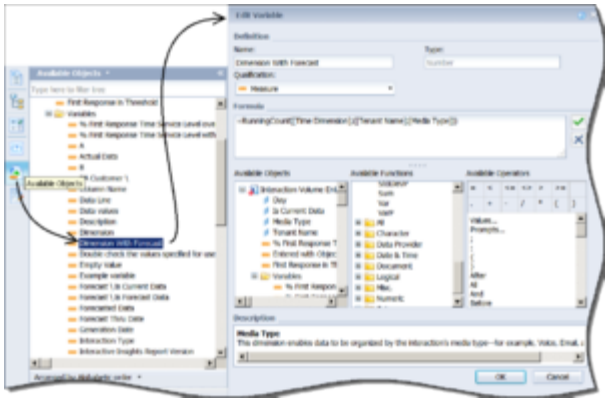
The Interaction Volume Service Type Trend Report (sometimes called the Trend report) provides a forecast of one service-level measure based on the historical values that are retrieved within the time range that is bound by the start and end dates that you specify. The report provides forecasted data beginning from the end date and extending through the forecast-thru date that you specify, as shown in the figure *Time Ranges for the Interaction Volume Service Type Trend Report*. The Interaction Volume Service Type Trend Report uses several variable-based measures (discussed on this page, under Swapping the Forecast Measure) to load the terms for a least-squared forecast calculation. These variables are reserved for internal use; alter them only as instructed below.

Swapping the Forecast Measure

The **Measure** variable identifies the universe measure that is used to compute the trend. Resetting this variable to another measure will not break the formula. As packaged, the % First Response Service Level measure in the BA Customer class is assigned to this variable. You can customize a copy of the report to provide a forecast of a different measure. To do so, perform the following steps:

[+] Show Steps

1. Choose the measure that you want to substitute—for example, **Entered**, in the **Business Attributes** class.
2. Within BI LaunchPad, make a copy of the Interaction Volume Service Type Trend Report and retitle it accordingly—for example, *Interaction Volume Entered Trend Report*:
   a. Select the report to copy, and choose **Organize** > **Copy**.
   b. Select the folder in which to paste the report, and choose **Organize** > **Paste**.
   c. Right click the report and choose **Properties**. Edit the Title, and click **Save & Close**.
3. Right-click a report, and in the context menu, select **Modify** to open the report for editing.
4. On the **Data Access** tab, **Data Providers** sub-tab, click **Edit Data**.

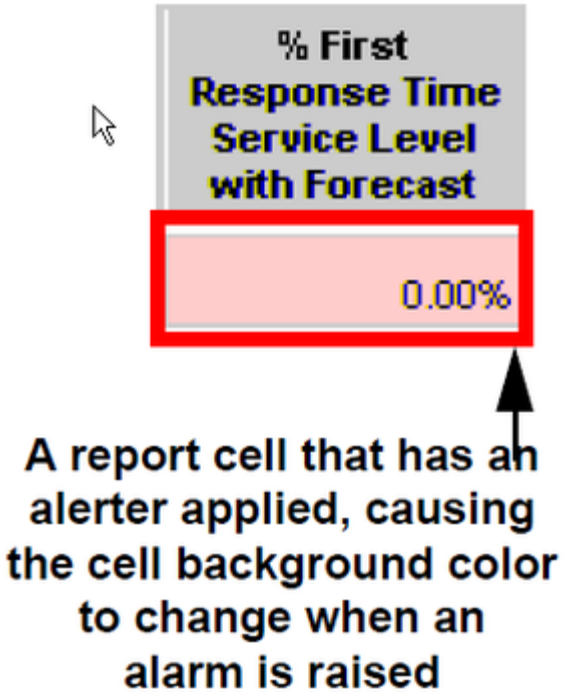


Edit Variable

5. On the **Query Panel**, add the measure you want to add to both combined queries (**Combined Query 1** [for current data] and **Combined Query 2** [for forecasted data]):
   a. Select **Combined Query 1**, then double click the measure you want to add (this adds it to the **Result Objects** field).
   b. Select **Combined Query 2**, then double click the measure you want to add (this adds it to the **Result Objects** field).

   Do not yet remove the % First Response Service Level measure.
   Close the **Query Panel**.
6. From the toolbar, click **Design** > **With Data**.
7. In the **Available Objects** list, double-click **Measure** to open the **Edit Variable** dialog box.

   The figure *Edit Variable* shows the main **Available Objects** list, and the **Edit Variable** dialog box. **Note** that the **Edit Variable** dialog box also contains a list called 'Available Objects'.
8. Create the new variable as follows:
   a. In the **Name** field, type a name for the variable.
   b. In the **Formula** field, replace `[% First Response Time Service Level]` with the measure that you chose in Step 1 (for example, **Entered**) and click **OK**.



