Migration of WinCC Projects from V4 to V7

SIMATIC WinCC

https://support.industry.siemens.com/cs/ww/en/view/44029132

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1 General notes on migration

1.1 Terms

Migration

In a migration, a WinCC project is ported from version X to version Y. The configuration data and Runtime data are imported into the new version even if the new version has a different database. From WinCC version V6 on, a project migration tool is provided for support.

Conversion

Conversions affect parts of a project. This happens, for example, when changing to a new service pack. Here, for example only the WinCC Runtime pictures or the libraries have to be converted.

1.2 Compatibility

Please consider the compatibility of SIMATIC WinCC with the operating system used, incl. Service Pack, Step7 and other SIMATIC products.

An overview of the compatibility of SIMATIC WinCC V5, V6 and V7 is available at the following link.
https://support.industry.siemens.com/cs/ww/en/view/64847781

Note

If you want to migrate a WinCC project from a different time zone to a more recent SIMATIC WinCC version, it is absolutely necessary to set the migration computer to the time zone from which the project originates.

In WinCC, the UTC time is used in the databases. If the time zone is set incorrectly, this might result in a faulty calculation of this time here.

1.3 Scripts and in-house developments

Scripts and in-house developments might increase and impede the migration expenditure. These cannot be considered in this description.

1.4 WinCC options

This migration description does not consider any options. If you are using options such as Advanced User Administrator, WebNavigator, etc., please note the version releases on the Service and Support pages.

1.5 Project backup

Project backup via file compression

Always create a backup of your WinCC project. When the WinCC project is not open, you can, for example, pack the project with WinZip and back it up that way.

Create a backup after each migration step (from version to version).

Note

You can use the scheduler function of the "Windows Backup", for example to create a daily or weekly backup of the WinCC project.

The backups can also be stored on external data carriers or network drives.

For each backup, a log file is created.

The Runtime data in the WinCC project folder "ArchiveManager" are also archived.

1.6 WinCC database versions

Table 1-1

WinCC version	Database
<= V4.x	Sybase Anywhere 4
V5.0	Sybase Anywhere 5
V5.1	Sybase Anywhere 7
V6.0	SQL Server 2000
V6.0 SP4	SQL Server 2000 SP4
V6.2	SQL Server 2005 SP1
V7.0	SQL Server 2005 SP1
V7.0 SP1	SQL Server 2005 SP2
V7.0 SP2	SQL Server 2005 SP3
V7.0 SP3	SQL Server 2005 SP4
V7.2	SQL Server 2008 R2 SP2
V7.3 SE	SQL Server 2008 R2 SP2/SP3
V7.4	SQL Server 2014 SP1
V7.4 SP1	SQL Server 2014 SP2

1.7 Upgrading overview SIMATIC WinCC V3 to V7

The following graphic shows the intermediate steps to be taken in order to migrate WinCC projects from previous versions.

Note Experience shows that some customer projects cannot be upgraded with version leaps from the history. In this case, an upgrade from version to version is reasonable, e. g. from V6 > V7.0 > V7.2 > V7.4

Figure 1-1, upgrade from V3 to V4

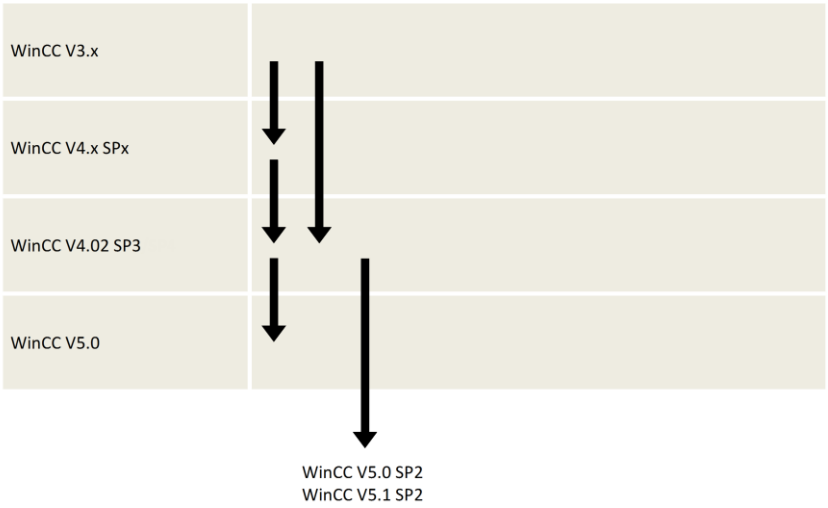


Figure 1-2, upgrade from V5 to V6

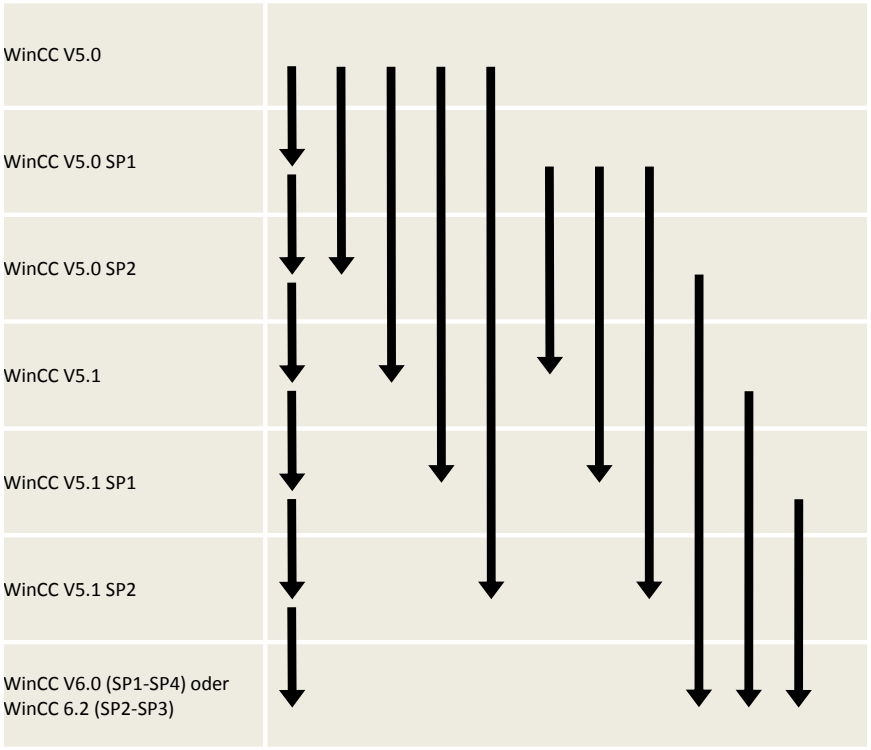


Figure 1-3, upgrade from V6.x to V7.0

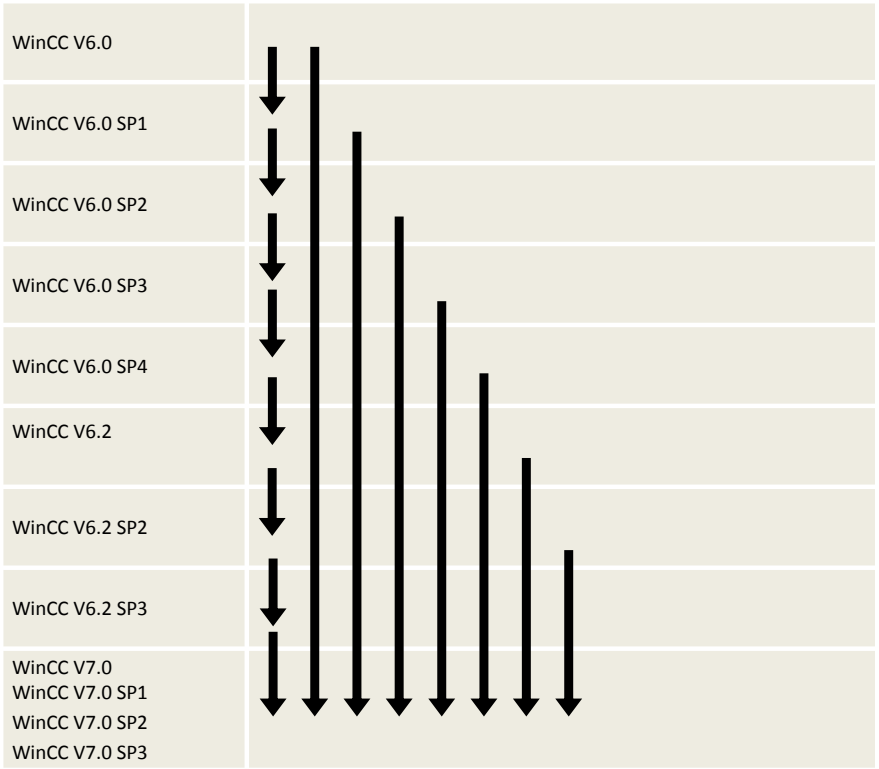


Figure 1-4, upgrade from V6.2 SP3 to V7.2/ V7.3 V7.4

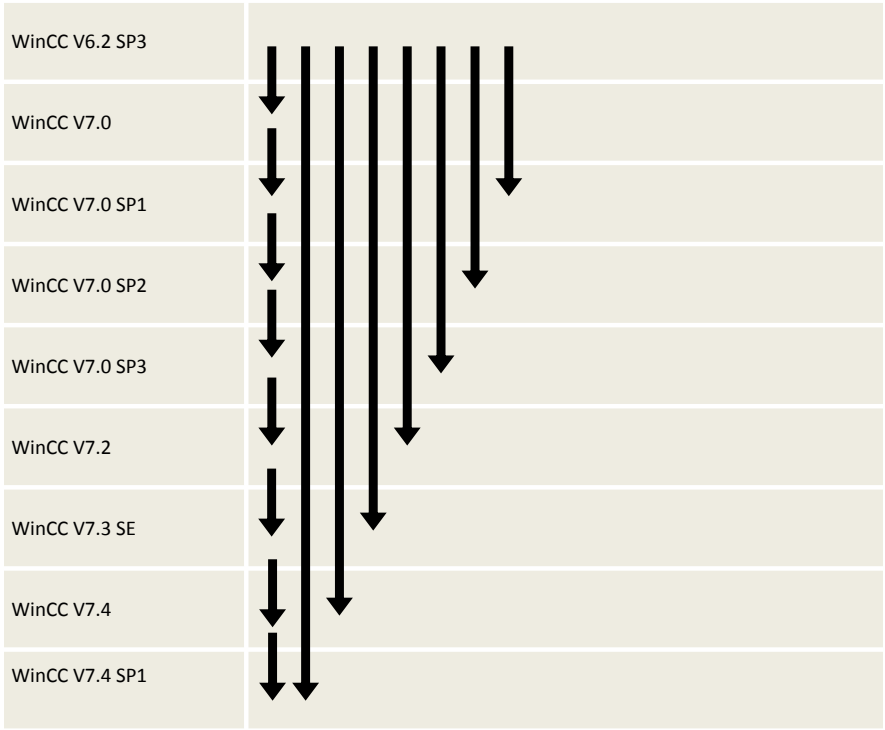
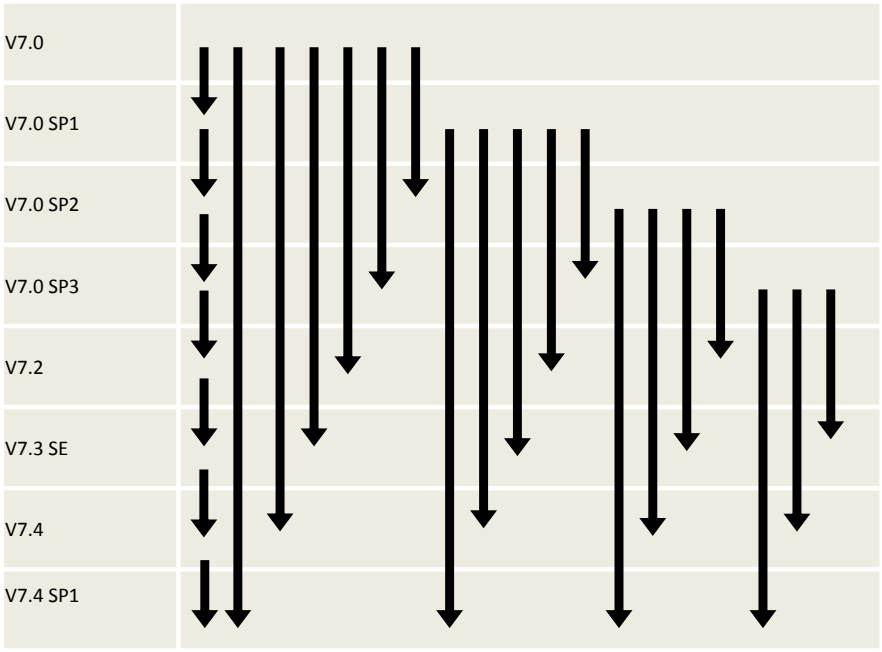


