



ARIS DATA MIGRATION GUIDE

VERSION 10.0 - SERVICE RELEASE 9

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Document content not changed since release 10.0.7. It applies to the current version without changes.

This document applies to ARIS Version 10.0 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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1 Text conventions

Menu items, file names, etc. are indicated in texts as follows:

- Menu items, key combinations, dialogs, file names, entries, etc. are displayed in **bold**.
- User-defined entries are shown **<in bold and in angle brackets>**.
- Single-line example texts (for example, a long directory path that covers several lines due to a lack of space) are separated by ↵ at the end of the line.
- File extracts are shown in this font format:
This paragraph contains a file extract.
- Warnings have a colored background:

Warning

This paragraph contains a warning.

2 General notices

The information provided describes the settings and features as they were at the time of publishing. Since documentation and software are subject to different production cycles, the description of settings and features may differ from actual settings and features. Information about discrepancies is provided in the Release Notes that accompany the product. Please read the Release Notes and take the information into account when installing, setting up, and using the product.

- The migration procedure assumes a basic ARIS 10 installation running on a separate computer. If your ARIS 9 Server is not addressed via a DNS alias name, and the ARIS 10 server is addressed by a different name than the ARIS 9 server, you need a new SSL certificate matching the new server name.
- During migration the User Management configuration data, for example, Kerberos settings, will be overwritten by ARIS 9.8.7 (or later) data. These settings must be checked or specified again in ARIS 10 after migration is completed.
- Refer to additional documents on DVD, ARIS Download Center (<https://aris.softwareag.com/>), or Empower (<https://empower.softwareag.com/>).
- In general, it is advisable to use up-to-date hardware, taking into account the number of users who will be accessing ARIS.
- If you have installed ARIS on a Linux operating system, make sure that the **fc-tool** Linux package is installed on the OS along with all required fonts. Otherwise fonts are not visible in ARIS and unreadable text is displayed.
- When you combine various technologies, please observe the manufacturers' instructions, particularly announcements concerning releases on their Internet pages. We cannot guarantee proper functioning and installation of approved third-party systems and do not support them. Always follow the instructions provided in the installation manuals of the relevant manufacturers. If you experience difficulties, please contact the relevant manufacturer.
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3 Data Migration from ARIS 9.8.7 or later to ARIS 10

Use the **backup tenant** and **restore tenant** ARIS Cloud Controller (ACC) commands to migrate data from ARIS 9.8.7 or later versions to ARIS 10.x. If you back up tenants, the current state of the following data is saved in different folders in the tenant backup archive file.

Tenant data is fully backed up only if the user executing the commands has sufficient privileges for all components in every tenant and if all components were selected for the backup.

Backup/restore	Required function privileges	Component (runnable)
Data from ARIS Administration, for example, users, privileges,	User administrator Technical configuration administrator	ARIS Administration/User Management (umcadmin_<s, m, or l>)
Licenses User administration audit events are not part of the tenant backup.	License administrator	
System database Contains filters, templates, and font formats, but also ARIS Method and all evaluation scripts, macros and scheduled reports.	Server administrator	Modeling & Publishing (abs_<s, m, or l>)
ARIS databases	Database administrator	
Ad hoc analyses and queries	Analysis administrator	Analysis (octopus_<s, m, or l>)
ARIS document storage data Documents and access privileges	Document administrator Technical configuration administrator	ARIS document storage (adsadmin_<s, m, or l>)
Process Governance data	Process Governance administrator	Process Governance (apg_<s, m, or l>)
Collaboration data	Collaboration administrator	Collaboration (ecp_<s, m, or l>)

Data from the Tenant management tool will not be migrated.

MIGRATION SCENARIOS

In order to achieve predictable migration time (page 5) you need to check the size of tenant data, and choose the likely migration scenario.

- Migrating tenants where the sum of databases is smaller than 3 GB (page 6)
Just backup tenants in ARIS 9 and restore them on the ARIS 10 installation on a different computer. If ARIS Connect (page 21) was customized or ARIS Publisher still is in use, after migration you must perform some additional steps. Make sure to add required extensions again.
- Migrating tenants where the sum of all databases is bigger than 3 GB (page 10)
In order to achieve a predictable migration time and smaller tenant backup files, exclude all ARIS databases from the tenant backup. Thus, you can start the database migration separately. (page 14) If ARIS Connect (page 21) was customized or ARIS Publisher still is in use, after migration you must perform some additional steps. Make sure to add required extensions again.
- Migrating ARIS Connect modification sets and configuration sets manually (page 21)
You must backup portal views and restore them as modification sets if in ARIS 9 portal views were added or changed. Customized configurations must be adapted on file level.
- Migrating ARIS Publisher
There is no way of migrating exports. You must export your migrated database content using ARIS Publisher 10.
- Migrating ARIS Risk & Compliance Manager
For this migration scenario please refer to the **ARIS Risk & Compliance Manager Data Migration for customized data**.
- Migrating ARIS Client with server LOCAL.
Migrate these data manually using ARIS Architect.

Software AG recommends that you request a migration service by Global Consulting Services. You can order that service from your Software AG sales representative.

3.1 What affects the migration time?

In order to forecast migration time, you have to take several influencing factors into account:

- Hardware performance.

Hardware requirements must be fulfilled according to the ARIS System Requirements (see **ARIS System Requirements.pdf** on DVD, ARIS Download Center (<https://aris.softwareag.com/>) or Empower (<https://empower.softwareag.com/>))

- The size of the tenant backup archive.

When backing up tenant data, all data is saved in one tenant archive file. It is plain to see, the bigger the file the longer migration will take.

The time needed for restoring an ARIS database in ARIS 9 can be roughly multiplied by 1.5 up to 3 in ARIS 10. If this takes, for example, 30 minutes, migration can take from 45 to 90 minutes. If the size of all ARIS databases together is bigger than 3 GB, the **restore tenant** action can take longer than 24 hours. This large size can occur because of a high number of databases, documents stored in ARIS document storage. In this case migrate tenant data having all databases excluded (page 10), and migrate the databases manually (page 14).

3.2 Migrating all tenant data

Use the **backup tenant** and **restore tenant** ARIS Cloud Controller (ACC) commands to migrate data from ARIS 9.8.7 or later versions to ARIS 10.x.

If all databases together are bigger than 3 GB migrate tenants without databases (page 10) instead.

Warning

Tenant data is fully backed up only if the user executing the commands has sufficient privileges for all components in every tenant and if all components were selected for the backup.

User administration audit events are not part of the tenant backup.

Extensions, for example, SSL certificates, SAP® Java Connector, and JDBC drivers, added using the **enhance** ACC command are not backed up.