Alerter

9. If your selected measure yields values that are greater than 1—as is the case with the example **Entered**, given in Step 1—perform the following steps on the **Main** tab of the report:
   a. Set **Forecast Alerter** (the alerter that is associated with the forecast column, shown in the figure *Alerter*) appropriately, or remove it altogether.
   b. Update the legend.
   c. In the **Available Objects** list, double-click the **Trend Line** variable and change its formula to the following:
   ```
   If [A] * [Dimension With Forecast] + [B] < 0 Then 0
   Else [A] * [Dimension With Forecast] + [B]
   ```
10. Appropriately rename any strings that indicate the name of the measure that is to be replaced. On the report **Summary** tab, for instance, change the name of the axis, change the chart name, and, in the report structure, change the hardcoded string `% First Response Time Service Level over Time` to `Entered over Time`.
11. On the report **Description** tab, add the **Entered** measure and its description to the table. Change the report description appropriately.
12. (Optional) On the **Query Panel**, remove any measures that you no longer want to appear in the query.
13. Save and test your report.

> **Tip**
> In the GI2 universe, the **First Response in Threshold** and **Entered with Objective**

measures (the first two columns of the Trend report) are used to derive **% First Response Time Service Level** (the third column in the report). If you swap the service-level measure for another, as instructed in the preceding section, you might also want to swap out the first two measures. Be sure to add any new measures to both halves of the underlying combined query and set the columns of the main table appropriately.

Managing the Report Dimensions

Among the internal variables of the Interaction Volume Service Type Trend Report are some that parameterize dimensions. This section demonstrates how to modify such variables and the report structure to reflect different dimensions.

Changing Dimensions Other than Time dimensions

The following abbreviated steps demonstrate how to define additional or fewer dimensions within the report:

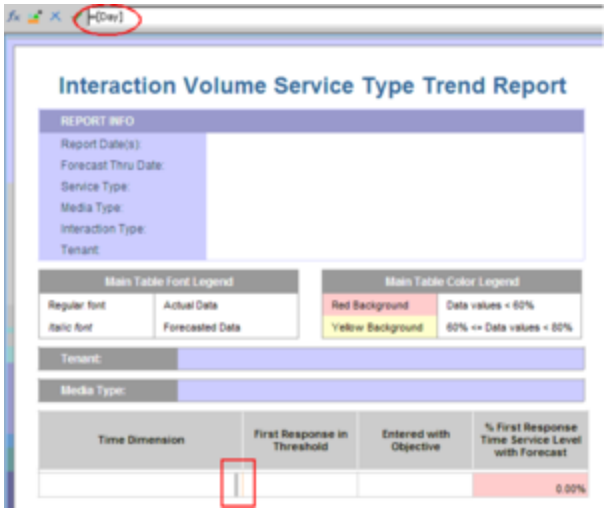
[+] Show Steps

1. On the **Query Panel**, add the desired dimension to (or remove it from) both combined queries.
2. In the **Available Objects** list, double-click **Dimension With Forecast** to open the variable editor. Change this variable definition to include or remove the desired dimension. For instance, the following definition adds the Service Type dimension:
   `=RunningCount([Time Dimension];([Tenant Name];[Media Type];[Service Type]))`
3. Click **Document Structure and Filters** and modify the report section as desired.
4. Save and test your report.

Changing Time Dimensions

To change the report time dimension, perform the following abbreviated steps:

[+] Show Steps



Hidden Columns in the Trend Report

1. In the **Query Panel**, add the desired time dimension to both combined queries. For example, add **Month**. Do not yet remove the **Day** dimension.
2. In the **Available Objects** list, double-click **Time Dimension** to open the variable editor. Change this variable definition to match the added dimension—for example, to `=[Month]`.
3. Click **Close** > **Apply changes and close**.
   Between the first two visible columns in the main table of the report are two hidden columns: **[Day]** and **[Is Current Data]**. The figure *Hidden Columns in the Trend Report* shows the hidden **[Day]** column, highlighted within the red rectangle.
4. Select the hidden **[Day]** column and change its formula to your desired dimension—for example, to `=[Month]`.
5. (Optional) On the **Query Panel**, remove any time dimensions that you no longer want to appear in the query.
6. Save and test your report.

Using Cascading Prompts

By default, the user prompts in the GI2 reports do not observe interrelationships between the objects that users select for report generation even though direct relationships might exist within the contact center. (The one exception to this rule is described in Prompt Interrelationships.) Users can, for example, select any combination of agents against which to run a report regardless of the groups to which the agents belong and regardless of the agent groups which the report user selects. The GI2 universe features agent and queue cascading prompts whose purpose is to limit user selections during report generation to only those members that belong to the selected agent group(s) or queue group(s). This functionality is delivered through either of the following methods:

- Modify the Universe LOVs—Customize the agent and queue lists of values in the universe.
- Modify the Report Query—Customize the reports to replace agent and queue user prompts with those cascading objects described in the table, Universe Objects Used for Cascading Prompts. (Some of these objects are hidden.)

