Performance Management Advisors Deployment Guide

Prerequisites

12/15/2025

Contents

- 1 Prerequisites
  - 1.1 Integration with the Genesys Solution Control Server
  - 1.2 Importance of Advisors Platform
  - 1.3 Licenses
  - 1.4 Environmental Requirements

Prerequisites

This page provides general information about the Genesys Pulse Advisors deployment environment. Also in the **Prerequisites** section is information specific to each Pulse Advisors component. Read all prerequisites relevant to the components you will deploy before you begin installation. There is a list of questions to consider for each component. There are also Tables in which you can input data for your environment. Use the data in these Tables as a reference guide when you deploy each component. The Advisors components are:

- Advisors Platform
- Advisors Genesys Adapter
- Contact Center Advisor and Workforce Advisor
- Frontline Advisor and Agent Advisor

Integration with the Genesys Solution Control Server

The following Advisors components are controlled using the Solution Control Server:

- Advisors Genesys Adapter
- Contact Center Advisor XML Generator
- Workforce Advisor WA Server
- Frontline Advisor FA Server (that is, FA with the rollup engine)

Integration with the Solution Control Server means you must:

- Install the Local Control Agent (LCA) on each system that runs any of the preceding components. See the Management Framework Deployment Guide for installation of LCA.
- Configure a Host in Genesys Configuration Server for each system that runs any of the preceding components. See Genesys Administrator Extension Help for information.
- Configure an Application in Genesys Configuration Server for each Advisors server that runs one or more of the preceding components. See Genesys Administrator Extension Help for information.

If you are deploying Advisors in a warm standby configuration, you must also configure a second Application for each Advisors component in Genesys Administrator for the secondary server, and associate the two Applications as a primary and backup pair for failover.

After the Advisors components listed above are installed and controlled by the Solution Control Server, you can monitor them using the Solution Control Interface (SCI) or the Genesys configuration interface that you use, such as Genesys Administrator Extension.

For more details, see Integration with Solution Control Server and Warm Standby and Overview: Configuring Advisors Application Objects and Deploying Modules that are Controlled by SCS.

Importance of Advisors Platform

Most Pulse Advisor applications require the installation of Advisors Platform before installation of the application. The applications rely on Advisors Platform to function. The exceptions to this rule are Contact Center Advisor XML Generator and Advisors Genesys Adapter, which do not need the Advisors Platform.

It is very important that you enter complete information on all installation screens when deploying Advisors Platform to ensure correct functionality in the applications.

The Platform installation file installs the following base services:

- Tomcat
- Mail-Delivery service
- Cache service
- Database resource configuration
- Core components for:
  - High availability
  - Authentication
  - Genesys Management Framework integration

Licenses

For information about licenses (for example, you might require a license for High Availability), see the *Genesys Licensing Guide*.

Environmental Requirements

Before you deploy Genesys Pulse Advisors, ensure you can provide the following operating environment.

Networks

Advisors components and all related components (Stat Server, Configuration Server) must be installed on the same network.

Genesys Configuration Interface

You can use Genesys Administrator for much of the post-deployment configuration associated with Genesys Pulse Advisors, however you must have access to the Genesys Configuration Manager to perform some of the administrative functions related to Role-Based Access Control (RBAC). While you can use any Genesys configuration interface (Configuration Manager, Genesys Administrator, or GAX)

to import Advisors privileges into a Role, or to assign Role-based permissions to Persons, Users, or Access Groups for access to the Advisors business attributes, you can view the Advisors privileges associated with a Role only in Genesys Configuration Manager.

Operating systems

You can deploy Pulse Advisors on Microsoft Windows or on Red Hat Linux (64-bit applications running on a 64-bit operating system). The installation of the Advisors products on a Red Hat Linux server differs from the installation of those same products on a Windows operating system. See Deploying Advisors for procedures.

For information about operating system versions compatible with your Advisors release, see the *Genesys Supported Operating Environment Reference Guide* and *Genesys Interoperability Guide*.

Using Advisors Installation Wizards on Linux Servers

If you install Advisors components on Linux machines, be aware that there are additional security concerns related to Advisors installation. The Advisors installation wizards are graphical installers. To run these installers as they were intended, you require the X Windows System on your Linux machines.

