SIEMENS

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Software Update from PCS 7 V8.0 SP1 to PCS 7 V8.0 SP1 Upd1

SIMATIC PCS 7

http://support.automation.siemens.com/WW/view/en/39980937

Caution

The functions and solutions described in this article confine themselves to the realization of the automation task predominantly. Please take into account furthermore that corresponding protective measures have to be taken up in the context of Industrial Security when connecting your equipment to other parts of the plant, the enterprise network or the Internet. Further information can be found under the Content-ID 50203404.

http://support.automation.siemens.com/WW/view/en/50203404

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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/en/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.	**Save PDM data** Save the installation files of the PDM devices. Updating of PCS 7 removes the device catalog of SIMATIC PDM. You must reinstall the device descriptions after updating.
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.
6.	**Remove the password protection for projects** Any password protection must be disabled before updating the software.

2 Starting the PCS 7 Update Installation

CAUTION	**Before you install PCS 7 V8.0 SP1 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 SP1 Upd1 and follow the instructions.
2.	**For PCS 7 Web Option** When you already have installed „PCS 7 Basis Faceplates V8.0 SP1 **Upd1**“, copy the corresponding web plug-in to the Web server You will find it in the folder “Additional_Products\WebPlugin\“of the PCS 7 Update DVD. Copy the file “PCS7BASISFACEPLATESWEBPLUGIN.MSI” to one of this folders: • Windows Server 2003 R2: C:\Program Files\Siemens\Common\webplugins • Windows Server 2008 R2: C:\Program Files (x86)\Common Files\Siemens\webplugins **Note** It’s insufficient to select the option “PCS 7 Basis Faceplates” during the installation. The web plug-in isn't updated by it.

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 SP2 Upd1, for example) into the master data library. **Note** When copying the blocks a window will appear which shows the message if you want to overwrite the blocks. In this window you can use the button "Adjust Attributes…" to show the different attribute values in the source and the destination and make your project specific changes.
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 new library (PCS 7 APL V8.0 SP2 Upd1, for example) from which you use blocks (PCS 7 APL V8.0 S, for example) in you 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. There then follows a query as to whether there is to be format conversion of the CFC charts to the current version. Acknowledge the dialog with "Yes". **Note** If you do not update the block types, because you want to continue using the block versions already configured, you can convert the format of the CFC charts as follows: • Open a CFC chart. • Move a block. • Acknowledge the dialog for converting the CFC charts.

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: • Changes only • Generate module drivers **Note** Maybe you can compile the AS program only with the option „Entire program”. However, this does not affect the online delta loading capability. The AS projects can be delta loaded as long as no blocks (FB, FC) with interface changes have been used in CFC. The blocks with interface changes are given in chapter 6-List of Changed Blocks.

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.	**Generate Header** Open the Global Script C editor and execute the menu command “Options > Regenerate Header”
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. **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: • Tags and messages • SFC Visualization • Picture Tree • With interconnection partner (SFC option) • Complete compilation with overall reset

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 The AS projects can be delta loaded as long as no blocks (FB, FC) with interface changes have been used in CFC. The blocks with interface changes are given in chapter 6-List of Changed Blocks.

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 OS servers.
2.	Update the OS clients that are connected to the standby OS server (via preferred server).
3.	Do a complete download of the OS projects to the standby servers and the OS clients.
4.	Start the standby OS servers and OS clients. -> Wait for the redundancy synchronization.
5.	Download the control program into the AS.
6.	Update the master OS servers.
7.	Update the OS clients that are connected to the master OS server (via preferred server).
8.	Do a complete download of the OS projects to the standby servers and the OS clients.
9.	Start the master OS servers and OS clients. -> Wait for the redundancy synchronization.

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 considered 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	Pay attention to the following points when using a CAS (Central Archive Server) in you plant: • The CAS is the first computer to be disabled and the first to be restarted. • You disable the CAS just by removing the network release of the archive folder "AchiveDir" so that OS servers no longer relocate archive segments. • 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. Redundant CASs can be updated in parallel.
Process Historian	Refer to the "Readme" and the PH manuals for updating the Process Historian.

6 List of Changed Blocks

The table in this section lists all the changed blocks compared with PCS 7 V8.0 SP1. The blocks are marked as follows in the "Supports delta loading" column:

Table 6-1

Symbol	Description
✓	The changes in these blocks do not affect the interface. You can load the blocks without stopping the CPU.
✓	The interfaces of these blocks have been changed. You can load the blocks only by stopping the CPU.
New!	New blocks. These blocks are not available in the older versions of the library.

The "CFC Library" and "SFC Library" show no changes compared with PCS 7 V8.0 SP1 and are therefore not listed explicitly.

