iWD Data Mart Reference Guide

intelligent Workload Distribution 8.5.1

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iWD Data Mart Reference Guide

Welcome to the *intelligent Workload Distribution 8.5 Data Mart Reference Guide*.

This document introduces you to the schema that make up the intelligent Workload Distribution Data Mart (iWD Data Mart) to guide you in the design and creation of reports that use the data within the iWD Data Mart.

This document is valid for the 8.5.x release(s) of this product.

Intended Audiences

This reference guide is intended for:

- Reporting and business analysts who want to leverage the data that is contained in the iWD Data Mart to produce reports for business users.
- IT administrators who would like to gain an understanding of the components that enable iWD Data Mart.

This reference guide assumes that the reader has an understanding of the following:

- Relational database concepts.
- Structured Query Language (SQL) for querying and mining data.
- iWD configuration using iWD GAX Plug-in.
- iWD Manager.
- Data warehouse concepts—including working with star schemas, dimensions, aggregates, and measures.
- Extraction, Transformation, and Loading (ETL) concepts.

Sections

- **IWD Reporting** provides an overview of iWD reporting and the iWD Data Mart.
- **iWD Data Mart Schema** describes the facts, aggregates, dimensions, and views of the iWD Data Mart.
- **IWD ETL Jobs** describes the iWD ETL jobs.
- **Customizing iWD** provides the high-level steps that you must follow to have iWD calculate new statistics and aggregates. This chapter also provides one example for how to create the `product_pendingoverdue` statistic.

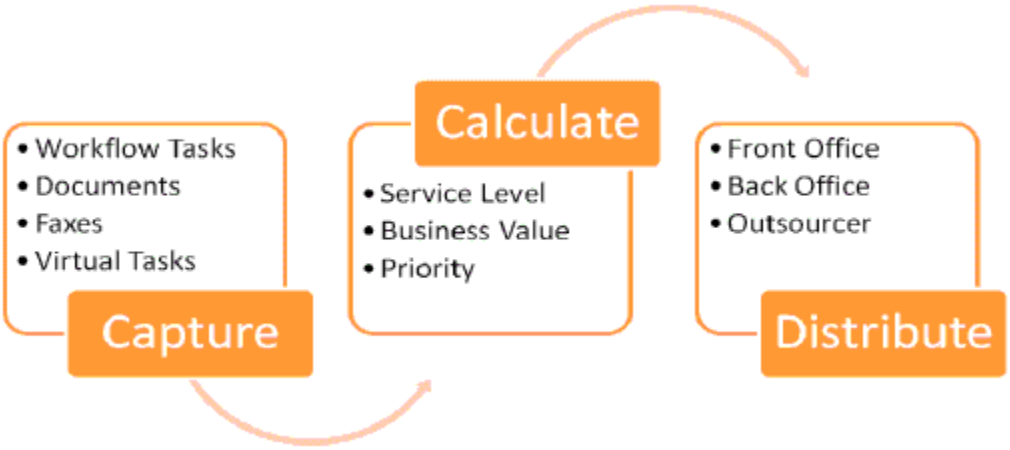
IWD Overview

iWD works in concert with the Genesys Customer Interaction Management (CIM) Platform—enabling a centralized service delivery platform, and proactively managing interactions and tasks across all channels and media.

Only with a Global Task List (which is sorted, based on business value) can the enterprise ensure that the right resources—regardless of their location—are proactively receiving the most critical or highest value tasks—regardless of media type—at the right time. Being able to react quickly with new business intelligence and work effectively are key success factors with any enterprise in today's competitive marketplace.

As depicted in the graphic below, iWD supports three main areas:

- Capturing tasks
- Calculating task values
- Distributing tasks



IWD Schematic

Capture Tasks

To address the challenge of having tasks stored across multiple enterprise systems, iWD accepts work—in electronic format—from a broad range of applications, such as customer-relationship management, workflow, host systems, and Enterprise Service Bus (ESB) systems.

Calculate Tasks Values

Using the business rules that are configured by users, iWD calculates service-level values such as task due date, business value, and priority. By using these values, iWD orders tasks from most important to least important, and monitors and proactively manages tasks to ensure compliance with

service-level objectives that are specific to your business.

Distribute Tasks

iWD distributes tasks to front- or back-office resources, or to external partners like business process outsourcers, working in concert with the Genesys CIM Platform.

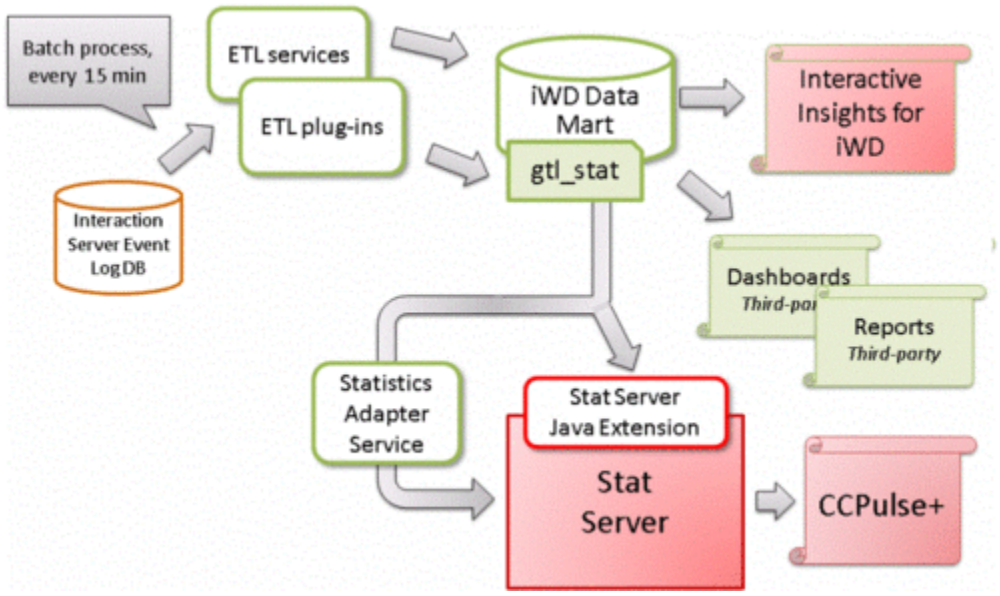
IWD Reporting

Overview

With an increasing number of choices in the marketplace and higher expectations of service quality, the ability to measure the efficiency and effectiveness of customer service delivery becomes a key component of success. iWD streamlines an often cumbersome reporting process through:

- *Cradle-to-grave* reporting from the time that a task enters the contact center until its completion.
- Consolidated reporting across the various systems that are involved in customer-service delivery: fax servers, workflow, customer-relationship management, and Genesys Customer Interaction Management.
- Reporting that is based on business context—with business process, customer segment, and product independent of channel, instead of being limited to interactions, queues, channels, and workflows.

The key to achieving the desired business results is having access to actionable business intelligence. Genesys iWD offers comprehensive reporting, providing management insight into business operation. It provides key indicators of performance both through current-day statistics and on an historical basis. The historical metrics are provided based on aggregates and measures that are populated by scheduled ETL processes, which extract data from the Genesys Interaction Server Event Log database and load it into the iWD Data Mart. This next figure provides a functional overview of iWD's reporting components. Third-party services can reference iWD statistics from the GTL_STAT table (GTL, for Global Task List) to display data in dashboards or within Genesys CCPulse+.



> **Important**
> Each iWD solution requires its own Data Mart.

Database Objects

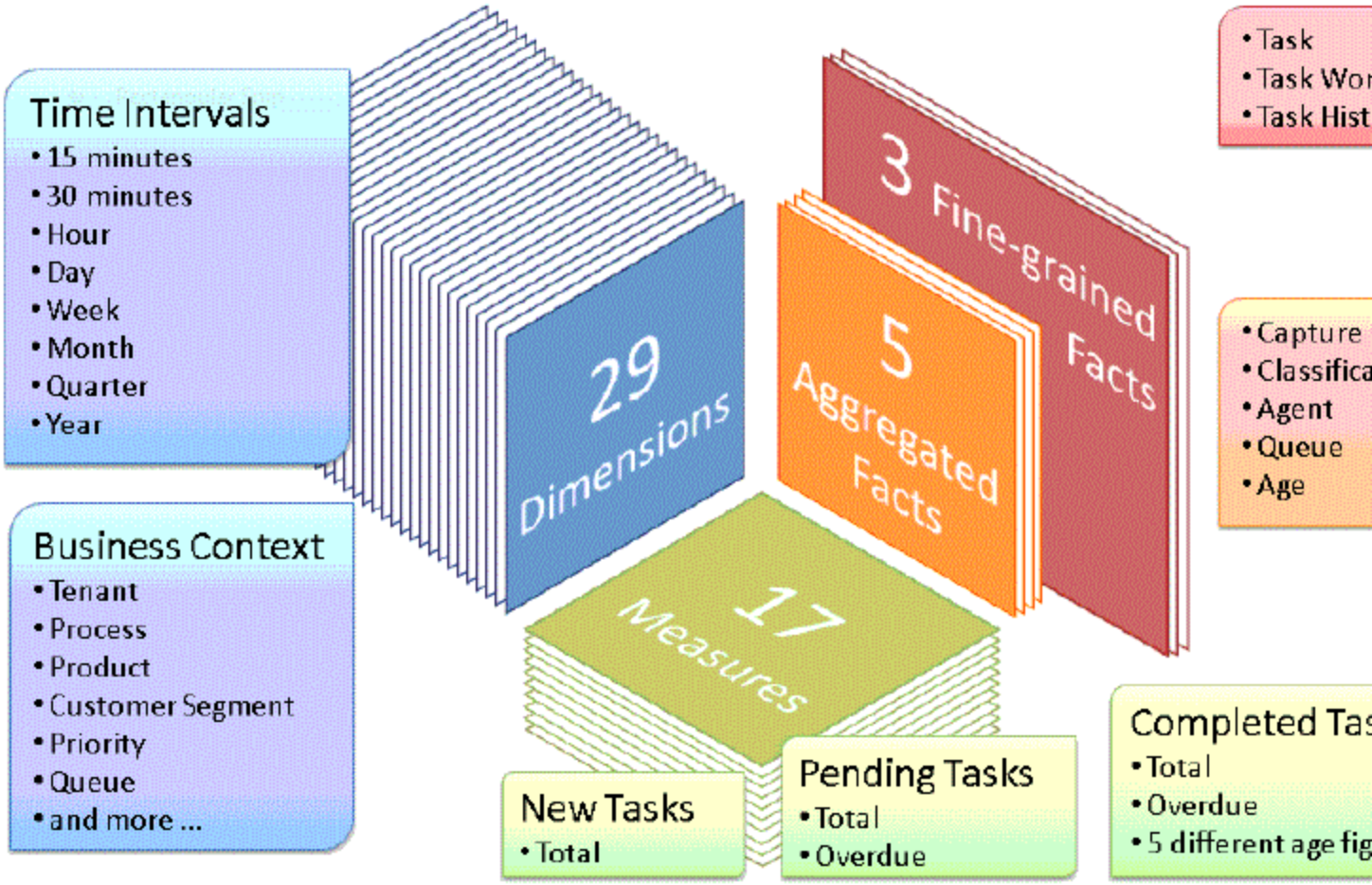
iWD Data Mart consists of the following database objects:

- Fine-grained fact tables—Store all attributes that are associated with tasks (**I_TASK_FACT/H_TASK_FACT** tables), work-related events (**I_TASK_WORK_FACT/H_TASK_WORK_FACT** tables), when the task was assigned to one or more agents; and a full audit history of the task (**I_TASK_EVENT_FACT/H_TASK_EVENT_FACT** tables).

> **Important**
> The term *agent* refers to any resource, configured as a Person object in Configuration Server, that can handle tasks. (Within Genesys Administrator, Person objects appear as User objects within the interface.)

- Aggregated fact tables—Describe tasks in an iWD-oriented context across the various stages, or the iWD life cycle of the task, from capture and classification to distribution to agent.
- Dimensions—Describe task attributes that are common across the fact tables in iWD Data Mart, such as iWD business process, priority, business value, and date and time. Fact tables link to these dimensions through keys.
- Measures—Represent numerical values (such as totals, durations, averages, minimums, and maximums) that are stored in aggregated fact tables across intraday and historical intervals. For example, the total number of completed tasks by 15-minute interval by an iWD process and business value would be captured within the **I_TASK_CAPT_FACT_15MIN** intraday table.

When they are connected to existing enterprise data marts, including Genesys Info Mart, analysts gain access to comprehensive views of the entire customer experience. Analytical reporting leverages existing business intelligence tools, such as those that are provided by Pentaho (which is an open-source product suite for business intelligence) or through a host of commercial products from Cognos or SAP Crystal Reports.



iWD Data Mart–Dimensions, Measures, and Facts

IWD Statistics

Kettle Plug-Ins

To make iWD data available to other Genesys products, iWD provides five Kettle plug-ins (see **Customizing iWD**) to generate and write certain data to the **GTL_STAT** iWD Data Mart table. Kettle is the component of the Pentaho suite that is responsible for the management of ETL processes; plug-ins are user-designed Kettle scripts for the generation of statistics. The **aggregate_stats** job, (see **iWD ETL Jobs**), reads the **stats.properties** file and executes all of the plug-ins that are listed there, providing each of them each with four parameters:

- `TENANT_RUNTIME_ID`
- `SOLUTION_RUNTIME_ID`
- `STAT_SERVICE_ID`
- `INTERVAL_KEY`, the key of the last aggregated date and time interval

Using these parameters, the plug-in can query fine-grained facts, aggregated facts, and dimensions to create the requested statistics and write them to **GTL_STAT** table. The table below shows the structure of this **GTL_STAT** table.

Aggregation Tables/Views per Subject Area

Column	Data Type	Description
ID	int	Primary key of this table.
TENANTID	varchar(64)	iWD Manager ID of the tenant in which iWD Data Mart is configured.
SOLUTIONID	varchar(64)	iWD Manager ID of the solution in which iWD Data Mart is configured.
STATSERVICEID	varchar(64)	iWD Manager ID of the Statistics Adapter Service that is used to connect to Stat Server for submission of statistics.
DIMENSIONTYPE	varchar(64)	Object type for which this statistic is calculated. By default, this value is one of the following: • SLT–for Solution • DPT–for Department

Column	Data Type	Description
		• PRC–for Process
DIMENSIONID	varchar(64)	ID of the object—for example, the SolutionID, DepartmentID, or ProcessID. This value is used to generate Stat Server filters.
MEASUREID	varchar(64)	Measure ID. This value is used to generate Stat Server stat types.
MEASUREVALUE	int	Value of the measure.

Statistics Adapter Service

The Statistics Adapter Service (see iWD Reporting), processes the statistics in the **GTL_STAT** table and writes statistical parameters (stat types and filters) to the configuration of the indicated Stat Server application in Configuration Server. The properties of the Statistics Adapter Service are described in the **iWD 8.5 Deployment Guide**.

Stat Server Java Extension

The iWD Stat Server Java Extension (**BPR_iWD_Extension.jar**) also processes statistics from the **GTL_STAT** table on behalf of Stat Server, to make available statistical data to other Genesys applications. To accomplish this, you must complete both the following two tasks:

- Configure the Statistics Adapter Service in iWD with information to connect to a specific Stat Server application, and:
- Configure Stat Server to use **BPR_iWD_Extension.jar**. In turn, CCPulse+ requests iWD statistics from Stat Server and reads the stat types and filters from the Stat Server configuration.

Instructions for how to configure Java Extensions within Stat Server are described in the **8.5 Stat Server Deployment Guide**.

IWD Task Attributes

At the heart of iWD reporting is the set of task attributes that describe aspects of a task and its association within a business context, such as iWD business process. Task attributes can be classified into one of three categories:

- Core attributes
- Extended attributes
- Custom attributes

Understanding these attributes will help you understand the measures and aggregates stored in the iWD Data Mart. Incorrect use or interpretation of these values can have a negative effect on reporting outcomes.

Core Attributes

Core attributes describe the fundamentals of a task. These attributes are used in assembling tasks in the Global Task List, based on the business value and priority that are defined within iWD. Core attributes are either set automatically by iWD (through iWD business rules), or provided by the source system (through the Capture Adapter interface). The following are some iWD core task attributes:

- `activationDateTime`
- `assignedDateTime`
- `assignedToUser`
- `businessCalendarID`
- `businessValue`
- `captureId`
- `category`
- `channel`
- `completedDateTime`
- `createdDateTime`
- `departmentID`
- `dueDateTime`
- `expirationDateTime`
- `heldDateTime`
- `interactionID`
- `mediaType`

- priority
- processID
- queue
- queueTarget
- queueType
- reprioritizeDateTime
- solutionID
- status
- tenantID

Extended Attributes

Extended attributes provide additional context about a task, enabling you to tailor the service-level agreement (SLA) rules for managing tasks on the Global Task List. They can also aid in customizing current-day and historical reporting. For example, use of several capture dates allows an organization to measure performance against the date and time at which an order or loan application was received by the source system or was submitted by the customer via a web form. The following are some extended task attributes:

- customerId
- customerSegment
- productSubtype
- productType
- requestedAgent
- requestedAgentGroup
- requestedPlaceGroup
- requestedSkill
- resultCode
- sourceCreatedDateTime
- sourceDueDateTime
- sourceFirstCreatedDateTime
- sourceProcessSubtype
- sourceProcessType
- sourceTenant

Custom Attributes

In addition to the core and extended attributes, iWD enables you to customize additional task details through iWD custom attributes. *Custom attributes* are defined as key-value pairs that are provided by the source system. For example, a web form can contain several fields that might not be mapped to a core or extended attribute. Instead, they can be mapped to a custom attribute.

When custom attributes are submitted via an iWD Capture Adapter—such as iWD Web Service, XML File Capture, or JMS Capture Adapter—iWD stores the values in the Genesys Interaction Server database as user data. Custom attributes can also be mapped to custom dimensions in iWD Data Mart by defining mapping properties on the ETL configuration in iWD GAX Plug-in, further extending the level of tailored reporting that is enabled by iWD Data Mart. Refer to **Configuring Custom Attributes** for information on how to configure custom attributes.

IWD Data Mart Schema

The Genesys iWD Data Mart is a relational database designed around a star schema model. This particular type of multi-dimensional model is simplistic requiring relatively simple queries using joins and conditions that involve only one **fact table** and a single level of **dimension tables** in order to build reports.

Schema Contents

iWD Data Mart schema comprises the following:

- Fact tables
  - Core tables
  - Aggregation tables
- Dimension tables
- System tables
- iWD views
- Indexes

A Bus Matrix illustrates how fact and dimension tables interrelate.

iWD Tables

- iWD Data Mart is supported on the following RDBMSs:
  - Microsoft SQL
  - MySQL
  - Oracle

Refer to the *Supported Operating Environment Reference Manual* for the exact supported version. Field data types, however, are only presented for MySQL in the table descriptions on this Wiki.

