Genesys Administrator Extension Migration Guide

Genesys Administrator 9.0.0

7/25/2023

Table of Contents

Genesys Administrator Extension Migration Guide

Use this guide to upgrade Genesys Adminstrator Extension to 8.5.x and later, if required.

> **Important**
> Genesys Administrator Extension 8.5.1 was not released to customers

For information about migrating to releases earlier than 8.5, refer to the Genesys Migration Guide.

Prerequisites

Management Framework
Computing Environment
Browser
Permissions and Role Privileges
... and more

Procedures

Migration Procedures
Clearing the Browser Cache
Related Procedures

Changes in GAX 8.5.x

Component Changes
New and Changed Configuration Options by Release

Prerequisites

Before upgrading Genesys Administrator Extension, you must ensure that your system meets the prerequisites described in this section.

Management Framework

You must be running Management Framework 8.1.0 or later to support GAX.

If you are currently running a release of Management Framework earlier than 8.1.0, refer to Management Framework documentation to upgrade to the required release of Management Framework.

Computing Environment Prerequisites

The computer on which you install GAX must be capable of acting as a web application server, and must be running one of the following:

- Red Hat Enterprise Linux 5.5 (64-bit) - Enterprise Edition, with Updates from RHN enabled
- Red Hat Enterprise Linux 6.0 (64-bit) - Enterprise Edition, with Updates from RHN enabled
- Red Hat Enterprise Linux 7.0 (64-bit) - Enterprise Edition, with Updates from RHN enabled

Or,

- Windows Server 2008 R2, with 64-bit applications running natively on a 64-bit operating system
- Windows Server 2012, with 64-bit applications running natively on a 64-bit operating system

The computer must also run the following:

- Java 8 Runtime (JRE) from Oracle. See the Genesys Administrator Extension Deployment Guide for information about obtaining and installing Java, if necessary.

> **Important**
>
> JDK 1.8 is mandatory to install GAX 9.0.x. For more information on recommended JDK versions, see the *Supported Operating Environment Guide* for Genesys Administrator Extension.

Starting in GAX 8.1.4, GAX uses an embedded Jetty instance as the web application server; as a result, Tomcat is no longer a prerequisite to use GAX. For those who choose to use Tomcat instead of

Jetty, GAX requires Tomcat 6.0.37 (or a later version from the Tomcat 6.0.x branch) or Tomcat versions 7 or 8. Refer to Genesys Administrator Extension Migration Guide for additional information. For information on how to deploy GAX into Tomcat 8, see Deploying GAX into Tomcat 8.

In addition, each module of Genesys Administrator Extension might have additional prerequisites. Refer to the Genesys Administrator Extension Deployment Guide for more information.

Browser Requirements

Genesys Administrator Extension includes a web-based GUI with which you can manage Genesys applications and solutions. It is compatible with the following browsers:

- Microsoft Internet Explorer 9.x, 10.x, 11.x
- Mozilla Firefox 17 or higher
- Safari 6, 7, or 8, on Macintosh systems
- Chrome

Genesys Administrator Extension supports all major browsers, but it is optimized for Chrome. If you use Microsoft Internet Explorer or Safari, refer to the Genesys Administrator Extension Deployment Guide for troubleshooting information specific to your browser.

Genesys Administrator Extension is designed to be viewed at a minimum screen resolution of 1024x768, although higher resolutions are recommended. If you are working in 1024x768 mode, maximize your browser to ensure that you can see all of the interface.

Required Permissions and Role Privileges

Genesys Administrator Extension uses a permission-based mechanism and a role-based access control system to protect your data. After installing (but before using) Genesys Administrator Extension, ensure that all GAX users have the necessary access permissions and role privileges to do their work.

At a minimum, each GAX user requires the following permissions to log in to GAX:

- Read permission for his or her own object, preferably for the main folder in which he or she resides (for example, the Persons folder).
- Read permission for the tenant to which he or she belongs to.
- Read and Execute permission for the Configuration Server application object, usually named **default**.