This page demonstrates how to implement cascading-prompt functionality within your reports using both methods and discusses the limitations associated with their use.

Table: Universe Objects Used for Cascading Prompts

[+] Show Table

Universe Object		Description
Class	**Object**	
Service Objects	Agent Cascade dimension	Same as the **Agent Name** dimension except this object employs **agentcascade_lov** to populate values instead of **agentname_lov**.
	Agent Cascade condition	Same as the **Agent** condition except this object references the **Agent Cascade** dimension instead of the **Agent Name** dimension.
	Queue Cascade dimension	Same as the **Queue** dimension except this object employs **queuecascade_lov** to populate values instead of **queue_lov**.
	Queue Cascade condition	Same as the **Queue** condition except this object references the **Queue Cascade** dimension instead of the **Queue** dimension.

Modify the Universe LOVs

The benefit in the approach of modifying the agent and queue lists of values (LOVs) in the universe to provide cascade functionality is that all reports (that employ agent and queue LOVs) reflect this change automatically. Any report that references the altered LOVs will reflect cascading-prompt behavior. However, this approach also has a drawback in the scenario in which you want only a subset of reports to use cascade functionality.

To add cascading prompts to a report using the modify-the-LOV approach, perform the following steps:

[+] Show Steps

1. In the Information Design Tool, open the GI2 universe.
2. In the **Business Layer** list, click the **Parameters and List of values** class.
3. From the **List of Values** list, select `agentname_lov`.
4. Click **Edit Query**. The **Query Panel** opens, where you can modify the code for the **agentname_lov** list of value.
5. Click **View Script**, and enable **Use custom query script**.
6. Replace the code in the **[Query] script** field with the following, and click **OK**:

```
select CONST_VALUE from
 (
   select CONST_VALUE, 0 SEQ_NUM
    from CONSTANTS2_GI2 where CONST_TYPE='CONSTANT' and CONST_VALUE=' ALL'
    and ' ALL' IN @Prompt('Agent Group:','A','Activity\Agent Group',Multi,Constrained,Persistent,{' ALL'},User:9)
   union all
    SELECT distinct AGENT_NAME CONST_VALUE, 1 SEQ_NUM
     FROM
     RESOURCE_GI2 INNER JOIN RESOURCE_GROUP_FACT_ ON (RESOURCE_GROUP_FACT_.RESOURCE_KEY=RESOURCE_GI2.RESOURCE_KEY)
     inner join         GROUP_ on (GROUP_.GROUP_KEY=RESOURCE_GROUP_FACT_.GROUP_KEY )
     WHERE
     RESOURCE_GI2.RESOURCE_TYPE_CODE='AGENT'
     AND (( ' ALL' IN @Prompt('Agent Group:','A','Activity\Agent Group',Multi,Constrained,Persistent,{' ALL'},User:9))
     OR (GROUP_.GROUP_TYPE_CODE in ('AGENT','UNKNOWN','NO_VALUE') and GROUP_.GROUP_NAME IN @Prompt('Agent Group:','A','Activity\
Agent Group',Multi,Constrained,Persistent,{' ALL'},User:9))
 ) ) s order by SEQ_NUM, 1
```

7. On the **Query Panel**, click **OK** to save the modified LOV definition.
8. Repeat Steps 2–7 to modify the **queue_lov** definition in the **Queue** class. Copy the SQL code from the **queuecascade_lov**—the LOV associated with the **Queue Cascade** dimension. These two LOV modifications affect the **Agent Name** and **Queue** dimensions in all classes in which the dimensions exist throughout the universe and in which they are paired with the **agentname_lov** and **queue_lov** LOVs.
9. Save the universe and export your changes to the repository to make them available to the reporting community.
10. In Web Intelligence, for each affected report, edit the query to remove a group condition—where it exists—and save the report. This includes the following conditions:
    - Group Combination
    - Group Combination ABN
    - Group Combination ANS
    - Group Combination Detail Session
    - Group Combination Detail State
    - Group Combination Rsn
    - Group Combination Sess

    Unless other significant modifications are made, do not remove the **Agent Group** condition from the Agent Group reports; these reports do not reference the **Agent Name** dimension.