Figure 1-5, upgrade within V7.x



1.8 Overview of the migration steps

1.8.1 Migration from WinCC V4 to V5

1. Backup of the SIMATIC WinCC V4 project
2. SIMATIC WinCC V4 project check
3. Software update
4. License update
5. Project migration
6. Migration of the backup archives
7. Migration check
8. Project adaptations

1.8.2 Migration from WinCC V5 to V6

1. Backup of the SIMATIC WinCC V5 project
2. Software update
3. License update
4. Project migration
5. Migration of the backup archives
6. Migration check
7. Project adaptations

1.8.3 Migration WinCC V6 to V7

1. Backup of the SIMATIC WinCC V6 project
2. Software update
3. License update
4. Project migration
5. Migration check
6. Project adaptations

Note Migrated projects must be tested. It is the plant operator who is responsible for a perfect functioning!

2 Importing from project versions lower than V4.02 SP3 to WinCC V5

2.1 Requirements / conditions

The WinCC V3.x project must be migrated to at least V4.02 SP3/SP4.

Before upgrading to a more recent version, in the case of multi-user projects it should be ensured that the computer on which the upgrading is performed is actually registered as server in this project.
If this is not the case, the project can be opened with an identical WinCC version before the upgrading and the computer which performs the upgrading can be registered as server.

If in the User Administrator under V3.1, two or more users were registered who only differ in the use of capital and small letters, these are to be deleted except for one or renamed before the conversion to V4.x.

2.2 Required software / licenses

Table 2-1

Product	Order number	Note
WinCC V4.02 SP3 and the last available update/hotfix	6AV6381-1AA04-0EX4	This package is no longer available. You only require the WinCC V4.02 SP3 version to migrate the WinCC V3.X project to V4.02 SP3; if required, the CD can be sent to you via your local specialist support.

Note The WinCC V3 licenses are still valid in SIMATIC WinCC V4.

2.3 Preparatory activities

Activities
If you have created a project with the version 4.00, a picture conversion has to be carried out. The API of the Report Designer has been revised and contains, among other things, much more functions. Users having used this API in older WinCC versions must recompile their application.
The database is converted with the program "WinCC Database Upgrade".
The picture data are converted with the Graphics Designer.
If you are using the Basic Process Control option in an existing project, the following steps are required to convert the project: • Using the Split Screen Wizard • Using the Alarm Logging Wizard • Conversion of the global library • Conversion of the project library • Conversion of the pictures • Opening the Tag Logging and closing with Save

Activities
• Opening Global Script and in the "Options" menu • Compiling all functions • Regenerating the header • Opening the Picture Tree Manager and closing with Save • Under the menu item "Options", "Completely recalculate group display hierarchy upon saving" must be set.
WinCC system alarms (without using the Basic Process Control option) • Some new WinCC system alarms have been added and the text and number of already existing system alarms has been adapted. • To obtain these expansions/corrections in the system alarm window, the system alarms must be reimported in existing projects. • To do this, proceed as follows: • Start the Editor Alarm Logging. • From the “Tools" menu, select the item "WinCC system alarm...". • In the dialog box "WinCC system alarm", activate "Create new system alarms, overwrite existing ones". • Click the "Create" button.

2.4 Details on the conversion within SIMATIC WinCC V4

When switching to a new version or after the installation of a Service Pack, the projects must be converted.

Table 2-2

No.	Procedure
1.	**Conversion of the global library** In the Control Center, open the context menu of the Graphics Designer and activate the entry "Convert global library".
2.	**Conversion of the project library** In the Control Center, open the context menu of the Graphics Designer and activate the entry "Convert project library".
3.	**Conversion of pictures** In the Control Center, open the context menu of the Graphics Designer and activate the entry "Convert pictures".
4.	**Split Screen Wizard** In the Control Center, open the context menu of the Split Screen Wizard in Base Data and activate the "Open" entry.
5.	**Alarm Logging Wizard** In the Control Center, open the context menu of the Alarm Logging Wizard and activate the "Open" entry.
6.	**Conversion of the user archives** The conversion of the user archives is performed in two steps: • Conversion of the archive structure • Conversion of the Runtime data To convert the archive structure, proceed as follows: • Start the "User Archive" editor in the Control Center. • In the menu bar of the started editor, select "Project"/"Convert...". • In the "Converting Old Archives" dialog window, select the user archive to be converted and start the conversion via the "Converting" button.

No.	Procedure
	• After completed conversion, leave the dialog window via the "Close" button. • Save the converted archive structure. To convert the Runtime data, proceed as follows: • In the menu bar of the started editor, select "Project"/"Convert...". • In the "Converting Old Archives" dialog box, open the "Migrating RT Data" dialog box via the "RT Data..." button. • Select the old and the new, converted archive and start the migration via the "Migrating" button. • Close the "Migrating RT Data" dialog box via the "Close" button. • Close the "Converting Old Archives" dialog box via the "Close" button.

3 Migration from SIMATIC WinCC V4.02 SP3 to SIMATIC WinCC V5.1

3.1 Requirements / conditions

WinCC V4 project check

Before upgrading, check your project for special characters in the names of:

- Archives
- Archive variables
- Graphs
- Trend windows
- Columns
- Table windows

If necessary, the special characters must be removed from the names with WinCC V4.02 in the Tag Logging.

Prerequisites

Link to Online Support
When installing V5.1 SP2, please observe the Installation Notes.
The released operating systems for SIMATIC WinCC V5.x can be found at https://support.industry.siemens.com/cs/ww/en/view/64847781.

Note Further information on permissible special characters is available in the system overview under "Configuration with WinCC" > "Prohibited Characters".

3.2 Required software / licenses

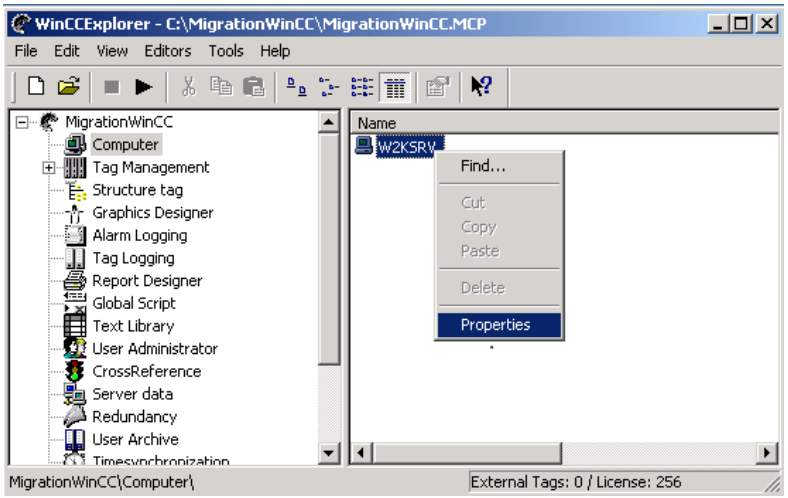
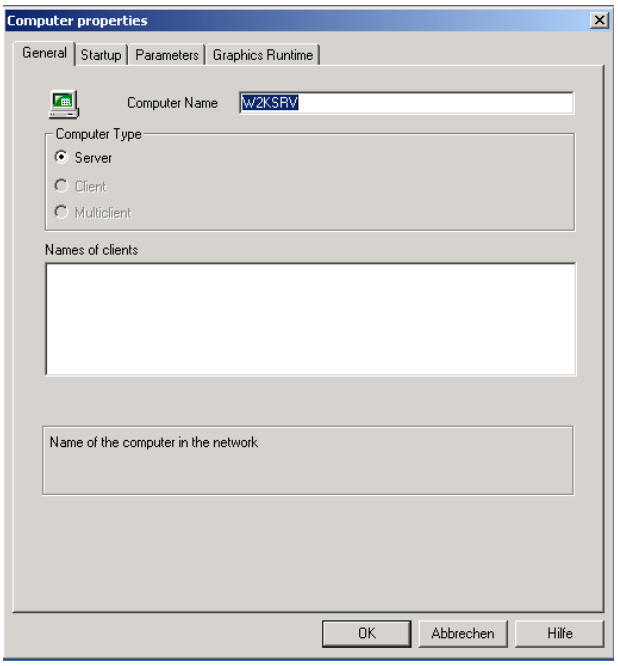
Table 3-1

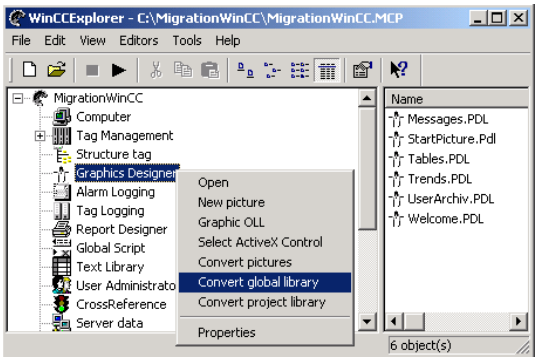
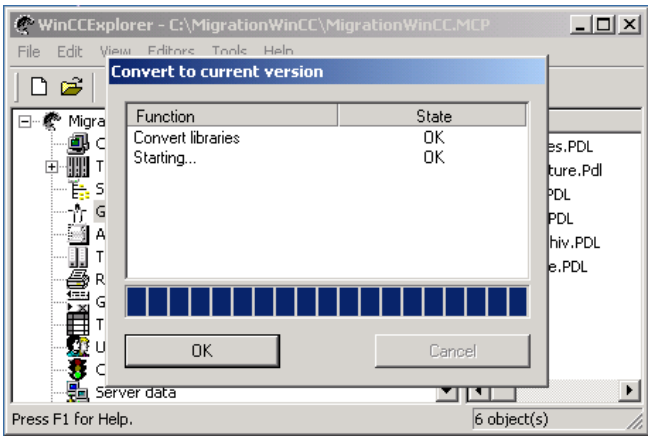
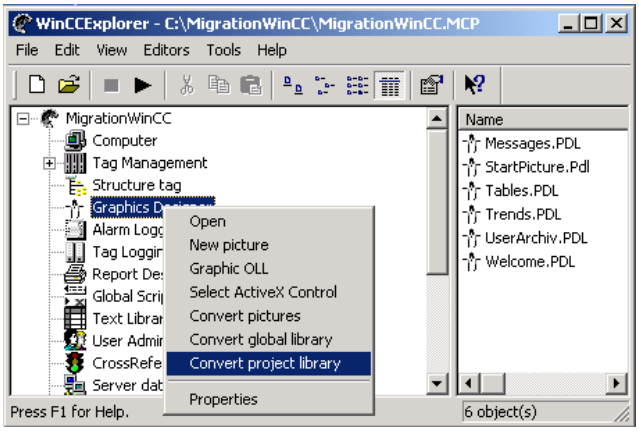
Product	Order number	Note
WinCC V5.1 SP2 and the last available update/hotfix	6AV6381-1AA05-1CX4	