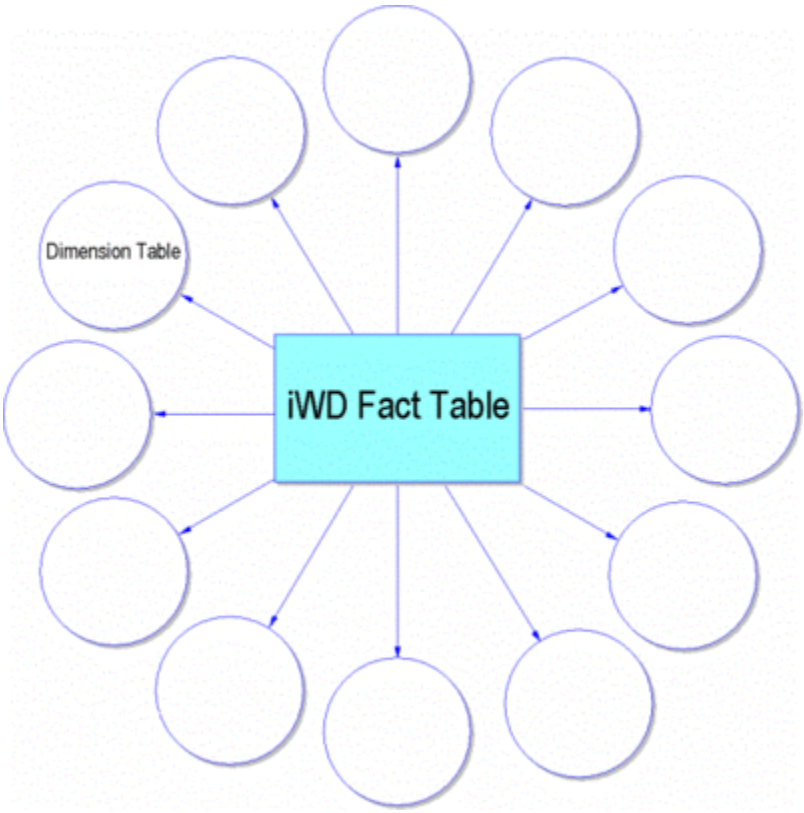
- All date and time keys are recorded in the time zone that is configured for the Kettle ETL Service. By default, this time zone is Universal Coordinated Time (UTC) (when no time zone is configured).
- PK in the column headers of the tables stands for Primary Key.

Star Schemas

- The ETL_AUDIT dimension, which logs execution details about the Data Mart jobs that populate all fact tables, is part of all star schemas, but, for simplicity, is excluded from all illustrations in this document.
- A few of the dimensions, such as EVENT_DATE and EVENT_TIME, in the illustrations depicting start schemas share the same physical space within the graphic. In actuality though, they represent two separate and independent dimensions. This space sharing was necessary only to simplify the illustrations.
- The star schema illustrations depict only one join between facts and dimensions where more than one join may exist. Refer to the table and field descriptions for a more accurate assessment of table interrelationships.

Fact Tables

Fact tables in iWD Data Mart store the primary information about a task—its core, extended, and custom attributes, while the dimension tables provide structured labeling of the attributes that are common to many of the facts in the associated fact tables categorizing each attribute into non-overlapping regions. This combination of one fact table and its set of dimensions creates a star schema as shown below.



Each fact table holds two types of fields:

- Foreign keys that join each of the table's records to appropriate records in dimension tables.
- Measures that provide individual facts about the tasks, such as the number of seconds that an agent worked on task.

The iWD Data Mart houses three types of facts with respect to time:

- Intraday—Fine-grained (or core) and aggregated data for the current day, used for near-realtime dashboards and operational reports.
- Historical—Historical facts and aggregated data, used for historical and analytical reporting.
- Blended—Database views that combine intraday and historical facts.

This separation of intraday from historical data enables faster generation of real-time reports and dashboards. iWD moves intraday task data to the appropriate historical fact table when both of the following conditions are met:

- The day’s data (that's 96 15-minute intervals) has been fully aggregated.
- The task reaches its “final” state.

A final state is achieved when the task reaches a Completed, Canceled, or Rejected status in iWD. Until such time, the task remains in the intraday tables, ineligible for advancement to the historical fact tables, even if the task’s duration spans more than 24 hours.

The iWD Data mart also separates facts based on their level of aggregation:

- iWD Data Mart Core Fact Tables
- iWD Data Mart Aggregate Tables

Core Fact Tables

The iWD Data Mart contains the following groups of fine-grained facts:

- TASK_FACT tables and views
- TASK_WORK_FACT tables and views
- TASK_EVENT_FACT tables and views

Each group of facts includes intraday tables, historical tables, and blended views. Each entity within the group holds two types of fields:

- Foreign keys that join each of the table's records to appropriate values in dimension tables.
- Measures that provide individual facts about the tasks, such as the number of seconds that an agent worked on task.

Each section illustrates the star schemas, or subject areas, that support the core tables and views and provides a data dictionary that lists the data types of each column for the MySQL relational database management system (RDBMS).

TASK_FACT Tables

A *task* describes a definite piece of work from the perspective of the customer. Each iWD task record results in a single fact being written to the iWD Data Mart. You can access a task fact through the following database objects:

- I_TASK_FACT—Intraday data table
- H_TASK_FACT—Historical data table
- TASK_FACT—Blended view of historical and intraday data

The dimensions that support the iWD task fact tables and view are shown in the TASK_FACT star schema below. The fields, data types, and descriptions of each column are provided in the table that follows.

TASK_FACT Star Schema

The I_/H_TASK_FACT Tables

Field	Data Type	Description
INTERACTION_ID	varchar(64)	The Interaction ID, unique within a single Interaction Server database. Together with SOLUTION_KEY, this field serves as the primary key of this table.
SOLUTION_KEY	int	Key to the SOLUTION dimension, describing the solution instance of the task (as configured in iWD GAX Plug-in)—for example, Production versus Test. A solution is assigned as soon as a task is created in the Interaction Server database. A tenant can have more than one solution instance. Together with INTERACTION_ID, this field serves as the primary key of this table.
LAST_TASK_EVENT_ID	int	Unique identifier for the last event that is associated with the task.
CAPTURE_ID	varchar(64)	ID of the task capture, as stored or referenced in the source system—for example, work item ID. This field is a core task attribute.
TENANT_KEY	int	Key to the TENANT dimension, describing the tenant of the task (as configured in iWD GAX Plug-in). A tenant is assigned as soon as a task is created in the Interaction Server database.

Field	Data Type	Description
DEPARTMENT_KEY	int	Key to the DEPARTMENT dimension, identifying the department that is associated with the task.
PROCESS_KEY	int	Key to the PROCESS dimension, identifying the parent iWD business process of the task.
CAPTURE_POINT_KEY	int	Key to the CAPTURE_POINT dimension, identifying the capture point that captured the task.
CURRENT_DISTRIBUTION_POINT_KEY	int	Key to DISTRIBUTION_POINT dimension, identifying the distribution point that distributed the task.
CURRENT_QUEUE_KEY	int	Key to the QUEUE dimension, identifying the queue in which the task resides and queue type.
CURRENT_QUEUE_TARGET_KEY	int	Key to the QUEUE_TARGET dimension, identifying the agent, agent group, place, or place group to which the task was assigned.
SOURCE_FIRST_CREATED_DATE_KEY	int	Key to the EVENT_DATE dimension. This field is reserved for the DTM (Driver Test Manager) from the first system that captured the task. **Note:** iWD provides for task-flow scenarios that involve two source DTMs, where two systems were involved in the origination of a task&mbsp;for example, fax server and workflow.
SOURCE_FIRST_CREATED_TIME_KEY	int	Key to the EVENT_TIME dimension, identifying the time at which the first source system captured the task.
SOURCE_CREATED_DATE_KEY	int	Key to the EVENT_DATE dimension, identifying the date on which the second source system captured the task. The second source system is the DTM that submitted the task to iWD.
SOURCE_CREATED_TIME_KEY	int	Key to the EVENT_TIME dimension, identifying the time at which the second source system captured the task.
SOURCE_DUE_DATE_KEY	int	Key to the EVENT_DATE dimension, identifying the date on which the task is due in

Field	Data Type	Description
		source system.
SOURCE_DUE_TIME_KEY	int	Key to the EVENT_TIME dimension, identifying the time at which the task is due in source system.
CREATED_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the date on which the iWD task was created. Additional created date and time stamps are provided for in the extended attributes to report not only on iWD capture date and time, but also on the source system—for example, workflow capture date and time. Refer to the SOURCE_CREATED and SOURCE_FIRST_CREATED date and time keys.
CREATED_TIME_KEY	int	Key to the EVENT_TIME dimension, describing the time at which the iWD task was created.
ACTIVATION_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the iWD task activation date. This is the date on which the task becomes active; before this date, the task remains in the iWD_Captured queue and will not be prioritized or delivered to agents.
ACTIVATION_TIME_KEY	int	Key to the EVENT_TIME dimension, describing the activation time for the task. Activation time is the moment at which the task becomes active. Before this time, the task remains in the iWD_Captured queue and will not be prioritized or delivered to agents.
DUE_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the date on which the task is due, as set by either iWD rules or the source system.
DUE_TIME_KEY	int	Key to the EVENT_TIME dimension, describing the time at which the task is due, as set by either iWD rules or the source system.
COMPLETED_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the task completion date.
COMPLETED_TIME_KEY	int	Key to the EVENT_TIME

Field	Data Type	Description
		dimension, describing the task completion time.
ASSIGNED_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the date on which the task was assigned to an agent
ASSIGNED_TIME_KEY	int	Key to the EVENT_TIME dimension, describing the time at which the task was assigned to an agent.
MEDIA_CHANNEL_KEY	int	Key to the MEDIA_CHANNEL dimension, describing the channel through which the task was received—for example, fax. This value can be set in iWD rules or by the source system that submitted the task.
CATEGORY_KEY	int	Key to CATEGORY dimension, further describing the task, such as a follow-up.
BUSINESS_VALUE_KEY	int	Key to the BUSINESS_VALUE dimension. Business value is assigned by using iWD rules during the classification phase of the task.
CURRENT_PRIORITY_KEY	int	Key to the PRIORITY dimension. As with business value, initial priorities should be assigned during classification. The priority of a task can change over time. For example, as the task gets closer to its due date, rules can be configured to reprioritize the task proactively. The value that is stored in this field represents the current priority of the task. Historical priority values are stored in the H_TASK_EVENT_FACT table.
CURRENT_STATUS_KEY	int	Key to the STATUS dimension, describing the current status of the task
LAST_ASSIGNED_AGENT_KEY	int	Key to the AGENT dimension, identifying the last agent who was assigned to the task.
LAST_RESULT_CODE_KEY	int	Key to the RESULT_CODE dimension. This value often represents the wrap code from a soft phone, the result code from a routing strategy, or the result code from the source system.

Field	Data Type	Description
CUSTOMER_KEY	int	Key to the CUSTOMER dimension. Often used as the customer ID from the source system. This ID can be utilized to retrieve further customer details from a Customer Relationship Management (CRM) data warehouse or other customer data repository.
CUSTOMER_SEGMENT_KEY	int	Key to the CUSTOMER_SEGMENT dimension, describing the customer to whom the task is associated. The customer segment is received from the source system as an extended iWD task attribute—for example, gold, silver, or bronze.
PRODUCT_KEY	int	Key to the PRODUCT dimension, describing the product to which the task is related—for example, a product name or product type, such as a loan or Internet Digital Subscriber Line (DSL). The product can be further defined by using product subtypes, such as residential loan or home DSL.
SOURCE_TENANT_KEY	int	Key to the SOURCE_TENANT dimension, describing the tenant who submitted the task. It can be important in a multi-tenant or service-bureau environment.
SOURCE_PROCESS_KEY	int	Key to the SOURCE_PROCESS dimension. Source process includes the type and subtype that describe the source process that is associated with the task — for example, Order and DSL Order.
REQUESTED_SKILL_KEY	int	Key to the SKILL dimension, identifying the agent skill that was requested by the iWD rule.
REQUESTED_AGENT_KEY	int	Key to the AGENT dimension, identifying the agent who was requested by the iWD rule.
CUSTOM_DIM_KEY	int	Key to the CUSTOM_DIM dimension containing five additional attributes (beyond those that are listed below) that can be used to dimension a task.
CUSTOM_ATTRIBUTE1	varchar(255)	Custom attributes describe a task.
CUSTOM_ATTRIBUTE2		

Field	Data Type	Description
CUSTOM_ATTRIBUTE3		A total of 10 custom attributes can be mapped to the task, with an additional 5 attributes in the CUSTOM_DIM dimension. If more than 10 task attributes exist, only the first 10 are mapped; the ones that remain are not mapped.
CUSTOM_ATTRIBUTE4		
CUSTOM_ATTRIBUTE5		
CUSTOM_ATTRIBUTE6		
CUSTOM_ATTRIBUTE7		
CUSTOM_ATTRIBUTE8		
CUSTOM_ATTRIBUTE9		
CUSTOM_ATTRIBUTE10		
SRC_CRT_TIME_FR_FIRST_CRTD_SEC	int	Calculated time value, in seconds, that counts the time that has elapsed from task capture from the first system to the source system—for example, fax server to workflow system.
CRT_TIME_FR_SRC_CRTD_SEC	int	Calculated time value, in seconds, from the time at which the task was created in the source system—for example, workflow—to the time at which it was created in iWD.
ACTIVATE_TIME_FROM_CREATED_SEC	int	Calculated value, in seconds, that counts the time that has elapsed from the time at which the task was submitted to iWD to the time at which it was activated.
ASSIGN_TIME_FROM_CREATED_SEC	int	Calculated value, in seconds, that counts the time that has elapsed from the time at which the task was created in iWD to the time at which it was assigned to an agent.
COMPLETE_TIME_FROM_CREATED_SEC	int	Calculated value, in seconds, that counts the time that has elapsed from the time at which the task was created in iWD to the time at which it was completed by the agent.
TOTAL_HELD_TIME_SEC	int	Calculated value, in seconds, that counts the total time that a task was held in iWD. This is an iWD “hold” action via an iWD capture point or through iWD Manager user interface and not a hold event from a soft phone or desktop application.
TOTAL_WORK_TIME_SEC	int	Calculated value, in seconds, that counts the time that has elapsed from the time at which a

Field	Data Type	Description
		task was assigned to an agent to the time at which it was completed by the agent. A task may have multiple work times, as noted in TASK_WORK_FACT. This is the total sum.
CREATED_INTERVAL	int	Time interval that is derived from the CREATED_DATE_KEY and CREATED_TIME_KEY fields. Used for ETL scripts.
COMPLETED_INTERVAL	int	Time interval that is derived from the COMPLETED_DATE_KEY and COMPLETED_TIME_KEY fields. Used for ETL scripts.
DUE_TS	int	Timestamp for the iWD task's due date and time. Used for ETL scripts.
COMPLETED_TS	int	Timestamp for the iWD task's completed date and time. Used for ETL scripts.
ACTIVATION_INTERVAL	int	Time interval that is derived from the ACTIVATION_DATE_KEY and ACTIVATION_TIME_KEY fields. Used for ETL scripts.
ASSIGNED_INTERVAL	int	Time interval that is derived from the ASSIGNED_DATE_KEY and ASSIGN_TIME_KEY fields. Used for ETL scripts.
DUE_INTERVAL	int	Time interval that is derived from the DUE_DATE_KEY and DUE_TIME_KEY fields. Used for ETL scripts.
SOURCE_CREATED_INTERVAL	int	Time interval that is derived from the SOURCE_CREATED_DATE_KEY and SOURCE_CREATED_TIME_KEY fields. Used for ETL scripts.
SOURCE_FIRST_CREATED_INTERVAL	int	Time interval that is derived from the SOURCE_FIRST_CREATED_DATE_KEY and SOURCE_FIRST_CREATED_TIME_KEY fields. Used for ETL scripts.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this task fact.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this task fact.
TIMEZONE_KEY	int	Key to the TIMEZONE dimension, identifying the time zone of the

Field	Data Type	Description
		timestamp at which the task was created.
START_DATE_TIME_KEY	int	Key to the DATE_TIME table, identifying the 15-minute interval during which this record was created.

TASK_WORK_FACT Tables

A *task work fact* describes a task from the perspective of enterprise resources. Each time a task is assigned to an agent, iWD records a new task work fact. In the Data Mart, you can access a task work fact through the following objects:

- I_TASK_WORK_FACT—Intraday data table
- H_TASK_WORK_FACT—Historical data table
- TASK_WORK_FACT—Blended view of historical and intraday data

The dimensions that support the iWD task work fact tables and views are shown in the TASK_WORK_FACT star schema below. The fields, data types, and descriptions of each column of the TASK_WORK_FACT intraday and historical tables follow.

TASK_WORK_FACT Star Schema

The I_/H_TASK_WORK_FACT Tables

Field	Data Type	Description
ASSIGN_TASK_EVENT_ID	int	ID, taken from the Interaction Server event log, that corresponds to the event at which the task was assigned to agent. This field, together with SOLUTION_KEY, forms the primary key of this table.
SOLUTION_KEY	int	Key to the SOLUTION dimension. A solution is assigned as soon as a task is created in the Interaction Server database. A tenant can have more than one solution instance. This field, together with ASSIGN_TASK_EVENT_ID, forms the primary key of this table.
INTERACTION_ID	varchar(64)	Interaction ID. This field is unique within a single Interaction Server database.
FINISH_TASK_EVENT_ID	int	ID, taken from the Interaction Server event log, that corresponds to the event at which an agent finished working on the task.
IS_ABANDON	int	Indicates whether a task was abandoned: • 0 indicates that the task was not abandoned (status finished).

Field	Data Type	Description
		• 1 indicates that the task was abandoned.
CAPTURE_ID	varchar(64)	Capture ID for the task, assigned by the source system. This field is a core task attribute.
TENANT_KEY	int	Key to the TENANT dimension, describing the parent iWD tenant of the task.
DEPARTMENT_KEY	int	Key to the DEPARTMENT dimension, describing the parent iWD department of the task.
PROCESS_KEY	int	Key to the PROCESS dimension, describing the parent iWD process of the task.
CAPTURE_POINT_KEY	int	Key to the CAPTURE_POINT dimension, describing the parent iWD capture point of the task—for example, capture point name = XML File Capture).
DISTRIBUTION_POINT_KEY	int	Key to the DISTRIBUTION_POINT dimension describing the task's parent iWD distribution point—for example, name = Toronto Call Center.
QUEUE_KEY	int	Key to the QUEUE dimension.
ASSIGN_DATE_KEY	int	Key to the EVENT_DATE dimension indicating when the task was assigned to the agent.
ASSIGN_TIME_KEY	int	Key to the EVENT_TIME dimension indicating when the task was assigned to the agent.
FINISH_DATE_KEY	int	Key to the EVENT_DATE dimension indicating when the task was assigned to the agent.
FINISH_TIME_KEY	int	Key to the EVENT_TIME dimension indicating when the task was assigned to the agent.
MEDIA_CHANNEL_KEY	int	Key to the MEDIA_CHANNEL dimension, describing the channel through which the task was received—for example, fax. This value can be set in iWD rules or by the system that is submitting the task.
CATEGORY_KEY	int	Key to the CATEGORY dimension, describing the category that is associated with the task.