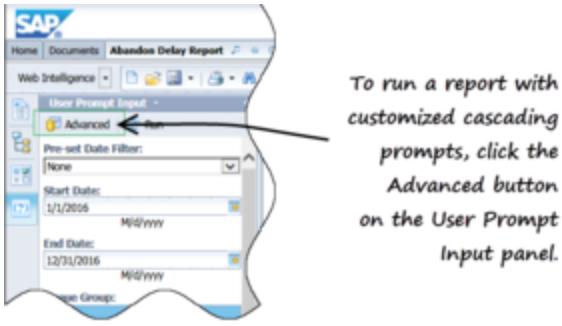
Modify the Report Query

To add cascading prompts to one or more reports by using the **modify-the-report-query** approach:

[+] Show Steps

1. Make a copy of the report you want to customize. Reports that include either or both the **Agent Name** and **Queue** conditions are for incorporating agent- and queue-cascade functionality.
   Note that the **Agent Group** reports reference the **Agent Group** condition instead of **Agent Name**; these reports are not suitable for cascade prompt customization unless you make other significant modifications.
2. In Web Intelligence, edit the report query to perform the following modifications. Where it exists:
   a. Replace the **Agent** condition with the **Agent Cascade** condition.
   b. Replace the **Queue** condition with the **Queue Cascade** condition.

      It does not suffice merely to add cascading objects to a report; you must remove the regular conditions.



Accessing the Advanced Prompts Panel

c. Remove any group condition from the report. (See step 10 of Modify the Universe LOVs for more information.)

d. Save the report.

After you make these modifications, users of this report who run the report using the Advanced Prompt Panel (as shown in the figure **Accessing the Advanced Prompts Panel**) are prompted to select agents or queues from a particular group instead of from a listing of all agents (or queues) who belong to the tenant (or contact center).

Limitations on Cascading Prompts

You can design cascading prompts for contact center relationships for any universe object that uses an LOV and that can be used in conditions. The GI2 universe provides only the two mentioned in this section to retrieve:

- A listing of agents from a group of agents.
- A listing of queues from a group of queues.

Reporting Outside the GMT Time Zone

A standard Genesys Info Mart deployment using the default **DATE_TIME** calendar yields reporting in the Genesys Info Mart default time zone only. There are, however, other supported deployments allowing:

- One tenant reporting across multiple time zones
- Multiple tenant reporting within one common time zone
- Multiple tenant reporting using a different time zone for each tenant

To configure Genesys Info Mart to accomplish this type of reporting within GI2 using one universe and multiple connections:

1. Configure additional calendars in Genesys Info Mart; for example, **DATE_TIME_CNT** and **DATE_TIME_AET**. See Creating Custom Calendars section in the *Genesys Info Mart Deployment Guide* for further instructions.
2. Identify the created calendars to RAA:
   a. Create an ASCII file that contains the following code (substitute the AET and CNT time zones and their offsets with your desired time zone(s) and their corresponding offsets):

```
;This code identifies time zones to RAA
(~time-zone CNT "DATE_TIME_CNT" -12600 -9000)
(~time-zone AET "DATE_TIME_AET" +36000 +39600)
;This code instructs RAA to use the AET time zone when
;populating data for only those aggregation hierarchies that
;are listed
(add-other-tz AET
   (hierarchies: H_AGENT H_QUEUE
      H_AGENT_QUEUE H_QUEUE_ACC_AGENT H_QUEUE_ABN H_ID
      H_I_AGENT H_I_SESS_STATE H_I_STATE_RSN
      H_AGENT_CAMPAIGN H_CAMPAIGN))
;This code make all hierarchies CNT-time zone aware
(add-standard-hierarchies-in-tz CNT)
```

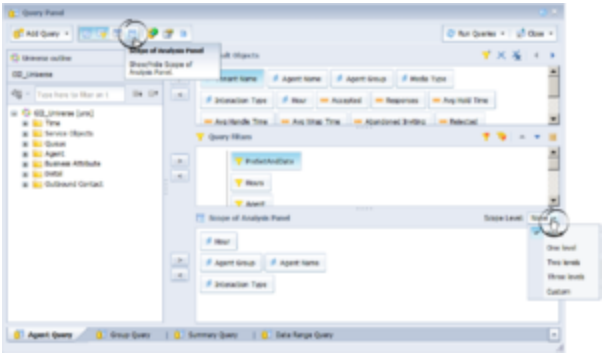
   b. Save this file in the Genesys Info Mart root folder with the file name `time-zones.ss`. The aggregation process must be able to locate this file from the location where aggregation is run.
3. Invoke aggregation. RAA creates a separate set of database objects for each calendar and names the objects with the time zone's abbreviation (AG2_AET_AGENT_SUBHR). RAA manages these objects within the main schema.
4. Create a schema in Genesys Info Mart for each tenant. Users should not directly reference objects in the main schema, so you must create aliases to control the access that users have to Info Mart data.
5. Create an alias file, (for example: `tenant-tz-alias.ss`), following the instructions in "Format of the Tenant Alias File" in the *Reporting and Analytics Aggregates User's Guide*. For example:

```
(aliases-for-account name: <tenant1_schema_name> login: "<tenant1_user>" password:
"<tenant1_pwd>"
(tenants: <tenant1_key>) (time-zone: PST))
(aliases-for-account name: <tenant2_schema_name> login: "<tenant2_user>" password:
"<tenant2_pwd>"
(tenants: all) (time-zone: EST))
```