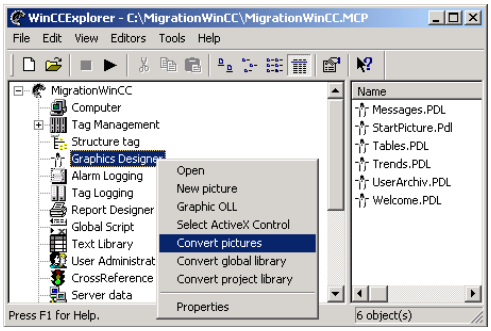
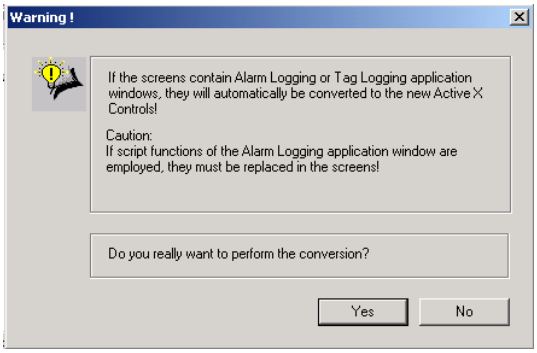
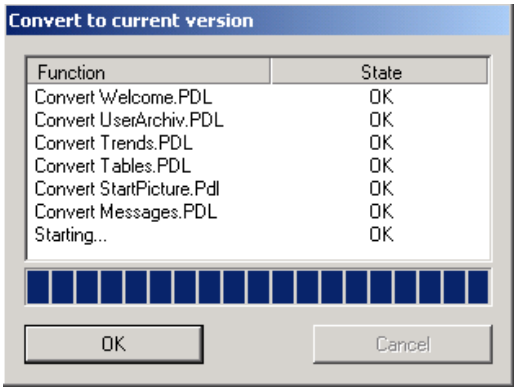
Note The SIMATIC WinCC V3 and V4 licenses are also valid in V5!

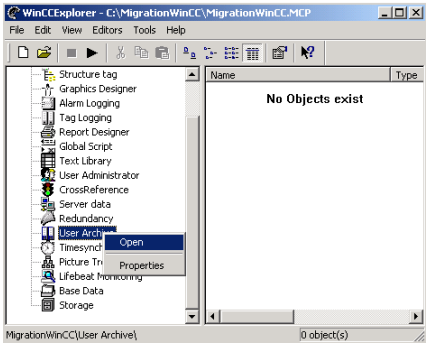
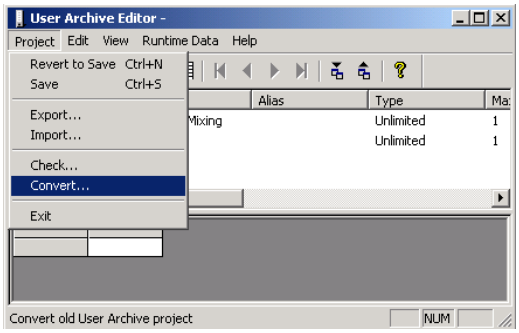
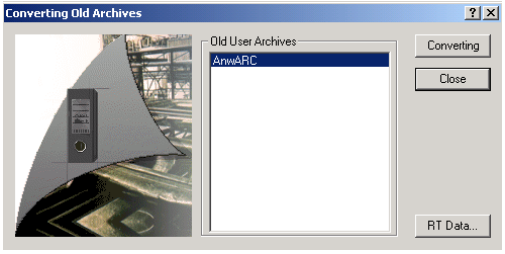
3.3 Migration sequence

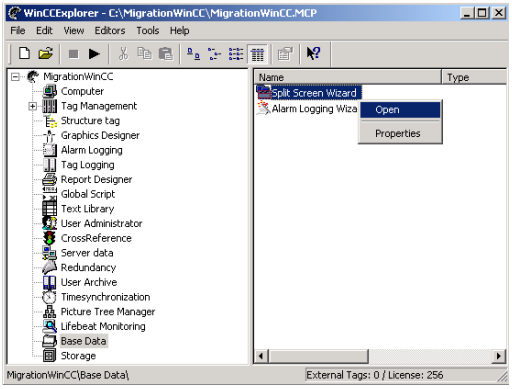
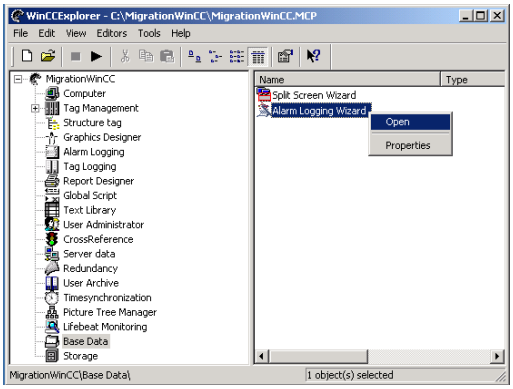
Table 3-2

No.	Procedure
1.	Open the WinCC V4 project on your WinCC V5.1 SP2 system.
2.	In the "Computer" editor, adapt the computer name. • Open the Properties dialog of the server computer.  • Enter the name of your computer.  • Close the dialog. • Close the WinCC Explorer and reopen the WinCC project.

No.	Procedure
3.	**Conversion of the global library** • In the WinCC Explorer, open the context menu of the Graphics Designer and activate the entry "Convert global library".  
4.	**Conversion of the project library** • In the WinCC Explorer, open the context menu of the Graphics Designer and activate the entry "Convert project library". 

No.	Procedure
5.	**Conversion of pictures** • In the WinCC Explorer, open the context menu of the Graphics Designer and activate the entry "Convert pictures".  • Confirm the warning note that the trend and alarm controls are replaced.  • All pictures of the WinCC project are converted to the new version. 
6.	When converting pictures, the following restrictions apply: • Pictures must only be converted if they do not contain any "Undefined Objects". These are picture objects whose associated object server is not installed, e. g. unregistered ActiveX Controls. • Pictures must only be converted if they do not contain any grouped application windows of Alarm Logging and Tag Logging. Before the conversion, the group must be dissolved and the picture must be stored.

No.	Procedure
7.	**Conversion of user archives** • Conversion of the archive structure: • Start the "User Archive" editor in the WinCC Explorer.  • In the menu bar of the started editor, select "Project"/"Convert...".  • In the "Converting Old Archives" dialog window, select the user archive to be converted and start the conversion via the "Converting" button.  • After completed conversion, leave the dialog window via the "Close" button. • Save the converted archive structure. **Conversion of the Runtime data:** • In the menu bar of the started editor, select "Project"/"Convert...". • In the "Converting Old Archives" dialog box, open the "Migrating RT Data" dialog box via the "RT Data..." button. • Select the old and the new, converted archive and start the migration via the "Migrating" button. • Close the "Migrating RT Data" dialog box via the "Close" button. • Close the "Converting Old Archives" dialog box via the "Close" button.
8.	**Representation in Runtime** • If data of a correctly imported user archive are not represented in Runtime, the configuration data must be relinked: • Open the Graphics Designer. • Relink the Controls table with the user archive.

No.	Procedure
	• Save the picture.
9.	**User archive (before WinCC V4.02)** • The conversion of user archives which were created with a WinCC version older than V4.02 is not possible if the archive and field names are longer than 20 characters. • In case of problems in connection with converted user archives, we recommend creating user archives with the WinCC version V5.1 SP2.
10.	**Persistence** • A persistence configured in Tag Logging will not be applied during the conversion. The persistence must be reconfigured in the converted project.
11.	**Split Screen Wizard** • In the WinCC Explorer, open the context menu of the Split Screen Wizard in Base Data and activate the "Open" entry. 
12.	**Alarm Logging Wizard** • In the WinCC Explorer, open the context menu of the Alarm Logging Wizard in Base Data and activate the "Open" entry. 
13.	If you used the Basic Process Control option in an existing project, the following steps are required to convert the project: • Using the Split Screen Wizard • Using the Alarm Logging Wizard • Conversion of the global library • Conversion of the project library • Conversion of the pictures • Opening the Tag Logging and closing with Save • Opening the Picture Tree Manager and closing with Save Under the menu item "Options", "Completely recalculate group display hierarchy upon saving" must be set.

No.	Procedure
14.	If it is a multi-user project with multi-client connections, all packages on the servers should be deleted, recreated and reloaded on the multi-clients.

3.4 Migration of backup archives

Steps and notes
Configuration data and Runtime data can be imported from WinCC V5.0 Service Pack 1 and Service Pack 2 to WinCC V5.1 SP2 without any additional processing. WinCC automatically performs an upgrade for the Runtime data.
If direct access to Runtime data was configured, please consider the following: • From WinCC V5.0 Service Pack 1 on, Sybase Version 7.0.3 is used for the Runtime database. • Thereby, the name of the database tool "isql.exe" changed. The new name is dbisqlc.exe. • While WinCC accesses a database, the parameter DSN=DataSourceName must be used when calling dbisqlc. • A call via a C program might look as follows: ProgramExecute (dbisqlc -q -b -c " uid=dba; pwd=sql; dsn=CC_test_01-04-18_14:41:11R" select * from msarclong; output to c:\deldelde.txt)

3.5 Migration check

During migration/conversion, no log files are created. The migration can only be checked in the configuration and Runtime environment.

3.6 Project adaptations / system changes

OnBtn... functions (in ActiveX Controls trend and message representation)

The OnBtn... functions are no longer supported by WinCC and only provided for compatibility reasons. For new projects, only use the AXC_OnBtn... functions.

Global Script Diagnose Control

The Global Script Diagnose Control is no longer available from WinCC V5.0 Service Pack 1 on. Use the Global Script application window instead.

Function key F12

The function key F12 must not be configured as system-wide hotkey.

4 Migration from SIMATIC WinCC V5.1 to SIMATIC WinCC V6.0/V6.2

4.1 Requirements / conditions

When installing V6.2 SP2, please observe the Installation Notes.

The released operating systems for SIMATIC WinCC V5.x can be found in the Online Support at: https://support.industry.siemens.com/cs/ww/en/view/64847781.

Installation of the Sybase database of the SIMATIC WinCC V5 version, for the migration.

If you have been working with a WinCC version lower than V5.0 SP2 so far, you first have to migrate your project to WinCC V5.0 SP2 or WinCC V5.1.

If in WinCC V6.2 you want to work with a project which was created with WinCC V5.0 Service Pack 2 or WinCC V5.1, you have to adapt the project data correspondingly in the migration.

Note Pictures and libraries from one WinCC version can only be converted via the next main versions. If, for example, you want to convert pictures from WinCC V5.0 SP2 to V6.2, you first have to convert the pictures to WinCC V5.1, then to WinCC V6.0 and finally to WinCC V6.2.

For this purpose, WinCC V6.2 provides the Project Migrator, which automatically migrates the configuration data, Runtime data and swapped-out data of a project.