Field	Data Type	Description
BUSINESS_VALUE_KEY	int	Key to the BUSINESS_VALUE dimension.
PRIORITY_KEY	int	Key to the PRIORITY dimension.
ASSIGNED_AGENT_KEY	int	Key to the AGENT dimension, storing the agent ID for the agent who received the task. This key can be used to retrieve additional agent information from Genesys Info Mart, such as Agent Skill, or other employee data from EDW.
RESULT_CODE_KEY	int	Key to the RESULT_CODE dimension.
CUSTOMER_KEY	int	Key to the CUSTOMER dimension, storing the unique value that identifies the customer. This key can be used to retrieve additional details about the customer from other enterprise data repositories.
CUSTOMER_SEGMENT_KEY	int	Key to the CUSTOMER_SEGMENT dimension, describing the segment for the customer—for example, gold, silver, or bronze.
PRODUCT_KEY	int	Key to the PRODUCT dimension, describing the product type (Internet) and subtype (DSL) that are associated with the task.
SOURCE_TENANT_KEY	int	Key to the SOURCE_TENANT dimension, describing the source tenant (where the source system is part of a multi-tenant environment).
SOURCE_PROCESS_KEY	int	Key to the SOURCE_PROCESS dimension, describing the source process—for example, Order.
CUSTOM_DIM_KEY	int	Key to the CUSTOM_DIM dimension containing five additional attributes (beyond those that are listed below) that can be used to dimension a task.
CUSTOM_ATTRIBUTE1	varchar(255)	Custom attribute that describes a task. A total of 10 custom attributes can be mapped to the task, with an additional 5 attributes in the CUSTOM_DIM dimension.
CUSTOM_ATTRIBUTE2		
CUSTOM_ATTRIBUTE3		
CUSTOM_ATTRIBUTE4		
CUSTOM_ATTRIBUTE5		
CUSTOM_ATTRIBUTE6		
CUSTOM_ATTRIBUTE7		

Field	Data Type	Description
CUSTOM_ATTRIBUTE8		
CUSTOM_ATTRIBUTE9		
CUSTOM_ATTRIBUTE10		
WORK_TIME_SEC	int	Calculated value, in seconds, where the work time is the time from agent complete to agent assigned.
FINISH_INTERVAL	int	Time interval that is derived from the FINISH_DATE_KEY and FINISH_TIME_KEY fields. Used for ETL scripts.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this task work fact.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this task work fact.
START_DATE_TIME_KEY	int	Key to the DATE_TIME dimension, identifying the 15-minute interval during which this record was created.

TASK_EVENT_FACT Tables

A *task event* provides detailed audit information about a task. The creation, update, hold, resumption, cancelation, and completion of each task in iWD Manager generates an audit event in the Interaction Server Event Log database. When a task is assigned to an iWD process, for example, an audit event record stores the date and time at which the event occurred to the I_TASK_EVENT_FACT table. Certain Interaction Server–generated events also are transformed into task event facts. You can see these events in the iWD Manager history view.

In the iWD Data Mart, you access task event facts through the following database objects:

- I_TASK_EVENT_FACT—Intraday data table
- H_TASK_EVENT_FACT—Historical data table
- TASK_EVENT_FACT—Blended view of historical and intraday data

The dimensions that support the iWD task event fact tables and views are shown in the TASK_EVENT_FACT star schema below. The fields, data types, and descriptions of each column of the TASK_EVENT_FACT intraday and historical tables follow.

The I_/H_TASK_EVENT_FACT Tables

Field	Data Type	Description
TASK_EVENT_ID	int	Unique ID for the event. This field, together with SOLUTION_KEY, forms the primary key of this table.

Field	Data Type	Description
SOLUTION_KEY	int	Key to the SOLUTION dimension, describing the solution instance of the task (as configured in iWD GAX Plug-in)—for example, Production versus Test. A solution is assigned as soon as a task is created in the Interaction Server database. A tenant can have more than one solution instance. This field, together with TASK_EVENT_ID, forms the primary key of this table.
CAPTURE_ID	varchar(64)	Capture ID for the task, assigned by the source system. This field is a core task attribute.
INTERACTION_ID	varchar(64)	Interaction ID. This field is unique within a single Interaction Server database.
TASK_EVENT_TYPE_KEY	int	Key to the TASK_EVENT_TYPE dimension. Event types are iWD event types, such as RULE_APPLIED. You can view event types in the task history in iWD Manager.
DISTRIBUTION_POINT_KEY	int	Key to the DISTRIBUTION_POINT dimension, identifying the object from which this task was sent on for completion—for example, name = Toronto Call Center.
EVENT_DATE_KEY	int	Key to the EVENT_DATE dimension, identifying the date on which the event occurred.
EVENT_TIME_KEY	int	Key to the EVENT_TIME dimension, identifying the time at which the event occurred.
STATUS_KEY	int	Key to the STATUS dimension.
ACTIVATION_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the activation date of the iWD task. Tasks can be submitted and not acted upon until this date.
ACTIVATION_TIME_KEY	int	Key to the EVENT_TIME dimension, describing the activation time of the iWD task.
DUE_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the due date of the iWD task (as set by iWD rules or by the source system).
DUE_TIME_KEY	int	Key to the EVENT_TIME

Field	Data Type	Description
		dimension, describing the due time of the iWD task.
BUSINESS_VALUE_KEY	int	Key to the BUSINESS_VALUE dimension.
PRIORITY_KEY	int	Key to the PRIORITY dimension.
ASSIGNED_AGENT_KEY	int	Key to the AGENT dimension, describing the agent to whom the task was assigned when the event record resulted in a task assignment to an agent.
RESULT_CODE_KEY	int	Key to the RESULT_CODE dimension when the event is an update of a result code from the agent or source system.
DEPARTMENT_KEY	int	Key to the DEPARTMENT dimension, describing the iWD department.
PROCESS_KEY	int	Key to the PROCESS dimension, describing the iWD process.
ENTERED_QUEUE_KEY	int	Key to the QUEUE dimension, describing the queue into which the task entered (for the DISTRIBUTE_WORKBIN and DISTRIBUTE_QUEUE event types).
ENTERED_QUEUE_TARGET_KEY	int	Key to the QUEUE_TARGET dimension, describing the agent, agent group, place, or place group to which the task was assigned in a new (entered) workbin (for the DISTRIBUTE_WORKBIN and DISTRIBUTE_QUEUE event types).
EXITED_QUEUE_KEY	int	Key to the QUEUE dimension, describing the queue from which the task exited (for DISTRIBUTE_WORKBIN and DISTRIBUTE_QUEUE event types).
EXITED_QUEUE_TARGET_KEY	int	Key to the QUEUE_TARGET dimension, describing the agent, agent group, place, or place group to which the task was assigned in a previous (exit) workbin (for the DISTRIBUTE_WORKBIN and DISTRIBUTE_QUEUE event types).
CUSTOM_DIM_KEY	int	Key to the CUSTOM_DIM dimension.
WORK_TIME_SEC	int	Number of seconds that the agent worked on the task.

Field	Data Type	Description
HELD_TIME_SEC	int	Number of seconds that the task was in HELD state.
EVENT_INTERVAL	int	Time interval that is derived from the EVENT_DATE_KEY and EVENT_TIME_KEY fields. Used for ETL scripts.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this task event fact.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this task event fact.
START_DATE_TIME_KEY	int	Key to the DATE_TIME dimension, identifying the 15-minute interval in which this record was created.

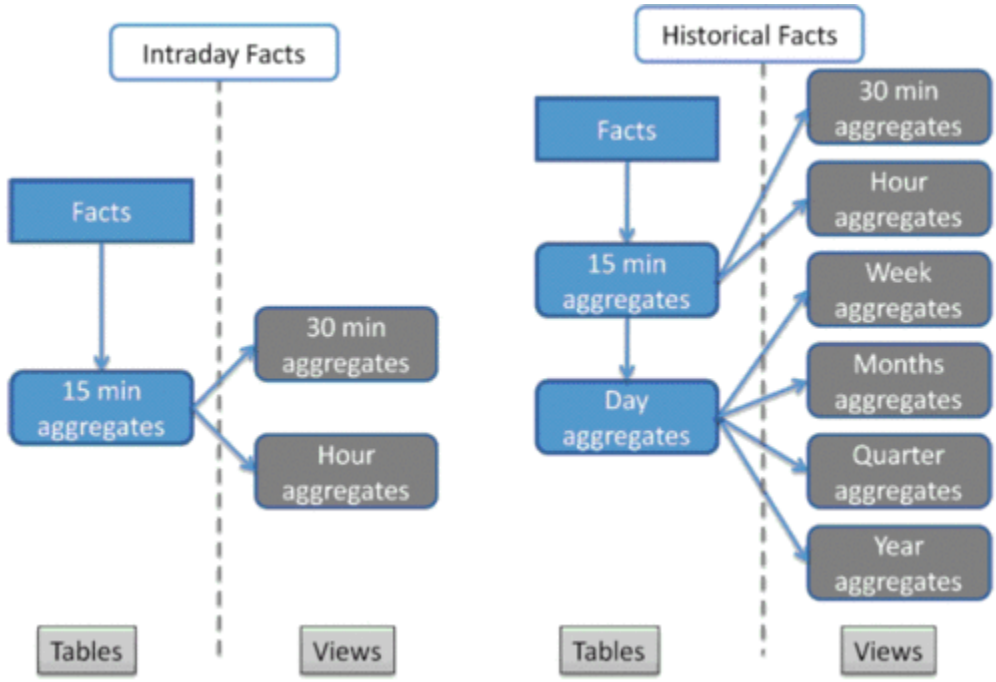
Aggregate Tables

Aggregate facts are aggregated representations of the core facts that were described in previous section. There are three main purposes for aggregated facts:

- Simplified data queries
- Increased query performance
- Decreased database size (granular core facts do not need to be stored for an extended period of time)

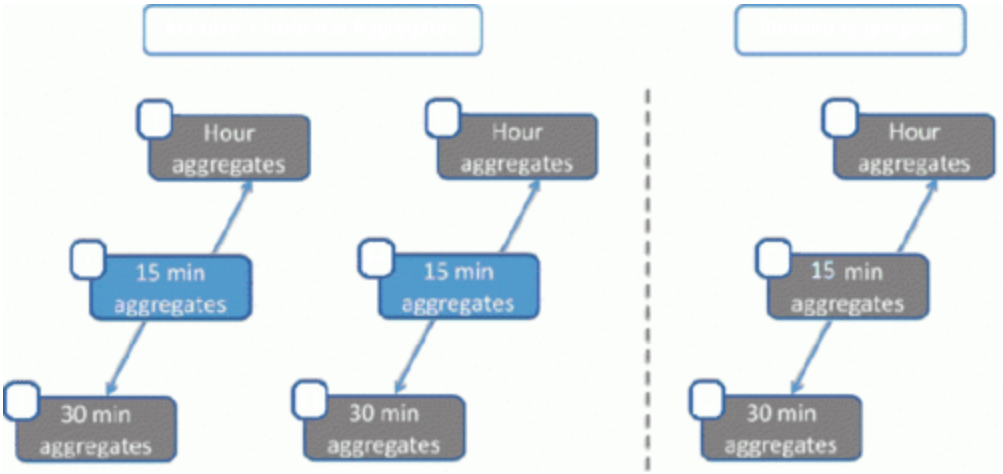
Each aggregated fact in iWD Data Mart is an aggregation of two dimensions, one of which is always a time interval. iWD Data Mart directly aggregates facts for two time intervals: 15 minutes (intraday and historical) and day (historical).

In addition, those aggregation levels represented in the following figure are supported via database views.



Each aggregated table or view in the Data Mart is postfixed with a time interval: `_15MIN`, `_30MIN`, `_HOUR`, `_DAY`, `_WEEK`, `_MONTH`, `_QUARTER`, or `_YEAR`.

Similar to the core facts, intraday aggregations are prefixed with `I_` and historical aggregations are prefixed with `H_`. Blended aggregations are available only for 15-minute, 30-minute, and hourly time intervals, as shown in the following figure.



The following lists all of the possible aggregation tables and views per single aggregation subject area.

Aggregation Tables/Views per Subject Area

Name	Aggregate Type	Type
I_<*subj_area*>_15MIN	Intraday 15-min aggregation	Table
I_<*subj_area*>_30MIN	Intraday 30-min aggregation	View
I_<*subj_area*>_HOUR	Intraday hourly aggregation	View
H_<*subj_area*>_15MIN	Historical 15-min aggregation	Table
H_<*subj_area*>_DAY	Historical daily aggregation	Table
H_<*subj_area*>_WEEK	Historical weekly aggregation	View
H_<*subj_area*>_MONTH	Historical monthly aggregation	View
H_<*subj_area*>_QUARTER	Historical quarterly aggregation	View
H_<*subj_area*>_YEAR	Historical yearly aggregation	View
<*subj_area*>_15MIN	Blended 15-min aggregation	View
<*subj_area*>_30MIN	Blended 30-min aggregation	View
<*subj_area*>_HOUR	Blended hour aggregation	View

The iWD Data Mart provides aggregate tables and views for the following subject areas:

- TASK_AGE_FACT
- TASK_AGENT_FACT
- TASK_CAPT_FACT
- TASK_CLASSIF_FACT
- TASK_QUEUE_FACT

You must manually activate the plugins for all subject areas (except TASK_CLASSIF_FACT, which is delivered pre-activated) in order enable aggregation. Refer to Activating iWD Aggregate Plugins for more information.

So, for example, the complete set of database tables and views that are provided for the TASK_CAPT_FACT subject area are the following:

Tables

- I_TASK_CAPT_FACT_15MIN
- H_TASK_CAPT_FACT_15MIN
- H_TASK_CAPT_FACT_DAY

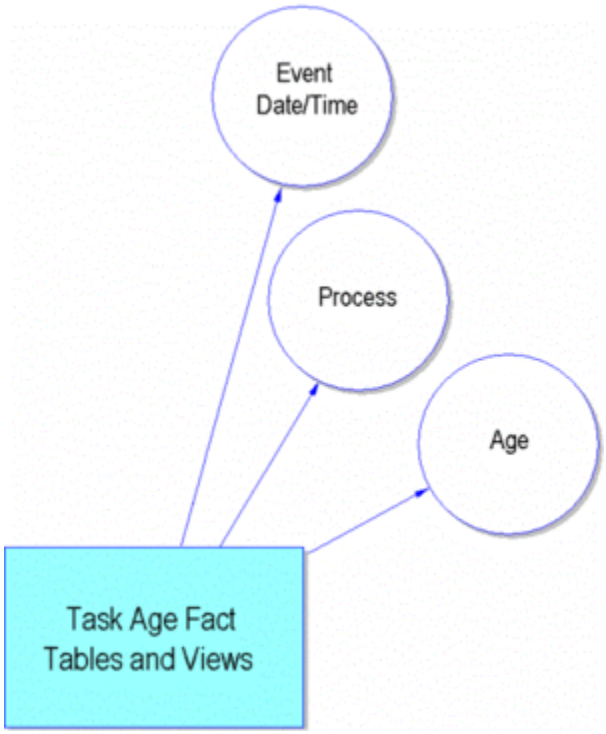
Views

- I_TASK_CAPT_FACT_30MIN
- I_TASK_CAPT_FACT_HOUR
- H_TASK_CAPT_FACT_WEEK
- H_TASK_CAPT_FACT_MONTH
- H_TASK_CAPT_FACT_QUARTER
- H_TASK_CAPT_FACT_YEAR
- TASK_CAPT_FACT_15MIN
- TASK_CAPT_FACT_30MIN
- TASK_CAPT_FACT_HOUR

TASK_AGE_FACT Aggregate

The *task age aggregate* provides measures which are grouped by task process and age over the different time intervals. Data is aggregated from the I_TASK_FACT table. This table's values reflect only those tasks which have been classified where the status is at least Queued.

The following subject area diagram shows the dimensions that support the iWD task age aggregate tables and views.



The following shows the structure of the TASK_AGE_FACT aggregate tables.

The TASK_AGE_FACT Aggregate Tables

Attribute	Data Type	PK	Description
PROCESS_KEY	int	X	Key to PROCESS dimension.
AGE_KEY	int	X	Key to AGE dimension (equals number of minutes).
AGE_TYPE	int	X	Indicates age type: 1 – since source first created. 2 – since source created. 3 – since created. 4 – since activated.

Attribute	Data Type	PK	Description
			6 – since assigned.
INTERVAL_DATE_KEY	int	X	Key to the EVENT_DATE dimension
INTERVAL_TIME_KEY	int	X	Key to the EVENT_TIME dimension
TOTAL_PENDING_TASK_COUNT	INT		The current number of pending (status is `Queued`, `Assigned`, or `Held`) tasks at the end of the given time interval.
TOTAL_OVERDUE_TASK_COUNT	INT		The current number of pending tasks that are overdue tasks at the end of the given time interval. A task is considered overdue when the SLA due date and time (as stored in the `IWD_dueDateTime` attribute) has been missed.
CMPL_TASK_COUNT	int		The number of tasks still pending within the reporting interval.

TASK_AGENT_FACT Aggregate

The *task agent aggregate* provides measures which are grouped by task process, the queue from which tasks were distributed, the result code, and the agent who was assigned the task over the different time intervals. Data is aggregated from the I_TASK_WORK_FACT table. This table's values reflect an aggregate of the number of times that an agent has worked on tasks which could differ from the number of tasks that were actually completed (for those tasks that were not assigned to agents).

The following subject area diagram shows the dimensions that support the task agent aggregate tables and views.

The following shows the structure of the TASK_AGENT_FACT aggregate tables.

