License Reporting Manager 8.1

User's Guide

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List of Procedures

Preface

Welcome to the *License Reporting Manager 8.1 User's Guide.* This document provides a high-level overview of License Reporting Manager 8.1 features and functions, together with software-architecture information and deployment-planning materials.

This document is valid only for the 8.1 release of this product.

Note: For versions of this document created for other releases of this product, visit the Genesys Technical Support website, or request the Documentation Library DVD, which you can order by e-mail from Genesys Order Management at orderman@genesyslab.com.

This preface contains the following sections:

For information about related resources and about the conventions that are used in this document, see the supplementary material starting on page 75.

About LRM

License Reporting Manager (LRM) measures and stores usage data for licensed Genesys products and user-defined bundles, providing Genesys users with license management reports and Hosted Service Providers with billing data. The existing Genesys reporting components ICON and GVP Reporting Server perform the first-level of event analysis and data storage. LRM then performs data analysis and aggregation from these reporting components into usage data for the various sellable items.The usage data is collected in LRM and may be accessed in one of two ways:

- Using a custom billing adapter that is designed to extract data in the form that the hosted service provider's back-office billing systems need.

- Using on-demand reports that can be run from the Genesys Administrator Extension user interface.

Intended Audience

This document, primarily intended for those who install the software and those who run the usage report, assumes that you have a basic understanding of:

- Computer-telephony integration (CTI) concepts, processes, terminology, and applications.
- Network design and operation.
- Your own network configurations.

You should also be familiar with:

- Genesys Framework architecture and functions.
- Architecture and functions of your Genesys solutions.
  - Genesys Administrator
  - Genesys sellable licenses (as per orders, not technical licenses)
- Genesys concept of redundancy, as explained in the *Framework 8.1 Deployment Guide*.

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Document Change History

This section lists topics that are new or that have changed significantly since the first release of this document.

New in Document Version v8.1.101.00

The document has been updated and restructured to support License Reporting Manager release 8.1.1. The following chapters have been added or significantly changed since the previous release of this document:

- "Product Overview" on page 15 has significantly changed.
- "Enabled-Seat Measurement and Calculations" on page 43 has been added.
- "Starting and Stopping License Reporting Manager" on page 53 has significantly changed.
- "LRM Troubleshooting Report" was removed, because it is no longer included.
- "Reporting" was removed, because you can now manage reports through GAX.

The following topics have been added or significantly changed since the previous release of this document:

- Agent Connector, Call Qualification Parking, Genesys Info Mart, Genesys Interactive Insights, Genesys Social Media, GVP Ports, High Availability, QM Call Recording have been added to "Processing of Concurrent Seats" on page 33.
- Data Restore has been removed from "Data Backup" on page 73.
- "LRM Tasks and Related Procedures" on page 49 has changed.
- All procedures have changed in "User-Defined Bundles" on page 61.

New in Document Version v8.1.002.00

The document has been updated to provide additional support for License Reporting Manager release 8.1.0. The following topics have been added or significantly changed since the previous release of this document:

- Starting LRM automatically from scheduled scripts on Linux has been added to "Starting LRM" on page 53.

Genesys

Part

1 About License Reporting Manager

This section provides information about LRM data, features, and functionality. It also provides a high-level overview of the basic components of LRM. It contains the following chapters:

Genesys

Chapter

1 Product Overview

This chapter describes the basic architecture and components of LRM. It also provides a high-level overview of LRM. It contains the following sections:

Basic Architecture

LRM is a server application that uses the data from Interaction Concentrator Database (IDB), the GVP Reporting Servers, and Configuration Manager to execute data analysis and summarization. The LRM Server should always be running, so it is available to respond to HTTP requests and generate reports from the LRM Database (LRM DB).

The LRM has a nightly statistics job which you can schedule to run at the same time each day when there is a low volume of interaction in the contact center (for example, at night). During this nightly statistics job, LRM performs the following tasks:

- Reads the configuration data for the various Genesys components to calculate the concurrent peak usage for certain sellable items.
- Generates sellable items data from ICON:
  - Reads the login session data from all the ICON instances connected to the LRM and temporarily stores the results in the LRM DB.
  - Calculates all sellable items in minute intervals at the tenant level.
  - Calculates and stores the daily value for all sellable items at the tenant and system level.
  - Calculates and stores the daily value for all user-defined bundles at the tenant and system level.

Note: For LRM to retrieve data from ICON, the ICON DB must be running and available, although ICON itself is not required.

- Generates concurrent peak usage data for some sellable items for GVP, for each GVP Reporting Server, and GVP-related sellable item:
  - Creates HTTP requests for each of these sellable items, all the tenants, and the system.
  - Stores the data in the LRM DB.
- Generates enabled seat count data for sellable items from Configuration Server:
  - Takes a snapshot of the Places and DN objects in configuration.
  - Stores the data in the LRM DB.

LRM also accepts HTTP requests for reports and generates HTTP responses containing these reports. The GAX plug-in for LRM uses this HTTP service to generate reports.

You can also use other services to generate their own reports by using the LRM web services API.

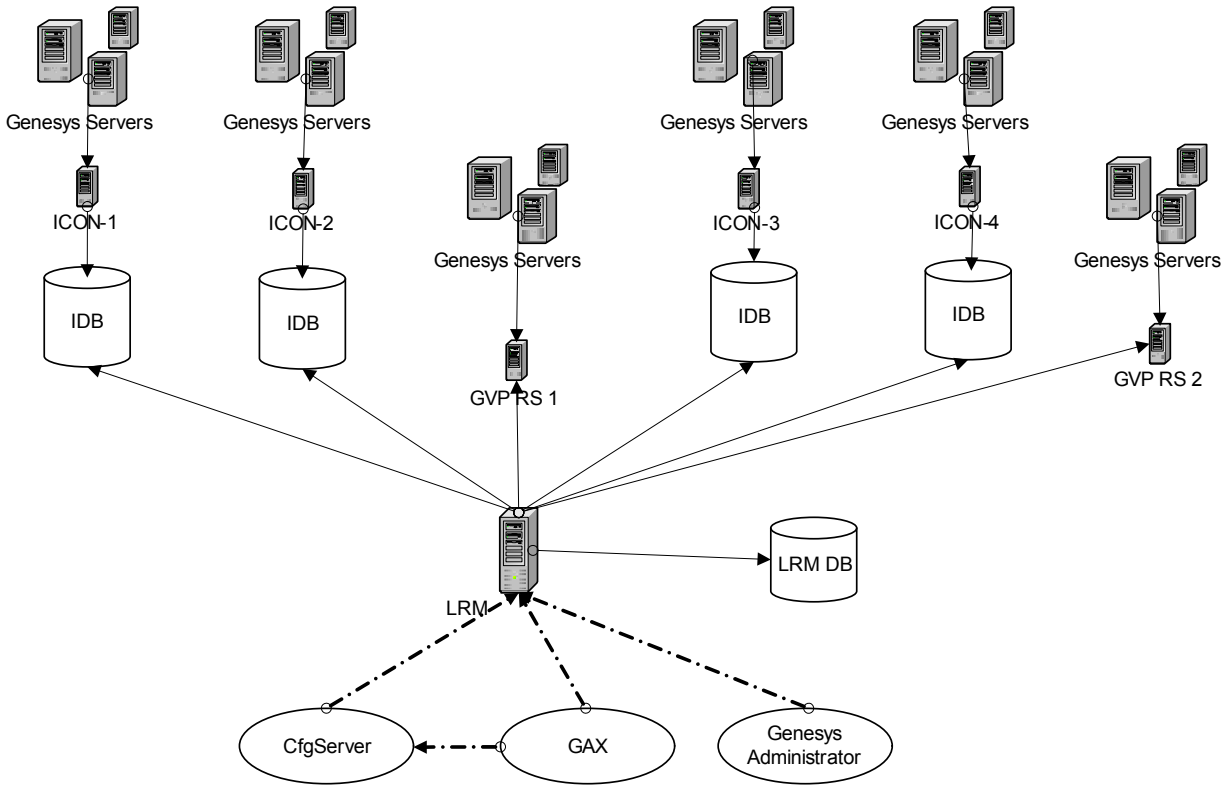
LRM General Architecture

The following contains a brief description of functions of components in Figure 1 on page 17:

- Genesys Servers: These are the servers running Genesys software, which perform the functions required by the customer. LRM measures the usage of these servers. Examples of these servers are T-Server, SIP-Server, Interaction Server, GVP Media Control Platform, etc.
- ICON: ICON collects run-time information from Genesys Servers and store the information in the ICON Databases (ICON DB). LRM retrieves data from the ICON DB to perform calculations for the concurrent peaks of various sellable items. LRM supports ICON servers in high availability without counting duplicate records which exist in more than one ICON server.
- GVP RS: LRM collects HTTP reports from the GVP Reporting Server to obtain concurrent peaks for GVP-related sellable items. GVP Reporting Server a performs the concurrent peak calculations that are required by LRM. LRM stores these results in the LRM DB. LRM supports the primary/backup setup of the GVP Reporting Server, and GVP Reporting Server which is set up with HTTP basic authentication.
- GAX: GAX performs multiple functions for LRM
  - GAX installs and configures ICON and LRM using a wizard for ease of installation
  - GAX displays reports to the user, by retrieving data from the LRM via the HTTP Web Services API.
  - GAX provides custom screens to allow provisioning of tenant usage limits

  - GAX provides custom screens to upload files representing system entitlements and bundle definitions.
- GA: LRM uses Genesys Administrator (GA) to perform general Genesys OA&M functionality, such as:
  - Manual starting LRM
  - Monitoring and display of alarms generated from LRM

Any additional functionality not shown in Figure 1 on page 17 is designed to support ease of installation.