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

Prerequisites

- ARIS 9 installation (source system) to make backups. You need the agent user credentials to start ACC. Rename ARIS document storage folder names before backing up for migration if the names contain special characters, for example, quotation marks "".
- ARIS 10, installed and configured on a second machine.
- You have access to the **United Motor Group** database on the ARIS 10 DVD.
- In the unlikely event of migration failure, it is a good advice to collect all log files in ARIS 9.8.7 or later (page 25).

Procedure

1. In each of your ARIS 9 tenants, check the **system** user's functional privileges. The **system** user has all required privileges by default, unless an administrator revoked the privileges:
 - Analysis administrator
 - Collaboration administrator
 - Document administrator
 - Database administrator
 - License administrator
 - Process Governance administrator
 - Server administrator
 - Technical configuration administrator

Only use the **system** user account to start the tenant backup with.

2. Rename the ARIS 9 **United Motor Group** example database to avoid name conflicts with the ARIS 10 example database.
3. Start ARIS Cloud Controller (ACC) on the **ARIS 9** system.

To start ACC under a Windows operating system click **Start > All Programs > ARIS > Administration > Start ARIS Cloud Controller**. If you have changed agent user credentials you must enter the password.

To start ACC under a Linux operating system, execute the **acc.sh** shell script instead. ACC is available if you have copied and installed the **aris-acc-`<number>`** deb or rpm file depending on the Linux operating system.

Enter **help** or **help <command>** to get information about the usage of the commands.

4. Reconfigure load balancer ports (page 17) (recommended step). This will prevent users to log on. User access is rejected due to changed ports.
5. Check Processboard to make sure that no Process Governance processes are running when starting the backup.
6. Run the following ACC command to include all ARIS Connect Server runnables in the tenant backup archive:

set acc config backup.restore.tenant.app.types = UMC, ABS, ADS, ECP, OCT, APG

If you use an ARIS Design Server, the command is:

set acc config backup.restore.tenant.app.types = UMC, ABS, ADS,OCT, APG.

In ARIS 10 all started runnables are automatically taken into account when executing tenant backup/restore commands.

7. Back-up all tenants after another, except the **master** tenant. Enter these ACC commands:

list tenants

All tenants to be backed-up are listed.

backup tenant <tenant name> to <pathToBackUpFile> username=<user name of a user holding the required privileges> password=<this user's password>

such as:

backup tenant default to "D:\\backupARIS9\\default.zip" username=system password=manager

backup tenant custom1 to "D:\\backupARIS9\\custom1.zip" username=system password=manager

Notice the double backslashes. Alternatively, use a single forward slash (/).

The backup is started. Each backup is written to one single archive file.

8. Check the archive files when completed. You can open the archive, for example, with WinZip® or 7zip. Make sure that there are subfolders for each runnable, containing all relevant data. In case of ARIS Connect, there must be 5 subfolders. ARIS Design Server only creates 4 subfolders.
9. Migrate the tenant data by starting ACC on the **ARIS 10** system. Enter:

restore tenant <tenant name> from <pathToBackUpFile> username=<user name of a user holding the required privileges> password=<this user's password>

such as:

restore tenant default from "D:\\backupARIS10\\default.zip" username=system password=manager

All additional tenants must be created before you can restore them. If you use an external database management system, make sure to have created schemes and have assigned them to those tenants (see ARIS Server Installation Guide).

create tenant custom1

This command is mandatory for all additional tenants. Tenants can only be restored if they exist already. The **master** tenant and the **default** tenant are installed by default.

restore tenant custom1 from "D:\\backupARIS10\\custom1.zip" username=system password=manager.

10. If ARIS Connect (page 21) was customized or ARIS Publisher still is in use, after migration you must perform some additional steps. Make sure to add required extensions again.
11. Restore the **United Motor Group** database from DVD. This will make new content available mandatory for dashboards (ARIS Aware).
12. Restart all runnables (enter **stopall** and **startall**) and check the status (Enter **List tenants**).

All data of the backup files are now restored on the ARIS 10 Server. The system databases (page 32) are updated automatically.

If versioned databases were included, only the workspace content is optimized. You are recommended to optimize the change lists of versioned databases as well. To do so use the **prepareoptimizedb** ARIS Server Administrator command (page 16).

If ARIS document storage is in use, timestamps must be adjusted (page 18) and all migrated databases must be processed by a report (page 20).

The default user accounts are automatically reset to their default values. To prevent unauthorized access to the ARIS system, after installation or data migration, always change the default passwords of the **arisservice** user, the **guest** user, the **system** user and the **superuser** user on all operational tenants (page 17), as well as on the infrastructure tenant (master).

If you are going to use ARIS Tenant Management Tool, in ARIS 10 make sure to configure the component and create schedules again (see **ARIS Tenant Management.pdf** or online help).

3.3 Migrating tenant data holding large databases

In order to achieve a predictable migration time and smaller tenant backup files, exclude all ARIS databases from the tenant backup. Thus, you can start the database migration separately. (page 14)

Prerequisites

- ARIS 9 installation (source system) to make backups. You need the agent user credentials to start ACC. Rename ARIS document storage folder names before backing up for migration if the names contain special characters, for example, quotation marks " .
- ARIS 10, installed and configured on a second machine.
- You have access to the **United Motor Group** database on the ARIS 10 DVD.
- In the unlikely event of migration failure, it is a good advice to collect all log files in ARIS 9.8.7 or later (page 25).

Warning

Tenant data is fully backed up only if the user executing the commands has sufficient privileges for all components in every tenant and if all components were selected for the backup.

User administration audit events are not part of the tenant backup.

Extensions, for example, SSL certificates, SAP® Java Connector, and JDBC drivers, added using the **enhance** ACC command are not backed up.

To avoid data inconsistencies and possible data loss, you must not perform any of the following activities in parallel, neither manually nor scheduled:

- Deleting any Process Governance process instance, process version, or process
- Archiving Process Governance process instances
- Backup/restore tenant (containing Process Governance or ARIS document storage data)

Procedure

1. In each of your ARIS 9 tenants, check the **system** user's functional privileges. If not revoked by an administrator, the **system** user has all required privileges by default:

- Analysis administrator
- Collaboration administrator
- Document administrator
- Database administrator
- License administrator
- Process Governance administrator
- Server administrator
- Technical configuration administrator

Only use the **system** user account to start the tenant backup with.

2. Rename the ARIS 9 **United Motor Group** example database to avoid name conflicts with the ARIS 10 example database.
3. Start ARIS Cloud Controller (ACC) on the **ARIS 9** system.

