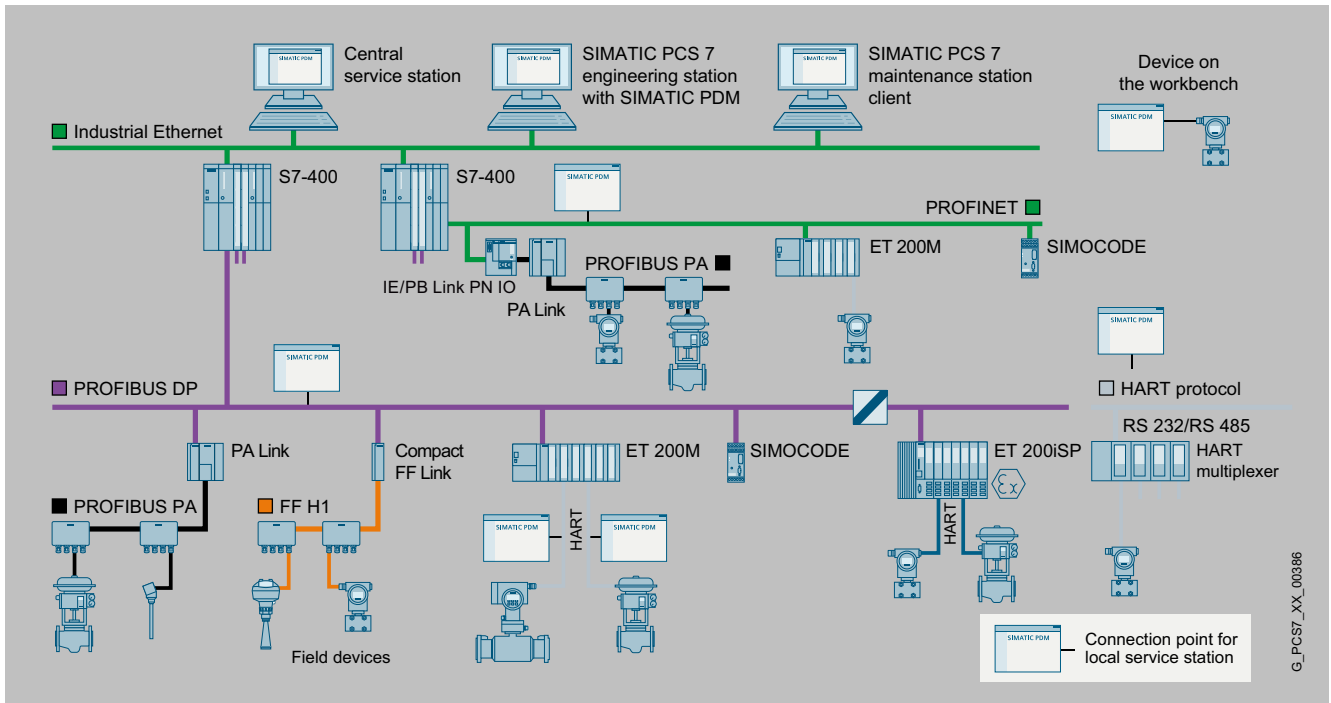


# Communication

## Field device integration

### SIMATIC PDM

#### Overview



Configuration options with SIMATIC PDM

SIMATIC PDM (Process Device Manager) is a universal, vendor-independent tool for the configuration, parameter assignment, commissioning, diagnostics and servicing of intelligent field devices (sensors and actuators) and field components (remote I/Os, multiplexers, control-room devices, compact controllers), which in the following sections will be referred to simply as devices. With *one* software product, SIMATIC PDM enables users to work with over 4 000 devices and device variants from Siemens and over 200 other manufacturers worldwide on a *single* homogeneous user interface.

The user interface satisfies the requirements of the VDI/VDE GMA 2187 and IEC 65/349/CD directives. Parameters and functions for all supported devices are displayed in a consistent and uniform fashion independent of their communications interface. Even complex devices with several hundred parameters can be represented clearly and processed quickly. Using SIMATIC PDM it is very easy to navigate in highly complex stations such as remote I/Os and even connected field devices.

From the viewpoint of device integration, SIMATIC PDM is the most powerful open process device manager on the global market. Devices not previously supported can be integrated in SIMATIC PDM by importing their device description packages (either EDD or FDI). This provides security for your investment and saves you investment costs, training expenses and follow-up costs.