There are no role privileges required to log in to GAX. However, without any role privileges, a user is unable to see anything in GAX after he or she has logged in. You must assign to the user specific role privileges to access and work with configuration objects and to perform GAX-specific functions. Refer to product-specific documentation for role privileges specific to the product. For GAX functions, refer to the chapter "Role Privileges" in the *Genesys Administrator Extension Deployment Guide*.

Note: When upgrading the GAX template and metadata, new and changed role privileges are

automatically updated in the system. Be sure to review the role assignments in your upgraded configuration to ensure that they are appropriate, modifying them as necessary with the updated privileges.

Deploying Multiple Instances of GAX with Shared Resources

You can install multiple instances of GAX to support both High Availability (HA) and load balancing. You can also install multiple instances of GAX to take advantage of the GAX plug-in architecture. Each instance of GAX can be deployed with a different combination of plug-ins.

In either scenario, the multiple instances of GAX share the same data resources, such as Configuration Server, the GAX database, and audio resources, but are executed independently by different users on different hosts.

Minimum Required Firewall Permissions and Settings for GAX Deployment

Your firewall must allow incoming connections on the http and https ports (for example, 8080, 80, 433, and so on, based on your setup). The application server can listen on more than one port at once.

You must allow outgoing connections to allow GAX to establish connections; however, you can restrict the connections to networks that contain the following components:

- GDA hosts
- Databases
- Genesys Configuration Layer servers: Configuration Server, Message Server, and Solution Control Server

> **Important**
>
> Starting from Local Control Agent 8.5.100.31, Genesys Deployment Agent (GDA) is no longer installed and supported as part of Management Framework and therefore all functionality using GDA (including the installation of IPs) is deprecated.

Minimum Required File System Permissions and Settings for GAX Deployment

The GAX operating system user is the user that runs the GAX process. The GAX operating system user must have the following permissions:

- Write permission on the log file folder
- Read/Write access to the folder configured for ARM (Audio Resource Management)

Enabling UTF-8 Encoding (for Oracle Databases)

Genesys Administrator Extension optionally supports UTF-8 character encoding for Oracle databases. This functionality requires Configuration Server 8.1.2 or later. For more information, refer to the Genesys Administrator Extension Deployment Guide.

Deploying GAX into Tomcat 8

This section provides information on how to deploy GAX into Tomcat 8. Note that Tomcat 8 runs only with JDK 1.7. For more information on recommended JDK versions, see the *Supported Operating Environment Guide* for Genesys Administrator Extension.

1. Create a **conf** folder under the **<TOMCAT_HOME>/bin directory**.
2. Within the **conf** directory, create **gax.properties**.
3. Open **<TOMCAT_HOME>/conf/tomcat-users.xml**.
4. Add the following users and roles in **<TOMCAT_HOME>/conf/tomcat-users.xml** under the **<tomcat-users>** tag.

```
<role rolename="manager" />
<role rolename="manager-gui"/>
<role rolename="manager-script" />
<role rolename="manager-status" />
<user username="manager" password="password" roles="manager"/>
<user username="manager" password="password" roles="manager-gui"/>
```

Configuring Tomcat server.xml

Open **<TOMCAT_HOME>/conf/server.xml** and configure the following connector and comment the existing connector if it is configured.

For non-SSL GAX

```
<Connector port="8080" protocol="org.apache.coyote.http11.Http11Protocol"
connectionTimeout="20000" redirectPort="8443" URIEncoding="UTF-8" />
```

For SSL GAX

Ensure to set GAX in SSL mode as instructed in the Configuring System Security page, before you proceed further.

```
<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true" maxThreads="150" scheme="https"
secure="true" sslProtocol="TLS" keystoreFile="<keystore_file_path>"
keystorePass="<keystore_password>" clientAuth="false" />
```