1	ICON 1–4	Independent ICON instances.
2	IDB	ICON databases.
3	LRM	This is the LRM executable utility that retreives configuration, starts and executes the summarization software on ICON data in the IDB.
4	LRM DBS	LRM database, which stores summarized data calculated by the LRM utility.
5	GVP RS 1-2	GVP Reporting Server instances.

Figure 1: General Architecture

High Availability

LRM Report Generator operates in conjunction with any high-availability database implementation that is supported by DB Server, such as Oracle Real Application Clusters.

To implement high-availability in LRM, use one pair of identically configured LRM instances. Each LRM instance must have its own LRM application object in the Management Framework, where one LRM instance is configured as a `Backup Server` of the other. Both LRM instances share the same LRM Database and you can use the same DAP object to access the LRM Database. Each LRM instance can be in either `Primary` or `Backup` mode, which is determined by the Management Framework Solution Control Server.

When operating in `Primary` mode, the LRM server gathers data from ICON, GVP and Configuration Server and stores the result in the LRM database as a nightly statistics job. The LRM server also responds to HTTP requests from the GAX Plug-in to generate reports. When operating in `Backup` mode, no nightly statistics job runs, even when the scheduled time is reached, and the LRM server closes the HTTP socket, which means it will not respond to any incoming report requests from the GAX Plug-in.

The nightly statistics job has a locking mechanism, so that in the unlikely event that more than one LRM Server tries to invoke the nightly statistics job, only one of these jobs can occur at one time.

Components and Functions

LRM consists of the following elements:

- LRM server
- LRM Plug-in for Genesys Administrator Extension
- Genesys Administrator
- Configuration Server

LRM Server

The LRM Server is a standalone server that performs the following functions:

- Executes a nightly statistics job to gather statistics for sellable item data from ICON, GVP and Configuration Server at the scheduled time.
- Sends alarm messages in case of failures during the nightly statistics job.
- Ensures no two LRM instances can run nightly statistics jobs at the same time.
- Generates JSON reports over HTTP requests, in response to requests sent from the GAX Plug-in.

LRM Plug-in for Genesys Administrator Extension

The LRM Plug-in for Genesys Administrator Extension (GAX) provides a GAX User Interface to perform the following tasks:

- Upload an Entitlement XML file.

- Upload a Bundles XML file.
- Generate a License Usage Report.
- Modify the Provisional Count for tenants.

Genesys Administrator

Use Genesys Administrator to perform the following tasks:

- Manually start or stop the LRM server.
- Monitor the LRM application based on the Local Control Agent (LCA) and the Solution Control Server.

Configuration Server

Use Configuration Server to perform the following tasks:

- Configure the customer's environment.
- Configure the LRM application.
- Store data (for example, entitlement file data and user-defined bundles).

Associated Components

License Reporting Manager is used to monitor data and audit processes and replaces existing license quantity-control processes.

Table 1 lists the additional components that may be involved with LRM. Those that are marked with an asterisk (*) are to be included in future releases of LRM.

Table 1: Components Associated with LRM

Category	Component	LRM function
Existing product components	• T-Server • SIP Server • Interaction Server • Outbound Contact Server • GVP	Primary raw-data sources that feed the LRM data-collection function.
	Configuration Server	Provides configuration data to LRM.
	Genesys Administrator Extension	Exchanges tenant data from Configuration Server, and receives usage data from the LRM Report database.

Table 1: Components Associated with LRM (Continued)

Category	Component	LRM function
	Message Server	Receives log output from the LRM Report Generator.
	Solution Control Server*	Sends SNMP data to an external customer alarm system.
	Interaction Concentrator	Obtains input data for LRM license calculations. Interaction Concentrator collects data from: • T-Server • SIP Server • IXN Server • Outbound Contact Server LRM reads data directly from the Interaction Concentrator database tables.

Another data source for license calculations is Genesys Configuration Server. LRM reads system, tenant, and object configuration information from Configuration Server, as well as, its own parameter information.

While making calculations, LRM uses the following components:

- Configuration Server—For reading configuration
- Message Server—For logging LRM messages
- Interaction Concentrator—For obtaining data
- Genesys Voice Platform Reporting Server—For obtaining data

LRM also uses the following component:

- Configuration Manager or Genesys Administrator—For configuring LRM

Supported Features and Functionality

Predefined and User-Defined Bundles

A predefined bundle is a group of standard Genesys-sellable items that are configured and named for you for resale as a single feature to your customer.

A user-defined bundle is a group of standard Genesys-sellable items that are configured and named by you (either by using Genesys Administrator Extension or manually) for resale as a single feature to your customer.

The predefined or user-defined bundle appears as a single item in the license-usage measurement data that is accessed for billing and other tenant reports.

New in This Release

New in Release 8.1.1

The 8.1.1 release of License Reporting Manager provides the following additional or changed functionality:

Usage Reporting

- Usage reporting includes SIP Voicemail, Genesys Voice Platform Ports, Call Qualification Parking, High Availability, Genesys Info Mart, Genesys Interactive Insights, Genesys Social Media, QM Call Recording, Agent Connector, and IVR Connector.

Enabled Seat Counts

- Enabled seat count data for the sellable items from Configuration Server includes Third Party Work Items, High Availability, Genesys Info Mart, Genesys Interactive Insights, Genesys Social Media, and Agent Connector.

Security Features

- LRM supports Transport Layer Security (TLS) protocol between Genesys components. LRM supports HTTPS authentication for any HTTP connection.

Database Support

- LRM provides database support for Microsoft SQL Server 2008 and PostgreSQL 9.0.

Operating System Support

- LRM supports for Red Hat Enterprise Linux 6 and Windows 2008 Server (x64).

New in Release 8.1.0

The 8.1.0 release of License Reporting Manager provides the following additional or changed functionality:

- Includes purchased usage quantities for resources in tenant usage, in addition to the actual usage quantities that already are provided. For more information, see “Tenant-License Usage” on page 41
- Captures and stores detailed information about the following sellable items:
  - Genesys Interaction Workspace
  - Genesys Voice Platform ASR Ports
  - Genesys Voice Platform TTS Ports
  - Third-party work items

  For more information, see “Processing of Concurrent Seats” on page 33.

Chapter

2 Interaction Database Tables

License Reporting Manager obtains and extracts data from Interaction Concentrator (IDB). Interaction Concentrator collects data from T-Server, SIP Server, and Interaction Server and stores it in the tables of the IDB. LRM then reads data directly from the tables of the IDB. Table 2 lists the database tables from which LRM extracts data to generate reports, and the purpose of the extracted data.

Table 2: IDB Tables and Data Extracted by LRM

Table name	Purpose of extracted data
G_LOGIN_SESSSION	For login sessions
G_AGENT_STATE_RC	To determine the usage of Genesys Agent Desktop or Genesys Supervisor Desktop
G_DSS_GOS_PROVIDER	To determine the data gap
G_DSS_GLS_PROVIDER	To determine the data gap
GO_CAMPAIGN	To determine the usage of Outbound sellable items
GX_SESSION_ENDPOINT	To determine the usage of Web and E-mail sellable items

Chapter

3 Entitlement File

This chapter provides information about the Entitlement File, including an example of an Entitlement File. It contains the following sections:

Entitlement File Contents

The Entitlement File contains information that pertains to the current list of valid customer-ordered sellable items. The file is cumulative and includes all of the entitlements up to and including the latest order. The file includes only active supported products. LRM treats the information in the Entitlement File as base-line customer usage data and compares this data to the actual customer usage data to create the customer usage reports. The Entitlement File also contains information about the number of licenses that have been purchased. LRM uses this information to mark sellable items in the report to indicate when usage exceeds the purchased license quantity.

The contents of the Entitlement File must include the following:

- The file header information that is needed to identify the system properly, including:
  - Customer name.
  - Customer ID.
  - Customer site ID.
  - Customer site address.
  - Customer site type (single-site or multi-site).
  - File issue date (includes the date that the file becomes valid, the last date that the file is valid, and the date that the file is no longer valid).

- The sellable line information for each sellable item that is purchased for that site, including:
  - Order number sold on.
  - Sellable SAP item number.
  - Sellable SAP description (includes release number).
  - Quantity purchased.
  - Burst limits.
  - License type (concurrent seat).

The Entitlement File information is stored in the `Transaction` object on the Configuration Server. When generating a report, LRM uses active Entitlement File data for the given report day. The values in the `valid-from` and `valid-to` fields in the Entitlement header section are what determine if the data is active.

Note: For historical report generation, LRM uses the Entitlement File from that past date to generate the report, instead of using the active current Entitlement File data.

If contradicting data exists (such as single-site in data in one record and multi-site data in another), the data from the most recent active Entitlement File will be used. The Entitlement File is divided into two different sections:

- Entitlement header section—Contains the general information about the customer and the site (see Table 3).
- Sellable-item entitlement section—Contains one `<entitlement_data>` element per sellable item, and contains the information that relates to the customer's entitlement to use that sellable item (see Table 4).

