Software Update from PCS 7 V8.0 to PCS 7 V8.0 Update 1

SIMATIC PCS 7

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Question

How do you update from PCS 7 V8.0 to PCS 7 V8.0 Upd1?

Answer

This document gives a brief description of how to update from PCS 7 V8.0 to PCS 7 V8.0 Upd1.

Requirements

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

More information is available in this delivery release:
http://support.automation.siemens.com/WW/view/de/57251375

Contents

1 Preparation

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

Table 1-1

Step	Procedure
1.	**Backup** We recommend making a backup of the partitions of all the computers concerned before starting this task. You can use the "SIMATIC Image & Partition Creator" software for this. http://support.automation.siemens.com/WW/view/de/52940370
2.	**Save project** Save the project and own libraries before starting the update.
3.	**Save licenses** Updating does not delete the licenses installed on the system. Save all existing licenses before making a complete reinstallation.
4.	**PDM data** 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.	**Disable WinCC Autostart** If being used, you must disable the "WinCC Autostart" function before updating the software. • OS client: "Start > SIMATIC > WinCC > Autostart" • OS server: "Start > SIMATIC > WinCC > Autostart" or "Start > SIMATIC > SIMATIC Net > Set PC station > Applications > Autostart" After disabling WinCC Autostart, restart the PC station.

2   Starting the PCS 7 Update Installation

WARNING	**Before you install PCS 7 V8.0 Upd1, read the instructions concerning system and software requirements in the PCS 7 Readme.**

Note	More information about updating PCS 7 is available in the manuals below. • "PCS 7 – Software Updates With Utilization Of New Functions" • "PCS 7 – Software Updates Without Utilization Of New Functions"

Table 2-1

Step	Procedure
1.	**Install the PCS 7 update** Start the basic setup of PCS 7 V8.0 Upd1. Select the "Update" option for the setup type.
2.	**Install additional libraries** Install any older libraries used from DVD 2 – "Additional Products". For example: • PCS 7 APL V7.1 SP5 Upd3 • PCS 7 Basis Library V7.1 SP3 Upd6 **Note** After installing older libraries you must re-install the PCS 7 V8.0 libraries. Re-install the PCS 7 V8.0 libraries with the basic setup.

Note	If you are using a DHCP server on the plant bus, you must update the SIMATIC Miniport Adapter of CP1613 and CP1623 after completing the installation and restarting the computer. • Open the device manager with "Start > Settings > Control Panel > Administrative Tools > Computer Management > Device Manager" • Open the "Network adapters" folder. • In the pop-up menu of CP1613 / CP1623 you select the "Update driver…" command.

3 Updating the Project

3.1 Updating Blocks

With Master Data Library

Proceed as follows.

Table 3-1

Step	Procedure
1.	**Copy blocks** Copy all the blocks used in the project from the new libraries (PCS 7 APL V8.0 Upd1, for example) into the master data library. **Note** The existing blocks are overwritten. If you have made changes to the original blocks, then you must change the new blocks accordingly.
2.	**Update block types** Select the block folder in the master data library of the multiproject 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 the "Next" button. All the block types are displayed for selection/deselection. Select the blocks for system updating from the "List of changed system blocks". Click 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.

Without Master Data Library

Proceed as follows for each library used.

Table 3-2

Step	Procedure
1.	**Open the library** Open the library from which you use blocks in your projects.
2.	**Update block types** 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 the "Next" button. All the block types are displayed for selection/deselection. Select the blocks for system updating from the "List of changed system blocks". Click 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 of the AS

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

3.3   Compiling Charts of the S7 Programs

Proceed as follows.

Table 3-3

Step	Procedure
1.	**Compile S7 program** Compile the program of each AS with these settings: • Entire program • Generate module drivers **Note** You might be requested during compiling to update some blocks (MOD_D1, OB_BEGIN, for example). This updating does not cause an AS STOP.

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 single stations and OS clients on the ES one after the other and proceed as follows.

Table 3-4

Step	Procedure
1.	**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. **Note** If you are using the template pictures for the APL block icons of PCS 7 V7.1 SP3, please refer to the software update manuals.

3.6 Compiling the OS Server/OS Single Stations

Proceed as follows.

Table 3-5

Step	Procedure
1.	**Compile the OS Server/OS Single Stations** Start compilation for all OS servers and all OS single stations with these options: • Complete compilation • Tags and messages • Picture Tree

3.7   Loading Target Systems

Update the PCS 7 software on the PC stations concerned before loading the OS.
Perform loading in the following order.

Table 3-6

Step	Procedure
1.	**OS Server/OS Single Stations** • Start overall loading of all OS servers/OS single stations. • Start the Runtime of the OS servers/OS single stations.
2.	**OS clients** • Start overall loading of all OS clients. • Start the OS Runtime of the clients.
3.	**AS program** Start delta loading of the S7 programs of all ASs.

Note	Sequencers of SFC charts are not stopped during the software update 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.

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

5 Options

Table 5-1

Option	Description
Route Control	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". **Note** More information about the RC library is available in these documents: "SIMATIC Route Control – Readme" and "SIMATIC Route Control – What is new".
SIMATIC BATCH	Regenerate and repropagate the "BATCH types" and group all the batch instances together. Then reload all the components. Execute the "Transfer messages" function. In this way, all the batch message texts are transferred to the OS project. Then you load the OS. Execute the "PCell update / Update plant data" function.
Web option	Web servers are to be seen as OS clients. You must also start the "Web View Publisher" and the "Web Configurator". When you restart the Internet Explorer on the web clients, you are prompted to install an update of the web client. You can fetch the installation files from the web server. After installing the web client, update the plugins.
CAS	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. You must disconnect any connected backup databases from the CAS before updating the software. You can reconnect the disconnected databases after the software update. The same procedure applies for CAS as for OS servers.
Process Historian	Refer to the "Readme" and the PH manuals for updating the Process Historian.