6. To update tenant aliases, invoke aggregation in standalone mode by issuing the following command:
   `java -jar agg/GIMAgg.jar -conf runagg -updateAliases tenant-tz-alias.ss`
   RAA creates views in the specified schema(s) that employ standard names. Therefore, no change to the definitions of measures, dimensions, or conditions is required in the GI2 universe. Each tenant account now sees data in their own time zone.
7. Open the Information Design Tool, and create connection parameters for each tenant account. At the **Login Parameters** screen of the Wizard Connection, specify the parameters to connect to the desired tenant schema. Refer to “Linking the Universe to Your Data Mart” in the *Genesys Interactive Insights Deployment Guide* for more information.

Through the connection parameters that you establish (and depending on how calendars are set up), your users have access to their own data and the GI2 reports display this data in the user's time zone.

Setting the Scope of Analysis



Scope of Analysis for the Agent Conduct Report

When you run and save a report, BI software stores analytical information about the report in the report's cube. This information includes referenced universe elements, the database query, the returned results, and the report's scope of analysis, which defines the degree of data that is retrieved from the data mart as the result of a query. This degree of data corresponds directly to the additional hierarchical levels, lower than those initially designed to be included in the query. The figure *Scope of Analysis for the Agent Conduct Report* shows the **Scope of Analysis** dialog for the Agent Conduct Report. This dialog becomes visible when you edit a report's query within Web Intelligence and click the **Show/Hide Scope of Analysis Panel** icon on the menu bar.

By default, the GI2 reports have the **Scope of Analysis** set to **None**; this means that no extra data is stored within the report cube other than the dimensions that are directly used by the query to organize and retrieve results. This minimizes the size of a report cube and maximizes the report performance by reducing the time required to run the report (retrieve data from the Data Mart) and display the results. However, to make extra data available to your users, you can customize each report to broaden its scope of analysis. You can change the **Scope of Analysis** to:

- **One level**
- **Two levels**
- **Three levels**
- **Custom** (**Custom** permits you to selectively designate the additional objects that should be included in the query.)

Refer to the BO/BI documentation for further information about this feature.

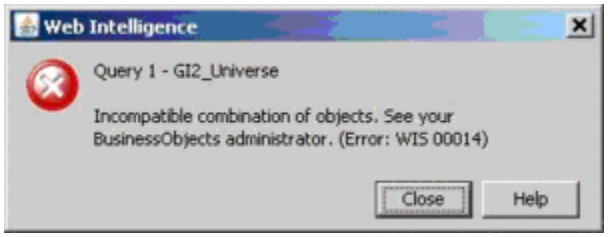
Troubleshooting Incompatibility

It is possible for your custom reports to generate results that are difficult to interpret, to generate errors, or to require excessively long query-processing times when certain combinations of GI2 measures and dimensions are included in the report. These conditions can occur under several circumstances, including:

- Improperly combining incompatible dimensions—such as the `Queue` and `State Name` dimensions—in the same report.
- Improperly combining disposition and interval measures in the same report.

For this reason, Genesys recommends that when you create or customize new reports, you try to employ measures and dimensions that belong to the same class. Additionally, you should select one or more dimensions from the `Time` class in every report. Observing this simple rule will minimize errors and confusion among your report users.

Incompatible Objects

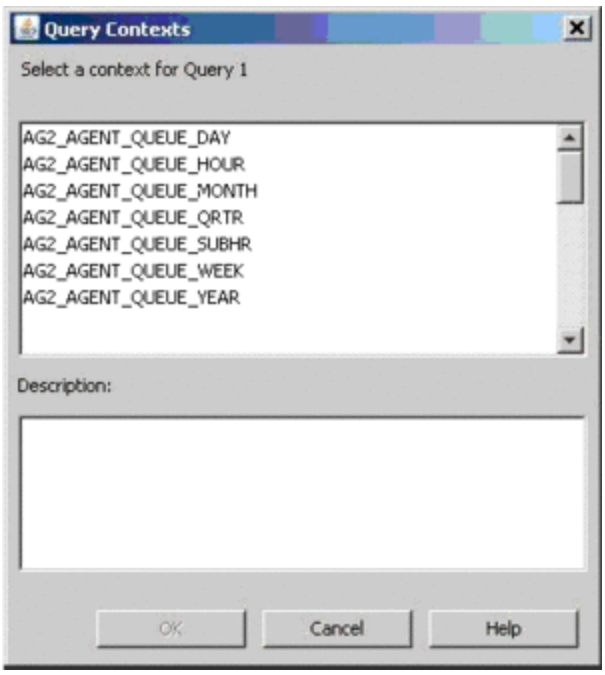


Incompatible Objects Error Message

Incompatibilities can result if you add to your custom reports measures and dimensions from different classes—even if you mix objects from a parent and its subclasses. Web Intelligence displays an error, shown in the figure to the right, when it encounters an incompatibility.