To start ACC under a Windows operating system click **Start > All Programs > ARIS > Administration > Start ARIS Cloud Controller**. If you have changed agent user credentials you must enter the password.

To start ACC under a Linux operating system, execute the **acc.sh** shell script instead. ACC is available if you have copied and installed the **aris-acc-`<number>`** deb or rpm file depending on the Linux operating system.

4. Enter **help** or **help <command>** to get information about the usage of the commands.
5. Exclude the **ABS** runnable from being backed up. If you back-up data from ARIS Connect, enter:

```
set acc config backup.restore.tenant.app.types = UMC, ADS, ECP, OCT, APG
```

If you use an ARIS Design Server, the command is:

```
set acc config backup.restore.tenant.app.types = UMC, ADS,OCT, APG
```

These commands exclude all databases from the backup. All data from the listed runnables will be saved.

6. Reconfigure load balancer ports (page 17) (recommended step). This will prevent users to log on. User access is rejected due to changed ports.
7. Check Processboard to make sure that no Process Governance processes are running when starting the backup.

8. Back-up all tenants after another, except the **master** tenant. Enter these ACC commands:

list tenants

All tenants to be backed-up are listed.

backup tenant <tenant name> to <pathToBackUpFile> username=<user name of a user holding the required privileges> password=<this user's password>

such as:

backup tenant default to "D:\\backupARIS9\\default.zip" username=system password=manager

backup tenant custom1 to "D:\\backupARIS9\\custom1.zip" username=system password=manager

Notice the double backslashes. Alternatively, use a single forward slash (/).

The backup is started. Each backup is written to one single archive file.

9. Check the archive files when completed. You can open the archive, for example, with WinZip® or 7zip. Make sure that there are subfolders for each runnable, containing all relevant data. In case of ARIS Connect, there must be 5 subfolders. ARIS Design Server only creates 4 subfolders.

10. Migrate the tenant data by starting ACC on the **ARIS 10** system. Enter:

restore tenant <tenant name> from <pathToBackUpFile> username=<user name of a user holding the required privileges> password=<this user's password>

such as:

restore tenant default from "D:\\backupARIS10\\default.zip" username=system password=manager

All additional tenants must be created before you can restore them. If you use an external database management system, make sure to have created schemes and have assigned them to those tenants (see ARIS Server Installation Guide).

create tenant custom1

This command is mandatory for all additional tenants. Tenants can only be restored if they exist already. The **master** tenant and the **default** tenant are installed by default.

restore tenant custom1 from "D:\\backupARIS10\\custom1.zip" username=system password=manager.

11. If ARIS Connect (page 21) was customized or ARIS Publisher still is in use, after migration you must perform some additional steps. Make sure to add required extensions again.
12. Restore the **United Motor Group** database from DVD. This will make new content available mandatory for dashboards (ARIS Aware).
13. Restart all runnables (enter **stopall** and **startall**) and check the status (Enter **List tenants**).

14. Migrate the excluded databases (page 14).


All data of the ARIS 9.8.7 backup files are now restored on the ARIS 10 Server. The default user accounts are automatically reset to their default values. The system databases (page 32) are updated automatically.

If ARIS document storage is in use, timestamps must be adjusted (page 18) and all migrated databases must be processed by a report (page 20).

The default user accounts are automatically reset to their default values. To prevent unauthorized access to the ARIS system, after installation or data migration, always change the default passwords of the **arisservice** user, the **guest** user, the **system** user and the **superuser** user on all operational tenants (page 17), as well as on the infrastructure tenant (master).

If you are going to use ARIS Tenant Management Tool, in ARIS 10 make sure to configure the component and create schedules again (see **ARIS Tenant Management.pdf** or online help).

3.4 Migrate large databases manually

While migrating tenant data without ARIS databases, backup the databases separately. Administrators have multiple options for manually backing up databases: In ARIS Server Administrator using the **backup** or **backupasn** commands, in ARIS Architect using the  **Backup** functionality in the pop-up menu of a database.

When migrating data, the new database schema is applied and the content is migrated. The databases are optimized on the fly. As the optimization can be time-consuming, only the workspace content of databases will be optimized automatically. If required, change lists can be optimized later.

Prerequisite

You log in as a system user.

Procedure

1. Start ARIS Server Administrator in your ARIS 9 installation and connect to the tenant that contains the database.

You can start ARIS Server Administrator from any computer on which the ARIS Client or ARIS tools are installed either in interactive mode (**Start > Programs > ARIS > Administration > ARIS Server Administrator**) or command-line mode by opening the command prompt from the directory **<ARIS installation directory>\server\bin\work\work_abs_<s,m or l>\tools\arisadm\arisadm.bat**. In command-line mode you can perform actions automatically as there are no prompts in this mode.

2. Establish a connection to the server and tenant:

Syntax: **server <server name>:<port number> <tenant> <user name>
<password>**

3. Example: **server arissrv:1080 default system manager**

4. To back up a database **<dbname>** as an **adb** file in a directory **<archivedir>**, syntax:
**backup <dbname>|all <archivedir> [-p <password for encryption>]
[<alternatename>]**

for example:

backup myARIS9database d:\backup

or, as recommended:

backup all d:\backup

- To back up the state of a specified change list number **<asn>** from a versioned database **<dbname>** in an **adb** file in a directory **<archivedir>**. **head** or **work** can be used instead of **<asn>**. While **head** represents the last versioned state, **work** represents the current state that is not versioned yet. This command is recommended to reduce the size of large versioned databases. Syntax:

```
backupasn <dbname> |all <archivedir> <asn> |head|work [-p <password for encryption>] [<alternatename>]
```

The database is backed up. Back up all required databases on all tenants as well.

Warning

Make sure that the ARIS 10 relevant tenants have already been migrated (page 10), before restoring the databases.

- Backup the system database in order to save your customized content, for example, user defines scripts or ARIS method modifications. Enter:

```
backupsystemdb d:\backup
```

- Backup the databases and system databases of all other tenants as described.
- Start ARIS Server Administrator in your ARIS 10 installation and connect to the tenant that will manage the database.
- To restore a database **<dbname>** from an **adb** file **<archive>** or all adb files from a directory, enter:

```
restore <dbname> |all <archivedir> [-p <password for encryption>] [<alternatename>], for example:
```

```
restore d:\backup\myARIS9database.adb
```

or, as recommended:

```
restore d:\backup
```

- Restore the system database, enter, for example,:
- ```
restoresystemdb d:\backup\arissystemdb.adb
```
- Restore the databases and system databases of all other tenants as described.
  - If ARIS document storage is in use, timestamps must be adjusted (page 18) and all migrated databases must be processed by a report (page 20).
  - Restore the **United Motor Group** database from DVD. This will make new content available mandatory for dashboards (ARIS Aware).