Deploying And Starting GAX

Important

Tomcat server has WAR file size maximum limitation of 50MB which is defined in the **<$tomcat_dir>\webapps\manager\WEB-INF\web.xml** file. Before deploying GAX WAR into Tomcat server as a 'manager' user, increase the WAR size limit by replacing the below content in the **<$tomcat_server>/webapps\manager\WEB-INF\web.xml** file.

```
<multipart-config>
<max-file-size>92428800</max-file-size>
<max-request-size>92428800</max-request-size>
<file-size-threshold>0</file-size-threshold>
</multipart-config>
```

1. Start Tomcat by running **startup.bat** under **<TOMCAT_HOME>/bin**.
2. Go to http://*hostname* (for SSL: https://*hostname*).
3. Click the **Manager App** and log in as manager.
4. Scroll down and click **Deploy** and browse **gax.war**.
5. Click **Deploy**.
   After the GAX WAR is deployed, GAX is displayed in the list.
6. After installing GAX, copy the **log4j2.xml** file from **<$tomcat_DIR>/webapps/gax/WEB-INF/classes/log4j2.xml** to the **<$tomcat_DIR>/bin/conf/log4j2.xml** folder.
7. Restart Tomcat.
8. Log in to GAX.

Migration Procedures

After you have performed all necessary upgrades to your operating system, Management Framework, and web browser, use the following procedures as appropriate to migrate to the latest version of Genesys Administrator Extension.

> **Important**
>
> GAX 8.5.x uses an embedded instance of Jetty for web-server functions, whereas previous releases have used Tomcat. The following upgrade procedures explain how to upgrade GAX to use Jetty. To continue using Tomcat, you must remove the old **<Tomcat Home>/webapps/gax** folder and copy the new **gax.war** file from the GAX installation folder to the **<Tomcat Home>/webapps** folder.

Upgrading from Management Framework 8.1.1 or higher

1. Ensure that Management Framework, Configuration Server, and Genesys Administrator are all upgraded to versions that are compatible with the latest version of GAX before proceeding. Refer to the Genesys Administrator Extension Deployment Guide for more information.
2. Stop the instance of GAX that you want to upgrade.
3. If your GAX Application object type is Genesys Administrator Server and you do not intend to use the Pulse 8.5 plug-in, go to step 6.
4. If your GAX Application object is of type Genesys Generic Server and you do not intend to use Pulse 8.5, use Genesys Administrator to create and configure the configuration objects that are required for the latest version of GAX, as follows:
   a. Open your existing GAX Application object of type Genesys Generic Server in edit mode.
   b. Click the **Options** tab.
   c. Click **Export** to save your configured GAX options to a configuration file on your local file system. The file will have an extension of type **.conf** (on UNIX) or **.cfg** (on Windows).
   d. Create and configure a new Application object for GAX of type Genesys Administrator Server, as follows. Refer to the Genesys Administrator Extension Deployment Guide for more information.
      i. Ensure that you follow the steps that pertain to the use of Management Framework Configuration Server 8.1.1 or higher.
      ii. Replicate any configuration that you want to add to your newly created Application object by referring to the GAX Application object in your previous version.
      iii. Click the **Options** tab.
      iv. Click **Import** and specify the configuration file that you created in step c. Click **No** to avoid overwriting any existing options.
      v. (Optional) Create a Database Access Point (DAP) that points to the Log Database (refer to the

Genesys Administrator Extension Deployment Guide for more information). Set the role of the DAP to auditing. Enable auditing by setting the value of the **[general].auditing** option to `true`. Add the DAP to your GAX connections. In the **Options** tab of the DAP, set the **[gax].role** option to `auditing`.

5. If your GAX Application object is of type Genesys Generic Server and you intend to use Pulse 8.5, you must reuse the existing GAX Application object to migrate to Pulse 8.5. Using Genesys Administrator, do the following:
   a. Upload the GAX 8.5 Application Template. Refer to Genesys Administrator Help for instructions about uploading Application Templates.
   b. Open the GAX 8.5 Application Template object.
   c. Open the **Options** tab.
   d. Click **Export** to save your configured GAX options to a configuration file on your local file system. The file will have an extension of type **.conf** (on UNIX) or **.cfg** (on Windows).
   e. Close the GAX 8.5 Application Template.
   f. Open your existing GAX Application object.
   g. Open the **Options** tab.
   h. Click **Import** and specify the configuration file that you created in step d. Click **No** to avoid overwriting any existing options.
   i. Click Save & Close.
6. Go to the GAX folder and back up the **webapp** folder by renaming it **webapp_backup**.