To resolve this problem, you can modify the existing contexts to add joins between tables—where they can be joined—or you can create new contexts defining these relationships. In scenarios where two tables cannot be joined, avoid mixing measures and dimensions within the same report.

Ambiguous Queries



The Query Contexts Dialog Box
(Appears When the Report Query is Ambiguous)

If you build custom reports—even when you select objects from the same class—the **Query Contexts** dialog box can appear, as shown in the figure *The Query Contexts Dialog Box*. Web Intelligence displays this dialog box when the resulting query of your custom report is ambiguous—that is, when the query does not uniquely identify the table from which data should be retrieved. On the contrary, an ambiguous query can be executed against more than one table in the database.

For example, if you fail to include in your report a time-related dimension, then Web Intelligence displays the **Query Contexts** dialog box before the query is executed—because like results are stored in all of the _SUBHR, _HOUR, _DAY, _WEEK, _MONTH, _QRTR, and _YEAR aggregation tables and views. Only after you have specified the appropriate context (the appropriate time dimension in this case) can Web Intelligence display the report's results.

As another example, if you attempt to run a custom report in which you added only the **Queue** and **Queue Group** dimensions from the **Queue** class (from GI2_Universe) to the query definition and nothing else, a message similar to that shown in the *The Query Contexts Dialog Box* figure appears. Queue-related data from this class can be retrieved from any of the following aggregate tables:

- AG2_AGENT_QUEUE_*
- AG2_QUEUE_*
- AG2_QUEUE_ABN_*
- AG2_QUEUE_ACC_AGENT_*
- AG2_QUEUE_GRP_*

Such a query, without any measures or a time-related dimension, provides insufficient information for Web Intelligence to determine the table (or view) from which it should retrieve the desired data.

To supress the message, so that users of your report do not see it, add the appropriate universe elements that satisfy Web Intelligence's request for additional information. Even if you choose not to display these elements in the report, make them part of the underlying query. Optionally, you can preselect the appropriate context, so that the message will not be displayed to users. Refer to BO/BI documentation for information on how to create contexts.

Finally, as is the case with any report design, study the results of your generated custom report to ensure that they make sense.

GI2 releases that are incompatible with BI 4.2

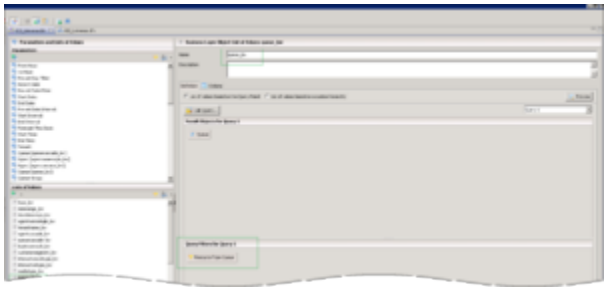
In scenarios where you have installed SAP BI 4.2 with unsupported GI2 releases (GI2 8.5.000), drilling up from Agent to Agent Group in customized reports can fail, producing an error message such as:

Modify joins for these Queue dimensions

Modify joins for these Queue Group dimensions

Modify joins for these Agent Name dimensions

Modify joins for these Agent Group dimensions



Modify LOVs

```
The following database error occured: The multi-part identifier 'GROUP_GROUP_TYPE_CODE' could
not be bound...
```

.

In these scenarios, Genesys recommends that you upgrade to GI2 release 8.5.001.02 or later, which interoperates correctly with BI 4.2. Alternatively, you can customize GI2 to work correctly with BI 4.2 by using the instructions in the following procedure.

> ## Important
>
> Genesys recommends that you install GI2 with the recommended releases of supporting software, including RAA, Gensys Info Mart, and BI 4.x software. Compatible releases are listed in the *8.5 Product Alerts*, available on the Genesys Interactive Insights page.