Without the X Windows System, passwords that you enter during the installation process display in plain text; therefore, during installation, Genesys recommends that you take extra precautions to ensure that only users with the correct security permissions are allowed to view the screen where you are running the Advisors installers.

Software

The following external software must be installed on the appropriate physical computer involved in Advisors installation:

- Java Development Kit (JDK)
- Apache HTTP Server

  If the Apache server is installed on the same machine as Advisors Platform, the Apache server must use a port other than 8080 (which is used by Advisors Platform). In most cases, Apache can use port 80.
- One of the following Relational Database Management Systems (RDBMS) – for detailed information, see Databases:
  - Microsoft SQL Server
  - Oracle

    If you use Oracle, the appropriate Oracle JDBC driver is also required. You can obtain the driver from the Oracle Web site (www.oracle.com).

    The latest supported Oracle drivers are the following:
  - For Oracle Database 12c Release 1 (12.1.0.1), use ojdbc7.jar
  - For Oracle Database 12c Release 2 (12.2.0.1), use ojdbc8.jar

For information about specific versions of the preceding software components that are compatible

with the Advisors release to which you are migrating, see the *Genesys Supported Operating Environment Reference Guide*.

MS SQL Server Databases/Oracle Schemas

The following MS SQL Server databases/Oracle schemas are required in an Advisors installation:

- Advisors Genesys Adapter metrics database(s)/Oracle schema(s) – Contain transient raw metric data and base object metadata processed by AGA instance(s) and used by CCAdv and WA components.
- Advisors Platform database – Contains various configurations and pre-processed transient metric data. Used by all Advisors components: AGA, FA, CCAdv, and WA.
- Advisors metrics graphing database – Used for storing Contact Center Advisor and Workforce Advisor data for metric graphing. The installation is mandatory even if the metric graphing feature is not used.

Genesys Pulse Advisors applications support Microsoft SQL Server and Oracle RDBMS. You cannot mix database types within an Advisors installation; each installation must be either wholly MS SQL Server or wholly Oracle. See the *Genesys Supported Operating Environment Reference Guide* for supported RDBMS versions and features.

Database Recommendations for MS SQL Server Users

If you use MS SQL Server, including SQL Server Cluster, Genesys recommends that you use MS SQL Server Enterprise Edition for optimal performance, although Standard Edition is also supported. You can install the metric graphing feature with or without the MS SQL Server partitioning feature. The partitioning feature provides flexibility and can improve performance; partitioning has more options than non-partitioning for organizing the metric graphing data that comes from Workforce Advisor and Contact Center Advisor. You must use MS SQL Server Enterprise Edition if you plan to install metric graphing and use partitioning. MS SQL Server Standard Edition does not support the partitioning feature.

If you use MS SQL Server Enterprise Edition, but you do not want to use partitioning, install the metric graphing database by running the metric graphing database script located in the folder for the Standard MS SQL Server edition. To be precise, in installations prior to Release 8.5.2, use the script(s) located in the `\ip\mssql-standard` directory of your CCAdv/WA installation package; starting with Release 8.5.2, use the script(s) located in the `ip\metric-graphing-database-sql\mssql-standard` directory of your Platform installation package.

Starting with Advisors release 8.5.2, Advisors applications support the MS SQL Server AlwaysOn Availability Groups and AlwaysOn Failover Cluster Instances features. However, for performance reasons, Genesys does not recommend placing Advisors databases in MS SQL Server environments where the simple recovery model is not allowed. Advisors databases are very small in size. The data persisted during application operation is transient and, in case of any failure, there is no danger of any data loss as long as you keep a backup of the Platform database that was made after the Advisors configuration was put in place or updated. Any other data will be re-populated once the application is up and running again. If you decide to install the databases with other than simple recovery model, then a thorough schedule of transaction log back up must be put in place, and tuned to achieve the best database performance.

Database Recommendations for Oracle Users

You achieve the best performance from an Advisors application when it uses an Oracle non-RAC database, ideally dedicated to the Advisors application, or shared with OLTP applications that do not have long-running transactions. Advisors operates with large amounts of data, but all of the data is transient. The data that is permanently saved in an Advisors database is Advisors configuration data, populated during application installation and rarely modified later. Therefore, for recovery purposes, it is sufficient to keep a Data Pump Export of Advisors schemas that includes the latest configuration, as well as all Grants and Roles. In case of a failure, the configuration can be imported from the export files, while all of the operational data will be recovered automatically once the application is up and running again. To improve Advisors application performance, maintain periodic Data Pump Export files and run the database in `NOARCHIVELOG` mode, if possible.