The TASK_AGENT_FACT Aggregate Tables

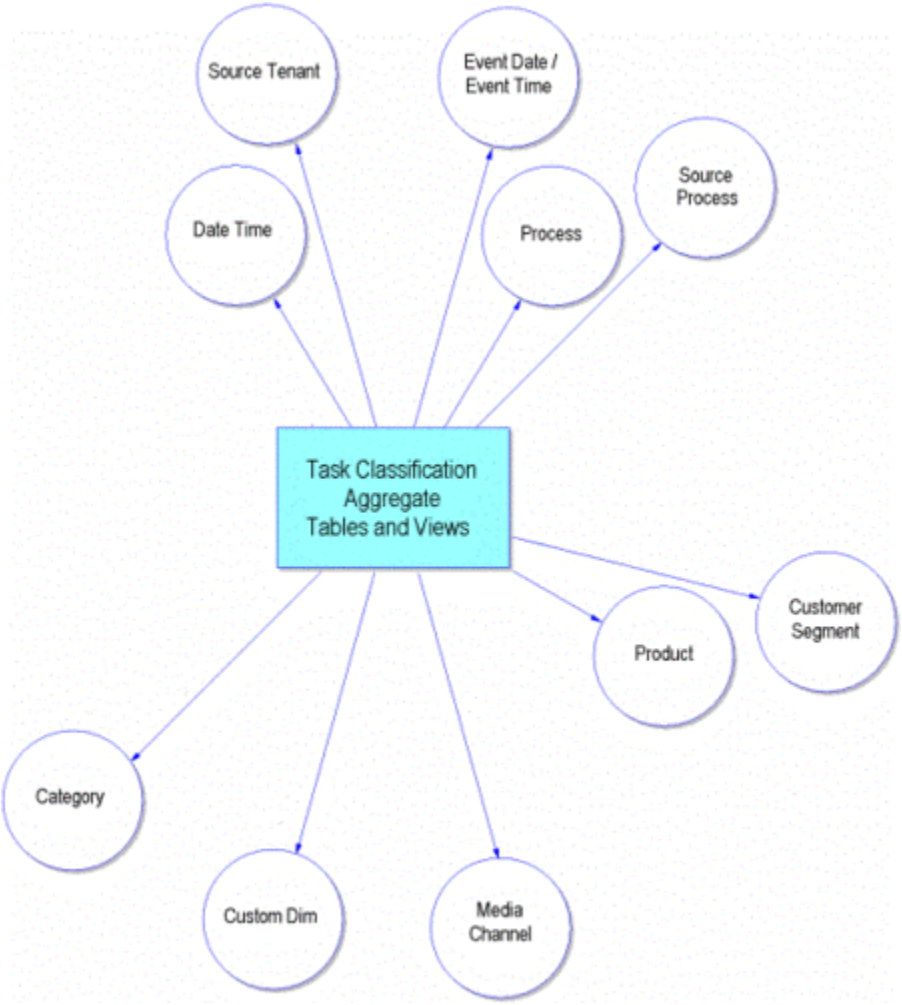
Attribute	Data Type	PK	Description
INTERVAL_DATE_KEY	int	X	Key to the EVENT_DATE dimension
INTERVAL_TIME_KEY	int	X	Key to the EVENT_TIME dimension, indicating the start time of the time interval. This field is present only for sub-day aggregation levels—for example, 15 minutes, 30 minutes, and hourly.
AGENT_KEY	int	X	Key to AGENT dimension dimension, identifying the agent who is associated with this record.
PROCESS_KEY	int	X	Key to the PROCESS dimension, identifying the process that is associated with this record.
QUEUE_KEY	int	X	Key to the QUEUE dimension, identifying the queue that is associated with this record.
CUSTOM_DIM_KEY	int	X	Key to the CUSTOM_DIM dimension, identifying the distinct combination of custom attributes associated with this record.
RESULT_CODE_KEY	int	X	Key to the RESULT_CODE dimension.
INTERVAL_KEY	int		Technical field that is derived from the `INTERVAL_DATE_KEY` and `INTERVAL_TIME_KEY` fields for ETL internal use. [(IDateKey x 1440) + ITimeKey]/15 This field is present only for sub-day aggregation levels.
TASK_WORK_COUNT	int		Number of tasks that the agent has handled during the given time

Attribute	Data Type	PK	Description
			interval.
AVG_WORK_TIME	int		Average amount of time, in seconds, that the agent spent working on a task (finished – assigned).
MIN_WORK_TIME	int		Least amount of time, in seconds, that the agent spent working on a task.
MAX_WORK_TIME	int		Most amount of time, in seconds, that the agent spent working on a task.
WORK_TIME	int		Total time, in seconds, that the agent spent working on a task (finished – assigned).
DATE_TIME_KEY	int		Key to the DATE_TIME dimension.

TASK_CLASSIF_FACT Aggregate

The task classification aggregate provides measures that are grouped by task process, media, category, customer segment, product, source process, and source tenant over different time intervals. Data is aggregated from the I_TASK_FACT table.

The following subject area diagram shows the dimensions that support the iWD task classification aggregate tables and views.



The following shows the structure of the TASK_CLASSIF_FACT aggregate tables.

The TASK_CLASSIF_FACT Aggregate Tables

Attribute	Data Type	PK	Description
INTERVAL_DATE_KEY	int	X	Key to the EVENT_DATE dimension, indicating

Attribute	Data Type	PK	Description
			the start date of the time interval. In combination with INTERVAL_TIME_KEY, represents the time aggregation axis.
INTERVAL_TIME_KEY	int	X	Key to the EVENT_TIME dimension, indicating the start time of the time interval. This field is present only for sub-day aggregation levels—for example, 15 minutes, 30 minutes, and hourly
PROCESS_KEY	int	X	Key to PROCESS dimension.
MEDIA_CHANNEL_KEY	int	X	Key to the MEDIA_CHANNEL dimension, describing the channel through which the task was received—for example, fax. This value can be set in iWD rules or by the system that is submitting the task.
CATEGORY_KEY	int	X	Key to CATEGORY dimension.
CUSTOMER_SEGMENT_KEY	int	X	Key to CUSTOMER_SEGMENT dimension.
PRODUCT_KEY	int	X	Key to the PRODUCT dimension.
SOURCE_PROCESS_KEY	int	X	Key to the SOURCE_PROCESS dimension.
SOURCE_TENANT_KEY	int	X	Key to the SOURCE_TENANT dimension.
CUSTOM_DIM_KEY	int	X	Key to the CUSTOM_DIM dimension, identifying the distinct combination of custom attributes associated with this record.
INTERVAL_KEY	int		Technical field that is derived from the INTERVAL_DATE_KEY and INTERVAL_TIME_KEY

Attribute	Data Type	PK	Description
			fields for ETL internal use. [(IDateKey x 1440) + ITimeKey]/15 This field is present only for sub-day aggregation levels.
NEW_TASK_COUNT	int		Number of new tasks that were submitted to iWD during the given time interval. The task is counted only after it has been classified.
CMPL_TASK_COUNT	int		Number of tasks that have been completed during the given time interval.
COMPLETED_OVERDUE_TASK_COUNT	int		Number of tasks that have been completed during the given time interval that had been overdue.
CMPL_TASK_AVG_WORK_TIME	int		Average agent work time (finished – assigned), in seconds, for completed tasks during the given time interval.
CMPL_TASK_AVG_ASSIGN_TIME	int		Average time, in seconds, before a task was assigned for the first time. This is calculated as the average of the (task-assigned – task-creation) timestamp for completed tasks during the given time interval. This measure reflects how long, on average, tasks were in backlog before they were assigned to an agent.
CMPL_TASK_AVG_COMPLETE_TIME	int		Average time, in seconds, before a task was completed. This is calculated as the average of the (task-completed – task-creation) timestamp for completed tasks during the given time interval.

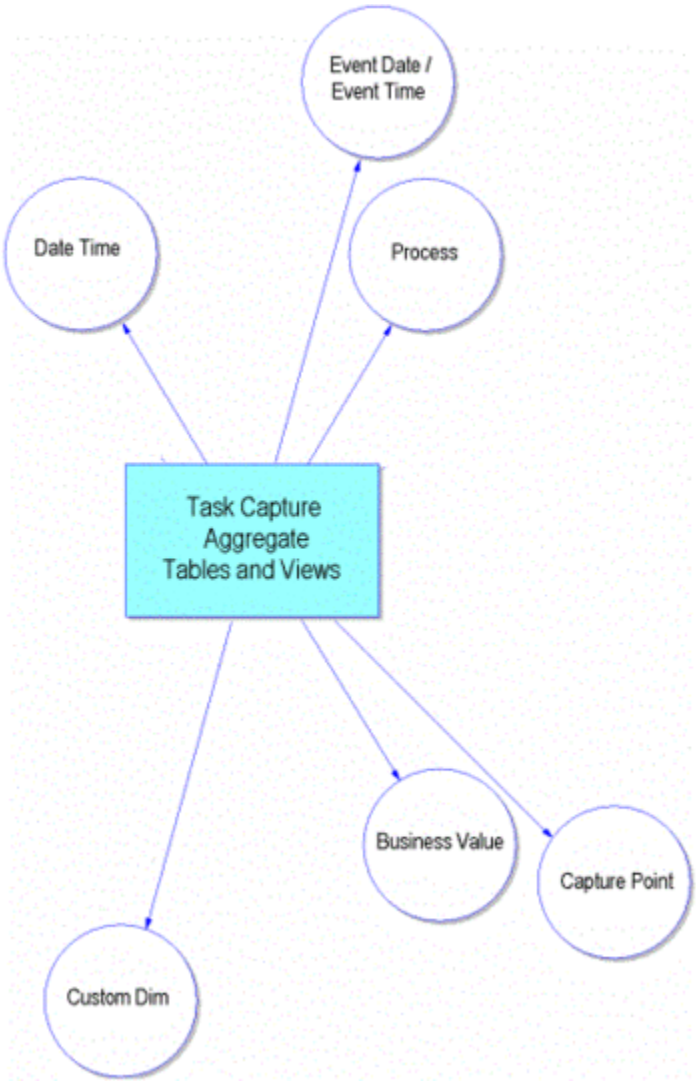
Attribute	Data Type	PK	Description
			Similar to CMPL_TASK_AVG_ASSIGN_TIME, this measure reflects how long a task was in backlog, but it also includes work time.
CMPL_TASK_AVG_SRC_TIME	int		Average time, in seconds, that a task spent in the preceding system before it was submitted to and created within iWD. This is calculated as the average of the (iWD – source system) task-creation timestamp for completed tasks during the given time interval. The task-creation timestamp from the source system is an extended attribute (sourceCreatedDateTime) that must be provided by the source system.
CMPL_TASK_AVG_PRE_SRC_TIME	int		Average pre–source system time (source created – first created), in seconds, for completed tasks during the given time interval.
TOTAL_PENDING_TASK_COUNT	int		Current number of pending tasks (where the status is Queued, Assigned, or Held) at the end of the given time interval.
TOTAL_OVERDUE_TASK_COUNT	int		Current number of pending tasks that are overdue at the end of the given time interval. A task is considered overdue when the SLA due date and time has been missed.
CMPL_TASK_WORK_TIME	int		Total agent work time (finished – assigned), in seconds, for completed tasks during the given time interval.
CMPL_TASK_ASSIGN_TIME	int		Total time, in seconds, before a task was assigned for the first

Attribute	Data Type	PK	Description
			time. This is calculated as the (task-assigned – task-creation) timestamp for completed tasks during the given time interval. This measure reflects how long tasks were backlogged before they were assigned to an agent.
CMPL_TASK_COMPLETE_TIME	int		Total time, in seconds, before a task was completed. This is calculated as the (task-completed – task-creation) timestamp for completed tasks during the given time interval. Similar to CMPL_TASK_AVG_ASSIGN_TIME, this measure reflects
CMPL_TASK_SRC_TIME	int		Total time, in seconds, that tasks spent in the preceding system before they were submitted to and created within iWD. This is calculated as the (iWD – source system) creation timestamp for completed tasks during the given time interval. The creation timestamp from the source system is an extended attribute (sourceCreatedDateTime) that must be provided by the source system.
CMPL_TASK_PRE_SRC_TIME	int		Total pre–source system time (source created – first created), in seconds, for completed tasks during the given time interval.
DATE_TIME_KEY	int		Key to the DATE_TIME dimension.

TASK_CAPT_FACT Aggregate

The *task capture aggregate* provides measures that are grouped by task process, business value, and capture point over different time intervals. Data is aggregated from the I_TASK_FACT table.

The following subject area diagram shows the dimensions that support the iWD task capture aggregate tables and views.



The following shows the structure of the TASK_CAPT_FACT aggregate tables.

The TASK_CAPT_FACT Aggregate Tables

Attribute	Data Type	PK	Description
INTERVAL_DATE_KEY	int	X	Key to the EVENT_DATE

Attribute	Data Type	PK	Description
			dimension, indicating the start date of the time interval. In combination with INTERVAL_TIME_KEY, represents the time aggregation axis.
INTERVAL_TIME_KEY	int	X	Key to the EVENT_TIME dimension, indicating the start time of the time interval. This field is present only for sub-day aggregation levels—for example, 15 minutes, 30 minutes, and hourly.
PROCESS_KEY	int	X	Key to PROCESS dimension.
CAPTURE_POINT_KEY	int	X	Key to CAPTURE_POINT dimension.
CUSTOM_DIM_KEY	int	X	Key to the CUSTOM_DIM dimension, identifying the distinct combination of custom attributes associated with this record.
BUSINESS_VALUE_KEY	int	X	Key to BUSINESS_VALUE dimension.
INTERVAL_KEY	int		Technical field that is derived from the INTERVAL_DATE_KEY and INTERVAL_TIME_KEY fields for ETL internal use. [(IDateKey x 1440) + ITimeKey]/15 This field is present only for sub-day aggregation levels.
NEW_TASK_COUNT	int		Number of new tasks that were submitted to iWD during the given time interval. A task is counted only after it has been classified (where status is at least Queued).
CMPL_TASK_COUNT	int		Number of tasks that were completed during the given time interval.
COMPLETED_OVERDUE_TASK_COUNT	int		Number of tasks that

Attribute	Data Type	PK	Description
			were completed during the given time interval that had been overdue; that is, the service-level agreement (SLA) for the task expired, or the due date and time were not met.
CMPL_TASK_AVG_WORK_TIME	int		Average agent work time, in seconds, for completed tasks during the given time interval (from the finished date and time timestamp – the assigned date and time timestamp for a task). See task history in iWD Manager for examples.
CMPL_TASK_AVG_ASSIGN_TIME	int		Average time, in seconds, before a task was assigned for the first time. This is calculated as the average from the task-assigned timestamp – the task-creation timestamp for completed tasks during the given time interval. This measure reflects how long, on average, tasks were in backlog before they were assigned to an agent.
CMPL_TASK_AVG_COMPLETE_TIME	int		Average time, in seconds, before a task was completed. This is derived from the task-completed timestamp – task-created timestamp for completed tasks during the given time interval. Similar to CMPL_TASK_AVG_ASSIGN_TIME, this measure reflects how long a task was in backlog, but it also includes work time.
CMPL_TASK_AVG_SRC_TIME	int		Average time, in seconds, that a task spent in the preceding system before it was submitted to and

Attribute	Data Type	PK	Description
			created within iWD. This is calculated as the average of the (iWD – source system) task-creation timestamp for completed tasks during the given time interval. The task-creation timestamp from the source system is an extended attribute (sourceCreatedDateTime) that must be provided by the source system.
CMPL_TASK_AVG_PRE_SRC_TIME	int		Average pre–source system time (source created – first created), in seconds, for completed tasks during the given time interval. Similar to CMPL_TASK_AVG_SRC_TIME except that the beginning time stamp is that of the system before the preceding system to iWD—for example, fax server to workflow to iWD, fax server is the source that was first created.
TOTAL_PENDING_TASK_COUNT	int		Current number of pending tasks (where the status is Queued, Assigned, or Held) at the end of the given time interval.
TOTAL_OVERDUE_TASK_COUNT	int		Current number of pending tasks that are overdue at the end of the given time interval. A task is considered overdue when the SLA due date and time have expired.
CMPL_TASK_WORK_TIME	int		Total agent work time, in seconds, for completed tasks during the given time interval (from the finished date and time timestamp – the assigned date and timestamp for a task). See task history in iWD

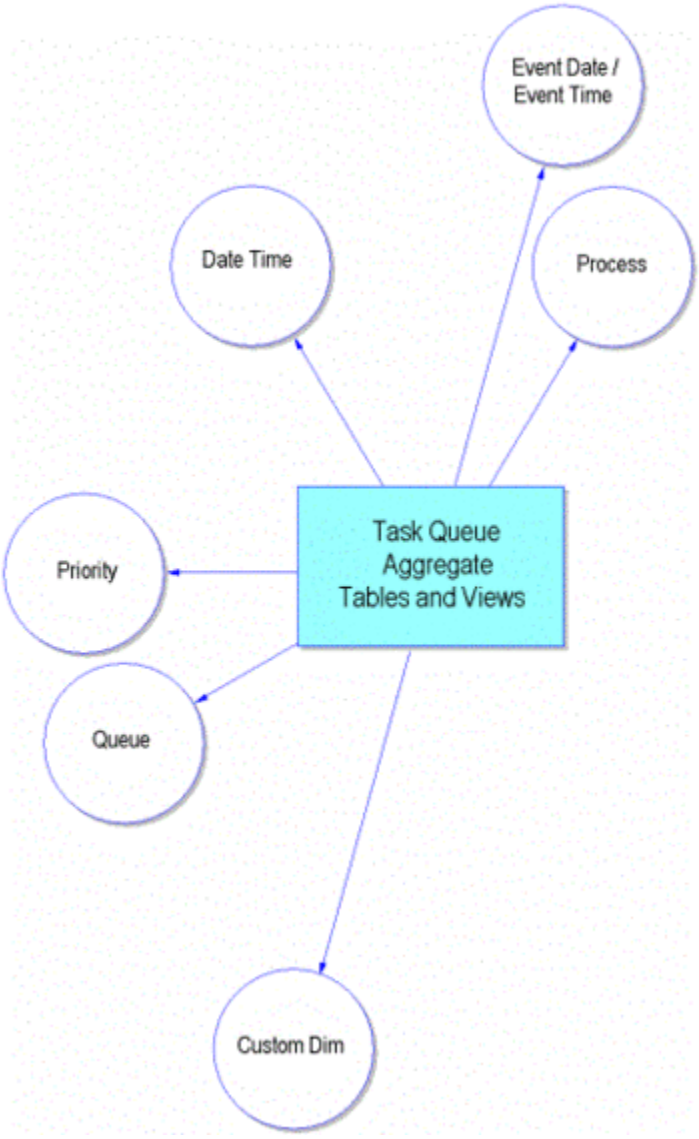
Attribute	Data Type	PK	Description
			Manager for examples.
CMPL_TASK_ASSIGN_TIME	int		Total time, in seconds, before a task was assigned for the first time. This is calculated as the task-assigned timestamp – task-creation timestamp for completed tasks during the given time interval. This measure reflects how long tasks were backlogged before they were assigned to agents.
CMPL_TASK_COMPLETE_TIME	int		Total time, in seconds, before a task was completed. This is derived from the task-completed timestamp – the task-created timestamp for completed tasks during the given time interval. Similar to CMPL_TASK_AVG_ASSIGN_TIME, this measure reflects how long tasks were backlogged, but it also includes work time.
CMPL_TASK_SRC_TIME	int		Total time, in seconds, that a task spent in the preceding system before it was submitted to and created within iWD. This is calculated as the (iWD – source system) task-creation timestamp for completed tasks during the given time interval. The task-creation timestamp from the source system is an extended attribute (sourceCreatedDateTime) that must be provided by the source system.
CMPL_TASK_PRE_SRC_TIME	int		Total pre–source system time (source created – first created), in seconds, for completed tasks during the given time interval. Similar to

Attribute	Data Type	PK	Description
			CMPL_TASK_AVG_SRC_TIME, except that the beginning timestamp is that of the system before the preceding system to iWD. For example, from fax server to workflow to iWD, fax server is the source that was created first.
DATE_TIME_KEY	int		Key to the DATE_TIME dimension.

TASK_QUEUE_FACT Aggregate

The *task queue aggregate* provides measures that are grouped by business process, priority, and queue over different time intervals. Data is aggregated from the I_TASK_FACT and I_TASK_EVENT_FACT tables.

The following subject area diagram shows the dimensions that support the iWD task queue aggregate tables and views.



The following shows the structure of the TASK_QUEUE_FACT aggregate tables.