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

CAUTION	**Even if you have used PCS 7 V8.0 SP1 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 SP2

Tabelle 6-2

Bibliothek	Bausteinnr.	Bausteinname	Version	Delta-ladefähig
PCS 7 AP Library V8.0 SP2 Upd1	FB1803	CntOhSc	2.2	✓
	FB1809	DoseL	2.2	✓
	FB1813	FbAnIn	7.2	✓
	FB1814	FbAnOu	7.2	✓
	FB1815	FbDiIn	7.2	✓
	FB1816	FbDiOu	7.2	✓
	FB1818	FmCont	7.2	✓
	FB1819	FmTemp	7.2	✓
	FB1824	Intlk02	2.2	✓
	FB1825	Intlk04	2.2	✓
	FB1826	Intlk08	2.2	✓
	FB1827	Intlk16	2.2	✓
	FB1848	MonDiL	2.2	✓

Bibliothek	Bausteinnr.	Bausteinname	Version	Delta-ladefähig
	FB1850	MotL	2.2	✓
	FB1851	MotRevL	2.2	✓
	FB1854	MotSpdCL	2.2	✓
	FB1856	MotSpdL	2.2	✓
	FB1858	MSTIn	2.1	✓
	FB1860	MuxAn03	2.2	✓
	FB1865	OpAnL	2.2	✓
	FB1866	OpDi01	2.2	✓
	FB1867	OpDi03	2.2	✓
	FB1874	PIDConL	2.2	✓
	FB1875	PIDConR	2.2	✓
	FB1878	PIDStepL	2.2	✓
	FB1881	Polygon	2.1	✓
	FB1882	RateLim	2.1	✓
	FB1896	VlvAnL	2.2	✓
	FB1897	Vlv2WayL	2.2	✓
	FB1899	VlvL	2.2	✓
	FB1900	VlvMotL	2.2	✓
	FB1905	FbDrive	7.2	✓
	FB1906	TotalL	2.1	✓
	FB1907	FbSwtMMS	7.2	✓
	FB1910	MotS	2.2	✓
	FB1911	VlvS	2.2	✓
	FB1913	MonDiS	2.2	✓
	FB1915	OpAnS	2.1	✓
	FB1916	FlowCorr	2.1	✓

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

6.2 PCS 7 Basis Library V8 SP1

Tabelle 6-3

Bibliothek	Bausteinnr.	Bausteinname	Version	Delta-ladefähig
PCS 7 BasisLibrary V8.0 SP1 Upd3	FB19	IMDRV_TS	7.0	✓
	FB82	SUBNET_PN	7.2	✓
	FB83	OR_M_8C	7.2	✓
	FB84	OR_M_16C	7.2	✓
	FB85	OR_M_32C	7.2	✓
	FB90	RACK_PN	7.2	✓
	FB99	MOD_PAL0	7.1	✓
	FB106	SUBNET	7.2	✓
	FB107	RACK	7.1	✓
	FB108	DPAY_V0	7.1	✓
	FB115	DPAY_V1	7.1	✓
	FB116	PADP_L10	7.1	✓
	FB118	OB_DIAG1	7.2	✓
	FB130	OB_BEGIN_PN	7.2	✓
	FB133	OR_HA16C	7.2	✓
	FB146	OB_DIAGF	7.2	✓
	FB148	MOD_DRV	7.2	✓
	FB149	MOD_SWT	7.2	✓
	FB197	MOD_D8_PN	7.2	✓
	FB198	MOD_D16_PN	7.2	✓
	FB199	MOD_D24_PN	7.2	✓
	FB202	OB_DIAG1_PN	7.2	✓
	FB205	OB_BEGIN_HPN	7.2	✓

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

6.3 SIMATIC BATCH Blocks V8.0 SP1

Tabelle 6-4

Bibliothek	Bausteinnr.	Bausteinname	Version	Delta-ladefähig
SIMATIC BATCH Blocks V8.0 SP1 Upd1	FC217	TransControl	8.0	✓

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

6.4 SIMATIC Route Control V8.0 SP1

Tabelle 6-5

Bibliothek	Baustein-nr.	Bausteinname	Ver-sion	Delta-ladefähig
SIMATIC Route Control Blocks V8.0 SP1 Upd2	DB100	RC_CFG	8.0	✓
	FB801	RC_ROUTE	8.0	✓
	FB803	RC_ROUTE_RCE_ON	8.0	✓
	FB806	RC_ROUTE_XC_SEND	8.0	✓
	FB809	RC_ROUTE_STATES	8.0	✓
	FB812	RC_TG34_TG36	8.0	✓
	FB816	RC_ROUTE_XC_SND_ORDER	8.0	✓
	FB817	RC_ROUTE_XC_PE_ACTV	8.0	✓
	FB818	RC_ROUTE_GET_EXT_PE	8.0	✓
	FB850	RC_IF_CFG	8.0	✓
	FB852	RC_MASTER_FUNC	8.0	✓
	FB853	RC_ROUTEMASTER_TELEGR	8.0	✓
	FB854	RC_ROUTEMASTER	8.0	✓
	FB856	RC_MASTER_BUFFER	8.0	✓

NOTE The new SIMATIC Route Control library replaces the existing library when you update SIMATIC Route Control.