SIMATIC PDM supports the operative system management in particular through:

- Uniform representation and operation of devices
- Uniform representation of diagnostics information
- Indicators for preventive maintenance and servicing
- Detection of changes in the project and device
- Increasing the operational reliability
- Reducing the investment, operating and maintenance costs
- Quantity options for
  - Transfer of parameters between devices
  - Transfer of parameter sets to the devices
  - Export and import functions
  - Diagnostics update

SIMATIC PDM can be used extremely flexibly and tailored to a specific task for field device service:

- Single-point station for point-to-point connection to field devices
- Local service and parameter assignment station with connection to fieldbus segments
- Central service and parameter assignment station with connection to plant bus
- Central HART service and parameter assignment station for HART multiplexers and WirelessHART field devices
- Integrated into the stand-alone SIMATIC PDM Maintenance Station
- Integrated into the SIMATIC PCS 7 process control system

Maintenance personnel can assign field device parameters at mobile and stationary workstations with SIMATIC PDM. Practically every workstation integrated in the production plant can be used for configuration. Service personnel are thus able to work directly at the location of

**Overview (continued)**

the field device, while data is stored centrally in the engineering station or maintenance station. This leads to a significant shortening of maintenance and travel times. Additional device-independent system functions support higher-level maintenance stations for creating progress lists for work and servicing.

When a maintenance station is configured in the SIMATIC PCS 7 process control system, SIMATIC PDM is integrated into it and transmits parameter data, diagnostic information and processing information. You can switch directly to the SIMATIC PDM views from the diagnostics faceplates in the maintenance station to perform diagnostics and work on the device in more detail.

A SIMATIC PDM user administration system based on SIMATIC Logon is used to assign various roles with defined function privileges to users. These function privileges refer to SIMATIC PDM system functions, e.g. writing to the device.

For all devices integrated with device description packages, SIMATIC PDM provides a range of information for display and further processing on the maintenance station, for example:

- Device type information (electronic rating plate)
- Detailed diagnostics information (manufacturer information, information on error diagnostics and troubleshooting, further documentation)
- Results of internal condition monitoring functions
- Status information (for example local configuration changes), device test completed
- Information on changes (audit trail report)
- Parameter information

**Design**

| Components  | Product packages          |                     |  |                                |  |                         |                  |              |
|---|---------------------------|---------------------|--|--------------------------------|--|-------------------------|------------------|--------------|
|   | SIMATIC PDM Stand alone   |                     |  |                                | SIMATIC PDM system-integrated in the configuration environment |                         |                  |              |
|   | Minimum configuration     | Basic configuration | Service and parameter assignment station |                                |  |                         |                  |              |
|   | PDM Single Point          | PDM Basic           | local PDM Service                        | central PDM Stand alone Server | SIMATIC S7 PDM S7  | SIMATIC PCS 7 PDM PCS 7 | PDM PCS 7 Server | PDM PCS 7 FF |
| SIMATIC PDM TAGs <sup>1)</sup> in scope of supply | 1                         | 4                   | 4 + 50                                   | 4 + 100                        | 4 + 100  | 4 + 100                 | 4 + 100          | 4 + 100      |
| <b>SIMATIC PDM expansion options</b>              |                           |                     |  |                                |  |                         |                  |              |
| Count Relevant - 10 TAGs                          | <i>cannot be expanded</i> | o                   | o  | o                              | o  | o                       | o                | o            |
| Licenses (accumulative) - 100 TAGs                |                           |                     |  |                                |  |                         |                  |              |
| - 1 000 TAGs                                      |                           |                     |  |                                |  |                         |                  |              |
| SIMATIC PDM Basic                                 |                           | ●                   | ●  | ●                              | ●  | ●                       | ●                | ●            |
| SIMATIC PDM Extended                              |                           | o                   | o  | ●                              | ●  | ●                       | ●                | ●            |
| SIMATIC PDM integration in STEP 7/PCS 7           |                           | o                   | o  | o                              | ●  | ●                       | ●                | ●            |
| SIMATIC PDM Routing <sup>2)</sup>                 |                           | ●                   | ●  | ●                              | o  | ●                       | ●                | ●            |
| SIMATIC PDM Server                                |                           | o                   | o  | ●                              | o  | o                       | ●                | o            |
| SIMATIC PDM 1 Client <sup>3)</sup>                |                           | o                   | o  | ● (2 x)                        | o  | o                       | o                | o            |
| SIMATIC PDM Communication FOUNDATION Field-bus    |                           | —                   | —  | —                              | o  | o                       | o                | ●            |
| SIMATIC PDM HART Server                           |                           | o                   | o  | o                              | o  | —                       | —                | —            |