Table 3: Entitlement File Header Information

Header Element Name	Purpose
`ENTITLEMENTFILEID`	The `id` of the `<entitlement_data_file>`.
`ISSUEDATE`	The `issue_date` of the `<entitlement_data_file>`.
`VALIDFROM`	The `valid_from` date from which the `<entitlement_data_file>` is valid.
`VALIDTO`	The `valid_to` date until which the `<entitlement_data_file>` is valid.
`CUSTOMERID`	The `<customer_id>` is a unique identifier for the customer.
`CUSTOMERNAME`	The `<customer_name>` that is associated with the `<customer_id>` identifier for the customer.

Table 3: Entitlement File Header Information

Header Element Name	Purpose
CUSTOMERSITEID	The <customer_site_id> that is associated with the <customer_id> identifier for the customer.
CUSTOMERSITEADDR	The <customer_site_address> identifier is the physical address that is associated with the <customer_id> identifier for the customer.
CUSTOMERSITETYPE	The <customer_site_type> to determine whether to report the customer site as a single-site (SS) or a multi-site (MS). Possible type values: · SS · MS

Table 4: Sellable-Item Entitlement Table

Sellable Item Element Name	Purpose
`item`	The `item` is the unique identifier for the sellable item and can have one of the following values: • genesys_inbound_voice • sip_server • genesys_outbound_contact_ms • genesys_email • genesys_web_media • third_part_work_items • genesys_cim_platform_ss • genesys_cim_platform_ms • genesys_network_voice • cti • genesys_workforce_management • skills_based_routing • genesys_agent_desktop • genesys_supervisor_desktop • genesys_interaction_workspace • gvp_asr_ports • gvp_tts_ports • genesys_saas_email • gvp_ports • call_qualification_parking • high_availability • genesys_info_mart_server • genesys_interactive_insights • genesys_social_engagement • ivr_connector • agent_connector • genesys_qm_call_recording

Table 4: Sellable-Item Entitlement Table (Continued)

Sellable Item Element Name	Purpose
license_type	Possible values: · enabled_seat · concurrent_seat · concurrent_port · port_minute **Note:** concurrent_seat is the *only* supported License Type in this release.
order_number	The order number on which the item was sold.
item_number	The sellable-item number from the Genesys system.
item_description	The sellable-item description from the Genesys system.
quantity_purchased	The quantity purchased. LRM compares measured usage with this value for overuse alerting.
burst_limit	The placeholder for future use in overuse alerting, when burst policies have been defined.

Entitlement File Example

The following example of an Entitlement File includes information that would be found in a typical entitlement header table and two rows from a sellable-item entitlement table:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<entitlement_data_file issue_date="2010-11-27" valid_from="2010-12-01"
valid_to="2015-12-01"id="19a048ecb6fde21746d6ee2564305962">
<header>
   <customer_id>CustID-1234</customer_id>
   <customer_name>ABC Managed Services</customer_name>
   <customer_site_id>678</customer_site_id>
   <customer_site_address>12 Maple Ave, Snohomish WA
      98290</customer_site_address>
   <customer_site_type type="MS"/>
</header>
<entitlement_data item="sip_server">
   <license_type>concurrent_seat</license_type>
   <order_number>12345</order_number>
   <item_number>98765</item_number>
   <item_description>SIP Server 8.1.0</item_description>
   <quantity_purchased>100</quantity_purchased>
   <burst_limit>120</burst_limit>
```