The database is migrated. If it is a versioned database the workspace content is optimized.

You are recommended to optimize the change lists of versioned databases as well. To do so use the **prepareoptimizedb** ARIS Server Administrator command (page 16).

## 3.5 Optimize versioned databases

While migrating tenants or single databases, the databases are optimized on the fly. As the optimization can be time-consuming, only the workspace content will be optimized automatically. In order to ensure database consistency for all change lists, you are recommended to optimize versioned databases after migration manually. During this procedure the database will not be available for users.

### Prerequisite

You log in as a system user.

### Procedure

1. Start ARIS Server Administrator from any client computer and access the databases on the server:

Click **Start > Programs > ARIS > Administration > ARIS Server Administrator** if you accepted the program group suggested by the installation program. Under a Linux operating system, execute the **arisadm.sh** shell script instead. The command prompt opens and ARIS Server Administrator is launched in interactive mode.

2. Establish a connection to the server and tenant:

Syntax: **server <server name>:<port number> <tenant> <user name>  
<password>**

Example: **server arissrv:1080 default system manager**

ARIS Server Administrator is connected to the server.

3. Run the **prepareoptimizedb** command to check the versioned database. By default all change lists and the workspace are checked for issues. Enter, for example:

**prepareoptimizedb my\_migrated\_database1**

If no issue is detected the database is optimized already, and no further action is required.

If an issue is detected the **needs optimization** message is displayed. In this case a optimization file is generated and downloaded automatically. It is a good idea to copy the path and file name from the command prompt. Use this copied string later as parameter with the **optimizedb** command.

4. Lock the database. It is essential that nobody uses the database while optimizing. Enter, for example:

**lockdb my\_migrated\_database1**

The database is locked and ready for optimization.

5. Enter, for example:

**optimizedb <copied path to optimization file>**

The database are optimized. It can be made available for users again.

6. Enter, for example:

```
unlockdb my_migrated_database1
```

The database is optimized completely and available to authorized users. Every command's output can be retraced reading the **dboptimization.log** log file.

## 3.6 Reconfigure load balancer port

Change the load balancer port in order to prevent user access. This is optional but recommended when backing up tenants for migration.

### Procedure



1. Start ARIS Cloud Controller (ACC) on the **ARIS 9** system.
2. Change the used ports, enter, for example:

```
reconfigure loadbalancer_m HTTPD.port=1080 HTTPD.ssl.port=1443
```

The ports are changed. As the users do not know the new ports, they cannot access.

## 3.7 Change passwords on tenants

On all tenants, change the passwords of **superuser** user, **system** user and the **guest** user. This will prevent unauthorized actions within the system. These users are created automatically for each tenant. The **system** user holds all function privileges and access for all databases. The **superuser** user holds all privileges to allow user and license management.

1. Log in to the tenant's ARIS Administration.
2. Click  **User management**, and select **Users**. The list of users is displayed.
3. Enter **superuser** into the search box. The search result is shown.
4. Click **superuser**. The user data (details) is displayed.
5. Click  **Edit**.
6. Enable the **Change password** check box. The **Password** and **Confirm password** boxes are displayed.
7. Enter a new password, and reenter it. If you want to use the webMethods integration, passwords may not contain a colon.
8. Click **Save**.
9. Change the **system** user's password too.

The passwords are changed. The users receive e-mail notifications.

## 3.8 How to adjust timestamps related to ARIS document storage

In previous ARIS versions, ARIS document storage stored timestamps, for example **Creation time** and **Update time** related to documents and folders in local server time and without any time zone information. If data was moved between ARIS Servers or if a tenant was restored from a backup file, timestamps probably were adjusted using a wrong time offset.

Since ARIS 10 SR6, **Coordinated Universal Time** (UTC) is mandatory for timestamps stored by ARIS document storage. Because time zone information in existing data is not available, the timestamps of existing documents and folders cannot be adjusted automatically. After the update, you must manually adjust timestamps for each tenant. In a Windows-based installation with local time UTC-2, for example, use the command-line tool `y-admintool.bat` <considering UTC offset of your ARIS Servers, enter, for example:

```
y-admintool.bat -s https://localhost -t default adjustTimestamps -offset "-120" -u system -p manager
```

If you have restored a tenant from ARIS 10 SR5 backup file or earlier, you must adjust the timestamps as well.

## 3.9 How to make fonts available

Fonts define the way to display text attribute values, such as names or descriptions in models, tables, in output files, print outs and PDF generation. These fonts are related to languages used in ARIS. The fonts used are taken from different sources, such as the operating system, the JRE used and the system database of the tenant.

Since ARIS version 10.0.6, Azul Zulu JRE is used as an internally used JRE. This JRE provides no fonts anymore.

Make sure that all needed fonts are available on the operating system of the machine where by ARIS Server is installed or in the related tenant.

- To provide fonts server wide, use the tools and procedures related to the operating system in use.

If you add fonts to the operating system or delete fonts, you must restart ARIS Server so that the changes take effect.

- To provide fonts tenant wide, you must add (page 19) the missing fonts to the system database of each tenant.

Adding fonts to the system database has the advantages that font sets are update-proof and there is no need restarting ARIS Server in order to make changes available.

## 3.10 Add fonts

Fonts define the way to display text attribute values, such as names or descriptions in models, tables, in output files, print outs and PDF generation. These fonts are related to languages used in ARIS. The fonts used are taken from different sources, such as the operating system, the JRE used and the system database of the tenant.

When ARIS Server is installed on a Windows® operating system, all fonts saved in the **Fonts** folder of the operating system are available for report and model graphic generation. Linux operating systems usually provide a smaller set of fonts.

If you use additional fonts in report scripts or in models, you must add the missing fonts to system database of this tenant. If a used font is missing, unreadable content appears in report output files or incorrect line breaks show up in model graphics. This can occur, for example, in Japanese language, if the default attribute font **MS UI Gothic** is missing. In this case, add at least the **msgothic.ttc** font file.





### Warning

If ARIS Server is installed on a Linux operating system usually no Windows® standard fonts are available. In order to prevent unreadable content or incorrect line breaks make sure to add all used fonts from your Windows® operating system to the system database of the tenant.

### Prerequisite

- You are script administrator for this tenant.
- You have access to the required font file (\*.ttf or \*.ttc).