> **Important**
>
> Skip steps 7 and 8 if you are installing GAX for the first time.

7. On the target machine, run the GAX installer for the release to which you want to upgrade. The installer copies the binary file and copies all of the required files to the target directory. For more details, refer to the procedure Installing Genesys Administrator Extension Server.
8. If you are migrating from GAX 8.1.x, execute all applicable database upgrade scripts, if necessary. To determine if you have to apply any database scripts:
   a. Execute the following SQL statement in your existing GAX database: `select * from db_schema_version`.
   b. Compare the result with the update scripts in the **resources/sql_scripts** folder in the target directory of the installation.

> **Tip**
>
> The latest database schema versions are:
>
> - asd—8.5.000.01

- opm-arm—8.1.301.01
- Core-8.5.260.11

For example, to upgrade from database schema version 8.1.301.01 to 8.5.260.11, run the following script:

- Oracle: `gax_core_upgrade_db_8.1.301.01_to_8.5.260.11_ora.sql`
- MS SQL: `gax_core_upgrade_db_8.1.301.01_to_8.5.260.11_mssql.sql`
- PostgreSQL: `gax_core_upgrade_db_8.1.301.01_to_8.5.260.11_postgres.sql`

9. **Perform this step only if you are installing GAX for the first time**. As a local user on the host machine, whether in person or via a remote desktop connection, launch GAX and run Setup Mode. Follow the instructions in Deploying Genesys Administrator Extension.
10. (Optional) You can delete the previous GAX Application object after you have verified that the new release is working correctly.
11. To use the System Dashboard feature, you must set up a connection to Solution Control Server (SCS). Refer to the procedure: Set up a connection to Solution Control Server.
12. If you want to view log records in the Centralized Log Database, you must set up a connection to the Log Database through Message Server.
13. If you backed up the **webapp** folder to **webapp_backup**, do the following:
    a. Stop GAX.
    b. Copy the plug-in **.jar** files from **webapp_backup** to the new **webapp** folder in the GAX 8.5.x installation folder.
    c. Delete the **webapp_backup** folder.
    d. Start GAX.

Upgrading from Management Framework 8.1.0 or lower

1. Stop the instance of GAX that you intend to upgrade.
2. If you are migrating from an earlier version of Pulse to Pulse 8.5, reuse the existing GAX Application object and use Genesys Administrator to do the following:
    a. Upload the GAX 8.5 Application Template. Refer to Genesys Administrator Help for information about uploading Application Templates.
    b. Open the GAX 8.5 Application Template object.
    c. Click the **Options** tab.
    d. Click **Export** to save your configured GAX options to a configuration file on your local file system. The file will have an extension of type **.conf** (on UNIX) or **.cfg** (on Windows).
    e. Close the GAX 8.5 Application Template.
    f. Open your existing GAX Application object.

g. Click the **Options** tab.

h. Click **Import** and specify the configuration file that you created in step d from the GAX 8.5 Application Template. Click **No** to avoid overwriting any existing options.

i. Click **Save & Close**.

3. If you want to retain the installed plug-ins that you used with GAX 8.1.x, go to the GAX folder and back up the **webapp** folder by renaming it **webapp_backup**.

> **Important**
>
> Skip steps 4 and 5 if you are installing GAX for the first time.

4. On the target machine, run the GAX installer for the release to which you want to upgrade. The installer copies the binary file to the target directory that was defined during installation, and also copies all of the required files to the target directory. For more details, refer to Installing Genesys Administrator Extension Server.