4.2 Required software

Table 4-1

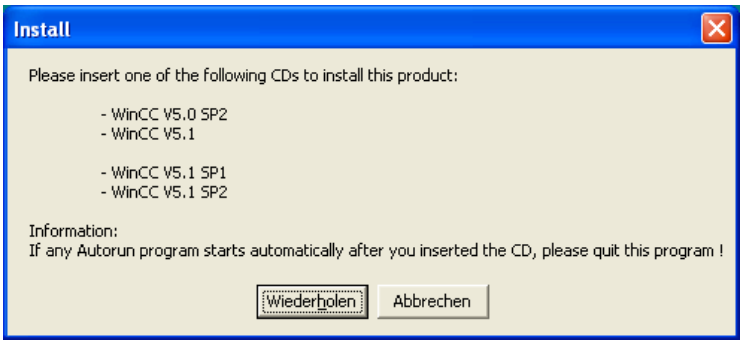
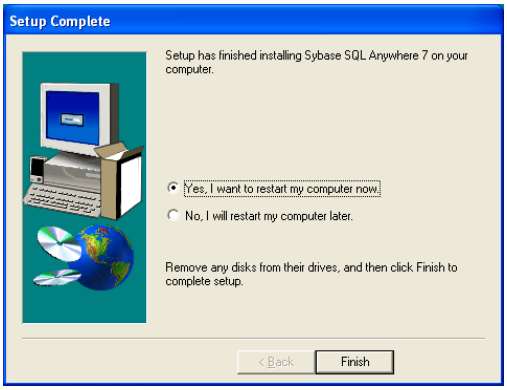
Product	Order number	Note
WinCC V5.1 SP2 CD	6AV6381-1AA05-1CX4	for Sybase database installation
WinCC V6.2 SP3 and the last available update/hotfix	https://eb.automation.siemens.com/	Microsoft SQL server (is supplied with WinCC V6.x)
MS Message Queuing		Part of the operating system, may have to be installed subsequently A detailed description of the installation is available in the WinCC Information System "How to install Microsoft Message Queuing".

4.3 Preparatory activities

Prerequisite

Sybase 7 must be installed on the migration computer. Sybase SQL Anywhere 7 can be installed subsequently via the Autorun program of the WinCC V6.2-DVD. The installation CD for WinCC V5.0 Service Pack 2 or WinCC V5.1 is required for that.

Installation

No.	Procedure
1.	Start the installation DVD of WinCC V6.2.
2.	In the "Further software" menu, select the entry "SQL Anywhere Studio 7". Follow the instructions in the setup of Sybase SQL Anywhere 7. 
3.	When requested, insert the installation CD for WinCC V5.0 SP2 or WinCC V5.1 in the CD drive. 
4.	If Autorun function is active in your operating system, the inserted CD is started. However, the started Autorun program of WinCC V5 is not required for the migration. Quit the program with "Close".
5.	In the Sybase setup, click on the "Repeat" button. Sybase SQL Anywhere 7 is installed.
6.	Restart the computer! 

Note

- "Symantec Ghost Corporate Edition" is not compatible with Sybase 7 of STEP7/WinCC. The installation options "Console client", "Standalone client" and "Standard tools only" as well as the standard version "Norton Ghost" provided by Symantec are not affected by this incompatibility.
- Sybase 7 is no longer required after the migration and can be deinstalled.

4.4 License update

The licensing of WinCC V6.2 differs from the previous versions. You need new RT licenses or RC licenses.

Note The licensing can be updated during the installation of WinCC V6.2 or subsequently. Detailed information is available in the WinCC Information System at "Licensing".

If you got WinCC as upgrade V5.x -> V6.2, you must upgrade the existing authorizations. The same applies to the authorizations of communication drivers and WinCC options.

Upgrade to WinCC V6

After an upgrade from WinCC V5 to WinCC V6, only one V6 license is available. This license is not recognized by WinCC V5.

If WinCC V5 is also used alternatively to WinCC V6, the user has the right to create an image of WinCC V5 including the license. Though, the two WinCC versions must only be used alternatively. Simultaneous use of WinCC V6 and WinCC V5 violates the license terms.

New licenses

If you configured more than 512 archive variables in your project, you require an additional license for Archive Tags from WinCC V6 on.

Note If using an upgrade license, during an upgrade to WinCC V6.2 the authorizations for WinCC V5.x are converted to V6.2 licenses.

Upgrading the licenses

Upgrade the licenses in the Automation License Manager from version 5 to version 6.

Table 4-2

No.	Procedure
1.	Insert the Powerpack License Key disc.
2.	Start the Automation License Manager via the Start menu. In the navigation window, select the drive on which the license to be upgraded is stored. Select this license in the table.
3.	Select the menu item "License Key > Upgrade...". The upgrade process is started.
4.	The upgrade process is completed with the transfer of the upgraded license to the local drive.

Available update packages

Table 4-3

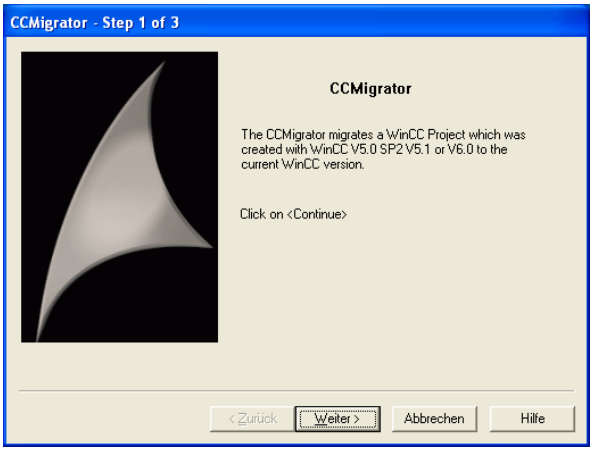
Update package	Order number
RC Upgrade from V5.x to V6.2	6AV6 381-1AB06-2AX4
RT Upgrade from V5.x to V6.2	6AV6381-1AA06-2AX4

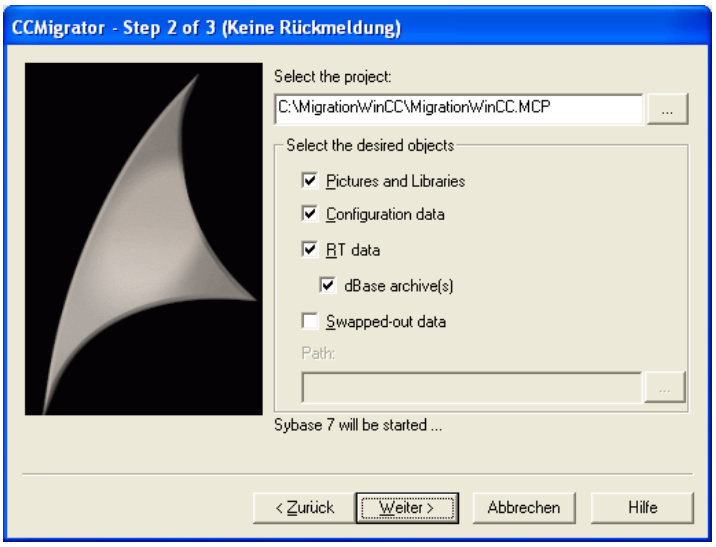
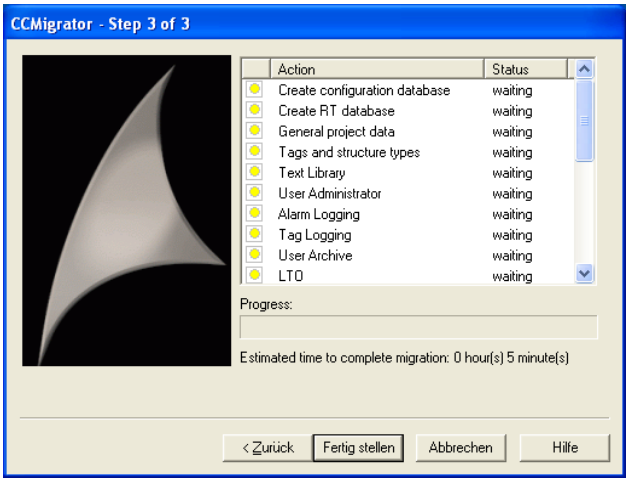
Note Update licenses for the options Redundancy, User Archive and Server are contained in the update packages RC and RT.

4.5 Migration sequence

Note The migration of a project can only be started once. Subsequently, only swapped-out data can be migrated.

Table 4-4

No.	Procedure
1.	Before starting the Project Migrator, check the following settings in the Window Explorer: In the menu "Tools" > "Folder Options" > "View", under "Advanced Settings" the checkbox "Hide file extension for known file types" must not be checked.
2.	In the Start menu of the operating system, open "Simatic" > "WinCC" > "Tools" > "Project Migrator". The start window of the Project Migrator "CCMigrator - Step 1 of 3" opens. 

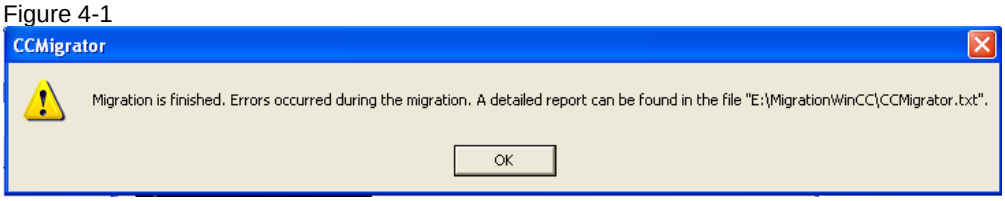
No.	Procedure
3.	Use the button to select the project directory in which the V5 project is stored. Under "Select the desired objects", the checkbox "Configuration data" is already checked. Select all data to be migrated. If available, you can also select the path to your backup archives. These are then also migrated to the new WinCC version. 
4.	Click on the "Next" button. The "CCMigrator - Step 3 of 3" window opens. The Project Migrator shows all components of the project which are migrated. The Project Migrator indicates the estimated duration: "Estimated time to complete migration: XX hour(s) XX minute(s)". However, this is just an approximate value. The migration of a project might take several hours. 
5.	If the migration has been completed successfully, the Project Migrator outputs the following message: “Migration completed.” Click the "OK" button to close the dialog.

Note With the Project Migrator, you can migrate the Runtime data, configuration data and swapped-out Runtime data individually!

Error during the migration

If the Project Migrator is closed with an error, check the migration log file.

Figure 4-1



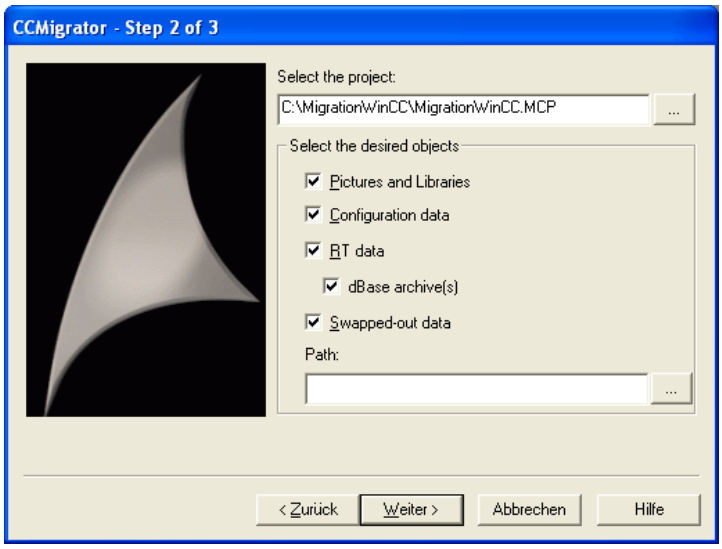
4.6 Additional steps after the migration

Additional adaptations
After the migration with the migration tool, you must adapt some settings in your project: • Adaptation of the computer name • Adaptation and reconfiguration of process variables • Adaptation of multi-user projects (loading of packages, adaptation of the user administration) • Adaptation of the archiving • Adaptation of the time basis for communication • Adaptation of the project documentation • If necessary, adaptation of process-controlled archive variables • If necessary, adaptation of the setting for "SIMATIC Logon" in the user administration. • If necessary, entry of the User Archives option in the startup list of the WinCC computer properties.
The following standard print jobs and layouts can no longer be used in WinCC V6.2: • @Report Alarm Logging RT Revolving archive (print job) • @Report Alarm Logging RT Sequence archive (print job) • @alrtfoa.RPL (layout) • @alrtuma.RPL (layout) Use the following print orders with the corresponding layouts instead: • @Report Alarm Logging RT ShortTerm archive New (print job) • @Report Alarm Logging RT Sequence archive New (print job) • @CCAlgRtShortTermArchive.RPL (layout) • @CCAlgRtSequenceArchive.RPL (layout)
The Windows DDE channel is part of the scope of delivery because of the compatibility with earlier WinCC versions. However, new links should be created via the "OPC" channel.