6   List of Changed Blocks

The table below lists all the changed system blocks compared with PCS 7 V8.0.

More information about the libraries is available in the associated "Readme".

| WARNING | **Even is you have used PCS 7 V8.0 beforehand, there might still be older versions of blocks in your automation program. In this case you must find out yourself whether you can do a software update without CPU STOP.** |

6.1   PCS 7 Advanced Process Library V8

Table 6-1

Library	Block no.	Block name	Version	Supports delta loading
PCS 7 AP Library V80	FB1840	AssetM	7.0	✓
	FB1843	ModPreCon	2.0	✓
	FB1850	MotL	2.0	✓
	FB1864	CountOh	2.0	✓
	FB1890	Smooth	2.0	✓
	FB1897	Vlv2WayL	2.0	✓
	FB1899	VlvL	2.0	✓
	FB1900	VlvMotL	2.0	✓
	FB1910	MotS	2.0	✓
	FB1911	VlvS	2.0	✓
	FB1914	ShrdResS	2.0	✓

| Note | The new PCS 7 Advanced Process Library replaces the existing library when you update PCS 7. |

6.2   PCS 7 Basis Library V8

Table 6-2

Library	Block no.	Block name	Version	Supports delta loading
PCS 7 Basis Library V80	FB82	SUBNET_PN	7.1	✓
	FB83	OR_M_8C	7.0	✓
	FB84	OR_M_16C	7.0	✓
	FB85	OR_M_32C	7.0	✓
	FB90	RACK_PN	7.1	✗
	FB91	MOD_1	7.1	✓
	FB92	MOD_2	7.1	✓
	FB93	MOD_D1	7.0	✓
	FB94	MOD_D2	7.0	✓
	FB95	MOD_3	7.1	✓
	FB106	SUBNET	7.1	✓
	FB119	MOD_4	7.0	✓
	FB126	FM_CNT	7.1	✓
	FB128	CPU_RT	7.1	✓
	FB130	OB_BEGIN_PN	7.1	✓
	FB133	OR_HA16C	7.1	✓
	FB134	MOD_D3	7.1	✓
	FB137	MOD_64	7.1	✓
	FB146	OB_DIAGF	7.1	✓
	FB197	MOD_D8_PN	7.1	✓
	FB198	MOD_D16_PN	7.1	✓
	FB199	MOD_D24_PN	7.1	✓
	FB201	MOD_CP_PN	7.1	✓
	FB202	OB_DIAG1_PN	7.1	✗
	FB203	PNDP_L10	7.1	✓
	FB204	DPAY_V1_PN	7.1	✓
	FB205	OB_BEGIN_HPN	7.1	✗

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

6.3   SIMATIC BATCH Blocks V8.0

Table 6-3

Library	Block no.	Block name	Version	Supports delta loading
SIMATIC BATCH Blocks V8.0	FB266	UNIT_PLC	8.0	✓
	FB267	RunRecip	8.0	✓
	FB273	MemIDB64	8.0	✓
	FB274	EventSend	8.0	✓
	FC183	EPARGet	8.0	✓
	FC184	EPHGetHeader	8.0	✓
	FC185	TagCollGetHeader	8.0	✓
	FC186	EPARGetValue	8.0	✓
	FC187	EPHGetSW	8.0	✓
	FC188	EPHRun	8.0	✓
	FC189	ContGetRPEListSW	8.0	✓
	FC192	CheckEQMDB	8.0	✓
	FC193	RPEEnumEleListCW	8.0	✓
	FC194	RPEGGetSPList	8.0	✓
	FC195	RPEGetSP	8.0	✓
	FC196	TransGetVal	8.0	✓
	FC197	RPHGetRef	8.0	✓
	FC198	RPHSetRef	8.0	✓
	FC199	RPHGetAllSP	8.0	✓
	FC200	TransGetAllPin	8.0	✓
	FC201	TransGetPin	8.0	✓
	FC202	TransGetPinOper	8.0	✓
	FC203	TrnasGetPinVal	8.0	✓
	FC204	RPHGetAllRef	8.0	✓
	FC205	TransSetGateVal	8.0	✓
	FC206	RPEPrepareOccupy	8.0	✓
	FC207	RPEGetSW	8.0	✓
	FC208	RPESetCW	8.0	✓
	FC209	RPEPrepareToCmpl	8.0	✓
	FC210	RPESetLinkCW	8.0	✓
	FC211	CommRPEEvent	8.0	✓
	FC212	CommSPDataToDB	8.0	✓
	FC213	ContPropagateRef	8.0	✓

Library	Block no.	Block name	Version	Supports delta loading
	FC214	DebugTrace	8.0	✓
SIMATIC BATCH Blocks V8.0	FC215	NOPControl	8.0	✓
	FC216	ContSetSW	8.0	✓
	FC217	TransControl	8.0	✓
	FC218	RPHControl	8.0	✓
	FC219	ContControl	8.0	✓
	FC220	TransBCSControl	8.0	✓
	FC221	CmdControl	8.0	✓

Note	The new SIMATIC BATCH library replaces the existing library when you update SIMATIC BATCH.