5. If you are migrating from 8.1.x, execute all applicable database upgrade scripts, if necessary. To determine if you have to apply any database scripts, do the following:

   a. Execute the following SQL statement on your existing GAX database: `select * from db_schema_version`.

   b. Compare the result with the update scripts in the **resources/sql_scripts** folder in the target directory of the installation.

> **Tip**
>
> The latest database schema versions are:
>
> - asd—8.5.000.01
> - opm-arm—8.1.301.01
> - Core-8.5.260.11
>
> For example, to upgrade from database schema version 8.1.301.01 to 8.5.260.11, run the following script:
>
> - Oracle: `gax_core_upgrade_db_8.1.301.01_to_8.5.260.11_ora.sql`
> - MS SQL: `gax_core_upgrade_db_8.1.301.01_to_8.5.260.11_mssql.sql`
> - PostgreSQL: `gax_core_upgrade_db_8.1.301.01_to_8.5.260.11_postgres.sql`

6. **Perform this step only if you are installing GAX for the first time**. As a local user on the host machine, whether in person or via a remote desktop connection, launch GAX and run Setup Mode. Follow the instructions in Deploying Genesys Administrator Extension.

7. (Optional) You can delete the previous GAX Application object after you have verified that the new release is working correctly.

8. To use the System Dashboard feature, you must set up a connection to Solution Control Server (SCS). Refer to the procedure: Set up a connection to Solution Control Server.

9. If you want to view log records in the Centralized Log Database, you must set up a connection to the Log Database through Message Server.
10. If you backed up the **webapp** folder to **webapp_backup**, do the following:
    a. Stop GAX.
    b. Copy the plug-in **.jar** files from **webapp_backup** to the new **webapp** folder in the GAX 8.5.x installation folder.
    c. Delete the **webapp_backup** folder.
    d. Start GAX.

Clear Cache

> **Important**
> This step is not required if you are upgrading from GAX 8.5.000.76 or later to another version of GAX 8.5.0 or GAX 8.5.2.

After upgrading from GAX 8.5.000.73 or earlier, if you have a browser window open with GAX, you must clear the browser cache. This enables the browser to load the content of the upgraded GAX. See Clearing the Browser Cache.

Notes

Keep the following points in mind as you upgrade to GAX:

- Some plug-ins might require additional configuration. Refer to the plug-in documentation for more information about installing and configuring the plug-in.
- You must upload the plug-in installation package into GAX if the plug-in contains new privileges.
- If you are migrating from Tomcat to Jetty, you might need to update the paths used in the **asd** configuration options if they refer to the `{CATALINA_HOME}` variable that was previously used by Tomcat. For example:

  ```
  asd.silent_ini_path=CATALINA_HOME}/webapps/gax/WEBINF/classes/xmltemplates/ga_default/
  genesys_silent_ini.xml

  asd.local_ip_cache_dir = {CATALINA_HOME}/gaxLocalCache
  ```

  The above two options must be set to a new path, such as:

  ```
  asd.silent_ini_path=./plugin.data/asd/installation/genesys_silent_ini.xml
  asd.local_ip_cache_dir =./plugin.data/asd/gaxLocalCache
  ```

- Role privileges must be renewed if the application type is changed. Genesys stores role privileges that are associated with the application type to which they apply, but since GAX is associated with Genesys

Administrator Server in 8.1.1 releases of Management Framework (for GAX 8.1.2 and higher), not Genesys Generic Server, the role privileges must be set using the correct type.

- Database upgrade scripts that have version numbers prior to the ones from which you upgraded do not have to be executed. You must log in to the database schema as a GAX user and run the commands inside the SQL scripts as commands for the database.
- When you execute the SQL upgrade scripts, make sure that the scripts are properly committed. If your client application has auto-commit switched off, you might have to add the following lines to the scripts.
  - For Oracle: `commit`
  - For MS SQL: `BEGIN TRANSACTION` and `COMMIT TRANSACTION`
  - For PostgreSQL: `commit`

Clearing the Browser Cache

> **Important**
> This action is not required if you are upgrading from GAX 8.5.000.76 or a later GAX 8.5.0 release to another GAX 8.5.0 or GAX 8.5.2 release. In this situation, GAX automatically clears the browser cache.