A well-tuned redo log structure is very important for Advisors performance, as well. Issues with the redo log structure, such as frequent log switches, will negatively impact Advisors performance.

Another condition for good application performance is the presence of adequate statistics for the Advisors schemas. The statistics for Advisors schemas need to be gathered during the typical application load, rather than on the weekends when the contact center activity is low, in order to ensure that the optimizer operates with the representative statistics. The preferred method of gathering statistics for Advisors schemas is the following:

```
 exec dbms_stats.gather_schema_stats( ownname => '<PLATFORM SCHEMA OWNER>', estimate_percent => DBMS_STATS.AUTO_SAMPLE_SIZE, method_opt
=> 'FOR ALL COLUMNS SIZE AUTO', cascade => true);
exec dbms_stats.gather_schema_stats( ownname => '<AGA METRICS SCHEMA OWNER' , estimate_percent => DBMS_STATS.AUTO_SAMPLE_SIZE, method_opt
=> 'FOR ALL COLUMNS SIZE AUTO', cascade => true);
exec dbms_stats.gather_schema_stats( ownname => '<METRIC GRAPHING SCHEMA OWNER>', estimate_percent => DBMS_STATS.AUTO_SAMPLE_SIZE,
method_opt => 'FOR ALL COLUMNS SIZE AUTO', cascade => true);
```

Any database maintenance event that involves the removal of optimizer data will require that you gather Advisors statistics the next business day, during the typical call activity.

If you use Oracle databases, you can install the metric graphing feature with or without the Oracle database partitioning feature. The partitioning feature provides flexibility; partitioning has more options than non-partitioning for organizing the metric graphing data that comes from Workforce Advisor and Contact Center Advisor. Ensure you have Oracle Database Enterprise Edition with the partitioning option if you plan to install metric graphing and use partitioning.

If you use Oracle database software that does not include the partitioning option or you do not want to use partitioning, use the metric graphing schema scripts contained in the {{oracle-without-partitions}} directory. To be precise, in the installations prior to Release 8.5.2, use the script(s) located in the `\ip\oracle-without-partitions` directory of your CCAdv/WA installation package; starting with Release 8.5.2, use the script(s) located in the `ip\metric-graphing-database-sql\oracle-without-partitions` directory of your Platform installation package. Otherwise, use the script from the `oracle-with-partitions` directory.

Advisors applications support Oracle Real Application Clusters (RAC).

If you use Oracle databases with the Advisors applications, then you also require the appropriate Oracle JDBC driver. You can obtain the driver from Oracle's website, www.oracle.com. Advisors requires versions compatible with supported JDK versions. Drivers containing tracing code or compiled with the `-g` option are not necessary. See the *Genesys Supported Operating Environment Reference Guide* for supported versions of JDK and Oracle JDBC drivers.

Starting with Advisors release 8.5.2, you either need to grant the `execute` privilege on the SYS.DBMS_LOCK package to the Platform schema owner, or you need the Oracle JServer component to be installed in the Oracle database.

Note that there are different scripts for installations with or without JServer. In installations without JServer, use the scripts located in the `/ip/sql/platform-database-sql/oracle/oracleNoJserver` directory of your Platform Installation Package. In installations with JServer, use the scripts from the `ip/sql/platform-database-sql/oracle/` folder.

The Advisors Platform schema owner requires some inter-schema privileges, such as the `select` privilege on all AGA metrics views, the EXECUTE privilege on `SYS.GENADVISORSJOBCLASS`, or, in Oracle installations without JServer, the EXECUTE privilege on `SYS.DBMS_LOCK`, which might disappear after certain operations are applied to Advisors database schemas, such as the restoration of the Platform schema from an export file, or an AGA schema upgrade.

Make sure that all of the privileges that are listed in the `advisors-xxxx-<version>_Userxxxx.sql` script that corresponds to your release are present before you apply the Platform migration script or Platform object creation deployment script.