```
</entitlement_data>
<entitlement_data item="genesys_cim_platform_ms">
   <license_type>concurrent_seat</license_type>
   <order_number>12345</order_number>
   <item_number>67890</item_number>
   <item_description>Genesys CIM Platform MS
      8.1.0</sap_item_description>
   <quantity_purchased>100</quantity_purchased>
   <burst_limit>120</burst_limit>
</entitlement_data>
<!-- other sellable items -->
</entitlement_data_file>
```

Chapter

4 Concurrent-Seat Measurement and Calculations

This chapter describes the concurrent-seat measurement that is used by LRM and provides detailed information on how LRM calculates the number of licenses. It contains the following sections:

Concurrent Seats

License Reporting Manager uses the concurrent-seat measurement to indicate concurrent peak usage and time of the concurrent peak usage (rounded to the previous one-minute boundary). LRM determines peak concurrent-seat usage by calculating the actual number of seats instantaneously in use at one minute intervals.

A seat is a physical chair whose occupant is logged in to T-Server, Interaction Server, or SIP Server and provides data on Place and DN details. A login session includes login from a:

- DN that is associated with a Place.
- DN that is not associated with a Place.
- Place that is not associated with a DN.

LRM assumes that each login session has a unique ID. Seat usage is based on a Place; when a Place is not available in the login session, seat usage is based on a DN.

Table 5 shows how the seat usage is determined by the Place and DN data in the login session:

Table 5: Seat Calculations

Place name	DN name	Seat for which this login session is counted
Place 1	DN1 DN2 DN3	Seat 1[a]
	DN4	Seat 2[b]
Place 1		Seat 1[c]

[a] For login sessions from DNs associated with Place1—DN1, DN2 or DN3—these are considered single seat usage. During calculation, LRM uses seat usage based on a *Place*.

[b] For login sessions from DNs not associated with a Place (separate seat per DN), LRM uses seat usage based on a *DN*.

[c] For login sessions from a Place. For example, for an Interaction Server login session, LRM uses seat usage based on a *Place* calculation type.

Calculation of Concurrent Seats

License Reporting Manager can be configured to calculate the number of concurrent seats. To calculate concurrent seats, LRM records the peak number of logged-in seats for each 24 hour interval, and the time of the concurrent peak usage.

LRM calculates concurrent seats by performing the following:

1. Selects the available login sessions by using the following criteria:
   - Time frame—LRM selects login sessions from the `G_LOGIN_SESSION` table of the Interaction Concentrator database that have at least a one second overlap with a given time interval. The login sessions that were started or terminated exactly at the edges of the given time interval are not counted.

     For example, to receive login sessions for 08/08/10, the following criteria is used:
     - Start time < 08/09/10 00:00:00 and termination time (or sessions not yet terminated) > 08/08/10 00:00:00

- All sessions in which termination time = 08/08/10 00:00:00 and start time = 08/09/10 00:00:00 are excluded.

Note: Sessions that are not terminated, but started nine hours before the reporting day, are treated as stuck sessions and are not counted for concurrent-seat usage.

- Place and DN filter combination—LRM selects login sessions based on seat calculations (see Table 5, "Seat Calculations," on page 32).

2. Applies the particular sellable item criteria.
3. Calculates and stores the number of active login sessions in the LRM database.

Calculation of Concurrent Peak Use

A data snapshot of concurrent peak use is used to calculate concurrent-seat measurements. Concurrent peak use is determined as the actual peak during the 24-hour period, using a continuously updated record of seats in use according to the license definitions. The data snapshot of concurrent peak use is an instantaneous snapshot taken at one-minute intervals.

The concurrent peak use calculation includes a method of filtering or minimizing the weight of concurrent-seat peak values, possibly on predefined time intervals. For example, during Agent shift change overlaps. This filtering mechanism is enabled by configuring the `lrm-excluded-time` option. See the *License Reporting Manager 8.1 Deployment Guide* for more information about how to configure this option.

To calculate concurrent seats peak usage data for a given period, the date and hour of concurrent peak usage during that period is also recorded.

Processing of Concurrent Seats

This section describes how concurrent seats are calculated based on sellable items.

Agent Connector

License Reporting Manager measures and generates usage reports for Agent Connector.

An Agent Connector seat is a physical seat occupied by a person who is not using a Genesys Agent Desktop, Genesys Supervisor Desktop, or Interaction Workspace for the log-in.

Use is measured from the time the person logs in until the time the person logs out. If the seat has an associated place, usage is based on the place. If the seat does not have a place, usage is based on the person's voice session.

Call Qualification Parking

License Reporting Manager measures and generates usage reports for simultaneous sessions using Genesys Media Server providing the following services:

- Video on hold
- DTMF digit collection
- Prompts and Announcements
- Audio streaming on hold

License Reporting Manager determines the number of simultaneous Media Server ports in use providing one of the above services and the associated time stamps that have a resolution of one minute or less. The calculation indicates the maximum number of Media Server ports simultaneously in use within a given reporting interval, and the date and time the maximum use occurred. If the maximum number of simultaneous resources used of a given type occurs on more than one occasion, LRM reports the date and time of the latest occasion on which the maximum count was reached.

Chat Media Type for Interaction Server

A Genesys Web Media seat is a physical seat that is occupied by a person who is configured as an Agent, logged into Interaction Server, and associated with a media channel of type `chat`.

Use of a Genesys Web Media seat is measured from the time the Agent logs in until the time the Agent logs out. If an Agent logs in to Interactions Server using other media, but the Agent added chat media later during a login session, the entire duration of the login session are counted as consuming a Genesys Web Media seat license. Use is based on the Place from which the Agent logs in.

The calculation of Genesys Web Media Concurrent seats includes the use of a Genesys Web Media seat. The calculation provides the maximum number of Genesys Web Media seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Computer Telephony Integration Contact-Center Legacy

A Computer Telephony Integration (CTI) seat refers to a physical seat that is occupied by an Agent who is logged in to a T-Server, SIP Server or Interaction Server in a tenant for which at least one tenant-specific instance (in other

words, has only this tenant in the tenant list) of Universal Routing Server (URS) is configured with a connection to a database access point (DAP).

LRM provides a report of a CTI seat that is based on the presence of a DAP connection and applies to all of the logged in seats in a given tenant. The report does not depend on whether database queries were actually performed in the process of routing calls to a given seat.

Use is measured from the time the person logs in until the time the person logs out. If the DN from which the Agent logs in has an associated Place configured in Configuration Database, use is based on the Place. If the DN does not have a Place configured in Configuration Database, use is based on the DN from which the Agent logs in. A login is counted as using a license even if the Agent who logs in is not configured in Configuration Database.

If a URS with a DAP connection is associated with multiple tenants, LRM does not report any usage of CTI seat licenses associated with that URS instance.

If a tenant has multiple URS instances with DAP connections, LRM reports one CTI seat license per logged-in seat.

The calculation of CTI Concurrent seats includes any use of a CTI seat that indicates the maximum number of CTI seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

E-Mail Media Type for Interaction Server

A Genesys E-Mail seat is a physical seat that is occupied by a person who is configured as an Agent, logged in to Interaction Server, and associated with a media channel of type `email`.

Use of a Genesys E-Mail seat is measured from the time the Agent logs in until the time the Agent logs out. If an Agent logs in to an e-mail media channel at any time during a login session, the entire duration of the login session are counted as consuming a Genesys E-Mail seat license. Use is based on the Place from which the Agent logs in.

The calculation of Genesys E-Mail Concurrent seats includes any use of a Genesys E-Mail seat that indicates the maximum number of Genesys E-Mail seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Genesys Agent Desktop and Genesys Supervisor Desktop

License Reporting Manager measures and generates usage reports for Genesys Agent Desktop and Genesys Supervisor Desktop.

A Genesys Agent Desktop seat is a physical seat that is occupied by a person who is configured as an Agent and logged in to a T-Server, SIP Server or Interaction Server through Genesys Agent Desktop. A Genesys Supervisor Desktop seat is a physical seat that is occupied by a person who is configured

as a Supervisor and logged in to a T-Server, SIP Server or Interaction Server through Genesys Supervisor Desktop.

Genesys Agent Desktop and Genesys Supervisor Desktop sellable items are associated with a Place. If a login session from a particular Place has a special Reason Code, this Place is calculated as a Genesys Desktop item.

If two different Genesys applications login to the same Place (in other words, one application initiates an Open Media session and the other application initiates a voice session), the two applications are calculated as one Genesys Desktop sellable item because both applications are logged into and are using the same Place.

Genesys CIM Platform - Single-Site and Multi-Site

A CIM Platform has two kinds of seats: Single-Site (SS) seat and Multi-Site (MS) Concurrent seat. Each is a physical seat that is occupied by a person who is logged in to a T-Server, SIP Server, or Interaction Server in a location that is defined as `SS` for Single-Site or `MS` for Multi-Site in the Genesys Entitlement File.

Use is measured from the time the person logs in until the time the person logs out. If the DN from which the Agent logs in has an associated Place configured in Configuration Database, use is based on the Place. If the DN does not have a Place configured in Configuration Database, use is based on the DN from which the Agent logs in.

For the CIM Platform - MS or SS Concurrent seats, LRM provides a report that shows the maximum number seats (MS or SS) simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

LRM determines if the site is defined as Single-Site or Multi-Site by examining data in the entitlement tables (which contain(s) the data from the Entitlement File). When the site has been defined as `SS` or `MS`, all of the login sessions from the preselected set (see “Calculation of Concurrent Seats” on page 32 for preselection details) are calculated as a Genesys CIM Platform - SS or MS sellable items.

Genesys Inbound Voice

A Genesys Inbound Voice seat is a physical seat whose occupant is logged in to any T-Server other than SIP Server. Use of a Genesys Inbound Voice seat is measured from the time the Agent logs in; until the time the Agent logs out. If the DN from which the Agent logs in has an associated Place configured in Configuration Database, use is based on the Place. If the DN does not have a Place configured in Configuration Database, use is based on the DN from which the Agent logs in. A login is counted as using a license even if the Agent who logs in is not configured in Configuration Database.

The calculation of Genesys Inbound Voice concurrent seats includes any use of a Genesys Inbound Voice seat that indicates the maximum number of Genesys Inbound Voice seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Because SIP Server and T-Server have the same application type in Configuration Database, to distinguish between the two different server types LRM uses the switch type information where the login occurred.

Genesys Info Mart

A Genesys Info Mart seat is a physical seat occupied by a person who is configured as an Agent and logged in to a Genesys deployment where at least one instance of the Genesys Info Mart application is configured.

Use is measured from the time the person logs in until the time the person logs out. If the seat has an associated place, usage is based on the place. If the seat does not have a place, usage is based on the person's voice session.

Genesys Interaction Workspace

A Genesys Interaction Workspace seat is a physical seat that is occupied by a person who is configured as an Agent and logged in to a T-Server, SIP Server or Interaction Server through Interaction Workspace.

Use is measured from the time the person logs in until the time the person logs out. If the seat has an associated place, usage is based on the place. If the seat does not have a place, usage is based on the person's voice session.

Genesys Interactive Insights

A Genesys Info Mart seat is a physical seat that is occupied by a person who is configured as an Agent and logged in, in a Genesys deployment where at least one instance of the Genesys Info Mart application is configured and Interactive Insights is defined in the Entitlement File.

Use is measured from the time the person logs in until the time the person logs out. If the seat has an associated place, usage is based on the place. If the seat does not have a place, usage is based on the person's voice session.

Genesys Network Voice

A Genesys Network Voice seat is a physical seat that is occupied by an Agent; who is configured as an Agent and logged into a T-Server other than SIP Server, on a system that has one or more (non-SIP) Network T-Servers configured. Use of a Genesys Network Voice seat is measured from the time the Agent logs in until the time the Agent logs out. If the DN from which the Agent logs in has an associated Place configured in Configuration Database,

use is based on the Place. If the DN does not have a Place configured in Configuration Database, use is based on the DN from which the Agent logs in.

Limitation

There is no reliable way to determine a Network Switch or a Network T-Server. However, it is possible to configure the Network Switch as a Voice switch in Configuration Database. You can also enable LRM to count Genesys Network Voice sellable items by setting the LRM `lrm-network-switch` option to `true`. Refer to the *License Reporting Manager 8.1 Deployment Guide* for more information about how to configure this option.

Genesys Outbound Contact - Multi-Site

A Genesys Outbound Contact - Multi-Site (MS) seat is a physical seat a person logs into a Genesys T-Server, where at least one of the following conditions is true:

- The person who logs in is an Agent who is a member of an Agent Group that is associated with at least one Outbound Contact Service Campaign Group that was loaded during this login session.
- The Place the login occurs is a member of a Place Group that is associated with at least one Outbound Contact Service Campaign Group that was loaded during this login session.

And a site type that is defined as `MS` (Multi-Site) in the Genesys Entitlement File.

Use of a Genesys Outbound Contact - MS seat is measured from the time the person logs in until the time the person logs out, regardless of when the Campaign Group was loaded or unloaded.

Note: If the DN from which the person logs in has an associated Place configured in Configuration Database, use is based on the Place. If the DN does not have a Place configured in Configuration Database, LRM does *not* report usage of an Outbound Contact - MS seat license, because OCS does not deliver calls to that DN.

The calculation of Genesys Outbound Contact - MS Concurrent seats includes any use of a Genesys Outbound Contact - MS seat that shows the maximum number of Genesys Outbound Contact - MS seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Genesys SIP Server

A SIP Server seat is a physical seat whose occupant is logged in to SIP Server. Use of a SIP Server seat is measured from the time the Agent logs in; until the

time the Agent logs out. If the DN from which the Agent logs in has an associated Place configured in Configuration Database, use is based on the Place. If the DN does not have a Place configured in Configuration Database, use is based on the DN from which the Agent logs in. A login is counted as using a license even if the Agent who logs in is not configured in Configuration Database.

The calculation of SIP Server Concurrent seats includes any use of a SIP Server seat that indicates the maximum number of SIP Server seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Genesys Social Media

A Genesys Social Media seat is a physical seat occupied by a person, who is configured as an Agent logged in to Interaction Server, and associated with a media channel of type other than email, chat, or voice and the sub-type of the login is one of facebook, twitter, or rss.

Use is measured from the time the person logs in until the time the person logs out. If an agent logs into a media channel other than email, chat, or voice with a subtype of facebook, twitter, or rss at any time during a login session, the entire duration of the login session is counted as consuming a Genesys Social Media seat license.

The Genesys Social Media seat usage is based on the place the agent logs in. One Genesys Social Media seat license is required for each Genesys Social Media in each place, regardless of the number of media types supported by each system.

The calculation of Genesys Social Media seats includes any use of a Genesys Social Media seat indicates the maximum number of Genesys Social Media seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Genesys Workforce Management

A Workforce Management seat is a physical seat that is occupied by a person who is logged in to a T-Server, SIP Server, or Interaction Server where WFM Data Aggregator is configured with a connection to a Stat Server that is associated with the person's tenant. When these conditions are met, LRM treats all logins within the tenant as utilizing a Workforce Management seat license, regardless of the identity of the person who is logging in. Use is measured from the time the person logs in until the time the person logs out.

If the seat has an associated Place configured in Configuration Database, usage count is based on the Place. If the seat does not have a Place configured in Configuration Database, usage count is based on the DN on which the person is logged in.

LRM provides a report of Workforce Management Concurrent seats that indicates the maximum number of persons simultaneously logged into T-Server, SIP Server, or Interaction Server in a tenant that has Genesys Workforce Management configured.

GVP Ports

License Reporting Manager measures and generates usage reports for simultaneous sessions using Genesys Voice Platform. License Reporting Manager determines the number of simultaneous GVP ports in use providing VoiceXML services and the associated time stamps that have a resolution of one minute or less.

The calculation indicates the maximum number of GVP ports simultaneously in use within a given reporting interval, and the date and time the maximum use occurred. If the maximum number of simultaneous resources used of a given type occurs on more than one occasion, LRM reports the date and time of the latest occasion on which the maximum count was reached.

GVP TTS and ASR Ports

License Reporting Manager measures and generates usage reports for simultaneous sessions using GVP text-to-speech (TTS) and automatic speech recognition (ASR) resources.

Use is measured from the time the resource is included in the call flow until the time the resource is released from the call flow. License Reporting Manager determines the number of simultaneous GVP resources of each type in use and the associated time stamps that have a resolution of one minute or less.

The calculation of resources includes any use of a GVP resource that indicates the maximum number of GVP resources simultaneously in use within a given reporting interval, and the date and time the maximum use occurred. If the maximum number of simultaneous resources used of a given type occurs on more than one occasion, LRM reports the date and time of the latest occasion on which the maximum count was reached.

High Availability

A High Availability seat is a physical seat that is occupied by a person who is configured as an Agent and logged in to a T-Server or SIP Server configured in high availability mode.

Use is measured from the time the person logs in until the time the person logs out. If the seat has an associated place, usage is based on the place. If the seat does not have a place, usage is based on the person’s voice session.

QM Call Recording

License Reporting Manager measures and generates usage reports for simultaneous sessions using QM Call Recording, by measuring the number of simultaneous sessions using Genesys Media Server providing the Recording service.

License Reporting Manager determines the number of simultaneous Media Server ports in use providing the above services and the associated time stamps that have a resolution of one minute or less.

The calculation indicates the maximum number of Media Server ports simultaneously in use within a given reporting interval, and the date and time the maximum use occurred. If the maximum number of simultaneous resources used of a given type occurs on more than one occasion, LRM reports the date and time of the latest occasion on which the maximum count was reached.

Skills-Based Routing

A Skills Based Routing seat refers to a physical seat that is occupied by a person who is logged in to a T-Server, SIP Server or Interaction Server and has at least one Skill configured.

LRM provides a report of a Skills-Based Routing seat based on the configuration of the Skills of the Agent who is logged in. The report does not take into account whether the skills were actually considered in the process of routing calls to a given seat.

Use is measured from the time the person logs in until the time the person logs out. If the DN from which the Agent logs in has an associated Place configured in Configuration Database, use is based on the Place. If the DN does not have a Place configured in Configuration Database, use is based on the DN from which the Agent logs in.

The calculation of Skills-Based Routing Concurrent seats includes any use of a Skills-Based Routing seat that indicates the maximum number of Skills-Based Routing seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Tenant-License Usage

License Reporting Manager measures and generates usage reports for purchased quantities and actual usage quantities of tenant licenses.

During creation of a daily or monthly usage report in its database, LRM includes the purchased license quantity that was in effect for the interval that is being reported, as follows:

- If a single purchased license quantity was in effect for the entire duration of the report interval, LRM reports that value as the purchased license quantity.

- If more than one purchased license quantity was in effect during the report interval, LRM reports the value that was in effect at the end of the report interval.
- If the purchased license quantity in effect at the time of report creation is different from the value that was in effect at the time of the interval being reported, LRM uses the value that was in effect for the interval being reported.

LRM does not regenerate existing usage reports stored in its database when purchased license quantities are changed.

Third-Party Work Items

A third-party work items seat is a physical seat that is occupied by a person, who is configured as an Agent logged in to Interaction Server, and associated with a media channel of type other than `email`, `chat`, or `voice`.

Use is measured from the time the person logs in until the time the person logs out. If an agent logs into a media channel other than `email`, `chat`, or `voice` at any time during a login session, the entire duration of the login session is counted as consuming a third-party work item seat license.

The third-party work item seat usage is based on the place from which the agent logs in. One third-party work item seat license is required for each third-party system in each place, regardless of the number of media types supported by each system.

The calculation of third-party work item seats includes any use of a third-party work item seat that indicates the maximum number of third-party work item seats simultaneously in use within a given reporting interval, and the date and time the maximum use occurred.

Chapter

5 Enabled-Seat Measurement and Calculations

This chapter describes the enabled seat measurement used by License Reporting Manager (LRM) and provides detailed information on how LRM calculates the number of enabled seats. It contains the following sections:

Enabled Seats

LRM calculates the number of enabled seats by looking at the DN and Places configurations in the Configuration Server. For the purpose of counting enabled seats, a seat is defined as the following objects configured in the Configuration Server:

- Place associated with at least one DN.
- DN not associated with a Place.

Calculation of Enabled Seats

License Reporting Manager can be configured to count the number of enabled seats by looking at objects configured in the Configuration Server and count the number of these objects. For each sellable item, there is a slightly different way the count is performed based on the sellable item criteria.

Processing of Enabled Seats

This section describes how enabled seats are calculated based on sellable items.

Agent Connector

The enabled seat count for Agent Connector is measured differently than the other enabled seat counts mentioned here. The daily enabled seat count for Agent Connector is defined as the total number of unique seats (i.e. Places and DNs) that has been used during the day that are not using a Genesys Agent Desktop, Genesys Supervisor Desktop, or Interaction Workspace for the log-in

Chat Media Type for Interaction Server

Assume any seats configured in the system may be used to log into the Interaction Server and then once logged in, they can use any of the media channel they want. In this case, the enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Computer Telephony Integration Contact-Center Legacy

A Computer Telephony Integration (CTI) seat refers to a physical seat occupied by an Agent who is logged in to a T-Server, SIP Server or Interaction Server in a tenant for which at least one tenant-specific instance (in other words, has only this tenant in the tenant list) of Universal Routing Server (URS) is configured with a connection to a database access point (DAP).

If a URS with a DAP connection is associated with multiple tenants, LRM does not report any usage of CTI seat licenses associated with that URS instance.

If a tenant has multiple URS instances with DAP connections, LRM counts one CTI seat license per enabled seat.

LRM provides a report of enabled CTI seat count based on the presence of a DAP connection and applies to all of the logged in seats in a given tenant.

The enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place, where the DNs belong to a switch that belong to a tenant that meet the above URS configuration condition.

E-Mail Media Type for Interaction Server

Assume any seats configured in the system may be used to log into the Interaction Server and then once logged in, they can use any of the media

channel they want. In this case, the enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Genesys CIM Platform - Single-Site and Multi-Site

A CIM Platform has two kinds of seats: Single-Site (SS) seat and Multi-Site (MS) Concurrent seat. Each is a physical seat occupied by a person who is logged in to a T-Server, SIP Server, or Interaction Server in a location defined as SS for Single-Site or MS for Multi-Site in the Entitlement File.

LRM determines if the site is defined as Single-Site or Multi-Site by examining data in the entitlement tables, which contain the data from the Entitlement File. When the site has been defined as SS or MS, all of the login sessions from the preselected set (see "Calculation of Concurrent Seats" on page 32 for preselection details) are calculated as a Genesys CIM Platform- SS or MS sellable items.

For the CIM Platform - MS or SS Concurrent seats, LRM counts the number of enabled seats as the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Genesys Inbound Voice

A Genesys Inbound Voice seat is a physical seat whose occupant is logged in to any T-Server other than SIP Server. A seat is enabled for use if the DN associated with this seat is on this kind of Switch.

For Genesys Inbound Voice, the enabled seat count for the system is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with any Place, where the DNs belong to a switch that is not configured as 0 (Unknown Switch), 72 (SIP Switch) or 63 (OM Switch).

Genesys Network Voice

A Genesys Network Voice seat is a physical seat occupied by an Agent; who is configured as an Agent and logged into a T-Server other than SIP Server, on a system that has one or more (non-SIP) Network T-Servers configured.

A seat is enabled for use if the DN associated with this seat is on this kind of switch and the LRM has determined that one or more (non-SIP) Network T-Servers is configured. In this case, the enabled seat count for Genesys Network Voice for the system is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place, where the DNs belong to a switch that is not configured as 72 (SIP Switch) or 63 (OM Switch).

Limitation

There is no reliable way to determine a Network Switch or a Network T-Server. However, it is possible to configure the Network Switch as a Voice switch in Configuration Database. You can also enable LRM to count Genesys Network Voice sellable items by setting the LRM lrm-network-switch option to true. See the *License Reporting Manager 8.1 Deployment Guide* for more information about how to configure this option.

Genesys SIP Server

A SIP Server seat is a physical seat whose occupant is logged in to SIP Server. A seat is enabled for SIP Server use if the DN associated with this seat is on a SIP Server Switch. For Genesys SIP Server, the enabled seat count for the system is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with any Place, where the DNs belong to a switch that is configured as 72 (SIP Switch).

Genesys Social Media

Assume any seats configured in the system may be used to log into the Interaction Server and then once logged in, they can use any of the media channel they want. In this case, the enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Genesys Workforce Management

A Workforce Management seat is a physical seat occupied by a person who is logged in to a T-Server, SIP Server, or Interaction Server where WFM Data Aggregator is configured with a connection to a Stat Server associated with the person's tenant. When these conditions are met, the LRM considers the seats enabled for this tenant to be enabled for Workforce Management.

The enabled seat count is the total of: the number of Places associated with at least one DN, plus the number of DNs not associated with a Place, where the DNs belong to a switch that belongs to a tenant that has Workforce Management enabled.

Genesys Outbound Contact - Multi-Site

The License Reporting Manager assumes that any seats configured in a Multi-Site environment is enabled for outbound contacts. LRM determines from the entitlement file whether the location is SS or MS. If the location is multi-site, LRM counts the number of enabled seats as the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Skills-Based Routing

The License Reporting Manager assumes that any seats configured in the customer environment may be logged in by an agent with skills configured. LRM counts the number of enabled seats as the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Third-Party Work Items

Assume any seats configured in the system may be used to log into the Interaction Server and then once logged in, they can use any of the media channel they want. In this case, the enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Genesys Agent Desktop

This sellable item is based on the client software used to log in. The LRM assumes that any seats configured in the system may be used to log into the T-Server, SIP Server or Interaction Server. In this case, the enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Genesys Supervisor Desktop

This sellable item is based on the client software used to log in. The LRM assumes that any seats configured in the system may be used to log into the T-Server, SIP Server or Interaction Server. In this case, the enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Genesys Info Mart Server

In a deployment where at least one instance of the Genesys Info Mart application has been configured, the enabled seat count for Genesys Info Mart Server is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Genesys Interactive Insights

In a deployment where at least one instance of the Genesys Info Mart application has been configured and Interactive Insights has been defined in the Entitlement File, the enabled seat count for Genesys Info Mart Server is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

Interaction Workspace

This sellable item is based on the client software used to log in. The LRM assumes that any seats configured in the system may be used to log into the T-Server, SIP Server or Interaction Server. In this case, the enabled seat count is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place.

IVR Connector

An enabled IVR Connector port is an IVR Port object on the Configuration Server where the IVR Port option is set to enabled. The LRM counts the total number of these objects for the number of enabled IVR Connector ports.

High-Availability

A T-Server, or SIP-Server may be configured as High-Availability if you set up a Backup Server for it. A seat is enabled for High-Availability if it can be used to log into such a T-Server.

In this case, the enabled seat count for High-Availability is the total of the number of Places associated with at least one DN, plus the number of DNs not associated with a Place, where the DNs belong to a switch where its associated T-Server has been configured as Highly-Available.

Voicemail

A voicemail count is a DN object on the Configuration Server where the DN object has the [Tserver] gvm_mailbox option set to any value. The LRM counts the number of these DN objects as the number of enabled mailboxes.

Genesys

Part

2 Administration Information

This section contains information that is pertinent to the administration of License Reporting Manager. It contains the following chapters:

LRM Tasks and Related Procedures

Task Summary: LRM Tasks and Procedures, on page 49 summarizes LRM tasks and related procedures.

Task Summary: LRM Tasks and Procedures

Objective	Related procedures and actions
Generate reports.	1. Use GAX after the LRM Plug-in for GAX is installed. 2. Select Invoke the Reports, Entitled Counts and Peaks screen to view reports.
Import an Entitlement file.	1. Use GAX after the LRM Plug-in for GAX is installed. 2. Select Invoke the Configuration, Entitlements to import an entitlement file. See Chapter 3 for a description of Entitlement Files.
Import Bundles.	1. Use GAX after the LRM Plug-in for GAX is installed. 2. Select Configuration, Bundles to import a Bundle Set file. See Chapter 8 for more information about Bundle Files.
Assign Provisioned Counts.	1. Use GAX after the LRM Plug-in for GAX is installed to assign the provisioned counts (usage limits) for tenants.

Task Summary: LRM Tasks and Procedures (Continued)

Objective	Related procedures and actions
Start LRM.	Use Procedure: Starting LRM, on page 53 to start LRM.
Stop LRM.	Use Procedure: Stopping LRM, on page 56 to stop LRM.

Chapter

6 Logging Events

To permit the manual verification of License Reporting Manager operations, LRM generates log messages that report all significant events. These significant events include the following:

- Event for Normal Operation:
  - Data collection from Interaction Concentrator (start and end times)
  - Data output into LRM Report Database (start and end times)
  - License Report File created
  - Genesys Entitlement File imported
  - Overuse alert generated
  - Gap detected
- Event for Error Conditions:
  - Data-source connection failure
  - Data-source data errors
  - Entitlement File data errors
  - LRM internal processing errors
  - LRM database connection failure
  - LRM database corruption
  - LRM application outage and recovery

To view actual log events for License Reporting Manager, see the *License Reporting Manager 8.1 Log Events Help File,* which provides detailed information about log events that are associated with License Reporting Manager 8.1.

Genesys

Chapter

7 Starting and Stopping License Reporting Manager

This chapter describes the prerequisites for License Reporting Manager (LRM) startup, and it provides instructions for starting LRM.

This chapter contains the following sections:

Overview

You can start or stop LRM by using Solution Control Interface (SCI) or a manual procedure. LRM stops automatically when it has completed its task.

When the installation of your application has been verified, and the LRM databases have been initialized, you can start LRM.

Starting LRM

This section provides startup instructions for LRM. You can start LRM in the following ways:

- From Solution Control Interface (see page 54). (Recommended method.)
- Manually on Linux (see page 54).
- Manually on Windows (see page 55).
- As a Windows Service (see page 56).

Starting LRM from Solution Control Interface (SCI)

Complete the following procedure to start LRM.

Procedure: Starting LRM from SCI

Purpose: To start LRM by using Solution Control Interface (SCI).

Prerequisites

- You must have LRM installed.

Start of procedure

1. To be able to run LRM by using SCI, the following parameters must be configured in the LRM application on the `Start Info` tab:
   - Add `./startserver.bat in` the `Command Line` field.
   - Include the following in the `Command Line Arguments` field: `-host [host] -port [port] -app [app]`
2. On the list pane in the SCI `Applications` view, select your LRM `Application` object.
3. Do one of the following:
   - On the toolbar, click the `Start` button.
   - From the `Action` menu, select `Start`.
   - Right-click the `Application` object to access the shortcut menu and select `Start`.

End of procedure

Next Steps

- You have completed all the steps necessary to start LRM from SCI.

Starting LRM manually on Linux

Complete the following procedure to start LRM on Linux.

Procedure: Starting LRM manually on Linux

Purpose: To start LRM by using the console window on Linux.

Prerequisites

- You must have LRM installed.

Start of procedure

1. Go to the directory in which you installed LRM.
2. Type the following command-line parameters:

   ```
   lrm_startup.sh -host <Configuration Server host> -port
   <Configuration Server port> -app <LRM Application>
   ```

End of procedure

Next Steps

- You have completed all the steps necessary to start LRM manually on Linux.

Starting LRM on Windows

Complete the following procedure to start LRM on Windows.

Procedure: Starting LRM on Windows

Purpose: To start LRM from the `Start > Programs` menu, or from the console window.

Start of procedure

1. Open a console window.
2. Go to the directory in which you installed LRM.
3. Type the following command-line parameters:

   ```
   startServer.bat -host <Configuration Server host> -port
   <Configuration Server port> -app <LRM Application>
   ```

Note: If the host name or application name contains spaces or hyphens (-), enclose them in double quotation marks.

For example, to start LRM with command-line parameters that specify the host as `cs-host`, the port as `2020`, and the name as `LRM 03`, enter the following:

```
startServer.bat -host "cs-host" -port 2020 -app "LRM 03"
```

End of procedure

Next Steps

- You have completed all the steps necessary to start LRM on Windows.

Starting LRM as a Windows Service

On Microsoft Windows platforms, by default, the installation process installs License Reporting Manager as a Windows Service. If you stopped LRM from running as a Windows Service and need to start it again as a Windows Service, complete the following procedure.

Procedure: Starting LRM as a Windows service

Start of procedure

1. Open the Windows `Control Panel`, and then double-click `Services`. The `Services` dialog box opens.
2. In the `Services` list box, select your LRM service, and then click `Start`. (If you disabled LRM from operating as a Windows Service, the `Start` option for this application will not be available.)

Next Steps

- You have completed all the steps necessary to start LRM as a Windows service.

Stopping LRM

You can stop LRM in any of the following ways:

- From SCI (see page 56). (This is the recommended method.)
- Manually on Linux (see page 54).
- Manually on Windows (see page 58).
- As a Windows Service (see page 59).

Note: To prevent LRM from self-starting, make sure that you clear the `autorestart` property in the LRM `Application` object in Configuration Manager.

Stopping LRM with SCI

Complete the following procedure to stop LRM with SCI.

Procedure:
Stopping LRM using SCI

Start of procedure

1. On the list pane in the SCI `Applications` view, select your LRM `Application` object.
2. Do one of the following:
   - On the toolbar, click `Stop`.
   - From the `Action` menu, select `Stop`.
   - Right-click the `Application` object to access the shortcut menu, and then select `Stop`.
3. In the confirmation box that appears, click `Yes`.

   SCI stops your LRM application.

End of procedure

Next Steps

- You have completed all the steps to stop LRM using SCI.

Stopping LRM on Linux

Stop LRM on Linux by using one of the following procedures.

Procedure:
Stopping LRM on Linux from the command line

Start of procedure

- On the command line, enter the following:

  `kill -SIGTERM <processid>`

  Where `<processid>` is the application's Linux process ID.

End of procedure

Next Steps

- You have completed all the steps to stop LRM from the command line.

Procedure:
Stopping LRM on Linux from the console window

Start of procedure

- From the active console window, press `CTRL+C`.

End of procedure

Next Steps

- You have completed all the steps to stop LRM from the console window.

Note: If you are using LCA and SCS, you can also use SCI to stop LRM (see "Stopping LRM with SCI" on page 56).

Stopping LRM on Windows

If LRM is running as an application—not as a Windows Service—stop it using the following procedure.

Procedure:
Stopping LRM on Windows from the console window

Start of procedure

- From the application's console window, press `CTRL+C`.

End of procedure

Next Steps

- You have completed all the steps to stop LRM from the console window.

Note: If you are running LRM as a Windows Service, you should stop it only from the Services Control Manager (see "Stopping LRM as a Windows Service" below).

Stopping LRM as a Windows Service

To stop Interaction Concentrator running as a Windows Service, use the following procedure.

Procedure: Stopping LRM running as a Windows service

Start of procedure

1. Open the `Control Panel`, and then double-click the `Services` LRM. The `Services` dialog box opens.
2. In the `Services` list box, select your LRM service, and then click `Stop`.

End of procedure

Next Steps

- You have completed all the steps to stop LRM running as a Windows Service.

Chapter

8 User-Defined Bundles

This chapter contains information about user-defined bundles. It contains the following sections:

User-Defined Bundles Overview

A user-defined bundle is a group of standard Genesys-sellable items that you configure and name for resale as a single feature to your customers. The user-defined bundle appears as a single item in the license usage measurement data that is accessed for billing and other tenant reports.

You also have the option of creating the bundle definition file manually (see "Creating User-Defined Bundles" on page 65) and importing it into LRM.

The logical expression for a user-defined bundle takes the form of two lists—the `Include` list and the `Exclude` list. LRM reports a seat as using a license for a given bundle type, if at least one of the license types in the `Include` list is used during the login session and none of the license types in the `Exclude` list is used during the login session.

The bundle definitions can be represented as two linked tables. Table 6 contains `Included` sellable items and Table 7 contains `Excluded` sellable items.

Table 6: Included Sellable Items

Bundle GUID	Bundle name	SI-1 included	SI-2 included	...	...	SI-40 included
Id-1	B1	0	1	...	...	0
Id-2	...			...	...	
Id-3	Bn	1	1	...	...	1

Table 7: Excluded Sellable Items

Bundle GUID	SI-1 excluded	SI-2 excluded	...	...	SI-40 excluded
Id-1	0	1	...	...	0
Id-2			...	...	
Id-3	1	1	...	...	1

When a sellable item is included in a bundle, the corresponding field in Table 6 has the value of 1. If a sellable item is not included in a bundle, it has the value of 0. When a sellable item is excluded from a bundle, the corresponding field in Table 7 has the value of 1. If a sellable item is not excluded, it has the value of 0. Note the difference between a bundle being *excluded* and *not included*.

User-Defined Bundle Example

The following example and in Table 8 and Table 9, helps clarify user-defined bundles. Suppose you decided to define four bundles into the following:

- Bundle 1—Advanced Voice:
  - Includes:
    - Agent Desktop
    - Outbound Contact
    - Third-party work items
  - Excludes:
    - E-mail
    - GVP Speech
- Bundle 2—E-mail:
  - Includes:
    - E-mail

    - Excludes:
        - Outbound Contact
        - Third-party work items
        - GVP Speech
        - Web Media
- Bundle 3—AutoContact:
    - Includes:
        - GVP Speech
    - Excludes:
        - Outbound Contact
        - Third-party work items
        - E-mail
        - Web Media
- Bundle 4—Advanced Plus:
    - Includes:
        - Outbound Contact
        - Third-party work items
        - E-mail
        - Web Media
        - GVP Speech

The linked sellable items tables, Table 8 and Table 9, show the contents of these four bundles and demonstrate which sellable items are included and excluded:

Table 8: Included Sellable Items Example

Bundle name	Genesys CIM	SIP Server	Desktop	Outbound	Third-party	E-mail	GVP	Web
Advanced	0	0	1	1	1	0	0	0
E-mail	0	0	0	0	0	1	0	0
AutoContact	0	0	0	0	0	0	1	0
Advanced Plus	0	0	0	1	1	1	1	1

Table 9: Excluded Sellable Items Example

Bundle name	Genesys CIM	SIP Server	Desktop	Outbound	Third-party	E-mail	GVP	Web
Advanced	0	0	0	0	0	1	1	1
E-mail	0	0	0	1	1	0	1	1
AutoContact	0	0	0	1	1	1	0	1
Advanced Plus	0	0	0	0	0	0	0	0

Calculating Seats Example

Bundle usage is calculated in the same way that concurrent sellable item usage is calculated.

To calculate the value of any user-defined bundle, the LRM shell script calculates all Genesys-sellable items that make up that particular bundle. Then, LRM applies the bundle definition to comply with the include and exclude rules.

For example, by using the E-mail user-defined bundle described on page 62:

- For each one minute interval, LRM calculates the sellable item Genesys E-mail for every corrected seat.
- If the seat has a sellable item type of Genesys E-mail, LRM checks to confirm this seat does not have: Genesys Outbound, third-party work items, GVP or Web items.
- If all conditions are true, the minute for this seat is stored for bundle calculation. If just one condition is false, the value for this one minute is `zero (0)`.
- This procedure is applied to all other seats for this minute interval and the total number of satisfied seats for this minute is stored by LRM. This process continues for the entire reporting interval and the maximum value with corresponding timestamps are stored as the value of the E-mail user-defined bundle.

Managing a Bundle Set

A bundle set is a set of related bundles that are managed as a group. Each bundle set has an ID, name, description, issue date (the date that the set was created), `validfrom` date, `validto` date, and a list of bundles within that set. The ID of the bundle set and the ID of the bundles must be unique, must be numeric, and must be greater than or equal to 10000.

The bundle set is considered active, if the requested reporting date belongs to the date interval defined in this set (the `valid_from` date to the `valid_to` date). You may have many active bundle sets during the reporting period, and it is possible for the bundle sets to overlap. If there are more than one active bundle set, then LRM uses the bundle set where the `issue-date` is the latest date.

Creating User-Defined Bundles

You can create user-defined bundles by creating a Bundles file in an XML format as described below. Using GAX, select `Configuration`, `Bundles` to upload the user-defined Bundles file.

User-Defined Bundle File Format

The Bundle File is an XML file that uses the following structure:

```
<lrm_bundle_set>
Element: lrm_bundle_set - root element of the Bundle File
```

Table 10: Attributes

Attribute	Required attribute	Description
`issue_date`	`Yes`	The issue date of the bundle set, in `YYYY-MM-DD` format.
`valid_from`	`Yes`	The date this bundle set is valid from, in `YYYY-MM-DD` format.
`valid_to`	`Yes`	The date this bundle set is valid to, in `YYYY-MM-DD` format.
`id`	`Yes`	The `ID` of the bundle set. It must be unique.

Table 11: Child Elements

Child element	Occurrence	Description
`header`	Once	The bundle set header
`bundle`	One or more times	The bundle element

<header>

ELEMENT: header - header of bundle or bundle set

Table 12: Child Elements

Child element	Occurrence	Description
name	Once	The name of the bundle or bundle set
description	Once	The description of the bundle or bundle set

<bundle>

ELEMENT: bundle - bundle definition

Table 13: Attributes

Attribute	Required	Description
id	YES	The id of the bundle, must be a unique number greater or equal to 10000. Values that are less than 10000 are reserved for Genesys.

Table 14: Child Elements

Child element	Occurrence	Description
header	Once	The bundle header
include_items	Once	The list of bundle included items
exclude_items	Zero or more times	The optional list of bundle excluded items

<include_items>

ELEMENT: include_items - list of bundle include items

Table 15: Child Elements

Child element	Occurrence	Description
sellable_item	One or more times	The sellable items