After upgrading GAX, if you have a browser window open with GAX, you must clear the browser cache. This enables the browser to load the content of the upgraded GAX. Use one of the procedures in this section; if you are using a different browser than appears below, refer to browser-specific documentation.

Chrome Browser

> **Important**
> The following instructions are for Chrome version 40. Exact steps and displayed text may differ slightly for other supported versions.

1. Open the Chrome menu, located in the top-right of the browser window.
2. Select **More Tools** > **Clear browsing data**.
3. In the **Clear Browsing Data** dialog box:
   a. From the **Obliterate the following items** drop-down list, select the time frame for which you want to delete information. For example, select **beginning of time** to delete everything.
   b. Select the checkboxes for the types of information that you want to remove, such as:
      - Cookies and other site and plug-in data
      - Cached images and files
   c. Click Clear browsing data.
4. Close the **Settings** tab, if necessary, to return to your work.

Firefox

> **Important**
> The following instructions are for Firefox version 36. Exact steps and displayed text may differ slightly for other supported versions.

1. In the browser toolbar, select **Tools** > **Options**.
2. In the **Options** dialog box, open the **Advanced** tab.
3. Open the **Network** tab.
4. In the **Cached Web Content** section, click **Clear Now**. The text should change to `Your web content cache is currently using 0 MB of diskspace`.
5. Close the **Options** dialog box to return to your work.

Internet Explorer

> **Important**
> The following instructions are for Internet Explorer version 9. Exact steps and displayed text may differ slightly for other supported versions.

1. In the browser toolbar, select **Tools** > **Delete browsing history**.
2. In the **Delete browsing history** dialog box, make sure that:
   - **Preserve Favorites website data** is not checked.
   - **Temporary Internet Files and Cookies** are checked.
3. Click **Delete**. A confirmation message is displayed at the bottom of the browser window when Internet Explorer has successfully cleared the cache and cookies.

Related Procedures

The procedures in this section are not required to upgrade Genesys Administrator Extension but might contain useful reference information.

Install Genesys Administration Extension Server

Prerequisite

- The environment variable **JRE_HOME** has been configured (see the Genesys Administrator Extension Deployment Guide).

Steps

1. Copy the GAX IP to the host machine.
2. If you are installing on Linux, navigate to the folder to which you copied the IP, and change the permissions of the installation file by entering the following command: `chmod 755 install.sh`
3. Run the installation file to extract and copy the necessary files by entering `./install.sh` (on Linux), or `./setup.exe` (on Windows Server).

> **Important**
>
> When you install GAX on a Linux host, you might receive the following error message indicating installation was unsuccessful:
>
> ```
> Unable to find configuration information. Either you have not used configuration wizards and the GCTISetup.ini file was not created or the file is corrupted.
> ```
>
> Ignore this message; Genesys Administrator Extension has been installed successfully.

4. Navigate to the folder in which you installed GAX, and run the **gax_startup.sh** file (on Linux), or the **gax_startup.bat** file (on Windows Server).

Add a Connection to Solution Control Server from GAX

Use this procedure If you want the System Dashboard feature in GAX to function.

1. In GAX, go to Configuration Manager.
2. Hover over the **Environment** icon and select **Applications** in the pop-up list.
3. From the list of Applications, open the Application object for GAX.
4. In the GAX Application object details window, open the **Connections** tab and click **Add**.

5. In the **Connection Properties** window, enter information about the connection to SCS. Refer to GAX Help for more information about how to configure a connection.
6. Click **OK**.
7. Click **Save**.
8. Restart GAX.

Changes in GAX

This section describes major changes in Genesys Administrator Extension 8.5.x to 9.0.x functionality and architecture and in configuration options.

Component Changes

The following table summarizes all high-level component differences for GAX in release 8.5.x to 9.0.x, with the most recent changes listed first. For detailed information about new features and functions that are available in GAX 8.5.x to 9.0.x, refer to the Genesys Administrator Extension Deployment Guide.