The TASK_QUEUE_FACT Aggregate Tables

Attribute	Data Type	PK	Description
INTERVAL_DATE_KEY	int	X	Key to the EVENT_DATE dimension
INTERVAL_TIME_KEY	int	X	Key to the EVENT_TIME dimension, indicating the start time of the time interval. This field is present only for sub-day aggregation levels—for example, 15 minutes, 30 minutes, and hourly.
QUEUE_KEY	int	X	Key to the QUEUE dimension, identifying the queue that is associated with this record.
PROCESS_KEY	int	X	Key to PROCESS dimension.
CUSTOM_DIM_KEY	int	X	Key to the CUSTOM_DIM dimension, identifying the distinct combination of custom attributes associated with this record.
PRIORITY_KEY	int	X	Key to the PRIORITY dimension.
INTERVAL_KEY	int		Technical field that is derived from the INTERVAL_DATE_KEY and INTERVAL_TIME_KEY fields for ETL internal use. [(IDateKey x 1440) + ITimeKey]/15
ENTERED_TASK_COUNT	int		Number of tasks that entered the queue or workbin during the given time interval.
EXITED_TASK_COUNT	int		Number of tasks that exited the queue or workbin during the given time interval.
CMPL_TASK_COUNT	int		Number of tasks that were completed during the given time interval.
COMPLETED_OVERDUE_TASK_COUNT	int		Number of completed tasks that were overdue during the given time

Attribute	Data Type	PK	Description
			interval.
CMPL_TASK_AVG_WORK_TIME	int		Average amount of time, in seconds, that agents worked on tasks that were completed during the given time interval.
CMPL_TASK_AVG_ASSIGN_TIME	int		Average time, in seconds, before a task was assigned for the first time. This is calculated as the average of the task-assigned timestamp minus the task-creation timestamp for completed tasks during the given time interval. This measure reflects how long, on average, tasks were backlogged before they were assigned to an agent.
CMPL_TASK_AVG_COMPLETE_TIME	int		Average time, in seconds, that tasks were completed within iWD during the given time interval.
CMPL_TASK_AVG_SRC_TIME	int		Average time, in seconds, that tasks spent in the preceding system before they were submitted to and created within iWD. This is calculated as the average of the (iWD – source system) task-creation timestamp for completed tasks during the given time interval. The task-creation timestamp from the source system is an extended attribute (sourceCreatedDateTime) that must be provided by the source system.
CMPL_TASK_AVG_PRE_SRC_TIME	int		Average pre–source system time (source created – first created), in seconds, for completed tasks during the given

Attribute	Data Type	PK	Description
			time interval.
TOTAL_PENDING_TASK_COUNT	INT		Current number of pending tasks (where the status is Queued, Assigned, or Held) at the end of the given time interval.
TOTAL_OVERDUE_TASK_COUNT	INT		Current number of pending tasks that are overdue tasks at the end of the given time interval. A task is considered overdue when the SLA due date and time has been missed.
DATE_TIME_KEY	int		Key to the DATE_TIME dimension.
CMPL_TASK_WORK_TIME	int		Total time, in seconds, that agents worked on tasks that were completed during the given time interval.
CMPL_TASK_ASSIGN_TIME	int		Total time, in seconds, before a task was assigned for the first time. This is calculated as the task-assigned timestamp minus the task-creation timestamp for completed tasks during the given time interval. This measure reflects how long tasks were backlogged before they were assigned to an agent.
CMPL_TASK_COMPLETE_TIME	int		Total time, in seconds, that tasks were completed within iWD during the given time interval.
CMPL_TASK_SRC_TIME	int		Total time, in seconds, that tasks spent in the preceding system before they were submitted to and created within iWD. This is calculated as the (iWD – source system) task-creation timestamp

Attribute	Data Type	PK	Description
			for completed tasks during the given time interval. The task-creation timestamp from the source system is an extended attribute (sourceCreatedDateTime) that must be provided by the source system.
CMPL_TASK_PRE_SRC_TIME	int		Total pre–source system time (source created – first created), in seconds, for completed tasks during the given time interval.

iWD Dimension Tables

Dimensions contain static or slowly changing information—as well as information that is used in lookups against the fact tables—and provide the basis for OLAP/cube queries. Dimensions in the iWD Data Mart are populated from one of three sources:

- Static values, such as time zone and date/time dimensions
- iWD Configuration, as defined in iWD GAX Plug-in
- iWD task data

The iWD Data Mart defines the following dimensions:

- AGE
- AGENT
- BUSINESS_VALUE
- CAPTURE_POINT
- CATEGORY
- CUSTOM_DIM
- CUSTOMER
- CUSTOMER_SEGMENT
- DATE_TIME
- DEPARTMENT
- DISTRIBUTION_POINT
- EVENT_DATE
- EVENT_TIME
- MEDIA_CHANNEL
- METRIC
- PRIORITY
- PROCESS
- PRODUCT
- QUEUE
- QUEUE_TARGET
- RESULT_CODE
- SKILL
- SOLUTION
- SOURCE_PROCESS
- SOURCE_TENANT
- STATUS
- TASK_EVENT_TYPE
- TENANT
- TIMEZONE

The following dimensions store core task attributes:

- AGENT
- BUSINESS_VALUE
- CAPTURE_POINT
- CATEGORY
- DEPARTMENT
- DISTRIBUTION_POINT
- EVENT_DATE
- EVENT_TIME
- MEDIA_CHANNEL
- PRIORITY
- PROCESS

- SOLUTION
- TENANT

And, the following dimensions store extended task attributes:

- CUSTOMER
- CUSTOMER_SEGMENT
- PRODUCT
- RESULT_CODE
- SOURCE_PROCESS
- SOURCE_TENANT

AGE Dimension

The AGE dimension is a static dimension that contains age ranges to define the age of a task.

The AGE Dimension

Field	Data Type	Description
AGE_KEY	int	Primary key of this table.
AGE_MINUTES	int	Age, in minutes, at the beginning of the interval.
AGE_RANGE_15MIN	varchar(64)	15–minute range (0–15 minutes, 15–30 minutes, and so on).
AGE_RANGE_1HOUR	varchar(64)	1-hour range (0–1 hour, 1–2 hours, and so on).
AGE_RANGE_4HOUR	varchar(64)	4-hour range (0–4 hours, 4–8 hours, and so on).
AGE_RANGE_8HOUR	varchar(64)	8-hour range (0–8 hours, 8–16 hours, 16–24 hours).
AGE_RANGE_1DAY	varchar(64)	Days (0–1 day, 1–2 days, and so on).
AGE_RANGE_WEEK	varchar(64)	Weeks (0–1 weeks, 1–2 weeks, and so on).

AGENT Dimension

The AGENT dimension, which is populated from task information, stores agent keys and IDs that are captured from the source system. This dimension is a core iWD attribute.

The AGENT Dimension

Field	Data Type	Description
AGENT_KEY	int	Primary key of this table.
AGENT_ID	varchar(255)	ID of the agent as captured by the source system.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

BUSINESS_VALUE Dimension

BUSINESS_VALUE is a static dimension that contains ranges to define the business value assigned to a task. You can query this dimension to determine how many tasks fall within a particular range—for example:

```
SELECT
    COUNT(INTERACTION_ID) CNT,
    BUSINESS_VALUE_RANGE_100 RNG
FROM BUSINESS_VALUE BV
    LEFT JOIN I_TASK_FACT I ON
        I.BUSINESS_VALUE_KEY = BV.BUSINESS_VALUE_KEY
WHERE BV.BUSINESS_VALUE_KEY < 1000
GROUP BY BUSINESS_VALUE_RANGE_100
ORDER BY BV.BUSINESS_VALUE_KEY
```

The BUSINESS_VALUE Dimension

Field	Data Type	Description
BUSINESS_VALUE_KEY	int	Primary key of this table.
BUSINESS_VALUE_RANGE_5	varchar(32)	Values in the business value granularity of 5—that is, “1–5”, “6–10”, and so on.
BUSINESS_VALUE_RANGE_10	varchar(32)	Values in the business value granularity of 10—that is, “1–10”, “11–20”, and so on.
BUSINESS_VALUE_RANGE_50	varchar(32)	Values in the business value granularity of 50—that is, “1–50”, “51–100”, and so on.
BUSINESS_VALUE_RANGE_100	varchar(32)	Values in the business value granularity of 100—that is, “1–100”, “101–200”, and so on.
BUSINESS_VALUE_RANGE_500	varchar(32)	Values in the business value granularity of 500—that is, “1–500”, “501–1000”, and so on.
BUSINESS_VALUE_RANGE_1000	varchar(32)	Values in the business value granularity of 1000—that is, “1–1000”, “1001–2000”, and so on, with a maximum value of 50000.
BUSINESS_VALUE_RANGE_5_STA	int	Values that mark the start of each BUSINESS_VALUE_RANGE_5 range. Values step by 5—for example, 1, 6, 11, and so forth.
BUSINESS_VALUE_RANGE_5_END	int	Values that mark the end of each BUSINESS_VALUE_RANGE_5 range. Values step by 5—for example, 5, 10, 15, and so forth.
BUSINESS_VALUE_RANGE_10_STA	int	Values that mark the start of each

Field	Data Type	Description
		BUSINESS_VALUE_RANGE_10 range. Values step by 10—for example, 1, 11, 21, and so forth.
BUSINESS_VALUE_RANGE_10_END	int	Values that mark the end of each BUSINESS_VALUE_RANGE_10 range. Values step by 10—for example, 10, 20, 30, and so forth.
BUSINESS_VALUE_RANGE_50_STA	int	Values that mark the start of each BUSINESS_VALUE_RANGE_50 range. Values step by 50—for example, 1, 51, 101, and so forth.
BUSINESS_VALUE_RANGE_50_END	int	Values that mark the end of each BUSINESS_VALUE_RANGE_50 range. Values step by 50—for example, 50, 100, 150, and so forth.
BUSINESS_VALUE_RANGE_100_STA	int	Values that mark the start of each BUSINESS_VALUE_RANGE_100 range. Values step by 100—for example, 1, 101, 201, and so forth.
BUSINESS_VALUE_RANGE_100_END	int	Values that mark the end of each BUSINESS_VALUE_RANGE_100 range. Values step by 100—for example, 100, 200, 300, and so forth.
BUSINESS_VALUE_RANGE_500_STA	int	Values that mark the start of each BUSINESS_VALUE_RANGE_500 range. Values step by 500—for example, 1, 501, 1001, and so forth.
BUSINESS_VALUE_RANGE_500_END	int	Values that mark the end of each BUSINESS_VALUE_RANGE_500 range. Values step by 500—for example, 500, 1000, 1500, and so forth.
BUSINESS_VALUE_RANGE_1000_STA	int	Values that mark the start of each BUSINESS_VALUE_RANGE_1000 range. Values step by 1000—for example, 1, 1001, 2001, and so forth.
BUSINESS_VALUE_RANGE_1000_END	int	Values that mark the end of each BUSINESS_VALUE_RANGE_1000 range. Values step by 1000—for example, 1000, 2000, 3000, and

Field	Data Type	Description
		so forth.

CAPTURE_POINT Dimension

Tasks are captured through a capture point that is configured in iWD GAX Plug-in. Capture point information is stored in the CAPTURE_POINT dimension which is populated from task information.

The CAPTURE_POINT Dimension

Field	Data Type	Description
CAPTURE_POINT_KEY	int	Primary key of this table.
CAPTURE_POINT_CONFIG_ID	int	iWD GAX Plug-in ID for the capture point.
CAPTURE_POINT_CONFIG_EVENT_ID	int	Event that created or updated the capture point record.
CAPTURE_POINT_RUNTIME_ID	varchar(255)	iWD GAX Plug-in runtime ID for the capture point.
TENANT_KEY	int	Key to the TENANT dimension, identifying the tenant with whom the capture point is associated.
SOLUTION_KEY	int	Key to the SOLUTION dimension.
CAPTURE_POINT_NAME	varchar(255)	Descriptive name of the capture point.
CAPTURE_POINT_TYPE	varchar(255)	Type of capture point, such as Web Service Capture Point, Database Capture Point, and XML File Capture Point.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.
VALID_FROM	datetime	The date from which this capture point is valid.
VALID_TO	datetime	The date until which this capture point is valid.
VERSION	int	Version of the record.

CATEGORY Dimension

The CATEGORY dimension is populated from task information and contains a list of categories that further describe a task, such as a specific type of refund. This dimension is an extended iWD attribute that can be set by the source system.

The CATEGORY Dimension

Field	Data Type	Description
CATEGORY_KEY	int	Primary key of this table.
CATEGORY_NAME	varchar(255)	Descriptive name of the category.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

CUSTOM_DIM Dimension

Each row in the CUSTOM_DIM dimension describes a distinct combination of the custom attributes of a task. A custom attribute is represented by a string value.

The CUSTOM_DIM Dimension

Field	Data Type	Description
CUSTOM_DIM_KEY	int	Primary key of this table.
CUSTOM_DIM_ATTRIBUTE1	varchar(255)	Custom attributes that further classify a task.
CUSTOM_DIM_ATTRIBUTE2		
CUSTOM_DIM_ATTRIBUTE3		
CUSTOM_DIM_ATTRIBUTE4	varchar(128)	
CUSTOM_DIM_ATTRIBUTE5		
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

CUSTOMER Dimension

Tasks are typically associated with a customer. The CUSTOMER dimension holds the unique identifier—either customer ID or account ID—and is populated from task information. This dimension is an extended iWD attribute.

The CUSTOMER Dimension

Field	Data Type	Description
CUSTOMER_KEY	int	Primary key of this table.
CUSTOMER_ID	varchar(64)	Unique ID assigned to the customer, provided by the source system.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

CUSTOMER_SEGMENT Dimension

A customer segment is an extended iWD attribute that further describes a customer. Customer segments are normally set by the source system that is submitting the task. A segment often represents the value of the client to the enterprise for example, gold, silver, or bronze.

The CUSTOMER_SEGMENT Dimension

Field	Data Type	Description
CUSTOMER_SEGMENT_KEY	int	Primary key of this table.
CUSTOMER_SEGMENT_NAME	varchar(64)	Descriptive name of the customer segment.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

DATE_TIME Dimension

The DATE_TIME dimension allows facts to be described by attributes of calendar date and 15-minute time interval. This is a static dimension.

The DATE_TIME Dimension

Field	Data Type	Description
DATE_TIME_KEY	int	The primary key of this table. It is used to join a particular 15-minute interval in this table to the fact and aggregate tables. This field increases monotonically to facilitate the calculation of time interval ranges and is equal to the UTC-equivalent time at which the time interval started.
DATE_TIME_30MIN_KEY	int	The surrogate key that is used to join a particular 30-minute interval in this table to the fact and aggregate tables. Two rows in this table share the same value, which is the DATE_TIME_KEY that represents the start of the 30-minute interval.
DATE_TIME_HOUR_KEY	int	The surrogate key that is used to join a particular hour in this table to the fact and aggregate tables. Four rows in this table share the same value, which is the DATE_TIME_KEY that represents the start of the hour interval.
DATE_TIME_DAY_KEY	int	The surrogate key that is used to join a particular day in this table to the fact and aggregate tables. Ninety-six rows in this table share the same value, which is the DATE_TIME_KEY that represents the start of the day interval.
DATE_TIME_WEEK_KEY	int	The surrogate key that is used to join a particular week in this table to the fact and aggregate tables. Multiple rows in this table share the same value, which is the DATE_TIME_KEY that represents the start of the week interval.
DATE_TIME_MONTH_KEY	int	The surrogate key that is used to

Field	Data Type	Description
		join a particular month in this table to the fact and aggregate tables. Multiple rows in this table share the same value, which is the DATE_TIME_KEY that represents the start of the month interval.
DATE_TIME_QUARTER_KEY	int	The surrogate key that is used to join a particular quarter in this table to the fact and aggregate tables. Multiple rows in this table share the same value, which is the DATE_TIME_KEY that represents the start of the quarter interval.
DATE_TIME_YEAR_KEY	int	The surrogate key that is used to join a particular year in this table to the fact and aggregate tables. Multiple rows in this table share the same value, which is the DATE_TIME_KEY that represents the start of the year interval.
DATE_TIME_NEXT_KEY	int	Points to the next record of this table. This value is DATE_TIME_KEY+1.
DATE_TIME_NEXT_30MIN_KEY	int	Points to the DATE_TIME_30MIN_KEY record that represents the next 30-minute period.
DATE_TIME_NEXT_HOUR_KEY	int	Points to the DATE_TIME_HOUR_KEY record that represents the next hour.
DATE_TIME_NEXT_DAY_KEY	int	Points to the DATE_TIME_DAY_KEY record that represents the next calendar day.
DATE_TIME_NEXT_WEEK_KEY	int	Points to the DATE_TIME_WEEK_KEY record that represents the next calendar week.
DATE_TIME_NEXT_MONTH_KEY	int	Points to the DATE_TIME_MONTH_KEY record that represents the next calendar month.
DATE_TIME_NEXT_QUARTER_KEY	int	Points to the DATE_TIME_QUARTER_KEY record that represents the next calendar quarter.
DATE_TIME_NEXT_YEAR_KEY	int	Points to the DATE_TIME_YEAR_KEY record that represents the next year.

Field	Data Type	Description
CREATE_AUDIT_KEY	int	The surrogate key used to join to the ETL_AUDIT System dimension. Specifies the lineage for data creation. This value can be useful for aggregation, enterprise application integration (EAI), and ETL tools—that is, applications that need to identify newly added data.
UPDATE_AUDIT_KEY	int	The surrogate key used to join to the ETL_AUDIT System dimension. Specifies the lineage for data update. This value can be useful for aggregation, EAI, and ETL tools—that is, applications that need to identify recently modified data.
CAL_DATE	datetime	The date/time data type for a calendar date that is specific for this RDBMS.
CAL_DAY_NAME	varchar(32)	The calendar day name—for example, "Sunday".
CAL_MONTH_NAME	varchar(32)	The calendar month name—for example, "January".
CAL_DAY_NUM_IN_WEEK	smallint	The day number in a week. By default, the values start with 1 for Sunday and end with 7 for Saturday.
CAL_DAY_NUM_IN_MONTH	smallint	The day number in the calendar month, starting with 1 and ending with 28, 29, 30, or 31, depending on the month.
CAL_DAY_NUM_IN_YEAR	smallint	The day number in the calendar year, starting with 1 for January 1 and ending with 365 or 366 for December 31.
CAL_LAST_DAY_IN_WEEK	tinyint	The indicator for the last day of the calendar week: 0 = No, 1 = Yes. For example, this value may be 0 for Wednesday records and 1 for Saturday records.
CAL_LAST_DAY_IN_MONTH	tinyint	The indicator for the last day of the calendar month: 0 = No, 1 = Yes. For example, this value is set to 0 for January 16 and 1 for January 31.
CAL_WEEK_NUM_IN_YEAR	smallint	The week number in the calendar year, starting with 1 and ending with 53. The first week begins on the first day of the calendar year and may contain fewer than

Field	Data Type	Description
		seven days. Likewise, the last week, ending with the last day of the year, may contain fewer than seven days.
WEEK_YEAR	smallint	The year number for the week to which this day belongs.
CAL_WEEK_START_DATE	date	The start date of the calendar week to which this date belongs. All dates in the same calendar week share the same calendar week start date. For example, this value is March 6, 2011 for all dates between March 6, 2011 and March 12, 2011.
CAL_WEEK_END_DATE	date	The end date of the calendar week to which this date belongs. All dates in the same calendar week share the same calendar week end date. For example, this value is March 6, 2011 for all dates between March 6, 2011 and March 12, 2011.
CAL_MONTH_NUM_IN_YEAR	smallint	The month number in the calendar year, starting with 1 for January and ending with 12 for December.
CAL_QUARTER_NUM_IN_YEAR	smallint	The number of the quarter in the calendar year, starting with 1 for the first quarter (January 1 through March 31) and ending with 4 for the fourth quarter (October 1 through December 31).
CAL_HALF_NUM_IN_YEAR	smallint	The number of the half of the calendar year, starting with 1 for January 1 through June 30 and ending with 2 for July 1 through December 31.
CAL_YEAR_NUM	smallint	The Gregorian calendar year, expressed as a four-digit integer—for example, 2011.
CAL_HOUR_NUM_IN_DAY	smallint	The hour of the day, expressed as an integer from 1–12. This field is intended to be used in conjunction with the AMPM_INDICATOR field.
CAL_HOUR_24_NUM_IN_DAY	smallint	The hour of the day, as an integer from 00 to 23.
CAL_MINUTE_NUM_IN_HOUR	smallint	The 15-minute number of the hour. This value is one of the following:

Field	Data Type	Description
		0: for 0 <= min < 15 15: for 15 <= min < 30 30: for 30 <= min < 45 45: for 45 <= min < 60
CAL_30MINUTE_NUM_IN_HOUR	smallint	The 30-minute number of the hour. This value is one of the following: 0: for 0 <= min < 30 30: for 30 <= min < 60
LABEL_YYYY	varchar(32)	The current date expressed as a string in YYYY format, where YYYY represents a four-digit year. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011".
LABEL_YYYY_QQ	varchar(32)	The current date, expressed as a string in YYYY QQ format, where QQ represents the number of the quarter (1–4), followed by the letter "Q", which is not localizable. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011 1Q".
LABEL_YYYY_MM	varchar(32)	The current date, expressed as a string in YYYY-MM format, where MM represents the two-digit month. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01".
LABEL_YYYY_WE	varchar(32)	The current date, expressed as a string in YYYY-Www format, where Www represents the two-digit week number of the year, preceded by the letter "W". This field is useful when it is used as a label in report headers. For example, with simple week numbering, the label that this field stores for January 30, 2011, at 15:45 is "2011-W05" (January 30, 2011 fell in the fifth week of the year).
LABEL_YYYY_WE_D	varchar(32)	The current date expressed as a string in YYYY-Www-D format,

Field	Data Type	Description
		where Www represents the two-digit week number of the year, preceded by the letter "W", and "D" represents the day number in the week. This field is useful when used as a label in report headers. For example, with simple week numbering, the label that this field stores for January 30, 2011, at 15:45 is "2011-05-1" (January 30, 2011 fell in the fifth week of the year, and Sunday is the first day of the week).
LABEL_YYYY_MM_DD	varchar(32)	The current date, expressed as a string in YYYY-MM-DD format, where DD represents the two-digit day of the month. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30".
LABEL_YYYY_MM_DD_HH	varchar(32)	The current date, expressed as a string in YYYY-MM-DD HH format, where hour (HH) values range from 01 to 12. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 3, 2011, at 15:45 is "2011-01-30 03".
LABEL_YYYY_MM_DD_HH24	varchar(32)	The current date, expressed as a string in YYYY-MM-DD HH format where hour (HH) values range from 01 to 24. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 15".
LABEL_YYYY_MM_DD_HH_30MI	varchar(32)	The current date, expressed as a string in YYYY-MM-DD HH:mm format, where hour (HH) values range from 01 to 12 and mm represents the closest 30-minute period that is less than or equal to the actual minute. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 03:30".