### Procedure

1. Click **ARIS >  Administration**.
2. Click  **Navigation** in the bar panel if the **Navigation** bar is not activated yet.
3. In the navigation tree, click the folder  **Evaluations > F Fonts**. All additional fonts available in the system database of this tenant are listed. If no fonts are displayed, only the fonts of the Windows® operating system are in use. These fonts are not displayed here.
4. Click  **+ Add font**. The dialog for file selection opens.
5. Navigate to the required **ttf** or **ttc** file.

If you want to add fonts, such as the **msgothic.ttc** font file from your **Windows/Fonts** folder, you must first copy them to a different folder. The **Windows/Fonts** folder cannot be used as source folder, because the Windows® operating system does not allow direct access.

6. Select the font files and click **Open**.

The fonts are added to the system database of this tenant. They are available for reports and model graphic generation.

If you want to delete a font, move the mouse pointer to the required font, right-click, and click  **Delete**.

## 3.11 How to modify ARIS document storage links

If ARIS document storage is in use all ARIS document storage links must be adapted in ARIS Architect. As the ARIS Server URL and the tenant name are part of the links (highlighted), the links will not work after migration. The **Modify ARIS document storage links** report adapts all links for the use with ARIS 10. The highlighted parts of the links will be adapted as follows:

- **ARIS9.8.x ARIS document storage link**

**https://aris9srv.eur.co.com:1080**/documents/rest/links/afa43c5e-b225-4bd9-a4a9-71d5d23b4420?tenantid=**default**&revision=1

- **ARIS10 ARIS document storage link**

**https://aris10srv.eur.co.com:1081**/documents/rest/links/afa43c5e-b225-4bd9-a4a9-71d5d23b4420?tenantid=**tenant1**&revision=1

The old ARIS Server URL is updated to the new ARIS 10 URL.

In ARIS Architect, execute the **Modify ARIS document storage Links** report for all databases holding ARIS document storage Links. The report is available in the Administration report category (see ARIS Architect online help; Evaluate data > Use reports > ARIS reports > Administration).

## 3.12 How to migrate ARIS Connect portal views and configuration sets

The portal shows specific information for each user. Different views display information in different ways. By default, ARIS comes with two different views. The Classic view and the Default view. These views are defined in configuration sets that cannot be changed. However, administrators can define multiple modification sets based on these templates.

### VIEWS AND MODIFICATION SETS

In ARIS 10, portal views are called modification sets. If portal views were added or changed in ARIS 9, you must backup (page 23) portal views in ARIS 9.8.7 or later and restore modification sets (page 23) manually. The **default** and the **classic** configuration set must not be migrated. These sets, holding all new features, are used as template for all future modification sets, created in ARIS10.



## CUSTOMIZED CONFIGURATION SETS

Customized configuration sets are configurations sets that have been created manually in ARIS 9.8.7 or later. They must be adapted on file level in ARIS 10.

This advanced configuration requires high knowledge on XML configuration, that can be acquired in the 742- <ID> ARIS Connect Portal Configuration training (<https://knowledge.softwareag.com/course/view.php?id=16> ). Errors in XML configuration files may cause strong impact. You might not be able to start ARIS Connect again.

Therefore, all customized folders must be copied from <ARIS 9.8.x installation path>\server\bin\work\:

- **work\_copernicus\_<s, m or l>**\base\webapps\ROOT\WEB-INF\config\<name of the view>
- **work\_abs\_<s, m or l>**\base\webapps\abs\WEB-INF\config\<name of the view>
- If an Heavy-duty Server (HDS) is in use, the related folder of the **hds\_<s, m or l>** runnable must be copied as well.

and pasted into the <ARIS 10 installation path>\server\bin\work\ subfolders:

- **work\_copernicus\_<s, m or l>**\base\webapps\ROOT\WEB-INF\config\<name of the customized configuration set>
- **work\_abs\_<s, m or l>**\base\webapps\abs\WEB-INF\config\<name of the customized configuration set>
- If an Heavy-duty Server (HDS) is in use, the related folder of the **hds\_<s, m or l>** runnable must be pasted as well.

New ARIS 10 functionality will not be available in the copied configuration sets.

Depending to the level of customization, you are recommend to use a prepared customization package obtained by the original customizer. If you need help, contact Software AG (<https://empower.softwareag.com/>) for a customization request. Customization and training services are not subject to the standard Software AG software maintenance agreement. Configuration changes can only be performed by Software AG if you requested and agreed on them.


### 3.12.1 Save ARIS Connect modification sets

Save user-defined modification sets for data migration or before you modify them. You can restore saved modification sets at any time or provide them on other servers.

#### Prerequisite

You have the **Portal administrator** function privilege.

#### Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Move the mouse pointer over a user-defined modification set.
6. Click  **Backup**.
7. Save the file in any directory.

The **<name of the modification set>\_bak.zip** backup file is downloaded.

8. Repeat this procedure for all other modification sets.

Based on these backups, you can restore the modification sets in ARIS 10 (page 23).

### 3.12.2 Restore ARIS Connect modification sets

Restore saved modification sets.

#### Prerequisite

- You have the **Portal administrator** function privilege.
- You have access to the backup file.

#### Procedure

1. Start ARIS Connect.
2. Click **<user name>**.
3. Click **Administration**.
4. Click **Manage configuration sets**. All available configuration and modification sets are displayed. The current configuration or modification set is marked as **(active)**.
5. Click **Restore** in the **Configuration and modification sets** area. The file selection dialog opens.
6. Double-click the ZIP file (syntax: **<name of the modification set>.zip**).


If a modification set with the same name exists, it is overwritten. If you want to keep the original modification set, you must define another name before the import.

Repeat this procedure for all saved ARIS 9 modification sets.


## 3.13 How to back up data manually

Administrators have multiple alternatives for manually backing up data.

### DATABASES

- In ARIS Architect on the **Administration** tab, using the  **Backup** functionality in the pop-up menu of a database.
- In ARIS Server Administrator, using the **Backup** or **backupasn** commands.  
Currently, Java can only process files of up to a maximum of 4 GB safely. Thus, errors may occur with larger backup files (ADB) and during database recovery. If errors occur during backup or while restoring, please use the backup mechanism in your database management system (DBMS). Make sure that sufficient disk space is available for restoring large databases. This may exceed the memory requirements stated in the document **ARIS System Requirements**.

### FILTERS

- In ARIS Architect on the 'Administration' tab, using the function  **Export**.
- In ARIS Server Administrator, using the **backupsystemdb** command.


### METHOD, CONFIGURATION, AND QUERIES

In ARIS Server Administrator, using the **backupsystemdb** command.

### SCRIPTS

- In ARIS Architect on the 'Administration' tab the **Administration** tab, using the function **Export** in the pop-up menu of a script (individual backup).
- In ARIS Server Administrator, using the **backupsystemdb** command.