```
<exclude_items>
ELEMENT: exclude_items - list of bundle exclude items
```

Table 16: Child elements

Child element	Occurrence	Description
sellable_item	One or more times	The sellable items

```
<sellable_item>
ELEMENT: sellable_item - Description of Genesys sellable item which is
in include or exclude item list
```

Table 17: Attributes

Attribute	Required	Description
item	YES	The name of the Genesys-sellable item.
license_type	YES	The type of license. In this release, *only* concurrent_seat license type is supported.

Bundle File Example

```
<?xml version="1.0" encoding="utf-8" ?>
<lrm_bundle_set issue_date="2010-01-01" valid_from="2010-01-15"
valid_to="2010-12-31"
  id="5000" >
  <header>
    <name>Basic bundle set_1</name>
    <description>General use bundles</description>
  </header>
  <bundle id="10001">
      <header>
        <name>A-Out Advanced Voice</name>
        <description> Voice only</description>
      </header>
      <include_items>
        <sellable_item item="genesys_inbound_voice"
license_type="concurrent_seat"/>
        <sellable_item item="sip_server"
license_type="concurrent_seat"/>
        <sellable_item item="genesys_network_voice"
license_type="concurrent_seat"/>
      </include_items>
      <exclude_items>
        <sellable_item item="genesys_email"
license_type="concurrent_seat"/>
      </exclude_items>
      <exclude_items>
```

