

# Software Update from PCS 7 V7.1 SP3 to PCS 7 V7.1 SP4

SIMATIC PCS 7

FAQ • September 2012



## Service & Support

Answers for industry.

**SIEMENS**

This entry originates from the Service & Support Portal of Siemens AG, Sector Industry, Industry Automation and Drive Technologies. The conditions of use specified there apply ([www.siemens.com/nutzungsbedingungen](http://www.siemens.com/nutzungsbedingungen)).

Go to the following link to download this document.

<http://support.automation.siemens.com/WW/view/de/39980937>

## Question

How do you update from PCS 7 V7.1 SP3 to PCS 7 V7.1 SP4?

## Answer

This document gives a brief description of how to update from PCS 7 V7.1 SP3 to PCS 7 V7.1 SP4.

## Requirements

Please read the notes in the "PCS 7 Readme" file carefully.

There is further information available about the software update in the delivery release:

<http://support.automation.siemens.com/WW/view/en/61849260>

# Contents

<b>1</b>	<b>Preparation .....</b>	<b>4</b>
<b>2</b>	<b>Starting the PCS 7 Update Installation .....</b>	<b>5</b>
<b>3</b>	<b>Updating the Project.....</b>	<b>6</b>
3.1	Updating Blocks.....	6
3.2	Compiling Configuration Data for the AS.....	7
3.3	Compiling Charts for the S7 Programs.....	7
3.4	Compiling Configuration Data of the OS.....	8
3.5	Updating OS Projects .....	8
3.6	Delta Compilation of the OS Server .....	9
3.7	Loading Target Systems.....	9
<b>4</b>	<b>Updating Redundant Systems in Runtime .....</b>	<b>10</b>
<b>5</b>	<b>Options .....</b>	<b>11</b>
<b>6</b>	<b>List of Changed Blocks .....</b>	<b>12</b>
6.1	PCS 7 Basis Library V71 .....	12
6.2	Advanced Process Library (APL) .....	13
6.3	SIMATIC BATCH Blocks.....	13

# 1 Preparation

Proceed as shown in the table below to prepare for updating.

Table 1-1

Step	Procedure
1.	<b>Backup</b>  It is recommended you back up the partitions of all the computers concerned before starting this task. You can use the "SIMATIC Image & Partition Creator" software for this. <a href="http://support.automation.siemens.com/WW/view/de/38400496">http://support.automation.siemens.com/WW/view/de/38400496</a>
2.	<b>Saving the project</b>  Save the project and own libraries before starting the update.
3.	<b>Saving licenses</b>  Updating does not delete the licenses installed on the system. Save all existing licenses before making a complete reinstallation.
4.	<b>PDM data</b>  Updating does not delete the PDM devices installed on the system. You can continue to use them after the update. Save all the installation files of the PDM devices before making a complete reinstallation.
5.	<b>Disabling WinCC Autostart</b>  If being used, you must disable the "WinCC Autostart" function before the software update. <ul style="list-style-type: none"> <li>OS client: "Start &gt; SIMATIC &gt; WinCC &gt; Autostart"</li> <li>OS server: "Start &gt; SIMATIC &gt; WinCC &gt; Autostart" or "Start &gt; SIMATIC &gt; SIMATIC Net &gt; Set PC station &gt; Applications &gt; Autostart"</li> </ul> After disabling WinCC Autostart, restart the PC station.

## 2 Starting the PCS 7 Update Installation

**WARNING** Before you install PCS 7 V7.1 SP4, read the instructions concerning system and software requirements in the PCS 7 Readme.

**Notes** You can find more information on updating PCS 7 in the following manuals:

- "PCS 7 – Software Updates With Utilization Of New Functions"
- "PCS 7 – Software Updates Without Utilization Of New Functions"

Table 2-1

Step	Procedure
1.	<b>Installing the PCS 7 update</b>  Start the basic setup of PCS 7 V7.1 SP4. Select the "Update" option for the setup type.

**Notes** If you are using a **DHCP server on the plant bus**, the SIMATIC Miniport Adapter on the CP1613 and CP1623 has to be updated once the installation has been completed and the computer has been restarted.

- Open the device manager via "Start > Settings > Control Panel > Administrative Tools > Computer Management > Device Manager".
- Switch to the "Network adapters" folder.
- Select the command "Update drivers..." in the context menu for the CP1613 / CP1623.

## 3 Updating the Project

### 3.1 Updating Blocks

#### With Master Data Library

Proceed as follows.