Genesys recommends that you always run the database validation script as part of the Advisors deployment or migration process. The script is supplied in the installation package starting with release 9.0.001.06 The name of the script is `advisors-platform-<version>_ValidateDatabaseInstall.sql`. For earlier releases, use the script shown below. Execute the script *after* you have performed one of the following actions and *before* you start Advisors components:

- you have manually added or modified a data source (Platform ICM_DATABASE table)

- you have implemented a restore operation of the Advisors Platform schema, such as Data Pump Import
- you have just completed installing or migrating the application

If your installation package does not contain the `advisors-platform-<version_ValidateDatabaseInstall.sql` script, then run the applicable script shown below:

- Script for release 8.5.202.10 and any release before 8.5.202.10
- Script for any release after release 8.5.202.10

Script for release 8.5.202.10 and any release before 8.5.202.10

```
DECLARE v_temp NUMBER;
BEGIN

BEGIN
SPADDSOURCEVIEWS();
END;

BEGIN
SPCOMPILEINVALID();
END;

BEGIN
SELECT 1 INTO v_temp FROM DUAL WHERE EXISTS(SELECT 1 FROM USER_SCHEDULER_JOBS WHERE
                                    JOB_NAME='JOB_R_SPUPDATEDATASOURCESTATUS');
    DBMS_SCHEDULER.DROP_JOB(job_name => 'JOB_R_SPUPDATEDATASOURCESTATUS',
                                defer => false,
                                force => true);
       EXCEPTION WHEN NO_DATA_FOUND THEN NULL;
END;

DECLARE
  M VARCHAR2(4000);
  R NUMBER;
BEGIN
  SPTRUNCATESTAGINGTABLES(
    M => M,
    R => R
  );
END;

BEGIN
SELECT 1 INTO v_temp FROM DUAL WHERE EXISTS(SELECT 1 FROM USER_SCHEDULER_JOBS WHERE
                                    JOB_NAME='JOB_R_SPUPDATEDATASOURCESTATUS');
      DBMS_SCHEDULER.disable(name=>'JOB_R_SPUPDATEDATASOURCESTATUS', force => TRUE);
       EXCEPTION WHEN NO_DATA_FOUND THEN NULL;
END;
END;
```

Script for any release after 8.5.202.10

```
WHENEVER SQLERROR EXIT FAILURE
WHENEVER OSERROR EXIT FAILURE

SET SERVEROUTPUT ON
SET FEEDBACK OFF
```

```
DECLARE m VARCHAR2(4000);r INTEGER;
BEGIN
   BEGIN
    SELECT 1 INTO r FROM DUAL WHERE EXISTS(SELECT 1 FROM USER_SCHEDULER_JOBS WHERE
                                        JOB_NAME='JOB_R_SPUPDATEDATASOURCESTATUS');
        DBMS_SCHEDULER.DROP_JOB(job_name => 'JOB_R_SPUPDATEDATASOURCESTATUS',
                                    defer => false,
                                    force => true);
           EXCEPTION WHEN NO_DATA_FOUND THEN NULL;
   END;
   SELECT 1 INTO r FROM DUAL WHERE EXISTS(SELECT 1 FROM ICM_DATABASE WHERE SOURCE_ID>0);
   spAddSourceMetaDataViews();
   spAddSourceViews();
   spCompileInvalid();
   spTRUNCATESTAGINGTABLES(m => m,r => r);
   SELECT 1 INTO r FROM DUAL WHERE EXISTS(SELECT 1 FROM PATCH_LOG);
     dbms_output.put_line('Successfuly validated the database installation.');
           EXCEPTION
            WHEN NO_DATA_FOUND THEN
            dbms_output.put_line('Schema validation completed with errors.');
            dbms_output.put_line('The schema content is incomplete. Check the output log from
the platform schema creation script.');
            dbms_output.put_line('Check if the ICM_DATABASE table contains at least 1 data
source that has SOURCE_ID other than 0.');
            WHEN OTHERS THEN
            BEGIN
             dbms_output.put_line('Schema creation completed with errors.');
             dbms_output.put_line('Compile each invalid object manually to identify ');
             dbms_output.put_line('the reason of the problem.');
             dbms_output.put_line('Examine the output logs of the schema creation script.');
             dbms_output.put_line(sqlerrm);
              END;

END;
/
EXIT
```

Start all components only if the database validation script is successful. Otherwise, recover/grant the privileges, or fix other problems reported by the script, then re-run the script until it is successful. Contact Genesys support if you cannot achieve a successful script outcome.