[+] Show table

Type of Change	Change Occurred in Release	Details
Configuration Object Management	9.0.0	• GAX now provides navigation links to edit the dependent or associated objects within all configuration objects.

	8.5.2	• GAX can be put into Read Only or Emergency Mode to prevent any changes to the Configuration Database by anyone except a member of the Super Administrators Group.
		• You can now perform Global Searches for configuration objects in Configuration Manager based on type, name, tenant, and state.
		• Provisioning improvements:
		  • You can now modify and edit options of multiple configuration objects simultaneously.
		  • You can now bulk provision Agent Logins for agents.
		  • Bulk Change Set (BCS) functionality is now hidden by default and not recommended for use.

Type of Change	Change Occurred in Release	Details
		BCS will not be enhanced in the future and will be deprecated over time. Users are encouraged to use the Bulk Provisioning functions from the Configuration Manager menu instead. However, BCS capability can still be enabled using the option **enable_bulk_change_sets** if required. • You can now provision new and existing objects of selected object types (Agent Groups, Persons (Users), DNs and DN Groups, and Places and Place Groups) in bulk by preparing a CSV (comma-separated values) file outside of GAX, and then importing it into GAX. You can also export data for selected objects from GAX into a CSV file, modify it as required, and import it back into GAX. • You can now provision new and existing options in bulk by preparing a CSV (comma-separated values) or CFG (configuration) file outside of GAX, and then importing it into GAX. You can also export options from GAX into a CSV or CFG file, modify it as required, and import it back into GAX. • When cloning an object, you can now specify particular configuration option sections not be copied to the new object. • Applications and Solutions can now be started and stopped directly from the Application or Solution object list views in Configuration Manager, respectively. • Parameter Group Templates can now be deployed to

Type of Change	Change Occurred in Release	Details
		Folders of type Transaction within the Tenant. The resulting Parameter Group has the same access permissions as the Folder. • In single-tenant configurations, the number of available Audio Resource IDs is increased from 1000 to 9000, with the range increasing from 9000–9999 to 1000–9999. • You can now provision new and existing agents in bulk by preparing a CSV (comma-separated values) file outside of GAX, and then importing it into GAX. You can also export data for selected (or all) agents from GAX into a CSV file, modify it as required, and import back into GAX. GAX can also generate template CSV files, which you can save and use to prepare import CSV files. • You can now assign Skills and associated ratings to multiple Agents with one click. You can also create and assign a new Skill within a single view.

Audio Resource Management	8.5.2	• You can now determine who added, modified, or removed Audio Resources and Personalities, and who reprocessed, downloaded, or deleted Audio Resources by viewing Audit logs in Centralized Logs.
		• Usability Enhancements
		  • Personalities are now displayed in name order. Specific columns can also be configured to be shown/hidden in the view.
		  • In single-tenant configurations, the number of personalities

Type of Change	Change Occurred in Release	Details
		available to Audio Resource has been increased from 100 to 1000, with the range increasing from 0-99 to 0-999. Note: Genesys strongly recommends that you use this functionality only if you need more than 100 personalities. In this case, proceed with extreme caution.
Enhanced Database Connections	8.5.2	• GAX now uses Microsoft JDBC Driver for MS SQL Server connections. • You can now use a customized JDBC URL when configuring a Database Access Point (DAP) for the GAX Database instead of using a connection based on the DAP object itself.
Logs and Alarms	8.5.2	• You can now use GAX to view logs stored in the Centralized Log Database. You can also sort and filter the list to find specific logs.
Solution Deployment	8.5.2	• You can now configure Mutual TLS on connections between Genesys Deployment Agent and GAX Server. • You can now specify a list of preferred hosts (called whitelisted hosts) to and from which Installation Packages are sent and retrieved. • You can now configure Mutual TLS on connections between Genesys Deployment Agent and Configuration Server.
Security Enhancements	8.5.2	• GAX now supports the cipher suites used by Jetty to be configured based on your security requirements.