Editing the universe so that older versions of GI2 can work with BI 4.2

To resolve problems with drill operations (Agent up to Agent Group) in scenarios where you have installed BI 4.2 with releases of GI2 that do not support it, make the following changes to the universe:

1. In the class Service Objects, add the following new conditons:
   - Resource Type Agent: `RESOURCE_GI2.RESOURCE_TYPE_CODE = 'AGENT' and RESOURCE_GI2.RESOURCE_TYPE = 'Agent'`
   - Resource Type Queue: `RESOURCE_Q.RESOURCE_TYPE_CODE = 'QUEUE'`
   - Resource Type Queue and None: `RESOURCE_Q.RESOURCE_TYPE_CODE in ('QUEUE','NONE', 'UNKNOWN')`
   - Group Type Queue: `GROUP_Q.GROUP_TYPE_CODE in ( 'QUEUE','UNKNOWN','NO_VALUE')`
   - Group Type Agent: `GROUP_.GROUP_TYPE_CODE in ('AGENT', 'UNKNOWN', 'NO_VALUE')`
2. For each of the following dimensions, in all classes except the details classes, remove the **Where** clause:
   - Agent Name
   - Agent Group
   - Queue
   - Queue Group
3. Modify the following joins to support deleted **Where** expressions:
   - For Agent Name dimensions, modify the joins for the dimensions shown in the figure **Modify joins for these Agent Name dimensions**.
   - For Agent Group dimensions, modify the joins for the dimensions shown in the figure **Modify joins for these Agent Group dimensions**.
   - For Queue dimensions, modify the joins for the dimensions shown in the figure **Modify joins for these Queue dimensions**.
   - For Queue Group dimensions, modify the joins for the dimensions shown in the figure **Modify joins for these Queue Group dimensions**.
4. Modify the definitions of the following LOVs, as shown in the figure **Modify LOVs**, to reflect the corresponding condition from the Service Objects class: queue_lov, queuegroup_lov, queueandnone_lov, agentname_lov, agentgroup_lov

Managing Performance

This page describes steps you can take to improve the performance of GI2.

Maintaining High Performance

Some elements are repeated throughout the universe for convenience, to reduce the potential for incompatibilities (see Troubleshooting Incompatibility), and also to improve report-query performance, including all time-related conditions that exist in more than one class:

[+] More Information

- DateRange—in the Activity, Agent Contact, Business Attribute, Contact Attempt, and Time classes
- PreSetAndDate—in the Activity, Agent Contact, Business Attribute, Contact Attempt, Summarized State, and Time classes
- PreSetAndDateRange—in the Activity, Agent Contact, Business Attribute, Contact Attempt, Queue, Summarized State, and Time classes
- PreSetAndDayAndTimeRange—in the Handling Attempt and Transfer classes

In previous releases, many of the reports referenced date-time keys that directly queried records in the DATE_TIME table; this required an additional join from the aggregate table to the DATE_TIME table—which is a sizeable table filled with thousands of rows of metadata. Beginning with the 8.0 release, some of these date-time references within the reports have been redirected to query the date and time fields within the reports' base aggregate tables themselves—constituting a simpler design that requires one fewer complex join. As a direct result, performance for those reports improved over the 7.6 release.

As you build new reports or customize the provided reports, be sure to weigh the decision to employ date-time elements from the Time class with the decision to employ those elements—where they exist—from the universe class that supports your report's underlying aggregate tables and views.

Optimal Time to Run Reports

The GI2 reports provide a snapshot of contact center and enterprise activity as of the most recent transformation and aggregation in the Info Mart database. For completed interactions in completed reporting intervals that occurred prior to the last transformation and aggregation runs, the reports provide consistent results each time the reports are run. However, results can differ for interactions that are still active, or for intervals that are incomplete. For example, running a month-type report mid-month yields results that differ from those that are obtained by running the same monthly report at the end of the month.

[+] More Information

> **Important**
> As with other Genesys applications, GI2 requires that your system GMT (Greenwich Mean Time) setting is accurate and synchronized among the servers in your environment.

The headers of each report display the report date (which is the date and time when the report was run) rather than the date and time when the most recent transformation job was run. In fact, the date and time when the most recent transformation job was run are not reflected in the report, even though it is that date and time at which contact center activity is reflected by the report data.

For the smaller aggregation levels, the variances in report results are more pronounced, given the configuration within the Genesys Info Mart application of the data chunk size that is to be transformed. Genesys Info Mart is an historical-reporting application, therefore you must give care to the interpretation of report results when you use GI2 as a near real-time tool to obtain daily reports (for example, when the day has not yet completed or has only recently completed).

Many factors contribute to latency in data availability between the date and time of the most recent transformation and aggregation run, and the date and time when the report is run, including the following:

- Scheduling of ETL jobs and job performance.
- Interaction volume, and the number of segments per interaction.
- Number of configured key-value pairs.
- Hardware and RDBMS that are used in your environment.
- Performance of ICON's merge procedure.

Read more about these factors in the Genesys Info Mart documentation, and in the *Genesys Hardware Sizing Guide*.