If you get the following error, `ORA-28511: lost RPC connection`, then re-run the script immediately after it fails with this error. This error is not related to insufficient privileges. Normally, this is a temporary issue that is caused by a temporary connection loss, which can occur if you have a data source connected through Oracle heterogeneous services. If the problem persists, ask your DBA to verify the related connectivity setup.

See additional details in the Oracle database creation section of this guide, or in the corresponding Readme files in the `ip\platform-database-sql\oracle` folder of your Platform Installation Package.

If any of the Oracle Platform migration scripts that you use in the migration process to release 9.0 issue an error about insufficient privileges (`ORA-20001: spCreateOneSourceView ORA-01031: insufficient privileges`) and you are convinced that the Platform user has been issued all of the privileges listed in the `advisors-platform<version>_User.sql` creation script, then see additional information in the release 9.0 migration procedure.

If the Oracle Platform deployment script issues an error about insufficient privileges (`ORA-20001: spCreateOneSourceView ORA-01031: insufficient privileges`) and you are convinced that the

Platform user has been issued all the privileges listed in the `advisors-platform-<version>_User.sql` creation script, then see additional information in the release 9.0 deployment procedure (open the IMPORTANT INFORMATION notes in the deployment roadmap summary).

Database Connections Secured with TLS 1.2

Starting with release 8.5.2, you can enable TLS 1.2 for encryption and authentication on Advisors MS SQL Server database connections.

The following are prerequisites for TLS 1.2 connections on MS SQL Server installations:

- Java version 8, as a minimum. See the *Genesys Supported Operating Environment Reference Guide* for details about supported Java versions for Advisors releases.
- Any supported version of MS SQL Server starting with MS SQL Server 2008 R2 to MS SQL Server 2014, configured to accept encrypted connections.
- Microsoft JDBC driver 6.2 for SQL Server. This driver is supplied in the Advisors Installation Packages. Advisors installation wizards automatically place the file, `mssql-jdbc-6.2.1.jre8.jar`, in the `lib` folder of each component that requires database access.
- Every machine that hosts Advisors components and that communicates with Oracle over SSL must have a list of trusted certificates installed in a keystore.
- Review all Microsoft recommendations associated with TLS support, as well as descriptions of known issues related to enabling TLS for the database server:
  TLS 1.2 support for Microsoft SQL Server

  SQL Server Release Services

Database Recommendations for Advisors Cluster Installations

In a situation where CCAdv/WA is deployed on one Platform cluster and FA is deployed on another Platform cluster, Genesys recommends that you use a separate Platform database per cluster; the Platform server clusters should not share a Platform database in this situation.

When the various types of Platform server clusters share one Platform database, those servers are sharing the same Data Manager configuration – especially the Adapter pool configuration that is present in the Platform database – and this can lead to service interruptions when one service is restarted.

If it is absolutely necessary to have the various Platform server clusters for each application share one Platform database, ensure the Administration workbench is installed with only one of the Platform installations. The Advisors Platform installation file gives you the option to install this component. As part of your planning, you should decide which Platform server will have the Administration workbench.

Database Management Tools

Genesys recommends the following tools to manage Advisors database operations:

- Oracle: SQLPlus

- Microsoft SQL Server: Microsoft SQL Server Management Studio

Installing Services under Windows 2008 Server

For installations on Windows 2008 Server, the Administrator installing the Advisors components and the Apache Web server should have permissions to install an NT service.

If for some reason granting this access is not possible, you can create shortcuts to the service installers that you may run as an Administrator.

To install the Platform Geronimo NT service, create a shortcut for the `InstallAdvisorsServer.bat` file.

To install the XMLGen NT service, create a shortcut for the `InstallXMLGen.bat` file.

To install Apache (including its NT service), create a short cut for the MSI installer.

Once you have created a shortcut, right click the shortcut, and use the `Run as administrator` option to install the NT service for that component.

Linked Servers

The creation of linked servers might be required for installations. For a Genesys installation, you might have existing metrics databases. These are either created during the Advisors Genesys Adapter installation(s), or have already been created as part of earlier Genesys Adapter installation(s) (for example, for a previous version). The creation of linked servers in a Genesys environment is required only if the metrics databases exist, or will be created, on different SQL Server instances.

System clocks

You must synchronize the system clocks of all physical servers used in a given Advisors installation with a central time server.