Field	Data Type	Description
LABEL_YYYY_MM_DD_HH24_30MI	varchar(32)	The current date, expressed as a string in YYYY-MM-DD HH:mm format, where hour (HH) values range from 01 to 24 and mm represents the closest 30-minute period that is less than or equal to the actual minute. This field is useful when it is used as a label in report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 15:30".
LABEL_YYYY_MM_DD_HH_MI	varchar(32)	The current date, expressed as a string in YYYY-MM-DD HH:mm format, where hour (HH) values range from 01 to 12 and mm represents the actual minute. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 03:45".
LABEL_YYYY_MM_DD_HH24_MI	varchar(32)	The current date, expressed as a string in YYYY-MM-DD HH:mm format, where hour (HH) values range from 01 to 24 and mm represents the actual minute. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 15:45".
LABEL_YYYY_MM_DD_HH_15INT	varchar(32)	The current date, expressed as a string in YYYY-MM-DD 15INT format, where 15INT represents the 15-minute interval within the day. Hour values range from 01 to 12. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 03:45-04:00".
LABEL_YYYY_MM_DD_HH24_15INT	varchar(32)	The current date, expressed as a string in YYYY-MM-DD 15INT format, where 15INT represents the 15-minute interval within the day and includes the hour, in a range from 01 to 24. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 15:45-16:00".

Field	Data Type	Description
LABEL_YYYY_MM_DD_HH_30INT	varchar(32)	The current date, expressed as a string in YYYY-MM-DD 30INT format, where 30INT represents the 30-minute interval within the day and includes the hour, in a range from 01 to 12. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 03:30-04:00".
LABEL_YYYY_MM_DD_HH24_30INT	varchar(32)	The current date, expressed as a string in YYYY-MM-DD 30INT format, where 30INT represents the 30-minute interval within the day and includes the hour, in a range from 01 to 24. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "2011-01-30 15:30-16:00".
LABEL_QQ	varchar(32)	A string representation of the current date, expressed in QQ format, where QQ represents the number of the quarter (1–4), followed by the letter "Q", which is not localizable. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "1Q".
LABEL_MM	varchar(32)	A string representation of the current date, expressed in MM format, where MM represents the two-digit month. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "01".
LABEL_WE	varchar(32)	A string representation of the current date, expressed in Www format, where Www represents the two-digit week number of the year, preceded by the letter "W". This field is useful when it is used as a label for report headers. For example, with simple week numbering, the label that this field stores for January 30, 2011, at 15:45 is "W05". (January 30, 2011 falls in the fifth week of the

Field	Data Type	Description
		year.)
LABEL_DD	varchar(32)	A string representation of the current date, expressed in DD format, where DD represents the two-digit day of the month. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "30".
LABEL_HH	varchar(32)	A string representation of the current date, expressed in HH format, where hour (HH) values range from 01 to 12. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "03".
LABEL_HH24	varchar(32)	A string representation of the current date, expressed in HH format, where hour (HH) values range from 01 to 24. This field is useful when it is used as a label for report headers. For example, the label that this field stores for January 30, 2011, at 15:45 is "15".
LABEL_30MI	varchar(32)	A string representation of the current date, expressed in mm format, where mm represents the closest 30-minute period that is less than or equal to the actual minute. For example, the label that this field stores for January 30, 2011, at 15:45 is "30".
LABEL_MI	varchar(32)	A string representation of the current date, expressed in mm format, where mm represents the actual minute. For example, the label that this field stores for January 30, 2011, at 15:45 is "45".
LABEL_TZ	varchar(32)	A string representation of the time zone designator, as defined in ISO 8601 standard. For the time zone in which the UTC offset is equal zero, the letter "Z" is stored as the time zone designator. The zone designator for other time zones is specified by the offset from UTC in the format ±HH:<mm>, where HH

Field	Data Type	Description
		represents hours and mm represents minutes, if applicable. For example, if the time that is being described is one hour ahead of UTC, the stored value would be "+01".
AMPM_INDICATOR	varchar(4)	Indicates the period between midnight and noon ("AM") or between noon and midnight ("PM").
RUNNING_YEAR_NUM	int	The running year number, starting with 1 for the year that is populated as the first year in this calendar. By default, the calendar starts with the year that precedes the DATE_TIME table initialization. For example, if the iWD Data Mart is initiated in year 2011, this field stores the value of 2 for rows that are generated for 2011 dates.
RUNNING_QUARTER_NUM	int	The running quarter number, starting with 1 as the first quarter of the first year that is populated for this calendar. Running values do not reset at the beginning of each year, so that this value is 1–4, respectively, for the four quarters of the first populated year (for example, 2011); 5–8, respectively, for the four quarters of the second populated year (in this example, 2011); and so forth.
RUNNING_MONTH_NUM	int	The running month number, starting with 1 as the first month of the first year that is populated for this calendar. Running values do not reset at the beginning of each year, so that this value is 1–12, respectively, for the 12 months of the first populated year (for example, 2011); 13–24, respectively, for the 12 months of the second populated year (in this example, 2012); and so forth.
RUNNING_WEEK_NUM	int	The running week number, starting with 1 as the first week of the first year that is populated for this calendar. Running values do not reset at the beginning of

Field	Data Type	Description
		each year, so that, this value is 1–53, respectively, for the 53 weeks of the first populated year (for example, 2011); 54–107, respectively, for the 53 weeks of the second populated year (in this example, 2012); and so forth.
RUNNING_DAY_NUM	int	The running day number, starting with 1 as the first day of the first year that is populated for this calendar. Running values do not reset at the beginning of each year, so that this value is 1–365, respectively, for the 365 days of the first populated year (for example, 2011); 366–730, respectively, for the 365 days of the second populated year (in this example, 2012); and so forth.
RUNNING_HOUR_NUM	int	The running hour number, starting with 1 as the first hour of the first day of the first year that is populated for this calendar. Running hours do not reset at the beginning of each day, so that this value is 1–24, respectively, for the 24 hours of the first populated day (for example, 1/1/2011); 25–48, respectively, for the 24 hours of the second populated day (in this example, 1/2/2011); and so forth.
RUNNING_30MIN_NUM	int	The running 30-minute number, starting with 1 as the first 30-minute interval of the first hour of the first day of the first year that is populated for this calendar. Running 30-minute periods do not reset at the beginning of each hour, so that this value is 1–2, respectively, for the two 30-minute intervals of the first hour of 1/1/2011, if 2011 is the first year populated for this calendar; 3–4, respectively, for the two 30-minute intervals in the second hour of this day; and so forth.
EVENT_DATE_KEY	int	Key to the EVENT_DATE dimension, describing the date.
EVENT_TIME_KEY	int	Key to the EVENT_TIME

Field	Data Type	Description
		dimension, describing the time.

DEPARTMENT Dimension

All tasks are associated with a department that is configured in iWD GAX Plug-in.

The DEPARTMENT Dimension

Field	Data Type	Description
DEPARTMENT_KEY	int	Primary key of this table.
DEPARTMENT_CONFIG_ID	int	iWD GAX Plug-in ID for the department.
DEPARTMENT_CONFIG_EVENT_ID	int	ID of the event that created or updated this department record.
DEPARTMENT_RUNTIME_ID	varchar(255)	iWD GAX Plug-in runtime ID for the department.
TENANT_KEY	int	Key to the TENANT dimension, identifying the tenant with whom the process is associated.
SOLUTION_KEY	int	Key to the SOLUTION dimension, identifying the solution with which the process is associated.
DEPARTMENT_NAME	varchar(255)	Name of the department.
CUSTOM_DIM_KEY	int	Key to the CUSTOM_DIM dimension, identifying custom attributes that apply to the department.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.
VALID_FROM_DATE_KEY	int	Date key for the “valid from” process attribute.
VALID_FROM_TIME_KEY	int	Time key for the “valid from” process attribute.
VALID_TO_DATE_KEY	int	Date key for the “valid to” process attribute.
VALID_TO_TIME_KEY	int	Time key for the “valid to” process attribute.
VALID_FROM	datetime	For the version of the record, the date from which it is valid.
VALID_TO	datetime	For the version of the record, the date to which it is valid.
VERSION	int	Version of the record.

DISTRIBUTION_POINT Dimension

In iWD releases prior to 8.0, this dimension stored key information about distribution points, which were configured in iWD Manager and were the objects responsible for sending captured tasks on for completion. From release 8.0 to release 8.5.102.04, this table is provided only for backward compatibility. From release 8.5.103.03, this dimension is deprecated.

The DISTRIBUTION_POINT Dimension

Field	Data Type	Description
DISTRIBUTION_POINT_KEY	int	The primary key of this table.
DISTRIBUTION_POINT_CONFIG_ID	int	iWD Manager ID for the distribution point.
DISTRIBUTION_POINT_CFG_EVT_ID	int	Event that created/updated the distribution point record.
DISTRIBUTION_POINT_RUNTIME_ID	varchar(255)	iWD Manager runtime ID for the distribution point.
TENANT_KEY	int	Key to the TENANT dimension, identifying the tenant with whom the distribution point is associated.
DISTRIBUTION_POINT_NAME	varchar(255)	Descriptive name of the distribution point.
DISTRIBUTION_POINT_TYPE	varchar(255)	Type of distribution point.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension to identify the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension to identify the ETL job that last updated this record.
VALID_FROM	datetime	For the version of the record, the date that it is valid from
VALID_TO	datetime	For the version of the record, the date that it is valid to
VERSION	int	Version of the record

EVENT_DATE Dimension

The EVENT_DATE dimension is a static dimension that stores information about dates. The ETL Initialize job populates this table determining date values from your system's locale settings.

The EVENT_DATE Dimension

Field	Data Type	Description
EVENT_DATE_KEY	int	Primary key of this table.
EVENT_DATE	datetime	Date of the event in "YYYY-M-D 0:0:0.0" format.
DAY_NAME	varchar(32)	Text name of the day ("Monday", "Tuesday", and so on).
DAY_NUM_IN_WEEK	int	Day of the week (1–7).
DAY_NUM_IN_MONTH	int	Day of the month (1–31).
DAY_NUM_IN_YEAR	int	Day of the year (1–366).
WEEK_NUM_IN_YEAR	int	Week number of the year (1–53).
WEEK_START_DATE	datetime	Date of the first day of the week in "YYYY-M-D 0:0:0. 0" format.
WEEK_END_DATE	datetime	Date of the last day of the week in "YYYY-M-D 0:0:0. 0" format.
MONTH_NAME	varchar(32)	Text name of the month—for example, "January".
MONTH_NUM_IN_YEAR	int	Month of the year (1–12).
QUARTER_NUM_IN_YEAR	int	Quarter (1–4).
YEAR_NUM	int	Year—for example, 2011.
EVENT_DATE_STR	varchar(10)	String representation of the date in "YYYY-MM-DD" format

EVENT_TIME Dimension

The EVENT_TIME dimension—like EVENT_DATE—is a static dimension that stores time information with minute-level granularity.

The EVENT_TIME Dimension

Field	Data Type	Description
EVENT_TIME_KEY	int	Primary key of this table.
EVENT_TIME_24	varchar(6)	24-hour time, stored in HHMM format—for example, “2301” (for 11:01 PM).
EVENT_TIME_12	varchar(8)	12-hour time, including AM or PM—for example, “1101PM”.
TIME_INTERVAL_15MIN	int	The 15-minute interval in which the time falls (1–96).
TIME_INTERVAL_30MIN	int	The 30-minute interval in which the time falls (1–48).
TIME_INTERVAL_60MIN	int	The 60-minute interval in which the time falls (1–24).

MEDIA_CHANNEL Dimension

The MEDIA_CHANNEL dimension describes the type of media or media channel—for example, webform, fax— through which a task is received. This table is populated from task information and is a core iWD attribute.

The MEDIA_CHANNEL Dimension

Field	Data Type	Description
MEDIA_CHANNEL_KEY	int	Primary key of this table.
MEDIA_CHANNEL_NAME	varchar(255)	Name of the media channel.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

METRIC Dimension

Metrics are values that can be associated with a department or process. Metrics are set in iWD and are used to associate a value for evaluation against various attributes for reporting purposes (that is, “Cost per Task” set to $0.50). This dimension contains the following fields:

The METRIC Dimension

Field	Data Type	Description
METRIC_KEY	int	Primary key of this table.
METRIC_CONFIG_ID	char(40)	iWD GAX Plug-in ID for the metric.
METRIC_CONFIG_EVENT_ID	int	ID of the event that created or updated the metric record.
METRIC_NAME	varchar(255)	Name of the metric as set in iWD.
METRIC_DESCRIPTION	varchar(255)	Description of what the metric represents as set in iWD.
METRIC_VALUE	varchar(255)	Metric value. It is incumbent on the report writer to perform any type conversion on this field.
TENANT_KEY	int	Key to the TENANT dimension.
SOLUTION_KEY	int	Key to the SOLUTION dimension
DEPARTMENT_KEY	int	Key to the DEPARTMENT dimension.
PROCESS_KEY	int	Key to the PROCESS dimension.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.
VALID_FROM	datetime	The date, in YYYY-M-D HH:MM:SS F format, from which this metric is valid.
VALID_TO	datetime	The date, in YYYY-M-D HH:MM:SS F format, until which this metric is valid.
VERSION	int	Version of the record.

PRIORITY Dimension

iWD arranges a task list in order of priority based on business rules that are configured for capture points, departments, and processes within departments. This prioritization is stored in the PRIORITY dimension, which is a static dimension.

The PRIORITY Dimension

Field	Data Type	Description
PRIORITY_KEY	int	Primary key of this table.
PRIORITY_RANGE_5	varchar(32)	Values in the priority granularity of 5—that is “1–5”, “6–10”, and so on.
PRIORITY_RANGE_10	varchar(32)	Values in the priority granularity of 10—that is “1–10”, “11–20”, and so on.
PRIORITY_RANGE_50	varchar(32)	Values in the priority granularity of 50—that is “1–50”, “51–100”, and so on.
PRIORITY_RANGE_100	varchar(32)	Values in the priority granularity of 100—that is “1–100”, “101–200”, and so on.
PRIORITY_RANGE_500	varchar(32)	Values in the priority granularity of 500—that is “1–500”, “501–1000”, and so on.
PRIORITY_RANGE_1000	varchar(32)	Values in the priority granularity of 1000—that is “1–1000”, “1001–2000”, and so on, with a maximum value of 50000.
PRIORITY_RANGE_5_START	int	Values that mark the start of each PRIORITY_RANGE_5 range. Values step by 5—for example, 1, 6, 11, and so forth.
PRIORITY_RANGE_5_END	int	Values that mark the end of each PRIORITY_RANGE_5 range. Values step by 5—for example, 5, 10, 15, and so forth.
PRIORITY_RANGE_10_START	int	Values that mark the start of each PRIORITY_RANGE_10 range. Values step by 10—for example, 1, 11, 21, and so forth.
PRIORITY_RANGE_10_END	int	Values that mark the end of each PRIORITY_RANGE_10 range. Values step by 10—for example, 10, 20, 30, and so forth.
PRIORITY_RANGE_50_START	int	Values that mark the start of each PRIORITY_RANGE_50 range. Values step by 50—for example,

Field	Data Type	Description
		1, 51, 101, and so forth.
PRIORITY_RANGE_50_END	int	Values that mark the end of each PRIORITY_RANGE_50 range. Values step by 50—for example, 50, 100, 150, and so forth.
PRIORITY_RANGE_100_START	int	Values that mark the start of each PRIORITY_RANGE_100 range. Values step by 100—for example, 1, 101, 201, and so forth.
PRIORITY_RANGE_100_END	int	Values that mark the end of each PRIORITY_RANGE_100 range. Values step by 100—for example, 100, 200, 300, and so forth.
PRIORITY_RANGE_500_START	int	Values that mark the start of each PRIORITY_RANGE_500 range. Values step by 500—for example, 1, 501, 1001, and so forth.
PRIORITY_RANGE_500_END	int	Values that mark the end of each PRIORITY_RANGE_500 range. Values step by 500—for example, 500, 1000, 1500, and so forth.
PRIORITY_RANGE_1000_START	int	Values that mark the start of each PRIORITY_RANGE_1000 range. Values step by 1000—for example, 1, 1001, 2001, and so forth.
PRIORITY_RANGE_1000_END	int	Values that mark the end of each PRIORITY_RANGE_1000 range. Values step by 1000—for example, 1000, 2000, 3000, and so forth.

PROCESS Dimension

All tasks are associated with a business process. Processes are associated with a department in iWD. Populated from iWD GAX Plug-in configurations, the PR0CESS dimension contains information about iWD processes.