Type of Change	Change Occurred in Release	Details
		• Token-based authentication for user connections: You can configure GAX to use token-based authentication on user connections with Configuration Server. This enables GAX users to be authenticated externally using SAML with the customer's IDP without the need for Configuration Server to go through LDAP connections.
Usability	9.0.0	• GAX now provides navigation links to edit the dependent or associated objects within all configuration objects. • Support for new version of web server—Refer to the Genesys Supported Operating Environment Reference Guide for details.
	8.5.2	• The Applications tab in System Dashboard now includes a column that shows the folder path for each Application, starting with the Tenant name, making it easier to find specific Applications. • On configuration screens, the Delete button now reads Delete <object type>, to prevent the unintentional deletion of the whole object when the intent is to delete only a property. • Before completing configuration changes, especially those involving deletion of data or objects, the user must explicitly acknowledge the impact of the changes, before submitting the changes. • The configuration options table now includes two

Type of Change	Change Occurred in Release	Details
		additional columns, one showing the name including the section, and the other showing the section name only. The sections can still be collapsed, as before. • Object list views in Configuration Manager now display the total number of objects in the current Folder, the number selected by a filter (if any) applied to that list, and the number of agents selected (if any). • The Agents View now displays the total number of agents associated with the Tenant and available for display, the number of agents (if any) selected by a filter applied to that list, and the number of agents (if any) selected for editing. • After editing an agent or an Audio Resource, GAX now retains the sort order and filter results of the list from which the object was selected for editing. The modified record is displayed in its proper place in the sorted list, so no scrolling is needed to view it. • Support for new versions of web server and web browsers. Refer to the Genesys Supported Operating Environment Reference Guide for details. • Instructions for setting up the Audio Resource Management Runtime Server on Windows are now provided in the GAX Deployment Guide.
Core Enhancements	8.5.0	• Online Help—The context-sensitive Online Help system delivers the latest information about GAX and its features.

Type of Change	Change Occurred in Release	Details
		• Command Line Console—Use the command line to add, delete, and query solution definitions (SPDs) and installation packages (IPs), and to execute SPDs. • System Monitoring—Dashboards help you to easily monitor and manage Alarms, Hosts, Solutions, Applications, and processes that you have deployed for your contact center. You can also use plug-ins to expand dashboard functionality to monitor statistics and other reporting data.

Feature Enhancements	8.5.0	• Log Configuration—Use GAX's simplified interface to configure logs to monitor Applications, Hosts, and Solutions.
		• Consolidated Agent Management—The Agents window consolidates all aspects of agent management into a streamlined interface. From one window, you can:
		  • Create agents and their associated objects such as Agent Logins, DNs, and Places.
		  • Edit agent information.
		  • Copy, delete, and enable/disable agents.
		• Audio Resource Management—The Audio Resource Management interface has been overhauled to enable you to quickly upload and manage audio resources and personalities.

Configuration Options Changes

This section lists all configuration option changes in GAX in release 8.5.x to 9.0.x. Detailed descriptions of GAX configuration options are available in the Genesys Administrator Extension Deployment Guide.

[+] Show table

Option Name	Configuration Option Section Name	Type of Change	Change Occurred in Release	Additional Information
disable_change_password	general	New	9.0.0	
validate_data	general	New	9.0.0	
confserv_trusted	general	New	8.5.2	
enable_bulk_change_sets	general	New	8.5.2	
token_life_in_minutes	general	New	8.5.2	
exclude_clone	com	New	8.5.2	New section
new_arf_name_format	arm	New	8.5.2	**Warning:** Use this option with extreme caution.
maxlogs	clog	New	8.5.2	New section
minlogs	clog	New	8.5.2	
host_whitelist	security	New	8.5.2	New section
host_whitelist_enabled	security	New	8.5.2	
help_external_url	general	New	8.5.0	
max_upload_audio_file_size	arm	New	8.5.0	
verbose	log	Updated	8.5.0	New default value