Preventing WebI Server Problems

As your Info Mart database accumulates large amounts of contact center data, it becomes possible for users to request a report containing a very large amount of data. It is possible for such a report to stop the BI system, because when BI software retrieves data, it stores the data in memory. If the BO software has insufficient memory to handle a report with large amounts of data, or if the BI software is charged to handle requests from too many concurrent users running reports in parallel, an overflow occurs, and the software displays the following error message:
`Unexpected behavior: Java heap space.`

To prevent overflow due to insufficient memory, Genesys recommends that you perform one or more of the following procedures:

Manage the Memory Pool Size of Your Web Server	Microsoft Windows x86 applications are limited to 2 GB each for maximum memory pool size. The default memory pool size for the Tomcat web

	server application that is deployed with BO, however, is 1 GB. To increase this value, you can modify Tomcat configuration to set the maximum memory pool size to a value within the 1,200–1,500 MB range. Having this maximum number of pre-allocated memory blocks available for Tomcat enables memory allocation with constant execution. **[+] Show Steps** To change this setting for the Tomcat application, perform the following steps: 1. On your Microsoft Windows platform, open the Tomcat program group and select **Tomcat Configuration**. 2. In the Apache Tomcat Properties window, on the **Java** tab, set the Initial memory pool size to 512, and the Maximum memory pool to a value between 1,200 MB and 1,500 MB. 3. Restart Tomcat. Refer to the *SAP BusinessObjects Enterprise Administrator's Guide* for additional information (see BO/BI documentation).
Manage the Virtual Memory of Your Host	When your computer lacks adequate physical memory to perform an operation or run a program, Microsoft Windows uses virtual memory to compensate. For efficient GI2 operation, set the amount of virtual memory to a size at least 1.5 times that of your host's RAM. To adjust virtual memory configuration, refer to the documentation provided by Microsoft.
Manage the WebI Document Cache	Depending on the design of a GI2 report and the types of actions being performed against it, memory requirements vary. The peak memory usage for a Web Intelligence document occurs when you refresh a report, because BI must query the Info Mart database and transfer the entire dataset to the Web Intelligence server. File caching allows BI web services to handle very large attachments without buffering them in memory. File caching compromises performance because BO's web services must process information by using files instead of memory. If file caching is not enabled, however, all JVM memory could be utilized when handling very large attachments and replication can fail. You can configure BI web services to use file caching for large transfers to a file and to use memory for smaller files. **[+] Show steps** To manage the Web Intelligence document cache, perform the following steps: 1. Within the Central Management Console (CMC), click **Servers**.

Setting Web Intelligence Processing Parameters

2. Expand **Service Categories**, and open the properties of Web Intelligence Processing server. The figure *Setting Web Intelligence Processing Parameters* shows the default values in WebI properties.
3. Set the value in the **Document Cache Cleanup Interval** field to `600` seconds.
4. Set the value in the **Cache Timeout** field to `20` minutes. This value indicates how often the BI software will clear the document cache.
5. If it is checked, clear the **Disable Cache Sharing** checkbox.
6. Set the value in the **Maximum Document Cache Size** field to `10240` KB.
7. Restart the Web Intelligence Processing server.

Refer to the *SAP BusinessObjects Enterprise Administrator's Guide* (or the *Business Intelligence Platform Administrator Guide*) and the relevant *SAP Sizing Companion Guide* for further information (see BO/BI documentation).

Additional Resources

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, which you can use to manage 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 Interactive Insights

> **Important**
>
> Genesys Interactive Insights (GI2) 8.5 entered End of Life (EOL) on January 25, 2019. It enters End of Maintenance on July 28, 2020, and reaches End of Support on January

> 24, 2021. If you have questions, contact your account representative. GI2 is replaced by Genesys CX Insights.

Documentation for Genesys Interactive Insights (GI2) is available on the Genesys Documentation website:

- *Genesys Interactive Insights Deployment Guide*, which will help you install, start, stop, and uninstall the Genesys-provided image of BI and the GI2 reports and universe.
- *Genesys Interactive Insights Universe Guide*, which describes, in detail, the reports and measures that are provided in the GI2 release.
- *Genesys Interactive Insights User's Guide*, which includes a report- customization example that displays aggregated results that are sectioned by your own custom user data.

BusinessObjects Business Intelligence Platform 4.1

Documentation for BusinessObjects Business Intelligence Platform 4.1 (BI) is provided by SAP (see BO Documentation):

- *Business Intelligence Platform User Guide—SAP BusinessObjects Business Intelligence Platform 4.1 Support Package*
- *Business Intelligence Launch Pad User Guide—SAP BusinessObjects Business Intelligence Platform 4.1 Support Package*
- *Information Design Tool User Guide—SAP BusinessObjects Business Intelligence platform 4.1 Support Package*

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 this 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 Interactive 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).

Genesys product documentation is available on the:

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