### QUERIES AND AD HOC ANALYSES

In ARIS Architect on the 'Administration' tab, using the function  **Back up analysis data**.

## 3.14 How to collect log files

Setup activities are logged in the files **%temp%\ARIS\_install\_log** and **%temp%\aris\_install\_full.log**.

Activities considering the download or the start process of ARIS clients are recorded. Under **%UserProfile%\ARIS<version>\log** and **%temp%** you will find files, such as **ARISLauncher\_<timestamp>.log** or **StartARISFailed\_<timestamp>.log**.

All activities of runnables are recorded in the **log** directories of the server installation directory.

The log files are located in the directory `<path to installation directory>\`, such as:

- `.\server\bin\work\<instanceid>\base\logs\`  
Example: `C:\SoftwareAG\ARIS<version>\server\bin\work\work_abs_m\base\logs`
- `.\server\acc\log\`
- `.\server\logs\`
- `.\server\bin\log\`
- Activities such as imports from IT Inventory (ARIS Publisher), as well as errors are logged in different files depending on the component, for example, **inventoryImport-<Version.Build>\_0.log**.

The ARIS Publisher log file names and the logging configuration are defined in the file. `<ARIS installation path>/ARIS10.0/server/bin/work/work_businesspublisher_<s, m or l>/base/logs` and `/conf`.

If problems occur during operation, you can use log files to find and resolve errors.

You can collect ARIS log files in different ways:

- Using the ACC interface.
- Using the **collect log files** ACC command.

Using the **collectLogFiles.bat** or **collectLogFiles.sh** is no longer recommended because all runnables must be stopped before executing the file `<path to server installation directory>\support\collectLogFiles.bat`. On Linux systems the file is called **collectLogFiles.sh**. Users running these files require **read** permission for the log files. All collected log files are saved as a ZIP archive.

If you cannot solve the problems and have a maintenance agreement, please send an error description and the ZIP archives containing collected log files as well as the entire contents of the **log** and **config** directories to the ARIS Global Support via Empower (<http://www.softwareag.com/premiumsupport>).

## 4 Glossary

Here you can find the definitions of the technical terms used in the technical ARIS manuals.

### A

#### ADMINISTRATION (DOCUMENTATION STRUCTURE)

This area contains manuals that describe, how to adapt an installed system regarding the available system environment, for example, increasing the size of the main memory or how to change a port number.

#### ARIS AGENT

Required service on every machine (node) on which an ARIS server component (runnable) runs. It allows the remote installation, configuration, operation of ARIS runnables.

#### ARIS CLOUD CONTROLLER (ACC)

ACC is a command-line tool for administrating and configuring an ARIS installation. It communicates with ARIS Agents on all nodes.

#### 'ARISSERVICE' USER

The user **arisservice** is created automatically. By default, this user is assigned the **Database administrator** and **Process Governance administrator** function privileges. This user only uses up a license if a license privilege is activated for this user. The default password is **arisservice**. You should change the default password to prevent unauthorized access. You can change all user data except for the user name.

### C

#### COLLABORATION DATABASE

The **postgresECP\_<s,m or l>** runnable handles the internal database storing Collaboration content available in ARIS Connect.

#### CUSTOMIZING (DOCUMENTATION STRUCTURE)

This area contains manuals that describe, how to adapt an installed system to meet company-specific needs that changes a standard system to an individual system. The result of these changes is that the standard update process no longer works. An update to the next minor version has to be done manually, because executing setup programs would overwrite the individual adjustments: they would have been lost.

## D

### DISTRIBUTED INSTALLATION

Byword for multi node installation. Using installation programs and performing manual tasks to establish an executable system on several servers.

Multi node installation, that is, an installation spanning across several computers/VMs. Such a specific scenario requires profound knowledge of the technical ARIS infrastructure and environment. This cannot be provided in the product documentation. The required know-how can be acquired only by attending the training course **ARIS Server Installation**, available via Global Education Services (<http://softwareag.com/training>). For this type of installation Software AG strongly recommends that you request an installation service by Global Consulting Services. You can order that service from your Software AG sales representative.

### DOWNLOAD CLIENT

Client that is started via browser link.

If ARIS Server is installed, all authorized users can start ARIS Download Client within their browsers. All necessary files are downloaded from the ARIS Server to a local directory. Users do not need a local ARIS Client installation.

Depending on the browser used, the ARIS Download Client is started or a program icon is saved on your computer that you can use to start the ARIS Client.

## G

### 'GUEST' USER

The user **guest** is created automatically. By default, no function or license privileges are assigned to this user. This user serves technical purposes only. It is not for use by end users. Logging in to ARIS Connect or other Software AG products with this user is not allowed. Further information is available in the Software AG license terms (<http://softwareag.com/licenses>).

### GUID

**G**lobally **U**nique **I**dentifier (GUID).

The GUID is a character set that uniquely identifies elements worldwide.

## I

### INSTALLATION

Using installation programs and performing manual tasks to establish an executable system on one (single node) or several (multi node) servers.

## J

### JAAS

**Java Authentication and Authorization Service (JAAS).**

This is a Java interface, which provides services for the authentication and for the access in Java programs. JAAS supports a user based authentication.

## L

### LOAD BALANCER

In ARIS the **loadbalancer** runnable distributes the workload across the installed components. In computing, load balancing distributes workloads across multiple computing resources, such as computers, a computer cluster, network links, central processing units or disk drives. Load balancing aims to optimize resource use, maximize throughput, minimize response time, and avoid overload of any single resource. Using multiple components with load balancing instead of a single component may increase reliability and availability through redundancy. Load balancing usually involves dedicated software or hardware, such as a multilayer switch or a Domain Name System server process.

## M

### MIGRATION

Installing a new major version and including the previous content.

Example: Upgrade from version **9.8 Service Release 7** to version **10.0**.

### MODELING DATABASE

The **postgres\_<s,m or l>** runnable manages the internal standard database system storing all ARIS databases (modeling data) and the system databases (ARIS method, filters, templates, languages, fonts, font formats and script data).

This database can be replaced by an external Oracle® or Microsoft® SQL database.

### MULTI NODE INSTALLATION

Using installation programs and performing manual tasks to establish an executable system on several servers.

Distributed ARIS installation extending across several computers, delivered by manual provisioning.

Such a specific scenario requires profound knowledge of the technical ARIS infrastructure and environment. This cannot be provided in the product documentation. The required know-how can be acquired only by attending the training course **ARIS Server Installation**, available via Global Education Services (<http://softwareag.com/training>).

## N

### NODE

Virtual or physical machine on which ARIS Agent is installed to host ARIS runnables.