Table 3-1

Step	Procedure
1.	<p><b>Copying blocks</b></p> <p>Copy all the blocks used in the project from the new libraries into the master data library.</p> <p><b>Notes</b></p> <p>The existing blocks are overwritten.</p> <p>If you have made changes to the original blocks, then you must change the new blocks accordingly.</p>
2.	<p><b>Updating block types</b></p> <p>Select the block folder in the master data library of the multiproject and then select the menu command "Options &gt; Charts &gt; Update block types".</p> <p>In the dialog that opens you can select or deselect all the programs (and sample solutions). Click on the "Continue" button.</p> <p>All the block types are displayed for selection/deselection. Select the blocks for system updating from the "List of changed system blocks". Click on the "Finish" button.</p>

This procedure replaces all the block types in the block containers of the project and does a block type import in all the chart containers of the project.

### Without Master Data Library

Proceed as follows for each library used.

Table 3-2

Step	Procedure
1.	<b>Opening the library</b>  Open the library from which you use blocks in your projects.
2.	<b>Updating block types</b>  Select the blocks used and then select the menu command "Options > Charts > Update block types". In the dialog that opens you can select or deselect all the programs (and sample solutions). Click on the "Continue" button. All the block types are displayed for selection/deselection. Select the blocks for system updating from the "List of changed system blocks". Click on the "Finish" button.

This procedure replaces all the block types in the block containers of the project and does a block type import in all the chart containers of the project.

## 3.2 Compiling Configuration Data for the AS

Execute the "Save and Compile" function in the HW Config and in NetPro for all ASs.

## 3.3 Compiling Charts for the S7 Programs

Proceed as follows.

Table 3-3

Step	Procedure
1.	<b>Compiling an S7 program</b>  Compile the program of each AS with these settings: <ul style="list-style-type: none"> <li>• Entire program</li> <li>• Generate module drivers</li> </ul>

### 3.4 Compiling Configuration Data of the OS

Execute the "Save and Compile" function in the HW Config and in NetPro for all PC stations.

### 3.5 Updating OS Projects

Open the projects of all the OS servers and OS clients one after the other and proceed as follows.

Table 3-4

Step	Procedure
1.	<b>Generating a header</b>  Open the Global Script C editor and select the "Tools > Regenerate Header" menu command.
2.	Start the OS project editor  Start the OS project editor with the option "Complete Configuration (loss of support for online delta loading capability)" in the "General" tab.  <b>Notes</b> Further system messages have been added in the new version. This is why it is necessary to start the OS project with the "Complete Configuration" option. This updates the faceplates and integrates new functions in the project.



### 3.6 Delta Compilation of the OS Server

Proceed as follows.

Table 3-5

Step	Procedure
1.	<b>Compiling the OS server</b>  Start compilation for all OS servers with these options: <ul style="list-style-type: none"> <li>• Amendments</li> <li>• Tags and messages</li> <li>• Picture Tree</li> <li>• SFC Visualization</li> </ul>

### 3.7 Loading Target Systems

Update the PCS 7 software on the PC stations concerned before uploading the OS servers/OS clients.

Perform uploading in the following order.

Table 3-6

Step	Procedure
1.	<b>OS servers</b> <ul style="list-style-type: none"> <li>• Start overall loading of all OS servers.</li> <li>• Start the OS Runtime of the servers.</li> </ul>
2.	<b>OS clients</b> <ul style="list-style-type: none"> <li>• Start overall loading of all OS clients.</li> <li>• Start the OS Runtime of the clients.</li> </ul>
3.	<b>AS program</b>  Start delta loading of the S7 programs of all ASs.  <b>Warning</b> An AS STOP is required when using the RC Lib (route control). In this case, you have to do a complete AS load.

#### Notes

Sequencers of SFC charts are not aborted during the software update (AS delta load) as long as no changes have been made in the sequencers concerned.

## 4 Updating Redundant Systems in Runtime

Proceed as follows to update redundant systems.

Table 4-1

Step	Procedure
1.	Update the standby servers and all clients.
2.	Do a complete download of the OS projects to the standby servers and the clients.
3.	Start the standby servers and clients. -> Wait for the redundancy calibration.
4.	Download the control program into the AS.
5.	Update the master servers.
6.	Do a complete download of the OS projects to the master servers.
7.	Start the master servers. -> Wait for the redundancy calibration.

### Notes

More information on updating redundant systems is available in the manual "Fault-tolerant Process Control Systems", in the section entitled "Instructions for updating a redundant OS in Runtime".