```
        <sellable_item item="genesys_web_media"
license_type="concurrent_seat"/>
      </exclude_items>
  </bundle>
  <bundle id="10002">
    <header>
      <name>A-Out Advanced Voice</name>
      <description> Voice only</description>
    </header>
    <include_items>
      <sellable_item item="genesys_inbound_voice"
license_type="concurrent_seat"/>
      <sellable_item item="sip_server" license_type="concurrent_seat"/>
      <sellable_item item="genesys_network_voice"
license_type="concurrent_seat"/>
    </include_items>
    <exclude_items>
      <sellable_item item="skills_based_routing"
license_type="concurrent_seat"/>
    </exclude_items>
  </bundle>
  <bundle id="10003">
    <header>
      <name>A-Out Advanced Plus</name>
      <description>Voice and e-mail</description>
    </header>
    <include_items>
      <sellable_item item="genesys_inbound_voice"
license_type="concurrent_seat"/>
      <sellable_item item="sip_server" license_type="concurrent_seat"/>
      <sellable_item item="genesys_network_voice"
license_type="concurrent_seat"/>
      <sellable_item item="skills_based_routing"
license_type="concurrent_seat"/>
      <sellable_item item="genesys_email"
license_type="concurrent_seat"/>
      <sellable_item item="genesys_web_media"
license_type="concurrent_seat"/>
      <sellable_item item="genesys_outbound_contact_ms"
license_type="concurrent_seat"/>
    </include_items>
  </bundle>
</lrm_bundle_set>
```

Maintaining User-Defined Bundles

Each of the user-defined bundles has an ID, name, description, and definition in terms of `included` and `excluded` sellable items.

A bundle set is a set of related bundles that are managed as a group. Each bundle set has an ID, name, description, issue date (the date that the set was

created), `validfrom` date, `validto` date, and a list of bundles within that set. The ID of the bundle set and the ID of the bundles must be unique, must be numeric and must be greater than or equal to10000.

The bundle set is considered active, if the requested reporting date belongs to the date interval that is defined in this set (the `valid_from` date to the `valid_to` date). You may have many active bundle sets during the reporting period, and it is possible for the bundle sets to overlap. If there are more than one active bundle set, then LRM uses the bundle set where the `issue-date` is the latest date.

Procedure: Adding a new bundle set

Purpose: To add a new user-defined bundle set to your system.

Prerequisites

- To add a new bundle set to your system, you must first create the new bundle. See “Creating User-Defined Bundles” on page 65, making sure that the following rules are observed:
  - The bundle set ID and bundle ID must be unique.
  - The `valid_from` date should not be earlier than the date you choose to import your bundle.

Start of procedure

1. Browse to the destination location of your LRM application.
2. Upload the new bundle file using the GAX wizard.
3. This action imports the information from the Bundle File into the Configuration Server and the new user-defined bundle is added to your system where it is now included in calculations and reports.

End of procedure

Procedure: Deactivating a bundle set

Purpose: To deactivate a bundle set if no longer needed.

Start of procedure

1. If you no longer require the use of a bundle set, you can stop the calculation of the bundles by setting the `valid_to` date as follows:
   - Change the date in the bundle set file to yesterday's date (in UTC time zone).
   - Upload the new bundle file using the GAX wizard.

Note: Even though you have changed the `valid_to` date in the Bundle File to yesterday's date, the report calculation for yesterday's date (in UTC time zone) is not affected because the bundle is still active for yesterday's date.

2. This action imports the information from the Bundle File into the Configuration Server and deactivates the bundle set in your system. From this point forward it is no longer included in calculations and reports.

End of procedure

Procedure: Changing an existing bundle

Purpose: To change an existing bundle in your system.

Prerequisites

- If you want to change an existing bundle, deactivate the old bundle and then create a new one, as follows:
  - Deactivate the bundle set from a specific date by using the Procedure: Deactivating a bundle set, on page 69.
  - Create a new bundle by using the Procedure: Creating User-Defined Bundles, on page 65 and confirm you set the `valid_to` date of the newly created bundle to the day after the date you chose in the previous step ("Deactivating a bundle set" on page 69).

Start of procedure

1. When you have deactivated the bundle set and created the new bundle, as described in the Prerequisite step on page 70, change both of the IDs of the bundle sets and the IDs of all the bundles within those sets.
   - Upload the new bundle file using the GAX wizard.

Note: Previous definitions of the bundles should be kept in the LRM database and Configuration Server in case you need run reports for past dates. The bundle definitions are required to create the report files.

2. This action imports the information from the Bundle File into the Configuration Server and the changed user-defined bundle is updated in your system. From this point, the bundle is updated with your changes for calculations and reports.

End of procedure

Chapter

9 Data Backup

This chapter contains information that is pertinent to the data backup of License Reporting Manager. It contains the following section:

Data Backup

It is important perform regular backups of the data in your License Reporting Manager database to prevent data loss. Backup of the LRM database is the responsibility of the Database Administrator at the customer site. The tables in the LRM database that Genesys requires that you backup by using the tools in your particular RDBMS are `LRM_CONCURRENT_SEAT`, `LRM_ENABLED_SEAT`, and `LRM_JOURNAL`.

Genesys

Supplements

Related Documentation Resources

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

License Reporting Manager

- *License Reporting Manager 8.1 Deployment Guide*
- *License Reporting Manager 8.1 Physical Data Model for a Microsoft SQL Database*
- *License Reporting Manager 8.1 Physical Data Model for a PostgreSQL Database*
- *License Reporting Manager 8.1 Physical Data Model for an Oracle Database*
- *License Reporting Manager 8.1 Log Events Help*

Genesys

- *Genesys Technical Publications Glossary,* which ships on the Genesys Documentation Library DVD, provides a comprehensive list of the Genesys and computer-telephony integration (CTI) terminology and acronyms used in this document.
- *Genesys Migration Guide*, which ships on the Genesys Documentation Library DVD, provides documented migration strategies for Genesys product releases. Contact Genesys Technical Support for more information.
- Release Notes and Product Advisories for this product, which are available on the Genesys Technical Support website at http://genesyslab.com/support.

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

- *Genesys Supported Operating Environment Reference Guide*

- *Genesys Supported Media Interfaces Reference Manual*

Consult these additional resources as necessary:

- *Genesys Events and Models Reference Manual*, which includes a set of basic interaction models, showing the components involved and the event messages sent among them. These models and events were formerly presented in the *Open Media Interaction Models Reference Manual*. The request messages that were also described in that book are now documented in the API References of the Platform SDK.

For additional system-wide planning tools and information, see the release-specific listings of System Level Documents on the Genesys Technical Support website. These documents are accessible from the system level documents by release tab in the Knowledge Base Browse Documents Section.

Genesys product documentation is available on the:

- Genesys Technical Support website at http://genesyslab.com/support.
- Genesys Documentation wiki at http://docs.genesyslab.com/.
- Genesys Documentation Library DVD and/or the Developer Documentation CD, which you can order by e-mail from Genesys Order Management at orderman@genesyslab.com.

Document Conventions

This document uses certain stylistic and typographical conventions—introduced here—that serve as shorthands for particular kinds of information.

Document Version Number

A version number appears at the bottom of the inside front cover of this document. Version numbers change as new information is added to this document. Here is a sample version number:

80fr_ref_06-2008_v8.0.001.00

You will need this number when you are talking with Genesys Technical Support about this product.

Screen Captures Used in This Document

Screen captures from the product graphical user interface (GUI), as used in this document, may sometimes contain minor spelling, capitalization, or grammatical errors. The text accompanying and explaining the screen captures corrects such errors *except* when such a correction would prevent you from installing, configuring, or successfully using the product. For example, if the name of an option contains a usage error, the name would be presented exactly as it appears in the product GUI; the error would not be corrected in any accompanying text.

Type Styles

Table 18 describes and illustrates the type conventions that are used in this document.

Table 18: Type Styles

Type Style	Used For	Examples
Italic	• Document titles • Emphasis • Definitions of (or first references to) unfamiliar terms • Mathematical variables Also used to indicate placeholder text within code samples or commands, in the special case where angle brackets are a required part of the syntax (see the note about angle brackets on page 78).	Please consult the *Genesys Migration Guide* for more information. Do *not* use this value for this option. A *customary and usual* practice is one that is widely accepted and used within a particular industry or profession. The formula, $x + 1 = 7$ where x stands for . . .

Table 18: Type Styles (Continued)

Type Style	Used For	Examples
Monospace font (Looks like `teletype` or `typewriter text`)	All programming identifiers and GUI elements. This convention includes: • The *names* of directories, files, folders, configuration objects, paths, scripts, dialog boxes, options, fields, text and list boxes, operational modes, all buttons (including radio buttons), check boxes, commands, tabs, CTI events, and error messages. • The values of options. • Logical arguments and command syntax. • Code samples. Also used for any text that users must manually enter during a configuration or installation procedure, or on a command line.	Select the `Show variables on screen` check box. In the `Operand` text box, enter your formula. Click `OK` to exit the `Properties` dialog box. T-Server distributes the error messages in `EventError` events. If you select `true` for the `inbound-bsns-calls` option, all established inbound calls on a local agent are considered business calls. Enter `exit` on the command line.
Square brackets ([ ])	A particular parameter or value that is optional within a logical argument, a command, or some programming syntax. That is, the presence of the parameter or value is not required to resolve the argument, command, or block of code. The user decides whether to include this optional information.	`smcp_server -host [/flags]`
Angle brackets (< >)	A placeholder for a value that the user must specify. This might be a DN or a port number specific to your enterprise. **Note:** In some cases, angle brackets are required characters in code syntax (for example, in XML schemas). In these cases, italic text is used for placeholder values.	`smcp_server -host <confighost>`

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