4.7 Migration of backup archives

The WinCC Project Migrator also migrates backup archives to the new version. To this end, specify the path in which the swapped-out archives are stored in the Migrator.

Figure 4-2



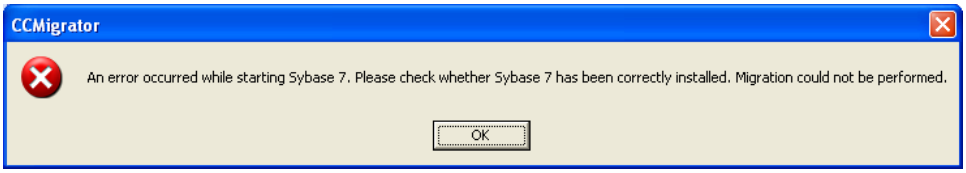
Migration of dBASE III archives

dBASE III archives can only be migrated if the ODBC driver "Microsoft Visual FoxPro Driver" is installed. The driver is missing if Windows XP SP1 was installed without additional Windows installation packages. The driver is available on the internet at the following URL:

http://msdn.microsoft.com/vfoxpro/downloads/updates/odbc/default.aspx

Note During the migration, Runtime data and swapped-out data are stored in a common database.

4.8 Migration check

Steps to check the migration
In the following cases, error messages or an abortion might occur during the migration: • Sybase 7 is not installed.  • The migration computer does not have sufficient free disk space. • The project is not stored on the migration computer. • The project was created with a WinCC version lower than V5.0 SP2.
If an error occurs, fix the error in a copy of the migrated project. Restart the migration afterwards.
An error in the migration of a component does not interrupt the migration. The Project

Migrator writes an error message in a diagnosis file and processes the next component. When the migration has been completed, the Project Migrator outputs the following message: • "Migration has finished with errors. See <path>\CCMigrator.txt file for details."
Abortion of the migration • If the migration is aborted, the migration can be restarted after having fixed the error. Do not use the incorrectly migrated project but a copy of the backup.
Diagnosis files of the Project Migrator • CCMigrator.txt • DTSPackages.log • The diagnosis files are stored in the project directory.
Diagnosis file for the conversion of pictures • If converting pictures, WinCC logs error messages and warnings in a log file with the name CONVERT.LOG. • The CONVERT.LOG file can be found in the graphics directory "GraCS" of the current WinCC project.

4.9 Project adaptations / system changes

4.9.1 Significant differences compared to V5.1

Differences compared to V5.1
WinCC V6.2 differs in the following three features • Database system Microsoft SQL-Server 2005: • WinCC administers Runtime data and configuration data with the Microsoft SQL-Server 2005. • dBASE III is no longer supported for the archiving.
Message system • WinCC no longer generally differentiates between short-term archives and long-term archives. When creating the archives you determine after which period WinCC creates a new archive file. For the representation in Runtime you work with different views which are, however, still called short-term archive and long-term archive. Both views in the WinCC Alarm Control show 1,000 messages from the archive.
Revolving archive / sequence archive • WinCC no longer creates sequence archives but only works with revolving archives which are separated in several segments. • The archives consist of several single segments. When a segment has reached the maximum size or the maximum period, always a new segment is created. The oldest single segment is only deleted when the maximum value across all segments has been exceeded.
Process value archive • In Tag Logging it is differentiated between two types of archives: For an archiving cycle of up to one minute, the "Tag Logging Fast" archive is used. For an archiving cycle of more than one minute, the "Tag Logging Slow" archive is used.
Swapping-out of data • WinCC allows the swapping-out of your data directly via the new WinCC database. The Storage option is no longer required. Thus, the swapped-out data are available as databases.
Access to clients and servers • WinCC provides the new system authorizations "Remote activation" (1000) and "Remote configuration" (1001), respectively, in the User Administrator. With that, you can activate or configure a project on another computer from any client. With the new

Differences compared to V5.1
authorization "Watch only" (1002), the client is only allowed to watch in Runtime.
Options • The option package Basic Process Control no longer requires an additional license. • The option package Video is omitted.

4.9.2 Changes in C functions

The following C functions are omitted in WinCC V6.2

Table 4-5

C functions	MSRTBackup	MSRTEnumBackupList	MSRTGetBackupSize
	MSRTRestore		
C-API functions of Alarm Logging	MSCSUpdateExeGeneric	MSRTEnumArchivDays	MSRTDialogReset
	MSRTDialogInfotext	MSRTDialogDiagnose	MSRTDialogComment
	MSRTSetLanguage	MSRTStartProt	MSRTEndProt
	MSRTEnumProtData	MSRTGetProtTitle	MSRTEnumMsgWin
	MSRTGetMsgWinData	MSRTGetFilterData	MSRTCreateMsgWindow
Backup / restore functions of Tag Logging	TLGBackup	TLGRestore	TLGEnumBackupEntries
	TLGGetBackupSize		
C-API functions of Tag Logging	TLGCSConnect	TLGCSConnectEx	TLGCSDisConnect
	TLGCloseProject	TLGSaveProject	TLGCreateTemplate
	TLGCreateTemplateEx	TLGDeleteTemplate	TLGDrawCurvesInDC
	TLGEnumTableEntries	TLGInsertTemplateItem (only OCX)	TLGDeleteTemplateItem (only OCX)
	TLGSetTemplateData (only OCX)		

Functions of the DB.DLL (when used via C-API access)

- Data types
- In the functions of the DB.DLL, some data types and their representation change:

Data type in the DB.DLL	Data type in Sybase 7	Data type in SQL Server	Comments
DB_TYP_CHAR	Char	Char	Identical
DB_TYP_INTEGER	Integer	Int	Identical
DB_TYP_SHORT	Smallint	Smallint	Identical
DB_TYP_DOUBLE	Double	Float	Identical, but name changed
DB_TYP_TIME	Timestamp	Datetime	Data type is different. In the milliseconds range, the times are rounded exactly to .000, .003, 007 ... seconds.
DB_TYP_BINARY	Binary	Binary	Identical

Functions with changed dynamic behavior

In the following functions of the DB.DLL the dynamic behavior changed:

- DBCreateDataBase

- DBCreateDataSource
- DBStartEngine
- DBStopEngine

New functions

From WinCC V6.0 on, the following new functions are provided:

- DBDataBaseAttach
- DBDataBaseDetach
- MldRegisterMsgEx
- MldUnRegisterMsg

4.9.3 Significant differences compared to V6.0

In WinCC V6.2, the WinCC/Central Archive Server (WinCC CAS) is used to implement a central archiving concept. In WinCC V6.0, the WinCC Historian was used.

- If you used the WinCC Historian as the central archive server in WinCC V6.0, this server can still be used after the migration. The concept of WinCC V6.0 is still supported with V6.2 after the migration of projects.
- If you did not use the WinCC Historian in WinCC V6.0 but you want to use a central archive server from WinCC V6.2 on, use the WinCC CAS.

It is not possible to use compressed hard disk or disk drives.

4.9.4 Communication channels

If you use channels in your migrated project which are no longer part of the scope of delivery, the corresponding process variables will no longer be displayed in the tag management after the migration.

When opening the tag management for the first time, a dialog appears in which you are asked to subsequently install the driver. Corresponding recommendations can be found in the Section "Differences between previous versions and WinCC V6.2".

It is also possible to reconfigure the process variables before the migration. Move the process variables to another communication driver, e. g. OPC. However, you must adapt the addressing in all moved process variables.

With the WinCC Configuration Tool you can reconfigure the process variables more effectively. In the spreadsheet "Connections/Groups" of the data manager, you can create new connections under a different communication driver. In the spreadsheet "Tags" you can readdress the process variables and adapt the properties.

The following channels are no longer part of the scope of delivery of WinCC V6.2:

- Allen Bradley DH DH+ DH485
- Allen Bradley Serial DF1
- Applicom Multi Protocol Interface
- GE Fanuc SNP SNPX
- Mitsubishi FX
- Modbus Protocol Suite
- Modbus Serial
- SIMATIC S5 PMC Ethernet
- SIMATIC S5 PMC Profibus

- SIPART

Note Alternatively, you can use OPC, for example. Some channels are supported as add-ons. Further notes can be found in the Section "Differences between WinCC V5 and WinCC V6" in the WinCC Information System.

4.9.5 Upgrading within SIMATIC WinCC V6 (V6.0 → V6.2)

VBA code

Before installing WinCC V6.2, save the "@GLOBAL.PDT" file. The file contains your global VBA extensions, e. g. own menus. When installing WinCC V6.2, the file is replaced.

Procedure

1. Navigate to the <WinCC-installation-directory\bin> directory and copy the "@GLOBAL.PDT " file into another directory.
2. Install WinCC V6.2.
3. Copy the "@GLOBAL.PDT" file from your storage directory to <WinCC-installation-directory\Templates >
4. Migrate the WinCC project.

5 Migration from SIMATIC WinCC V6.x to SIMATIC WinCC V7.4 SP1

5.1 Requirements / notes

Note In principle, upgrading directly to WinCC V7.4 SP1 from V6.2 SP3 is possible. We recommend an intermediate step via WinCC V7.2. For upgrading to V7.3 SE and V7.4, please observe chapter 5.10.

Please note:
The Installation Notes for the installation of V7.4 SP1
The released operating systems for SIMATIC WinCC V7.x can be found in the Online Support at the following link: https://support.industry.siemens.com/cs/ww/en/view/64847781.

Pictures must only be converted if they do not contain any "Unknown Objects". "Unknown Objects" are picture objects whose associated object server is not installed, e. g. unregistered ActiveX Controls.

Once pictures have been stored or converted with WinCC >=V7.2, it is no longer possible to open the pictures with previous versions of WinCC.

The conversion of pictures and libraries cannot be undone. A downward conversion of WinCC =>V7.2 pictures back to WinCC V6.x pictures is not possible.

If an unconverted picture is selected in Runtime, this might lead to maloperation of WinCC.

5.2 Required software

Table 5-1

Product	Order number	Note
WinCC V7.4 SP1 and the last available update	https://eb.automation.siemens.com/	
Microsoft SQL Server 2014 SP2		Is supplied with WinCC V7.4 SP1.
MS Message Queuing		Part of the operating system, may have to be installed subsequently A detailed description of the installation is available in the WinCC Information System "How to install Microsoft Message Queuing".

5.3 Preparatory activities

Create a backup of your WinCC project.

C scripts and Unicode

The Microsoft C Compiler used in WinCC does not support Unicode. For this reason, C scripts can be stored in the Unicode format, but will not be converted into multibyte character strings (MBCS) during compilation.

A list of the functions concerned is available on the following Microsoft Internet page:

http://msdn.microsoft.com/en-us/library/wyzd2bce.aspx

To obtain the (variable) setting “Dynamic: Project setting”, "English (USA)" has to be selected as migration language in the Project Migrator.

The central project language setting for C scripts (WinCC Explorer > Project names > Properties > Options > C scripts with language setting "Dynamic" in Runtime:) can be set to “Respectively set WinCC Runtime language”.

C scripts work sensitively with regard to the selected Runtime language. Thus, C scripts are able to correctly process texts from the text library.

If another language is selected instead of English (USA) in the Project Migrator, all C scripts/actions will be migrated in the corresponding language. This might involve incompatibilities regarding the previous C script functionality.

Note

Please observe conversion functions from strings to floating-point numbers and vice versa. Also refer to the FAQ
“How can you avoid truncation of the decimal places when converting a character string into a floating-point number?”
https://support.industry.siemens.com/cs/ww/en/view/22277926

As of V7.2, the previous scripts for which adaptations from decimal comma to decimal point have been made (according to the FAQ mentioned above) will work only if the Runtime language is set to English (or to countries using the decimal point).