## O

### OTP

**One-Time Pad (OTP).**

This one-time pad is a symmetric encryption method for transferring secret messages. This encryption method is characterized by the fact that it uses a key of the same length as the message itself.

The OTP is information-theoretically secure and has proven to be impossible to crack – provided that it is used properly.



## P

### PROVISIONING

Setting up an installed system via ARIS Cloud Controller (ACC) commands.

## R

### RUNNABLE

ARIS server component providing functionality to the ARIS clients. Runnables are physically installed on a node.

Depending on the ARIS server type different runnables are used in order to provide full functionality. Runnables can be managed using ARIS Cloud Controller (ACC). The InstanceID of the ARIS Server program component is used as the name for the runnable.

## S

### SAML

**Security Assertion Markup Language (SAML).**

Standard for exchanging authentication data between security domains. SAML is an XML-based protocol that uses security tokens containing assertions to pass information about a user between an identity provider and a service provider and enables web-based authentication scenarios including single sign-on across all ARIS runnables.

### SERVICE REGISTRY

The **zoo\_<s,m or l>** runnable is a server component managing the communication, configuration and status information of all available runnables and external services.

### SINGLE NODE INSTALLATION

An ARIS server installation delivered by an ARIS server setup.

### <S, M OR L>

Free variable parameter used in ACC expressions.

Indicator for the three memory sizings **small (s)**, **medium (m)** and **large (l)**. This indicator is part of standard runnable names (runnables). It indicates the maximum size of the Java heap. The **S** sizing which at the time of this writing has a maximum heap size of 1152MB should be used for demonstration reasons (laptop) only. The **M** sizing sets the maximum heap size to 8GB, the **L** sizing to 16GB. You can always change this memory setting later with a **reconfigure** command.

### SSL

**Secure Socket Layer (SSL).**

Security software to encrypt data that are exchanged between programs.

### SINGLE SIGN-ON (SSO)

With **SSO** or **single sign-on** the user only needs to authenticate himself once with his user name and password to access all services, programs and computers without logging in again.

If services, programs, and computers request a new authentication when accessed by the user the authentication is carried out by the underlying SSO mechanism.

### 'SUPERUSER' USER

The user **superuser** is created automatically. By default, this user is assigned the **User management, License management, and Configuration administrator** function privileges. This user can also enable this function privilege for other users. Users of the **superuser** type do not use up a license. They manage the system administration, but cannot use ARIS products due to license restrictions. The default password is **superuser**. You should change the default

password to prevent unauthorized access. The password of the superuser is very important, as it is the only user who cannot be deleted. You can change all user data except for the user name.

## SYSTEM DATABASE

This database manages the content of the **configuration** and **evaluations** nodes displayed on ARIS Architect's **ARIS Administration** tab, for example, filters, templates and font formats as well as ARIS method content and scripts.

The database is created during the first ARIS Client login of a user. This content is available in all ARIS databases within this tenant. The system database can be backed up and restored.

## SYSTEM LANGUAGE AND LOCALE IDS

The locale ID (LCID (<http://msdn.microsoft.com/en-us/goglobal/bb964662.aspx>)) designates a language within a language group.

Language groups and code page are also represented by a number, for example, code page=1252. The language group is preceded by a minus sign (-), for example, -1252.

Examples are listed in the table below. For more information please refer to:

[http://msdn.microsoft.com/en-us/library/0h88fahh\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/0h88fahh(VS.85).aspx)  
([http://msdn.microsoft.com/en-us/library/0h88fahh\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/0h88fahh(VS.85).aspx)).

| System language          | LCID  |
|--------------------------|-------|
| Afrikaans - South Africa | 1078  |
| Albanian - Albania       | 1052  |
| Arabic - Algeria         | 5121  |
| Arabic - Bahrain         | 15361 |
| Arabic - Egypt           | 3073  |
| Arabic - Iraq            | 2049  |
| Arabic - Jordan          | 11265 |
| Arabic - Kuwait          | 13313 |
| Arabic - Lebanon         | 12289 |
| Arabic - Libya           | 4097  |
| Arabic - Morocco         | 6145  |
| Arabic - Oman            | 8193  |
| Arabic - Qatar           | 16385 |
| Arabic - Saudi Arabia    | 1025  |
| Arabic - Syria           | 10241 |
| Arabic - Tunisia         | 7169  |

| <b>System language</b>    | <b>LCID</b> |
|---------------------------|-------------|
| Arabic - U.A.E.           | 14337       |
| Arabic - Yemen            | 9217        |
| Basque - Spain            | 1069        |
| Belarusian - Belarus      | 1059        |
| Bulgarian - Bulgaria      | 1026        |
| Catalan - Spain           | 1027        |
| Chinese - Hong Kong       | 3076        |
| Chinese - PRC             | 2052        |
| Chinese - Singapore       | 4100        |
| Chinese - Taiwan          | 1028        |
| Croatian - Croatia        | 1050        |
| Czech - Czech Republic    | 1029        |
| Danish - Denmark          | 1030        |
| Dutch - Belgium           | 2067        |
| Dutch - Netherlands       | 1043        |
| English - Australia       | 3081        |
| English - Belize          | 10249       |
| English - Canada          | 4105        |
| English - Caribbean       | 9225        |
| English - Ireland         | 6153        |
| English - Jamaica         | 8201        |
| English - New Zealand     | 5129        |
| English - South Africa    | 7177        |
| English - Trinidad        | 11273       |
| English - United Kingdom  | 2057        |
| English - United States   | 1033        |
| Estonian - Estonia        | 1061        |
| Faeroese - Faeroe Islands | 1080        |
| Farsi - Iran              | 1065        |
| Finnish - Finland         | 1035        |

| <b>System language</b>       | <b>LCID</b> |
|------------------------------|-------------|
| French - Belgium             | 2060        |
| French - Canada              | 3084        |
| French - France              | 1036        |
| French - Luxembourg          | 5132        |
| French - Switzerland         | 4108        |
| German - Austria             | 3079        |
| German - Germany             | 1031        |
| German - Liechtenstein       | 5127        |
| German - Luxembourg          | 4103        |
| German - Switzerland         | 2055        |
| Greek - Greece               | 1032        |
| Hebrew - Israel              | 1037        |
| Hungarian - Hungary          | 1038        |
| Icelandic - Iceland          | 1039        |
| Indonesian - Indonesia       | 1057        |
| Italian - Italy              | 1040        |
| Italian - Switzerland        | 2064        |
| Japanese - Japan             | 1041        |
| Korean - Korea               | 1042        |
| Latvian - Latvia             | 1062        |
| Lithuanian - Lithuania       | 1063        |
| Norwegian - Norway (Bokmal)  | 1044        |
| Norwegian - Norway (Nynorsk) | 2068        |
| Polish - Poland              | 1045        |
| Portuguese - Brazil          | 1046        |
| Portuguese - Portugal        | 2070        |
| Romanian - Romania           | 1048        |
| Russian - Russia             | 1049        |
| Serbian - Serbia (Cyrillic)  | 3098        |
| Serbian - Serbia (Latin)     | 2074        |