The PROCESS Dimension

Field	Data Type	Description
PROCESS_KEY	int	Primary key of this table.
PROCESS_CONFIG_ID	int	iWD GAX Plug-in ID for the process.
PROCESS_CONFIG_EVENT_ID	int	Event that created or updated the process record.
PROCESS_RUNTIME_ID	varchar(255)	iWD GAX Plug-in runtime ID for the process.
TENANT_KEY	int	Key to the TENANT dimension, identifying the tenant with whom the process is associated.
SOLUTION_KEY	int	Key to the SOLUTION dimension, identifying the solution with which the process is associated.
DEPARTMENT_KEY	int	Key to the DEPARTMENT dimension, identifying the department with which the process is associated.
PROCESS_NAME	varchar(255)	Descriptive name of the process.
CUSTOM_DIM_KEY	int	Key to the CUSTOM_DIM dimension, identifying custom attributes that apply to the process.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.
VALID_FROM_DATE_KEY	int	Date key for the VALID_FROM process attribute.
VALID_FROM_TIME_KEY	int	Time key for the VALID_FROM process attribute.
VALID_TO_DATE_KEY	int	Date key for the VALID_TO process attribute.
VALID_TO_TIME_KEY	int	Time key for the VALID_TO process attribute.
VALID_FROM	datetime	The date, in YYYY-M-D HH:MM:SS

Field	Data Type	Description
		F format, from which this process is valid.
VALID_TO	datetime	The date, in YYYY-M-D HH:MM:SS F format, until which this process is valid.
VERSION	int	Version of the record.

PRODUCT Dimension

In some cases, a task may be associated with a specific product—for example, an order for a widget—in which the widget is the product. The PRODUCT dimension includes fields to capture the type and subtype—for example, North American widget versus European widget—of a product. This dimension is an extended attribute that can be set by the source system.

The PRODUCT Dimension

Field	Data Type	Description
PRODUCT_KEY	int	Primary key of this table.
PRODUCT_TYPE	varchar(64)	Type of the product.
PRODUCT_SUBTYPE	varchar(64)	Subtype of the product.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

QUEUE Dimension

The QUEUE dimension describes queues and workbins in the Genesys Interaction Server.

The QUEUE Dimension

Field	Data Type	Description
QUEUE_KEY	int	Primary key of this table.
QUEUE_TYPE	varchar(255)	Type of the distribution queue; one of the following: • InteractionQueue • AgentWorkbin • AgentGroupWorkbin • PlaceWorkbin • PlaceGroupWorkbin
QUEUE_NAME	varchar(255)	Descriptive name of the Interaction queue or workbin.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

QUEUE_TARGET Dimension

A queue target represents the destination object where a task was distributed. The QUEUE_TARGET dimension stores this information.

The QUEUE_TARGET Dimension

Field	Data Type	Description
QUEUE_TARGET_KEY	int	Primary key of this table.
QUEUE_TARGET_TYPE	varchar(255)	Type of the queue; one of the following: • InteractionQueue • AgentWorkbin • AgentGroupWorkbin • PlaceWorkbin • PlaceGroupWorkbin
QUEUE_TARGET_NAME	varchar(255)	Workbin name of the agent, agent group, place, or place group or the name of the interaction queue.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

RESULT_CODE Dimension

A *result code* is a system- or agent-assigned value that is set upon the completion of a task. Result codes are often included in reports to enable further understanding of the disposition of a task — for example, the outcome of a routing strategy, a result code from the source system, or the invocation/termination of after-call work. The `RESULT_CODE` dimension is populated from the iWD extended attribute, `resultCode`.

The RESULT_CODE Dimension

Field	Data Type	Description
RESULT_CODE_KEY	int	Primary key of this table.
RESULT_CODE_NAME	varchar(64)	Descriptive name of the result code.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

SKILL Dimension

The SKILL dimension describes only those agent skills existing within Configuration Server that were requested by iWD rules.

The SKILL Dimension

Field	Data Type	Description
SKILL_KEY	int	Primary key of this table.
SKILL_ID	varchar(255)	ID of the skill.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record

SOLUTION Dimension

Each tenant in iWD can have one or more solutions. A solution can be configured in iWD for testing a new iWD configuration, independent of a production solution. Solution information is stored in the SOLUTION dimension which is populated from iWD GAX Plug-in configuration. Many fact tables in the iWD Data Mart include a SOLUTION_KEY column to join to this dimension.

The SOLUTION Dimension

Field	Data Type	Description
SOLUTION_KEY	int	Primary key of this table.
SOLUTION_CONFIG_ID	int	iWD GAX Plug-in ID for the solution.
SOLUTION_CONFIG_EVENT_ID	int	Event that created or updated the solution record.
SOLUTION_RUNTIME_ID	varchar(255)	iWD GAX Plug-in runtime ID for the solution.
TENANT_KEY	int	Key to the TENANT dimension, identifying the tenant with whom the solution is associated
SOLUTION_NAME	varchar(255)	Descriptive name of the solution.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.
VALID_FROM	datetime	The date, in YYYY-M-D HH:MM:SS F format, from which this solution is valid.
VALID_TO	datetime	The date, in YYYY-M-D HH:MM:SS F format, until which this solution is valid.
VERSION	int	Version of the record.

SOURCE_PROCESS Dimension

Tasks may be associated with a larger process—say, in a workflow system. As an extended attribute, the SOURCE_PROCESS dimension includes a process type and subtype and can be set by the source system.

The SOURCE_PROCESS Dimension

Field	Data Type	Description
SOURCE_PROCESS_KEY	int	Primary key of this table.
SOURCE_PROCESS_TYPE	varchar(64)	Name of the source-system process—for example, Order.
SOURCE_PROCESS_SUBTYPE	varchar(64)	Subtype of the process—for example, Activation.
CREATED_ETL_AUDIT_KEY	int	Key to ETL_AUDIT, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to ETL_AUDIT, identifying the ETL job that last updated this record.

SOURCE_TENANT Dimension

In cases in which the source system is part of a multi-tenant system, the source_process and source_product values might not be unique across tenants. The SOURCE_TENANT dimension provides the ability to define the source of the task further. As an extended attribute, SOURCE_TENANT can be populated by the source system that is submitting the task.

The SOURCE_TENANT Dimension

Field	Data Type	Description
SOURCE_TENANT_KEY	int	Primary key of this table.
SOURCE_TENANT_NAME	varchar(64)	Name of the tenant from the source system.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that last updated this record.

STATUS Dimension

The STATUS dimension is a static dimension that stores the status of an iWD task.

The STATUS Dimension

Field	Data Type	Description
STATUS_KEY	int	Primary key of this table.
STATUS_NAME	varchar(16)	Name of the status of a task. One of the following values: • new—Newly created task awaiting processing. • rejected—Task was rejected during processing. This can occur when a task is assigned to an expired process or closed department. • newheld—This value is retained only for backward compatibility. iWD 8.0+ does not generate this value. • captured—Task has been classified by iWD, but not yet prioritized. • queued—Task has been processed and prioritized at least once. • distributed—This value is retained only for backward compatibility. iWD 8.0+ does not generate this value. • canceled—Task has been canceled. • completed—Task has been completed. • errorheld—Error occurred during task classification or prioritization. Error details are stored in the “error” custom extended task attribute. When resumed, iWD attempts to process the task again. • held—Task is in a held state (either by user action or the system) and will not be

Field	Data Type	Description
		reprioritized until the task is resumed. • assigned—Task has been assigned to an agent.
IS_FINAL	int	Indicates task finality: • 0 indicates a task status other than Completed, Canceled, or Rejected. • 1 indicates a task status of Completed, Canceled, or Rejected.
IS_HELD	int	Indicates whether a task was held: • 0 indicates a task status other than NewHeld, ErrorHeld, or Held. • 1 indicates a task status of NewHeld, ErrorHeld, or Held.

TASK_EVENT_TYPE Dimension

The TASK_EVENT_TYPE dimension is a static dimension that stores various iWD task event types.

The TASK_EVENT_TYPE Dimension

Field	Data Type	Description		
TASK_EVENT_TYPE_KEY	int	Primary key of this table		
TASK_EVENT_TYPE	varchar(64)	iWD task event type name—one of the following:		
		UPDATE_NEW CLASSIFY NEW RESTART RESUME_NEW HOLD_NEW ERROR_NEW ERROR REJECT CANCEL_NEW CANCEL UPDATE	PRIORITIZE REPRIORITIZE RESUME DISTRIBUTE HOLD CANCEL_HELD COMPLETE ASSIGN FINISH FINISH_RETURN CLASSIFY_START PRIORITIZE_START	QUEUE REPRIORITIZE_START RULE_APPLIED SYNC_COMPLETE RESTART_HELD DISTRIBUTE_QUEUE STOPPED UPDATE_ERROR DISTRIBUTE_WORKBIN UPDATE_COMPLETED

TENANT Dimension

The TENANT dimension describes the iWD tenant, and the values are populated from the values set up in iWD GAX Plug-in. The tenant forms part of the ownership chain for a task.

The TENANT Dimension

Field	Data Type	Description
TENANT_KEY	int	Primary key of this table.
TENANT_CONFIG_ID	int	iWD GAX Plug-in ID for the tenant
TENANT_CONFIG_EVENT_ID	int	Event that created or updated the tenant record.
TENANT_RUNTIME_ID	varchar(255)	iWD GAX Plug-in runtime ID for the tenant
TENANT_NAME	varchar(255)	Descriptive name of the tenant
CUSTOM_DIM_KEY	int	Key to the CUSTOM_DIM dimension, identifying custom attributes of the tenant.
CREATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that created this record.
UPDATED_ETL_AUDIT_KEY	int	Key to the ETL_AUDIT dimension, identifying the ETL job that updated this record.
VALID_FROM	datetime	The date, in YYYY-M-D HH:MM:SS F format, from which this tenant is valid.
VALID_TO	datetime	The date, in YYYY-M-D HH:MM:SS F format, until which this tenant is valid.
VERSION	int	Version of the record.

TIMEZONE Dimension

The TIMEZONE dimension is populated during iWD Data Mart initialization. It is a static dimension that stores the name and ID of nearly 600 time zones.

The TIMEZONE Dimension

Field	Data Type	Description
TIMEZONE_KEY	int	Primary key of this table
TIMEZONE_ID	varchar(48)	The iWD-assigned ID for this time zone. This assignment coincides with Java time-zone IDs.
TIMEZONE_NAME	varchar(64)	The name of the time zone.

iWD System Tables

iWD Data Mart includes two system tables:

- ETL_AUDIT
- ETL_CUSTOM_MAP

ETL_AUDIT System

The ETL_AUDIT table records information about every iWD Data Mart ETL job that has been executed. Various ETL jobs use the information stored in this table to determine when task processing ended from the last run of the job and thus, where to resume processing.

The ETL_AUDIT System Table

Field	Data Type	Description
ETL_AUDIT_KEY	int	Primary key of this table.
ETL_AUDIT_TIME	datetime	Date and time when the job finished running.
BATCH_ID	int	Batch number, for jobs that process data in batches (such as GTL_DM_load_intraday). Each batch job has its own ETL audit record.
DATA_SOURCE_TYPE	varchar(16)	Primary source of the job data; either config, task, or datamart. (Data from the Interaction Server Events Log database is classified as task data source type.)
DATA_SOURCE_NAME	varchar(1000)	Database ID (equals database JDBC URL).
PROCESS_NAME	varchar(255)	The name of the job that is processing the records (such as, load_config).
FIRST_EXTRACTED_EVENT_ID	int	ID that starts the range of event IDs that are processed.
LAST_EXTRACTED_EVENT_ID	int	ID that ends the range of event IDs that are processed.
BATCH_LAST_EVENT_ID	int	ID of the last event in the batch. Used to set the starting point for the next batch.
LAST_INTERVAL_DATE_KEY	int	Last date interval that is processed by the aggregate ETL scripts.
LAST_INTERVAL_TIME_KEY	int	Last time interval that is processed by the aggregate ETL scripts.

ETL_CUSTOM_MAP System

The ETL_CUSTOM_MAP table is used to configure mapping of task custom attributes to attributes in the I_/H_TASK_FACT and I_/H_TASK_WORK_FACT tables, as well as the CUSTOM_DIM dimension.

The ETL_CUSTOM_MAP System Table

Field	Data Type	Description
ETL_CUSTOM_MAP_KEY	int	Unique mapping record key.
SOLUTION_KEY	int	Key to the SOLUTION dimension identifying the solution for which this mapping is valid. If NULL, the custom mapping applies to all solutions.
PROCESS_KEY	int	For which process this mapping is valid. If null applies to all processes.
DEPARTMENT_KEY	int	Key to the DEPARTMENT dimension.
TYPE	varchar(30)	Indicates where this custom attribute has been configured. One of the following: • taskattribute • taskdimension • tenant • department • process
KEY_NAME	varchar(255)	Custom attribute key name in the Interaction Server database.
IS_DIMENSION	int	Indicates whether this attribute should be mapped to the CUSTOM_DIM dimension instead of to a fact table. • 0 for taskattribute types • 1 for other than taskattribute types
CUSTOM_ATTRIBUTE_INDEX	int	Custom attribute index. If IS_DIMENSION is false (0), 0–9; otherwise 0–4.

iWD Views

iWD Data Mart provides a number of read-only views of iWD Data Mart tables, including views of:

- Dimensions
- Intraday fact tables
- Historical fact tables
- Blended fact tables (union of intraday and historical facts)
- Intraday aggregates (hour level)
- Historical aggregates (hour, week, month, quarter, year levels)
- Blended aggregate (union of intraday and historical hour aggregates)

Business users and reporting analysts who create reports by using iWD Data Mart data are isolated by the views in iWD Data Mart from changes that might occur in the underlying iWD Data Mart tables.

The following views are created when the iWD Data Mart is initialized:

iWD Data Mart Views

View Name	Based on ...
DATE_INTERVAL_WEEK	EVENT_DATE
DATE_INTERVAL_MONTH	EVENT_DATE
DATE_INTERVAL_QUARTER	EVENT_DATE
DATE_INTERVAL_YEAR	EVENT_DATE
TIME_INTERVAL_15MIN	EVENT_TIME
TIME_INTERVAL_30MIN	TIME_INTERVAL_15MIN
TIME_INTERVAL_60MIN	TIME_INTERVAL_15MIN
PROCESS_CURRENT_VERSION	PROCESS, DEPARTMENT, SOLUTION, TENANT
PROCESS_CURRENT	PROCESS, DEPARTMENT, SOLUTION, TENANT, PROCESS_CURRENT_VERSION
TASK_EVENT_FACT	H_TASK_EVENT_FACT and I_TASK_EVENT_FACT
TASK_FACT	H_TASK_FACT and I_TASK_FACT
TASK_WORK_FACT	H_TASK_WORK_FACT and I_TASK_WORK_FACT

Refer also to the aggregate views that are created for each subject area.

Bus Matrices

The following '*bus matrix*' illustrates how iWD Data Mart aggregate fact tables and dimension tables interrelate.

	Dimensions																	Measures													
iWD Aggregates	Agent	Business Value	Category	Customer	Customer Segment	Interval Date	Interval Time	Media Channel	Priority	Product	Queue	Result Code	Source Process	Source Tenant	Capture Point	Custom Dim	Process	Total New Tasks	Total Completed Tasks	Total Completed Overdue	Total Pending Tasks	Total Overdue Tasks	Task Work Count	Avg Task Work Time	Avg Assign Time	Avg Complete Time	Avg Source Create Time	Avg Source First Create Time	Min Work Time	Max Work Time	Total Entered Tasks	Total Exited Tasks
Agent	✓					✓	✓				✓	✓				✓	✓						✓	✓					✓	✓		
Capture		✓				✓	✓								✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓				
Classification			✓		✓	✓	✓	✓		✓			✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓				
Queue						✓	✓		✓		✓					✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓			✓	✓

The following bus matrix demonstrates how iWD Data Mart core fact tables and dimension tables interrelate.

	Dimensions																													
iWD Core Facts	Age	Agent	Business Value	Capture Point	Category	Custom Dim	Customer	Customer Segment	Date/Time	Department	Distribution Point	ETL Audit	ETL Custom Map	Event Date	Event Time	Media Channel	Metric	Priority	Process	Product	Queue	Queue Target	Result Code	Skill	Solution	Source Process	Source Tenant	Status	Task Event Type	Tenant	Timezone
I_/H_TASK_FACT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
I_/H_TASK_WORK_FACT		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	✓	✓	✓		✓		✓	✓	✓			✓	
I_/H_TASK_EVENT_FACT		✓	✓			✓			✓	✓	✓	✓		✓	✓			✓	✓		✓	✓	✓		✓		✓	✓	✓		

IWD ETL Jobs

The data in iWD Data Mart is made available through a process that is called Extract, Transform and Load—or ETL, for short. The system that is used to create, configure, and execute the ETL process is Kettle, which is part of the Pentaho reporting suite. Kettle top-level objects are known as jobs. Jobs are a sequence of steps that are executed according to success/failure criteria. One of the steps that is used by iWD reporting is to transform steps.

The following list describes the preconfigured ETL jobs that are responsible for creating and populating the iWD Data Mart and for calculating the various aggregates and dimensions that are described in the iWD Data Mart schema. Jobs names are those displayed in the iWD GAX Plug-in's Data Mart Dashboard.

Preconfigured ETL Jobs

Job Function	Attribute	Description
Initialize iWD Data	Job Name	Initialize
	Function	Initializes the necessary data structures and populates static dimensions, such as the AGE, BUSINESS_VALUE, EVENT_DATE, EVENT_TIME, DATE_TIME, PRIORITY, STATUS, TASK_EVENT_TYPE, and TIMEZONE dimensions.
	Schedule	Runs once.
Load Configuration	Job Name	Load Configuration
	Function	Loads iWD configuration updates from the following ETL parameters: • `customTaskAttributeMapping` • `customTaskDimensionMapping` • `customTenantAttributeMapping` • `customDepartmentAttributeMapping` • `customProcessMapping` into the ETL_CUSTOM_MAP and CUSTOM_DIM Data Mart tables. This function loads iWD configuration updates that have been gathered from the iWD GAX Plug-in configuration database into the following Data Mart tables:

Job Function	Attribute	Description
		• CAPTURE_POINT • PROCESS • DEPARTMENT • SOLUTION • DISTRIBUTION_POINT • TENANT • METRIC
	Schedule	Configurable through service properties; typically, runs on a 15-minute cycle, but not more frequently than a 15-minute cycle.
Load Intraday	Job Name	Load Intraday
	Function	Loads updates from tables in the Interaction Server database and event log into the following core fact tables: • I_TASK_FACT • I_TASK_WORK_FACT • I_TASK_EVENT_FACT as well as the following dimensions: • AGENT • MEDIA_CHANNEL • SKILL • CATEGORY • PRODUCT • SOURCE_PROCESS • CUSTOM_DIM • QUEUE • SOURCE_TENANT • CUSTOMER • QUEUE_TARGET • CUSTOMER_SEGMENT • REASON_CODE
	Schedule	Configurable through Service Properties in iWD GAX Plug-in; recommended that it be scheduled to run after the Load Configuration job ends through the Job Dependency scheduling option.
Aggregate Intraday	Job Name	Aggregate Intraday
	Function	Aggregates data that previously was loaded into fact tables by the Load Intraday job into the aggregation tables.
	Schedule	It is recommended that this job be scheduled immediately after the Load Intraday job has

Job Function	Attribute	Description
		completed—typically, running every 15 minutes. The frequency of running this aggregate job does not have any bearing on the current 15-minute aggregate that is being populated.
Aggregate Statistics	Job Name	Aggregate Statistics
	Function	Generate extended statistics by executing statistics plug-ins.
	Schedule	It is recommended that this job be scheduled immediately following completion of the Aggregate Intraday job, because most of the statistics plug-ins user aggregated facts.
Load Historical	Job Name	Load Historical
	Function	Moves noncurrent data from the intraday fact tables to their corresponding historical fact tables. (“Noncurrent” refers to data other than today’s data [CREATED_DATE_KEY < today].) • Noncurrent I_TASK_EVENT_FACT data is moved to H_TASK_EVENT_FACT. • Noncurrent I_TASK_WORK_FACT data is moved to H_TASK_WORK_FACT. • Noncurrent I_TASK_FACT data is moved to H_TASK_FACT. • Noncurrent I_TASK_*aggr*_FACT_15min data is moved to H_TASK_*aggr*_FACT_15min. Important Task facts must also be finalized (having reached Completed, Canceled, or Rejected state) before they can be moved from the intraday fact tables regardless of duration in the intraday tables.
	Schedule	Runs daily through the schedule that is defined in Service Properties.
Aggregate Historical	Job Name	Aggregate Historical
	Function	Aggregates data for the historical DAY aggregation tables

Job Function	Attribute	Description
		(H_TASK_*aggr*_FACT_DAY).
	Schedule	Runs once a day, after the Load Historical job.
Maintain iWD	Job Name	Maintain
	Function	Removes expired facts from the following tables based on the values that are set in the `detailsExpirationDays` and `aggregation15min ExpirationDays` parameters: • H_TASK_EVENT_FACT • H_TASK_WORK_FACT • H_TASK_FACT • H_TASK_*aggr*_FACT_15min (These parameters are defined as rules on the ETL Service property in iWD GAX Plug-in.) This job also adds to DATE_TIME ensuring that next-year values are present in this table.
	Schedule	Runs once a day, after the Aggregate Historical job.
Prune events and interactions	Job Name	Prune
	Function	Removes events from the Event Log database when tasks are archived—that is, when they are moved or deleted from Interaction Server.
	Schedule	Runs once a day, after the Maintain job.