If you have selected the dynamic Runtime language setting in V7.2, the adaptations described in the FAQ mentioned above are no longer required. However, this also means that the string has to be available in the country-specific representation (e. g. in German Runtime language, strings with decimal comma are expected whereas English Runtime language uses the decimal point...).

Remedy in WinCC V7.2 or V7.3 after project migration

In order to be able to process strings in C scripts of different languages correspondingly, it is possible to change the language of the C scripts dynamically according to the Runtime.

You can use the functionality using the following steps.

Prerequisites

- WinCC V7.2 Update 7 (With Update 7, it is possible to change the language settings for C scripts that have already been migrated.) or V7.3 must be installed.
- WinCC Runtime is terminated.

1. Close all pictures if any are open in the Graphics Designer.
2. Open "WinCC Explorer > Tools > Convert project data" and select
   - “Pictures and faceplates"
   - "C and VB project functions and actions"
   - "C and VB standard functions”.
   - and standard/project functions".
3. Select the language “English (USA)” for the project(s).
4. Press the "OK" button.

5.4 License update

The licensing of WinCC before WinCC V6.0 SP3 differs from the previous versions. All licenses must be upgraded to V7.4. You need new RT licenses or RC licenses.

The licensing can be updated during the installation of WinCC V7.4 or subsequently.

Note If using an upgrade license, during an upgrade to WinCC V7.4 the authorizations for WinCC <= V6.0 SP2 are converted to V7.4 licenses.

If you purchased a WinCC upgrade package V6.x, you upgrade your licenses with the included Powerpack license data carrier with upgrade license. Your existing licenses are upgraded to WinCC V7.0 licenses.

Table 5-2

Step	Procedure
6.	Plug the WinCC USB stick into the USB slot.
7.	Start the Automation License Manager via the Start menu. In the navigation window, select the drive on which the license to be upgraded is stored. Select this license in the table.
8.	Select the menu item "License Key > Upgrade...". The upgrade process is started.
9.	The upgrade process is completed with the transfer of the upgraded license to the local drive.
10.	V7 licenses can be used for V6.2 and V6.0 SP3/4. • V7.0 archive licenses can only be used for V6.2. • V6.2 archive licenses can be used for V7.0.
11.	Upgrades are available for: • V6.0 SQL 2000 ➔ V7.0 SQL Server 2005 SP2 • V6.2 SQL 2005 SP1 ➔ V7.0 SQL Server 2005 SP2 • No direct upgrade V5 ➔ V7

Note From WinCC V7.0 on, SIMATIC Logon is part of the scope of delivery.

Table 5-3

Station	Update	Order number	Description
Server V6.2 → V7.3	Runtime (RT)	6AV6381-2AA07-3AX4	SIMATIC WinCC RT Upgrade V7.3, from V6.2 to V7.3, for SIMATIC WinCC Runtime (RT) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
	Runtime & Configuration (RC)	6AV6381-2AB07-3AX4	SIMATIC WinCC RC Upgrade V7.3, from V6.2 to V7.3, for SIMATIC WinCC Runtime & Configuration (RC) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
Client V6.2 → V7.3	Client Update	6AV6381-2CA07-3AK4	SIMATIC WinCC Runtime Client Upgrade from V6.2 to V7.3 for SIMATIC WinCC RT Clients including Driver, User Archive, Connectivity Pack, Connectivity Station

Table 5-4

Station	Update	Order number	Description
Server V7.X → V7.4 SP1	Runtime (RT)	6AV6381-2AA07-4AK3	SIMATIC WinCC RT Upgrade V7.4 SP1, from V7.x to V7.4 SP1, for SIMATIC WinCC Runtime (RT) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
	Runtime & Configuration (RC)	6AV6381-2AB07-4AK3	SIMATIC WinCC RC Upgrade V7.4 SP1, from V7.x to V7.4 SP1, for SIMATIC WinCC Runtime & Configuration (RC) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
Client V7.x → V7.4 SP1	Client Update	6AV6381-2CB07-4AK3	SIMATIC WinCC Runtime Client Upgrade from V7.x to V7.4 SP1 for SIMATIC WinCC RT Clients including Driver, User Archive, Connectivity Pack, Connectivity Station

5.5 Migration sequence

Migration of the project in WinCC V7.4 SP1 includes the configuration data and the Runtime data and the conversion of pictures and libraries. The conversions of the pictures and libraries is mandatory.

The configuration data and Runtime data of a project are automatically migrated when opening the old project.

Pictures and libraries can be converted as follows:

With the Project Migrator, the conversion is done in one step. The Project Migrator automatically recognizes the version of the source project and depending on that deactivates certain options for the conversion.

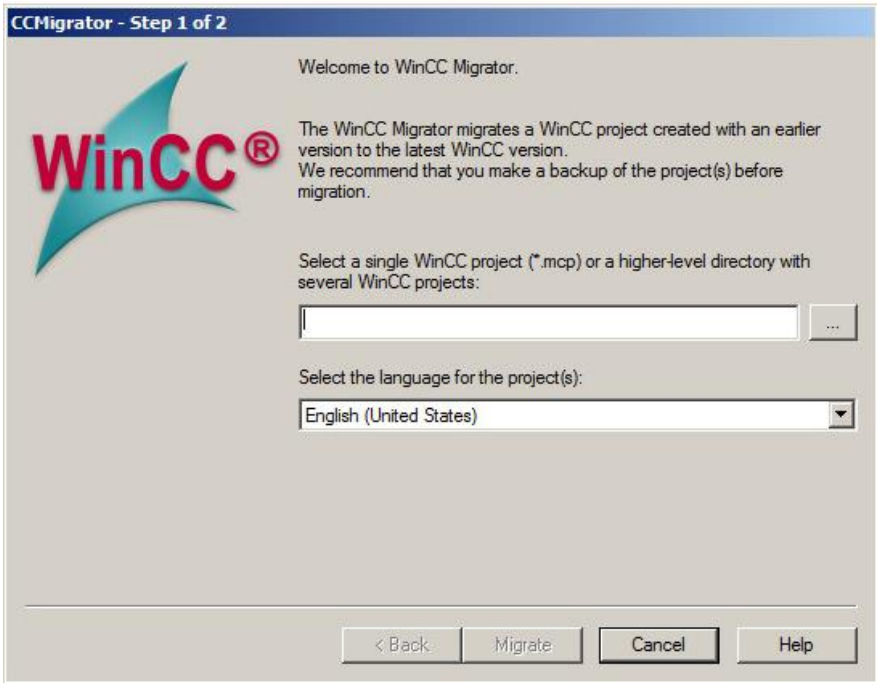
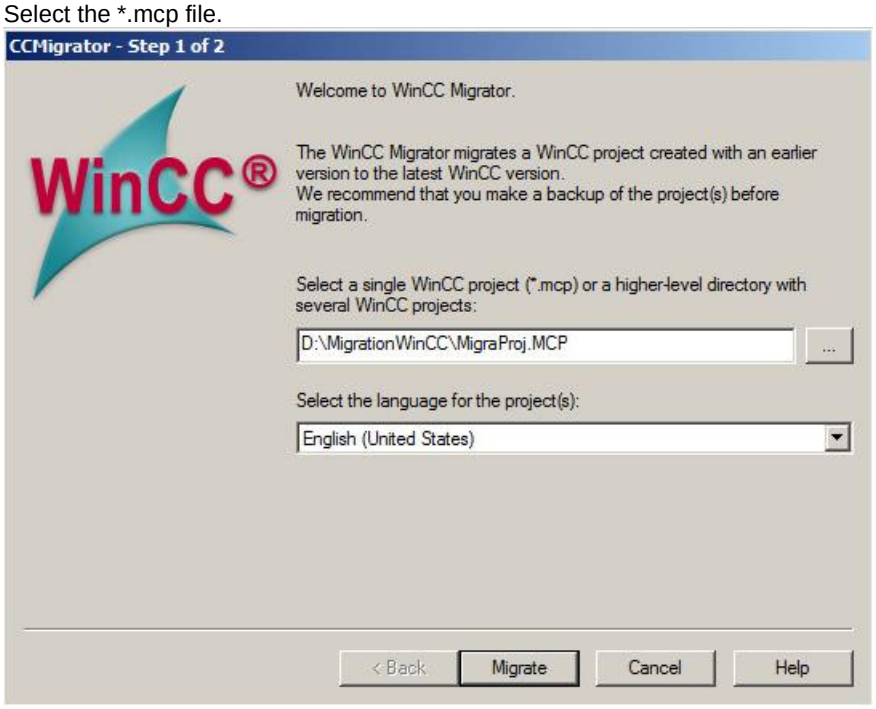
Pictures and libraries can also be converted manually and individually by selecting the following function in the WinCC Explorer in the context menu of the Graphics Designer:

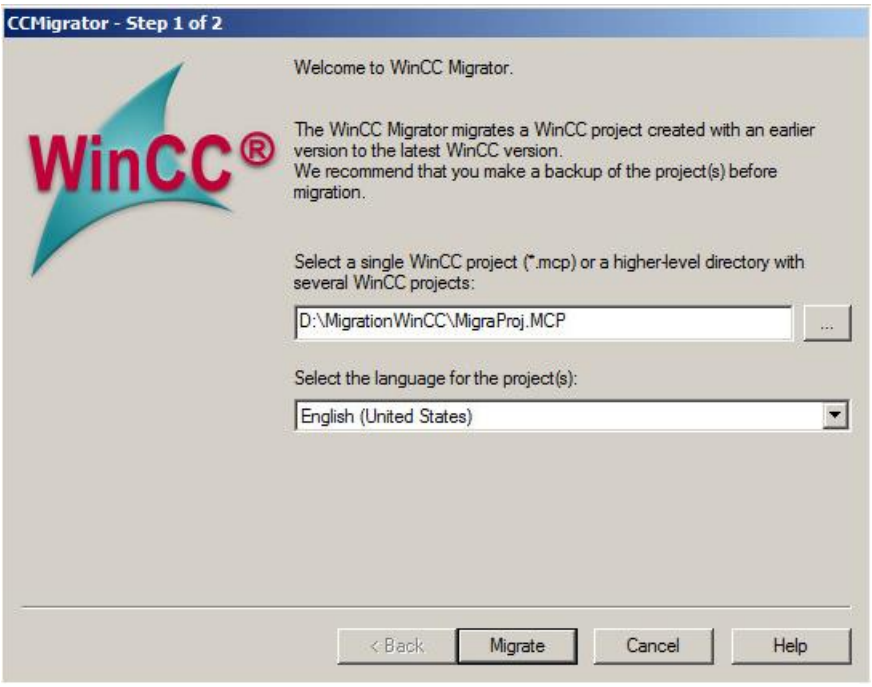
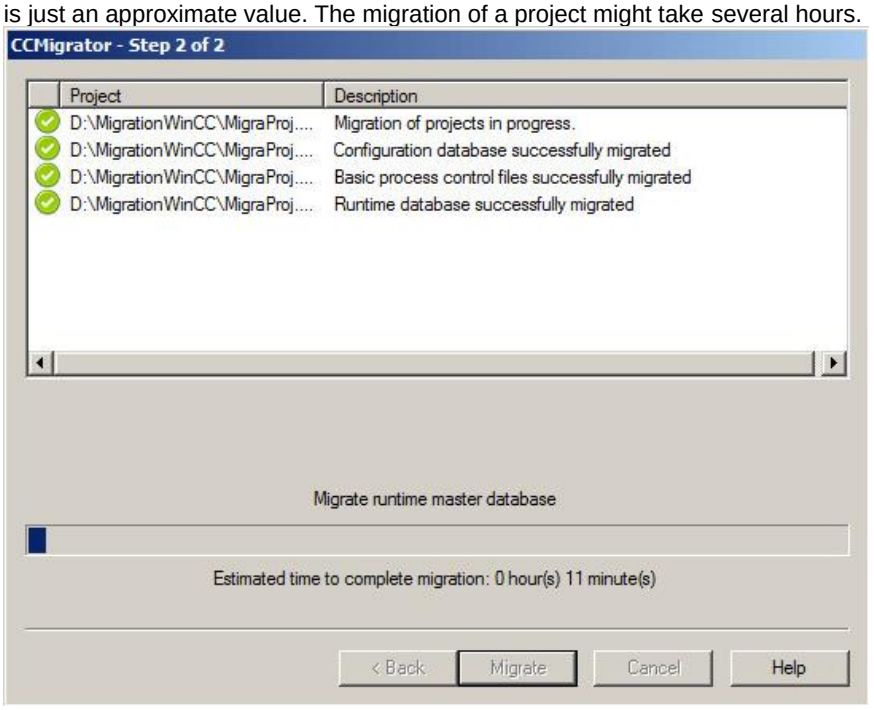
- Convert project library
- Convert global library
- Convert pictures