| <b>System language</b>             | <b>LCID</b> |
|------------------------------------|-------------|
| Slovak - Slovakia                  | 1051        |
| Slovene - Slovenia                 | 1060        |
| Spanish - Argentina                | 11274       |
| Spanish - Bolivia                  | 16394       |
| Spanish - Chile                    | 13322       |
| Spanish - Colombia                 | 9226        |
| Spanish - Costa Rica               | 5130        |
| Spanish - Dominican Republic       | 7178        |
| Spanish - Ecuador                  | 12298       |
| Spanish - El Salvador              | 17418       |
| Spanish - Guatemala                | 4106        |
| Spanish - Honduras                 | 18442       |
| Spanish - Mexico                   | 2058        |
| Spanish - Nicaragua                | 19466       |
| Spanish - Panama                   | 6154        |
| Spanish - Paraguay                 | 15370       |
| Spanish - Peru                     | 10250       |
| Spanish - Puerto Rico              | 20490       |
| Spanish - Spain (Modern Sort)      | 3082        |
| Spanish - Spain (Traditional Sort) | 1034        |
| Spanish - Uruguay                  | 14346       |
| Spanish - Venezuela                | 8202        |
| Swedish - Finland                  | 2077        |
| Swedish - Sweden                   | 1053        |
| Thai - Thailand                    | 1054        |
| Turkish - Turkey                   | 1055        |
| Ukrainian - Ukraine                | 1058        |
| Vietnamese - Vietnam               | 1066        |

## 'SYSTEM' USER

The **system** user is created automatically. By default, the system user has all function privileges. This user can log in to process administration, ARIS Administration, User Management, and ARIS Process Board. In ARIS Architect and ARIS Designer, this user has all access privileges for all database groups of all databases. This user only uses up a license if a license privilege is activated for this user. The default password is **manager**. You should change the default password to prevent unauthorized access. You can change all user data except for the user name.

Having more than one system user can avoid problems, if, for example, your single system user has forgotten his password. You can create additional system users or copy the existing system user. If your only system user was deleted accidentally, create a new one by using the superuser.

## T

### TENANT

A tenant is a container providing its own ARIS Administration and ARIS data set, such as configuration, ARIS method, databases, scripts, etc.

Each tenant provides users with a particular set of functionalities and specific data depending on their licenses and privileges.

After the installation two tenants are available. The infrastructure master tenant manages administrative users and all other tenants. The **default** tenant is available for operational use. It handles databases, documents, users/user groups, licenses etc. A single physical ARIS installation can host multiple operational tenants. Users of a specific tenant cannot access data from other tenants. A tenant is a kind of logical ARIS installation. Tenants do not share any data.

## TLS

**T**ransport **L**ayer **S**ecurity (**TLS**).

TLS is known under the name of **S**ecure **S**ockets **L**ayer (**SSL**). It is an encryption protocol to ensure a secure data transfer through the Internet.

## U

### UPDATE

Adjusting an installed system to the next minor version including the previous content.

Example: Update the version **10.3** to version **10.4**.

### UPGRADE

Synonym for Migration:

Installing a new major version and including the previous content.

Example: Upgrade from version **9.8 Service Release 7** to version **10.0**.

## 5 Legal information

### 5.1 Documentation scope

The information provided describes the settings and features as they were at the time of publishing. Since documentation and software are subject to different production cycles, the description of settings and features may differ from actual settings and features. Information about discrepancies is provided in the Release Notes that accompany the product. Please read the Release Notes and take the information into account when installing, setting up, and using the product.

If you want to install technical and/or business system functions without Software AG's consulting services, you require extensive knowledge of the system to be installed, its intended purpose, the target systems, and their various dependencies. Due to the number of platforms and interdependent hardware and software configurations, we can only describe specific installations. It is not possible to document all settings and dependencies.

When you combine various technologies, please observe the manufacturers' instructions, particularly announcements concerning releases on their Internet pages. We cannot guarantee proper functioning and installation of approved third-party systems and do not support them. Always follow the instructions provided in the installation manuals of the relevant manufacturers. If you experience difficulties, please contact the relevant manufacturer.

If you need help installing third-party systems, contact your local Software AG sales organization. Please note that this type of manufacturer-specific or customer-specific customization is not covered by the standard Software AG software maintenance agreement and can be performed only on special request and agreement.

If a description refers to a specific ARIS product, the product is named. If this is not the case, names for ARIS products are used as follows:

| <b>Name</b>           | <b>Includes</b>                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------|
| ARIS products         | Refers to all products to which the license regulations of Software AG standard software apply. |
| ARIS Clients          | Refers to all programs that access shared databases via ARIS Server.                            |
| ARIS Download clients | Refers to ARIS clients that can be accessed using a browser.                                    |



## 5.2 Data protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR).

Where applicable, appropriate steps are documented in the respective administration documentation.

## 5.3 Disclaimer

ARIS products are intended and developed for use by persons. Automated processes, such as the generation of content and the import of objects/artifacts via interfaces, can lead to an outsized amount of data, and their execution may exceed processing capacities and physical limits. For example, processing capacities are exceeded if models and diagrams transcend the size of the modeling area or an extremely high number of processing operations is started simultaneously. Physical limits may be exceeded if the memory available is not sufficient for the execution of operations or the storage of data.

Proper operation of ARIS products requires the availability of a reliable and fast network connection. Networks with insufficient response time will reduce system performance and may cause timeouts.

If ARIS products are used in a virtual environment, sufficient resources must be available there in order to avoid the risk of overbooking.

The system was tested using scenarios that included 100,000 groups (folders), 100,000 users, and 1,000,000 modeling artifacts. It supports a modeling area of 25 square meters.

If projects or repositories are larger than the maximum size allowed, a powerful functionality is available to break them down into smaller, more manageable parts.

Some restrictions may apply when working with process administration, ARIS Administration, ARIS document storage, and ARIS Process Board, and when generating executable processes. Process Governance has been tested and approved for 1000 parallel process instances. However, the number may vary depending on process complexity, for example, if custom reports are integrated.

ARIS document storage was tested with 40.000 document items. This includes documents, document versions or folders. We recommend monitoring the number and overall size of stored document items and archiving some document items if needed.