## 5 Options

Table 5-1

Option	Description
<b>SIMATIC Logon</b>	<p>In rare cases are problems possible caused by the migration of SIMATIC Logon to the version V1.5 SP1. In this case the required license key (MLK – Master License Key) for the logon service is stored not correctly.</p> <p>To solve this problem please execute the following steps:</p> <ol style="list-style-type: none"> <li>1. Search the file „SIELA1LOGS0105.MLK“. You should find it in the folder „C:\Program Files\Siemens\Common\sws“.</li> <li>2. Create a new folder with the name “MLK” in the folder „C:\Documents and Settings\All Users\Application Data\Siemens\Automation\sws“.</li> <li>3. Move the file „SIELA1LOGS0105.MLK“ into this new folder.</li> </ol>
<b>Route Control</b>	<p>Start the "Route Control Wizard" in projects with Route Control. Then run through the "Todos" displayed in the log files of the "Route Control Wizard".</p>
<b>SIMATIC BATCH</b>	<p>Regenerate and repropagate the "BATCH types" and group all the batch instances together.</p> <p>Then reload all the components.</p> <p>Execute the "Transfer messages" function. In this way, all the batch message texts are transferred to the OS.</p> <p>Execute the "PCell update / Update plant data" function in the Batch Control Center.</p>
<b>Web option</b>	<p>Web servers are to be seen as OS clients. You must also start the "Web View Publisher" and the "Web Configurator".</p> <p>When you restart the Internet Explorer on the web clients, you are prompted to install an update of the web client. You can retrieve the installation files from the web server.</p> <p>After installing the web client, update the plugins.</p>
<b>CAS</b>	<p>The CAS (Central Archive Server) is the first computer taken from the computer network and the last to be put back into operation. The CAS failure time must not exceed the shortest circular log time of the OS servers.</p> <p>You must disconnect any connected backup databases from the CAS before updating the software.</p> <p>The error message "Error when disconnecting backup databases from the SQL server!" might be displayed when updating the software. You can ignore this message as long as there are no backup databases connected.</p> <p>You can reconnect the disconnected databases after the software update.</p> <p>The same procedure applies for CAS as for OS servers.</p> <p>Refer also to the information on "Updating archive servers" in the PCS 7 readme.</p>

## 6 List of Changed Blocks

The following tables list all the changed system blocks compared with PCS 7 V7.1 SP3.

**WARNING** Even if you have been using PCS 7 V7.1 SP3 up to now, there may still be older versions of blocks present in your automation program. In this case you have to determine for yourself whether a software updated can be performed without a CPU STOP.

### 6.1 PCS 7 Basis Library V71

Table 6-1

Library	Block no.	Block name	Version	Supports delta loading
PCS 7 Basis Library V71	FB81	PDM_MS	6.1	✓
	FB83	OR_M_8C	6.13	✓
	FB84	OR_M_16C	6.13	✓
	FB85	OR_M32C	6.13	✓
	FB93	MOD_D1	6.14	✓
	FB108	DPAY_V0	6.11	✓
	FB133	OR_HA16C	6.13	✓

**Notes** The new PCS 7 Basis Library replaces the existing library when you update PCS 7.

## 6.2 Advanced Process Library (APL)

The delta compilation and delta load are retained for the update from APL V7.1 SP5 Upd1 to V7.1 SP5 Upd3.

More information on changing the blocks is available in the document "PCS 7 Advanced Process Library V7.1 – Readme".

The table below gives you an overview of the blocks that have been changed compared with the previous version.

### Changing the Blocks of the APL

Table 6-2

Library	Block no.	Block name	Version	Supports delta loading
APL V7.1 SP5 Upd3	FB1809	DoseL	1.3	✓
	FB1850	MotL	1.4	✓
	FB1864	CountOh		✓
	FB1890	Smooth	1.0	✓
	FB1896	VlvAnL	1.3	✓
	FB1897	Vlv2WayL	1.4	✓
	FB1899	VlvL	1.4	✓
	FB1900	VlvMotL	1.4	✓
	FB1910	MotS	1.0	✓
	FB1911	VlvS	1.0	✓
	FB1914	ShrdResS	1.0	✓

## 6.3 SIMATIC BATCH Blocks

Table 6-3

Library	Block no.	Block name	Version	Supports delta loading
SIMATIC BATCH Blocks V7.1 SP1 HF3	FB251	IUNIT_BL	7.1	✓
	FB253	IEOP	7.1	✓
	FB254	IEPH	7.1	✓
	FB258	IEPAR_ST	7.1	✓
	FB260	IEPAR_PI	7.1	✓
	FB261	IEPAR_PO	7.1	✓