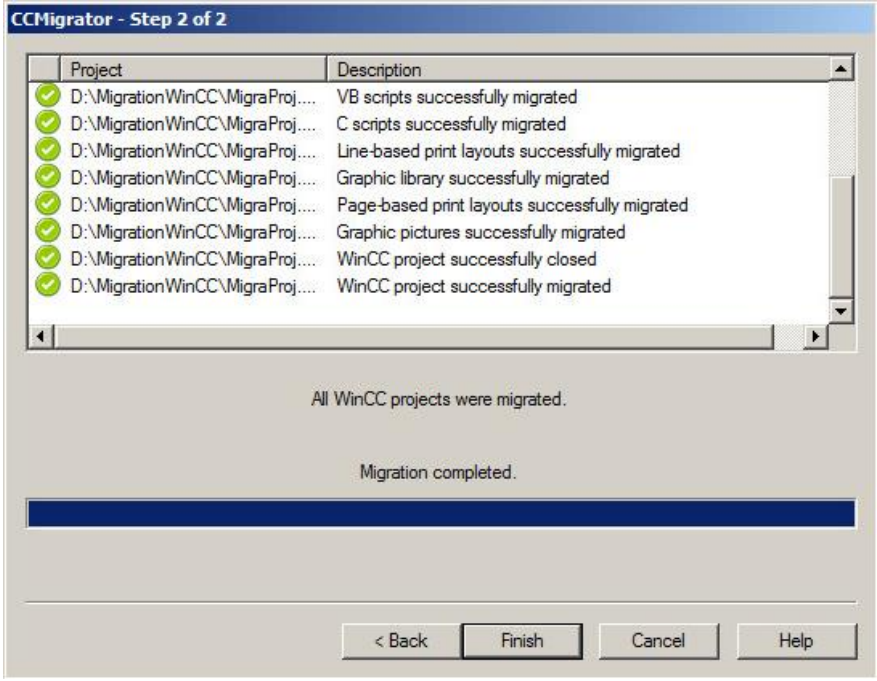
Notes

- Only convert pictures and libraries while the Runtime is not active.
- In the case of multi-user systems, perform the conversion on the server.
- The conversion of pictures during the migration cannot be interrupted.
- The conversion of pictures and libraries during the migration is aborted after 18 hours.
- If an error occurs during the migration of pictures and libraries via the Project Migrator, the migration is not interrupted. The Project Migrator writes an error message in a diagnosis file and processes the next component. When the migration has been completed, the Project Migrator indicates the error (see Section 5.6).

Table 5-5

No.	Procedure
1.	In the Start menu of the operating system, open “Siemens Automation > Simatic > WinCC > Tools > Project Migrator". The start window of the Project Migrator "CCMigrator - Step 1 of 2" opens. 
2.	Use the button to select the project directory in which the V6 project is stored. Select the *.mcp file. 

No.	Procedure
3.	Click the “Migrate” button. The Project Migrator starts the migration and ticks off all steps of the project which have been migrated.  The "CCMigrator - Step 2 of 2" window opens. The Project Migrator shows the steps of the migration. The Project Migrator indicates the estimated duration: "Estimated time to complete migration: XX hour(s) XX minute(s)". However, this is just an approximate value. The migration of a project might take several hours. 

No.	Procedure
4.	If the migration has been completed successfully, the Project Migrator outputs the following message: “Migration completed.” 
5.	Click the “Finish” button to close the dialog.

5.6 Additional steps after the migration

Possible additional steps (project-dependent)
Customizing the computer name • If your migrated project was initially stored on a different computer, the previous computer name is still entered. When opening the project on the new computer for the first time, the following dialog appears: • "The configured server is not available. Do you want to open the project with the local computer as the server?" • Select the "Start server locally" button. After having opened the project, change the computer name in the "Computer properties" dialog.
Adaptation of process-controlled archive variables • If you use the "Compile OS" function, the assignment of the process-controlled archive variables changes. The name of process-controlled archive variables is no longer defined according to the ID of the raw data variables. The name of the raw data variable is used instead. You must convert these variables to adapt the assignment, for example in Controls. To this end, open the "Properties" dialog of the archive variables once and close the dialog again without having made any changes. • If you do not use the "Compile OS" function, you can go on using the process-controlled archive variables under WinCC V7.0 in the initial structure.
Reconfiguration of process variables from channels which are no longer supplied • If you use channels in your migrated project which are no longer part of the scope of delivery, the corresponding connections with your process variables will no longer be displayed in the tag management after the migration. When opening the tag management for the first time, a dialog with a corresponding note appears. You can subsequently install the required driver and also use it with WinCC V7.4 SP1. Corresponding recommendations can be found in the Section "Differences between previous versions and WinCC V7.4 SP1".

Possible additional steps (project-dependent)
• The affected process variables can also be reconfigured before the migration, for example with the WinCC Configuration Tool, and be used with a different communication driver.
Adaptation of the setting for "SIMATIC Logon" in the User Administration • From WinCC V7.0 on, SIMATIC Logon is part of the scope of delivery. • If you migrated a project from a WinCC version lower than V6.0 SP3 in which SIMATIC Logon was used, you must check the setting "with/without SIMATIC Logon" in the User Administration and adapt it, if necessary.
Dynamization of certain object properties of the global color scheme • The object properties of the graphical objects, which are predefined if the global color scheme is activated, cannot be changed via dynamizations. If you redesign graphical objects of migrated projects in WinCC V7.4 SP1, this does not have the same effect on the appearance of the object-based dynamizations as before. • Therefore, the object property "Global color scheme" is set to "No" in the migration. Only the newly added objects are created with "Yes". If you no longer want these objects to be connected with the color scheme of the global design, you can adapt the properties for the respective objects.
Restoring the VBA extensions via the @GLOBAL.PDT file • The "@GLOBAL.PDT" file in the <WinCC-installation-directory>\Templates directory contains your global VBA extensions, e. g. own menus. • When installing WinCC V7.0, the "@GLOBAL.PDT" file is automatically renamed in "@GLOBAL.SAV" and replaced with a new "@GLOBAL.PDT" file. • For access to your VBA extensions after the upgrade installation, delete the new "@GLOBAL.PDT" file and rename the "@GLOBAL.SAV" file again. **Multi-client projects** • Reload the packages on the clients. • After the migration of a multi-user project, packages must be created on the server and loaded on the clients. Information on that can be found in the WinCC Information System at "Configuration > Multi-user systems > Server configuration" or "Client configuration".
Adaptation of the User Administration • If you migrated a project with standard clients, the clients are assigned the authorizations "1000" and "1001" during the migration. Thus, the project can be activated and configured remotely from the clients. • If you change the authorization of a client to "1002" in the User Administrator, it is only possible to watch from this client.
Entry of the User Archives option in the startup list of the WinCC computer properties • From WinCC V6.0 SP2 on, the User Archives option is entered in the startup list in the WinCC computer properties and not in the "Additional tasks/applications" field. • To apply these changes to your existing projects, open the User Archives editor and store your data. • Alternatively, you can update the startup list in the WinCC Explorer in the "Computer properties" dialog on the "Startup" tab. • In the "Additional tasks/applications" field, remove the entry "CCUsrAcv.exe". • In the "Sequence upon starting of WinCC Runtime" field, activate the entry "User Archives".

Possible additional steps (project-dependent)
Adaptation of the project documentation • As of version V7.0, WinCC provides new layouts. However, during the migration only the layouts of the initial project are applied. • The layouts of WinCC V6.x can also be used in your migrated project. Copy the respective layouts from the "WinCC\Syslay" directory into the "<project-directory>\PRT" directory.
Adaptations for Basic Process Control • If you are working with Basic Process Control or a PCS7 OS, you must execute the OS project editor after the complete migration of the project. • With the OS project editor, define that the new alarm screens and associated layouts are used in the project. On the "Basic data" tab, under "Basic screens in the project differ from the delivery condition", activate the "Apply delivery condition" option.

5.7 Migration of backup archives

There is no need to migrate the backup archives in the migration from SIMATIC WinCC V6 to SIMATIC WinCC V7.

5.8 Migration check

Steps to check the migration
In the following cases, error messages or an abortion might occur during the migration: • The migration computer does not have sufficient free disk space. • The project is not stored on the migration computer. • The project was created with a WinCC version lower than V6.0. If an error occurs, fix the error in a copy of the migrated project. Restart the migration afterwards.
An error in the migration of a component does not interrupt the migration. The Project Migrator writes an error message in a diagnosis file and processes the next component. When the migration has been completed, the Project Migrator outputs the following message: • "Migration has finished with errors. See <path>\CCMigrator.txt file for details."
If the migration is aborted, the migration can be restarted after having fixed the error. Do not use the incorrectly migrated project but a copy of the backup. The Project Migrator creates two diagnosis files: • CCMigrator.txt • DTSPackages.log The diagnosis files are stored in the project directory of the migrated project. You can view the files with any text editor.

CCMigrator.txt

The "CCMigrator.txt" file contains general information: Project name, project type, type of migrated data, start and end of migration. In the case of a successful migration, the file contains the note: "Migration succeeded.".

If an error occurs during the migration, the Project Migrator additionally writes an error message in the file. Details can be found in the "DTSPackages.log" file.

Diagnosis file for the conversion of pictures

If converting pictures, WinCC logs error messages and warnings in a log file with the name CONVERT.LOG. The CONVERT.LOG file can be found in the graphics directory "GraCS" of the current WinCC project.

DTSPackages.log

In the "DTSPackages.log" file, the Project Migrator logs the migration of the individual components.

The diagnosis file contains the following essential entries:

Message text	Meaning
Package Name	Migrated component
Package Description	Function of the migrated component
Execution Started / Execution Completed	Time migration start / time migration end
Package Steps execution information	Migration steps of a component with information whether migration was successful: "succeeded" = successful / "failed" = error during migration
Error Source / Error Description	Error source and description of the error which occurred

5.9 Migration diagnosis

Introduction

If an error occurs, fix the error in a copy of the migrated project. Restart the migration afterwards.

Error during the migration

An error in the migration of a component does not interrupt the migration. The Project Migrator writes an error message in a diagnosis file and processes the next component.

After migration, go through the list of migrated components. Double-click the list entries with errors or warnings to display the error in a ".txt" file.

Migration after error correction

If an error occurs, you can migrate the individual components after the error has been corrected. The computer name must match the local computer.

Select the menu item “Tools/Convert project data” in WinCC Explorer. Select the components you wish to migrate.

Diagnosis file

The Project Migrator creates the diagnosis file “MigratorLog.txt” in the project directory of the migrated project. You can view the file with any text editor.
The file contains the following general information:

- Project name
- Project type
- Type of migrated data
- Start and end of migration

If an error occurs during the migration, the Project Migrator additionally writes an error message in the file.