You can schedule ETL jobs to run:

- On a recurring basis by using a CRON expression.
- Manually.
- Upon the successful completion of a dependent service.

For more information on the configuration of scheduling ETL jobs, refer to the **iWD 8.5 Deployment Guide**.

Using the Kettle ETL Tool

Check which version of Kettle you require from either the Deployment Guide or your Genesys consultant. Kettle ETL logic is defined by two types of scripts:

- Jobs
- Transformations

All the customizations supported in iWD Datamart are done in transformations.

The main idea of transformation is as the name implies - transformation of data. Data in this case is considered any type of two dimensional recordset. Each step in transformation either somehow modifies the existing recordset, replaces it with another recordset (usually using current recordset as parameters) or output current recordset to a database table or other kind of data storages (such as .CSV files).

1. Download the Kettle ETL Tool from the Sourceforge website at sourceforge.net/projects/pentaho/files/Data Integration/<*version*>/download.
2. Unzip the package to `C:\iwd\kettle`<*version*> folder.
3. Start Kettle ETL visual designer. The Kettle designer is called Spoon. Go to `C:\iwd\kettle`<*version*> folder and start the `spoon.bat` batch file.
4. Select `No repository` to continue.
5. Open a transformation. The Kettle transformations script have `.ktr` extension.

For more information see Customizing iWD.

Customizing IWD

You can customize iWD both to create new statistics and to aggregate them. The topics below give general guidelines for how to accomplish this, and provide one specific example.

Composition of IWD Statistics and Aggregates

Each statistic is represented by a transformation script in the `aggregate_stats\stats` subfolder of the iWD ETL package. Each aggregate is represented by a transformation script in the `plugins` subfolder. Either script can define more than one statistic. As deployed during installation, the `aggregate_stats\stats` subfolder contains the following six sample scripts that define respectively six statistics:

- `department_activeheld.ktr`
- `department_newcompleted.ktr`
- `department_pendingoverdue.ktr`
- `process_activeheld.ktr`
- `process_pendingoverdue.ktr`
- `solution_newcompleted.ktr`

Also, the `\plugins` directory provides a `plugins.properties` file and five aggregate subfolders that correspond respectively to the five iWD aggregates:

- `\agent`
- `\capt`
- `\classif`
- `\queue`
- `\age`

Each subfolder contains a plug-in script that includes the name of the aggregate: `task_<agg>_fact` (for example, `task_queue_fact`). You can add new statistics and have iWD aggregate them by creating additional scripts and identifying them to iWD.

Customizing Statistics

The recommended approach for creating custom statistics is the following:

1. Copy an existing sample transformation script from the `aggregate_stats\stats` subdirectory. Name this script appropriately.
2. Modify the script as appropriate using Kettle ETL Designer.

> **Important**

> Genesys does not provide Kettle ETL Designer directly. You can download the tool and instructions on how to use it from the Internet by using the following URL: http://sourceforge.net/projects/pentaho/files/Data Integration/2.5.2-stable/Kettle-2.5.2.zip/download

3. Enable the new statistic by adding it to the `aggregate_stats\stats.properties` file.

Customizing Aggregates

The recommended approach for creating custom aggregates is the following:

1. Create a new subdirectory in the `\plugins` directory that is copied from an existing aggregate. Name this subdirectory appropriately.
2. Modify the aggregate transformations as appropriate using Kettle ETL Designer.
3. Modify the aggregate data structures as appropriate using SQL scripts.
4. Enable the new aggregate by adding it to the `plugins\plugins.properties` file.

Activating IWD Aggregate Plugins

Similarly to activating statistics (see Composition of IWD Statistics and Aggregates), you activate a plug-in by appending it to the `plugins.properties` file, which is located in the `\plugins` subfolder. By default, only the task classification aggregate is enabled in this file to minimize ETL processing time and Data Mart size; this plug-in's content consists of the following single line:

```
${KETTLE_REPOS_DIR}\plugins\classif,task_classif_fact
```

To enable additional plugins, perform the following steps:

1. Stop iWD Data Mart runtime node.
2. Using an ASCII editor, open `plugins.properties`, add a row for each plug-in that you want to enable, and save.

> **Important**
> This file should not contain any extraneous lines.

3. Run the iWD database upgrade command-line utility, `dbup_dm.cmd`, to see the effect of these changes. One function of this utility is to create the necessary tables to support these plug-ins. Refer to the *Creating the iWD Data Mart Database* tab **on this page** in the *iWD 8.5 Deployment Guide* for additional information about this utility.

For example, to add the agent aggregate plug-in, add a line to the file as shown below:

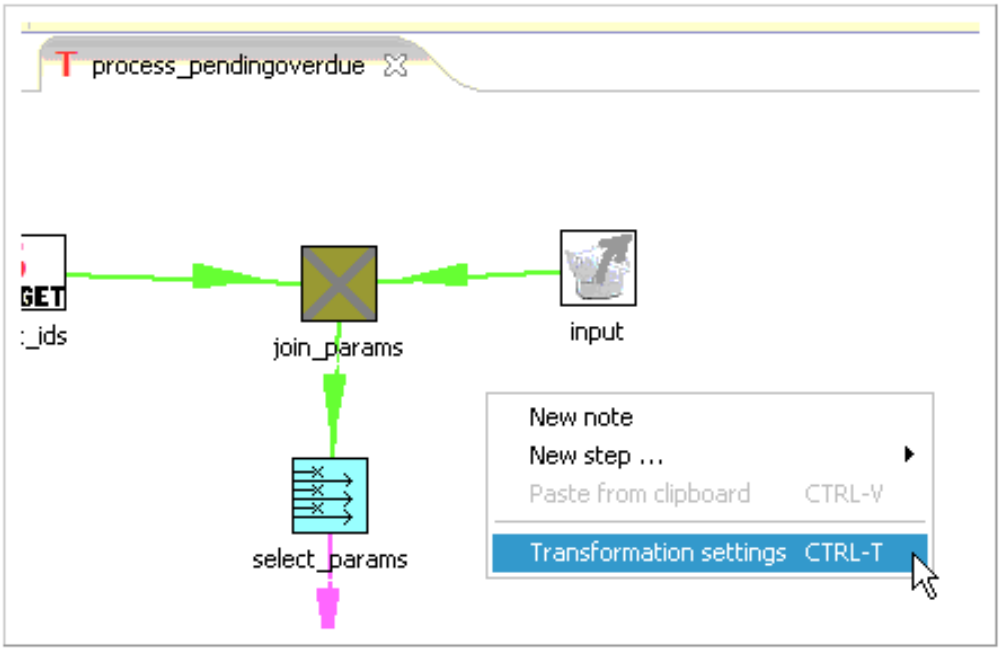
```
${KETTLE_REPOS_DIR}\plugins\classif,task_classif_fact
${KETTLE_REPOS_DIR}\plugins\agent,task_agent_fact
```

Genesys provides this transformation script but you must enable it in order to use it.

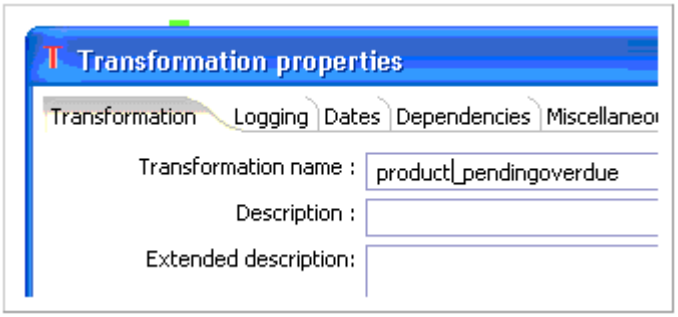
Customization Example

This example creates a new statistic transformation script, `product_pending overdue.ktr`, that calculates how many pending and overdue tasks there are for a particular product. You start by copying the `process_pendingoverdue` transformation script, which calculates similar statistics for the PROCESS dimension. This script references the TASK_CLASSIF_FACT subject area, which supports a join to the PRODUCT dimension.

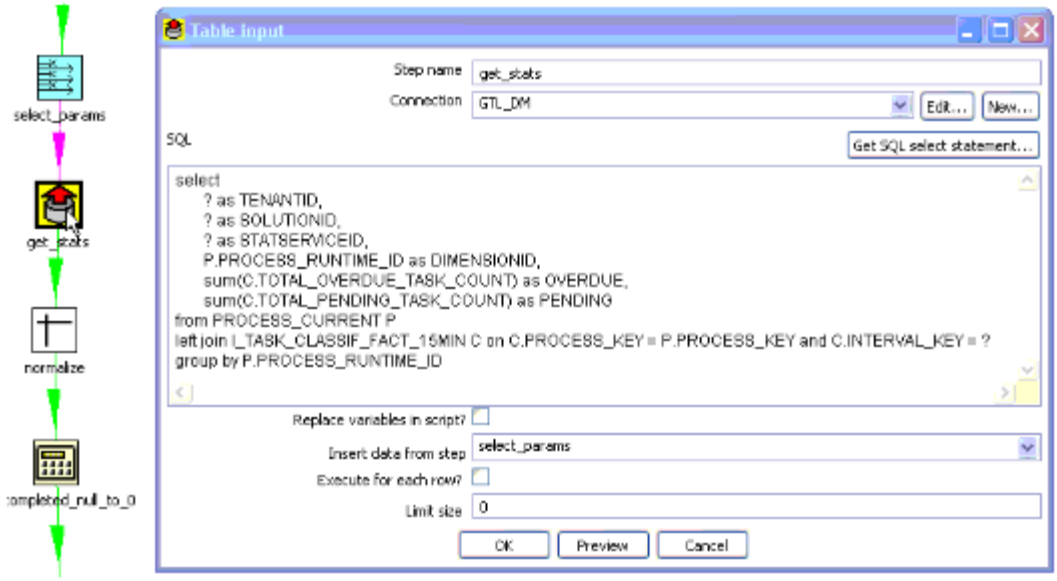
1. In the `aggregate_stats\stats` subdirectory, copy the `process_pending overdue.ktr` transformation script and rename it as follows: `product_pendingoverdue.ktr`
2. Open this script in Kettle ETL Designer.
3. Within the `Transformation` window, right-click and select `Transformation Settings` from the context menu (shown below) to open the `Transformation properties` dialog box.



4. Rename the transformation appropriately and click OK. The figure below uses the name `product_pendingoverdue`.



5. Double-click the `get_stats` step to open the `Table input` dialog box that is shown below. Next, you must update the logic for the calculation of this statistic.

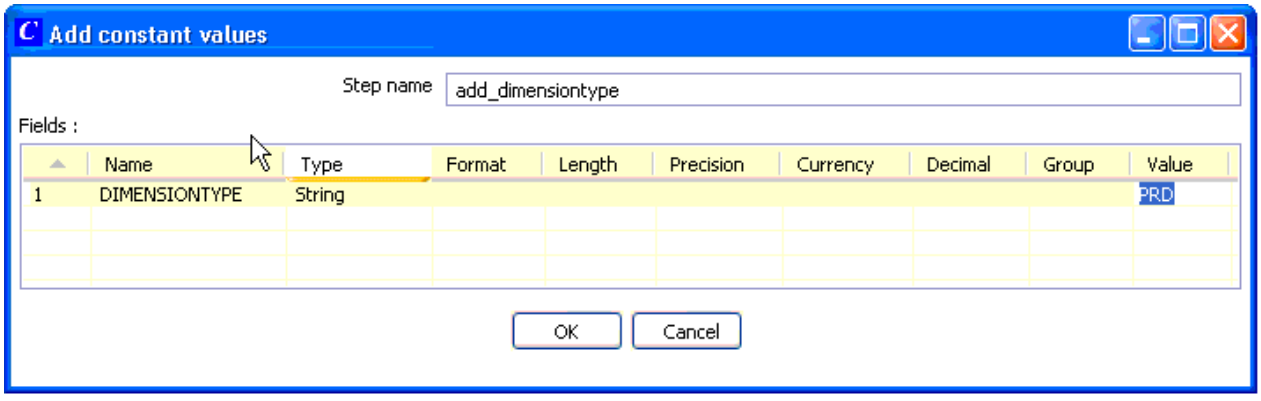


6. Replace the SQL statement with the following and click OK:

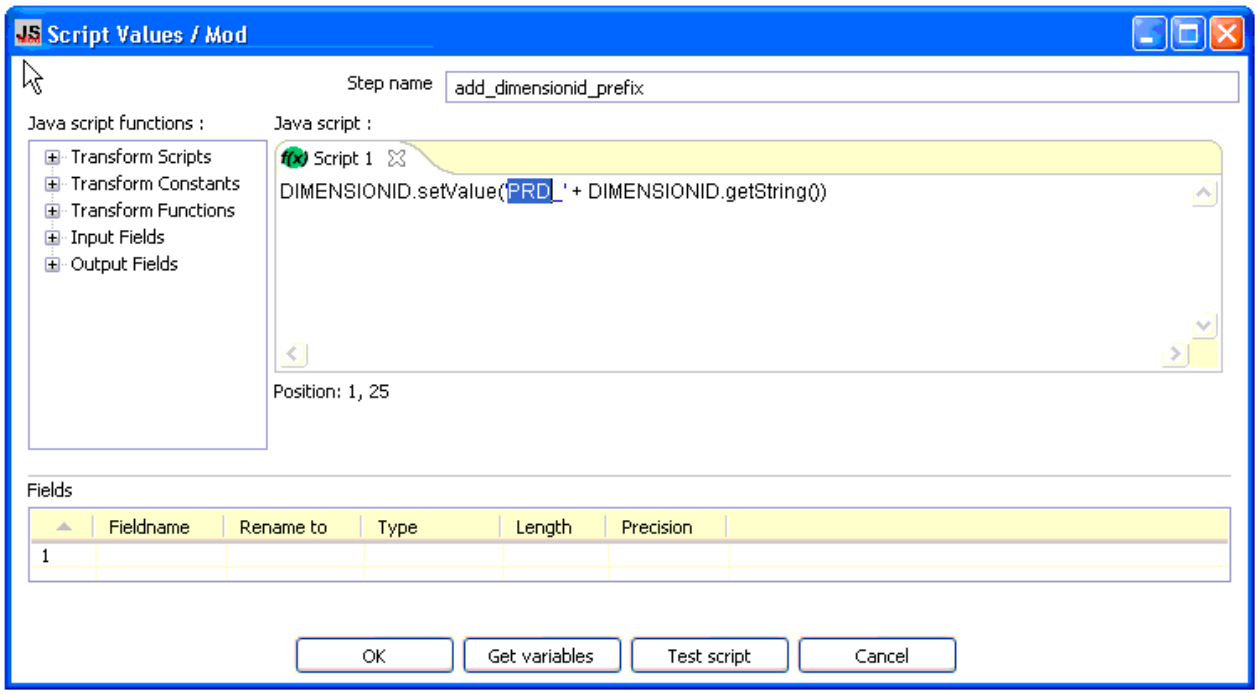
```
SELECT ?                                AS TENANTID ,
       ?                                 AS SOLUTIONID ,
       ?                                 AS STATSERVICEID,
       P.PRODUCT_TYPE                    AS DIMENSIONID ,
       SUM(C.TOTAL_OVERDUE_TASK_COUNT)  AS OVERDUE ,
       SUM(C.TOTAL_PENDING_TASK_COUNT)  AS PENDING
FROM PRODUCT P
     LEFT JOIN I_TASK_CLASSIF_FACT_15MIN C
     ON C.PRODUCT_KEY = P.PRODUCT_KEY
     AND C.INTERVAL_KEY = ?
GROUP BY P.PRODUCT_TYPE
```

   You use a left join on `I_TASK_CLASSIF_FACT_15MIN`, instead of an inner join because you want to retrieve data about all products, whether or not they have tasks associated with them.

7. Double-click the `add_dimensiontype` step to open the `Add constant values` dialog box.
8. Set the value of `DIMENSIONTYPE` to some string, and click `OK`. The figure below sets this string to `PRD`.



9. Double-click the `add_dimensionid_prefix` step to open the `Script Values` dialog box.
10. Change the script to use the dimension-type string that was assigned in Step 8, as shown in the figure below, and click `OK`.



11. Close the Designer, saving all work.
12. Stop iWD Data Mart runtime node.
13. In the `aggregate_stats\stats` subdirectory, using an ASCII editor, edit the `stats.properties` file to enable the statistic. Add the last line shown in the example below, and then save and close the file:

```
${KETTLE_REPOS_DIR}\aggregate_stats\stats\department_activeheld.ktr<br/>
 ${KETTLE_REPOS_DIR}\aggregate_stats\stats\department_newcompleted.ktr<br/>
 ${KETTLE_REPOS_DIR}\aggregate_stats\stats\department_pendingoverdue.ktr<br/>
 ${KETTLE_REPOS_DIR}\aggregate_stats\stats\process_activeheld.ktr<br/>
 ${KETTLE_REPOS_DIR}\aggregate_stats\stats\process_pendingoverdue.ktr<br/>
 ${KETTLE_REPOS_DIR}\aggregate_stats\stats\solution_newcompleted.ktr<br/>
 ${KETTLE_REPOS_DIR}\aggregate_stats\stats\product_pendingoverdue.ktr
```

This new `product_pendingoverdue` script is now ready for ETL to calculate overdue and pending tasks on its next run.