5.10 Project adaptations / system changes

Changes in SIMATIC WinCC V7
It is no longer possible to open the project with WinCC versions lower than V7.x. If pictures were converted with WinCC V7.0, the pictures can no longer be opened with WinCC versions V6.x.
WinCC V7.x differs from V6.0 in the following features: • In WinCC V7.0, the WinCC/Central Archive Server (WinCC CAS) is used to implement a central archiving concept. As of WinCC V7.2, Process Historian is provided for a central archiving concept. In WinCC V6.0, WinCC Historian was used. • If you used the WinCC Historian as the central archive server in WinCC V6.0, this server can still be used after the migration. The concept of WinCC V6.0 is still supported with V7.0 after the migration of projects. • If you did not use the WinCC Historian in WinCC V6.0, but you want to use a central archive server from WinCC V7.0 on, use the SIMATIC Process Historian.
It is not possible to use compressed hard disk or disk drives.
As database, SQL Server 2014 SP2 is used instead of SQL Server 2000.
More standard print jobs and layouts used.
• With WinCC V7.0, new standard print jobs and layouts have been added for the new controls. For the controls before WinCC V7.0, the assigned standard print jobs and

Changes in SIMATIC WinCC V7
layouts can still be used. SIMATIC WinCC V6 project check.
Communication channel Windows DDE • The Windows DDE channel is part of the scope of delivery because of the compatibility with earlier WinCC versions. However, new links should be created via the "OPC" channel.
As of WinCC V7.0, the scope of delivery no longer includes the channel "SIMATIC S5 Ethernet TF", which could be used up to WinCC V6.2 under Windows 2000. • Reconfigure this channel on the "Simatic S5 Ethernet Layer 4" channel. • Upon request, the channel DLL "Applicom Multi Protocol Suite" is provided for WinCC V7. • After the migration, all previous layouts are stored in the sub-directory "Language-neutral" of the "Report Designer" directory in the WinCC Explorer.
The following standard print jobs and layouts can no longer be used as of WinCC V7.0: • @Report Alarm Logging RT Revolving archive (print job) • @Report Alarm Logging RT Sequence archive (print job) • @alrtfoa.RPL (layout) • @alrtuma.RPL (layout)
Use the following print orders with the corresponding layouts instead: • @Report Alarm Logging RT ShortTerm archive New (print job) • @Report Alarm Logging RT Sequence archive New (print job) • @CCAlgRtShortTermArchive.RPL (layout) • @CCAlgRtSequenceArchive.RPL (layout)

5.11 Upgrading within WinCC V7 (V7.0 > V7.2/ V7.3SE/ V7.4)

This chapter lists the recommended upgrading with intermediate steps within WinCC V7, because there has been a conversion to Unicode in WinCC V7.2.

5.11.1 Requirements / notes

Please note:
The Installation Notes for the installation of V7.4 SP1
The released operating systems for SIMATIC WinCC V7.x can be found in the Online Support at the following link: https://support.industry.siemens.com/cs/ww/en/view/64847781.
How do you retro-install .NET Framework 3.5 on SIMATIC IPCs with Windows 10 or Windows Server 2012? (e. g. for WinCC TIA Portal, STEP 7 TIA Portal or WinCC V7): https://support.industry.siemens.com/cs/de/en/view/109745988

Pictures must only be converted if they do not contain any "Unknown Objects". "Unknown Objects" are picture objects whose associated object server is not installed, e. g. unregistered ActiveX Controls.

Once pictures have been stored or converted with WinCC V7.4 SP1, it is no longer possible to open the pictures with previous versions of WinCC.

The conversion of pictures and libraries cannot be undone. A downward conversion of WinCC V7.4 SP1 pictures back to WinCC V6.x pictures is not possible.

Note Do not upgrade pictures and scripts from previous versions by opening and saving them in the “Graphics Designer” and “Global Script” editors, but convert the project data before.

Note The WinCC user must no longer be a member of the user group “SQLServerMSSQLUser$<RECHNERNAME>$WINCC”.

If you migrate projects that have been created earlier than WinCC V7.2, remove the WinCC user from this group.

In WinCC projects earlier than V7.2, you will find the use group under the name "SQLServer2005MSSQLUser$<RECHNERNAME>$WINCC".

5.11.2 WinCC V7.0 to WinCC V7.2

Source versions

The following versions can be upgraded directly to WinCC V7.2:

- WinCC V7.0
- WinCC V7.0 SP1
- WinCC V7.0 SP2
- WinCC V7.0 SP3

Target version

WinCC V7.2

Required software

Table 5-6

Product	Order number	Note
WinCC V7.2 and the last available update	https://eb.automation.siemens.com/	
Microsoft SQL Server 2008 R2 SP2		Is supplied with WinCC V7.2.
MS Message Queuing		Part of the operating system, may have to be installed subsequently A detailed description of the installation is available in the WinCC Information System "How to install Microsoft Message Queuing".

5.11.3 WinCC V7.2 to WinCC V7.4 / V7.4 SP1

Source versions

The following versions can be upgraded directly to WinCC V7.2:

- WinCC V7.2
- WinCC V7.3 SE

Target version

You can migrate a WinCC project on any computer on which WinCC V7.4 has been installed. The WinCC Project Migrator is included in the standard installation scope of WinCC V7.4.

Use Project Duplicator to copy the configuration data of the project to the migration computer. For information on copying projects, refer to the "Working with projects" > "Copying and duplicating projects" section in the WinCC Information System.

The code page settings of projects that you want to migrate in a single step must be uniform.

5.12 Licensing of WinCC V7.3 SE / WinCC V7.4

Until version WinCC V7.3, the WinCC options and the associated licenses are downward compatible.

As of WinCC version 7.4, the following licenses are version-independent and countable:

- WinCC WebNavigator
- WinCC Datamonitor
- WinCC Industrial DataBridge

Note As of WinCC V6.2, WinCC Archive licenses are version-independent, i. e. they can also be used with higher WinCC versions.

5.13 Important differences compared to previous versions

Version 7.4 of WinCC provides new and enhanced functions as compared to the predecessor version. An overview of the new features is provided in the section "What's new in WinCC V7.4?".

Documentation of previous versions

As of WinCC V7, several WinCC controls have been replaced with new WinCC controls. In migrated projects, you can still use these controls.

The documentation regarding the replaced WinCC controls can be found following the description of the current WinCC controls.

Conversion to SQL Server 2014 in WinCC V7.4

As of WinCC V7.4 SP1, Microsoft SQL Server 2014 SP2 32-bit is used.

If you are working with migrated WinCC projects that were created with versions prior to WinCC V6.2 SP2, observe the notes under "How to migrate SQL Server 2000 databases".

WinCC "OPC UA" channel: Changed configuration as of WinCC V7.4 SP1

As of WinCC V7.4 SP1, the OPC UA channel is completely configured in the WinCC Configuration Studio. In the Tag Management, the OPC UA connections are created parallel to the OPC channel.

When you use OPC UA in a WinCC project that was created with WinCC prior to V7.4, the connections and tags are automatically migrated with the project. Adhere to the following sequence if you have exported WinCC OPC UA tags:

5. Import the exported WinCC OPC UA tags.
6. Migrate the WinCC project.

WinCC Configuration Studio as configuration interface as of WinCC V7.2

WinCC Configuration Studio provides a simple and efficient means of configuring bulk data for WinCC projects. The WinCC Configuration Studio replaces the previous procedure for the following editors:

- Tag Management
- Tag Logging
- Alarm Logging
- Text Library
- User Administrator
- Horn
- User Archive

WinCC Configuration Studio replaces the functionality of WinCC ConfigurationTool and WinCC Archive ConfigurationTool.

6 License overview / update licenses

6.1 Migration from WinCC V4 to V5

There is no license update required.

6.2 Migration from WinCC V5 to V6

Table 6-1

Update package	Order number
RC Upgrade from V5.x to V6.2	6AV6 381-1AB06-2AX4
RT Upgrade from V5.x to V6.2	6AV6381-1AA06-2AX4

Note Update licenses for the options Redundancy, User Archive and Server are contained in the update packages RC and RT.

6.3 Migration from WinCC V6 to V7

Table 6-2

Station	Update	Order number	Description
Server V6.2 → V7.3	Runtime (RT)	6AV6381-2AA07-3AX4	SIMATIC WinCC RT Upgrade V7.3, from V6.2 to V7.3, for SIMATIC WinCC Runtime (RT) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
	Runtime & Configuration (RC)	6AV6381-2AB07-3AX4	SIMATIC WinCC RC Upgrade V7.3, from V6.2 to V7.3, for SIMATIC WinCC Runtime & Configuration (RC) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
Client V6.2 → V7.3	Client Update	6AV6381-2CA07-3AK4	SIMATIC WinCC Runtime Client Upgrade from V6.2 to V7.3 for SIMATIC WinCC RT Clients including Driver, User Archive, Connectivity Pack, Connectivity Station

Table 6-3

Station	Update	Order number	Description
Server V7.X → V7.4 SP1	Runtime (RT)	6AV6381-2AA07-4AK3	SIMATIC WinCC RT Upgrade V7.4 SP1, from V7.x to V7.4 SP1, for SIMATIC WinCC Runtime (RT) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
	Runtime & Configuration (RC)	6AV6381-2AB07-4AK3	SIMATIC WinCC RC Upgrade V7.4 SP1, from V7.x to V7.4 SP1, for SIMATIC WinCC Runtime & Configuration (RC) including Driver, Server, Redundancy, User Archive, Connectivity Pack, Connectivity Station
Client V7.x → V7.4 SP1	Client Update	6AV6381-2CB07-4AK3	SIMATIC WinCC Runtime Client Upgrade from V7.x to V7.4 SP1 for SIMATIC WinCC RT Clients including Driver, User Archive, Connectivity Pack, Connectivity Station

7 Appendix

7.1 Service and support

Industry Online Support

Do you have any questions or need support?

Siemens Industry Online Support offers access to our entire service and support know-how as well as to our services.

Siemens Industry Online Support is the central address for information on our products, solutions and services.

Product information, manuals, downloads, FAQs and application examples – all information is accessible with just a few mouse clicks at
https://support.industry.siemens.com

Technical Support

Siemens Industry's Technical Support offers quick and competent support regarding all technical queries with numerous tailor-made offers
– from basic support right up to individual support contracts.

Please address your requests to the Technical Support via the web form:
www.siemens.de/industry/supportrequest

Service offer

Our service offer comprises, among other things, the following services:

- Product Training
- Plant Data Services
- Spare Parts Services
- Repair Services
- Field & Maintenance Services
- Retrofit & Modernization Services
- Service Programs & Agreements

Detailed information on our service offer is available in the Service Catalog:
https://support.industry.siemens.com/cs/sc

Industry Online Support app

Thanks to the "Siemens Industry Online Support" app, you will get optimum support even when you are on the move. The app is available for Apple iOS, Android and Windows Phone.
https://support.industry.siemens.com/cs/ww/en/sc/2067

7.2 Links and literature

Table 7-1

No.	Topic
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to the entry page of the application example https://support.industry.siemens.com/cs/ww/en/view/EntryID
\3\	Compatibility Tool for Automation and Drive Technology https://support.industry.siemens.com/cs/ww/en/view/64847781
\4\	WinCC Competence Center https://www.automation.siemens.com/mcms/human-machine-interface/de/visualization-software/scada-wincc/wincc-coc/Pages/Default.aspx
\5\	Specialist support and personal contact partner http://www.automation.siemens.com/mcms/aspa-db/
\6\	“How can you avoid truncation of the decimal places when converting a character string into a floating-point number?” https://support.industry.siemens.com/cs/ww/en/view/22277926

7.3 Change documentation

Table 7-2

Version	Date	Modifications
V1.0	09/2010	First version
V1.1	01/2014	Extension V7.2
V1.2	07/2017	Extension V7.4 SP1