SIMATIC PDM product structure

- Product component is part of the product package
- o Optional product component for the product package; order additive
- Product component is not relevant for the product package or not available

<sup>1)</sup> For TAG definition, see "Design" section under "SIMATIC PDM TAGs"

<sup>2)</sup> In combination with SIMATIC PDM Integration in STEP 7/PCS 7

<sup>3)</sup> In combination with SIMATIC PDM Server

**Customer-oriented product structure**

The customer-oriented product structure of SIMATIC PDM provides optimal support for the named main use cases and enables you to adapt the scope of functions and performance to your individual requirements. The product range is organized as follows:

**SIMATIC PDM Stand alone product packages**

- SIMATIC PDM Single Point, a minimum configuration for single device handling
- SIMATIC PDM Basic for local service and parameter assignment stations as well as basic configuration for individual product package with optional product components
- SIMATIC PDM Service for local service and parameter assignment stations
- SIMATIC PDM Stand alone Server for central service and parameter assignment stations, e.g. for various plant units

**SIMATIC PDM system-integrated product packages**

- SIMATIC PDM S7 for local SIMATIC S7 engineering and service stations
- Various configurations for central SIMATIC PCS 7 engineering and service stations:
  - SIMATIC PDM PCS 7

## Communication

### Field device integration

#### SIMATIC PDM

##### Design (continued)

- SIMATIC PDM PCS 7 Server (enables device parameter assignment and diagnostics on clients of the PCS 7 engineering station and PCS 7 Maintenance Station)
- SIMATIC PDM PCS 7-FF (supports the FOUNDATION Fieldbus H1)

In some circumstances, the product packages can be expanded with optional product components (for details, see the Design section).

| Product range  | SIMATIC PDM V9.1 |          |               |                    |                |                |                |                |
|--|------------------|----------|---------------|--------------------|----------------|----------------|----------------|----------------|
|  | Single Point     | Basic    | Service       | Stand alone Server | S7             | PCS 7          | PCS 7 Serv-er  | PCS 7-FF       |
| <b>TAGs contained</b>  | <b>1</b>         | <b>4</b> | <b>4 + 50</b> | <b>4 + 100</b>     | <b>4 + 100</b> | <b>4 + 100</b> | <b>4 + 100</b> | <b>4 + 100</b> |
| Project: Create offline  | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Project: Usable TAG extensions   | —                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Project: Process device network view   | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Project: Process device plant view   | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Project: Export/import devices   | —                | —        | ●             | ●                  | —              | —              | —              | —              |
| Project: Export/import parameters  | —                | ○        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Project: HW Config   | —                | ○        | ○             | ○                  | ●              | ●              | ●              | ●              |
| Project: Utilization of SIMATIC PDM options                                    | —                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Project: Integration in STEP 7/PCS 7   | —                | ○        | ○             | ○                  | ●              | ●              | ●              | ●              |
| Group operations   | —                | ○        | ○             | ●                  | ○              | ●              | ●              | ●              |
| Setting device IDs   | —                | ○        | ○             | ●                  | ○              | ●              | ●              | ●              |
| Communication: HART modem  | ●                | ●        | ●             | ●                  | ●              | —              | —              | —              |
| Communication: HART interface  | ●                | ●        | ●             | ●                  | ●              | —              | —              | —              |
| Communication: PROFIBUS DP/PA  | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Communication: HART over PROFIBUS DP   | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Communication: FF H1   | —                | —        | —             | —                  | ○              | ○              | ○              | ●              |
| Communication: Modbus  | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Communication: Ethernet  | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Communication: PROFINET  | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Communication: HART over PROFINET  | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Devices: Export/import parameters  | —                | ○        | ○             | ●                  | ●              | ●              | ●              | ●              |
| Devices: Comparison of parameter values  | —                | ○        | ○             | ●                  | ●              | ●              | ●              | ●              |
| Devices: Saving parameters   | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Devices: Change log (Audit Trail)  | —                | ○        | ○             | ●                  | ●              | ●              | ●              | ●              |
| Devices: Calibration report  | —                | ○        | ○             | ●                  | ●              | ●              | ●              | ●              |
| Devices: Print function  | ●                | ○        | ○             | ●                  | ●              | ●              | ●              | ●              |
| Devices: Document manager  | —                | ○        | ○             | ●                  | ●              | ●              | ●              | ●              |
| Lifelist: Basic functionality  | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Lifelist: Expanded functionality (scan range, diagnostics, export, addressing) | —                | ○        | ○             | ●                  | ●              | ●              | ●              | ●              |
| Communication: Data record routing   | —                | ○        | ○             | ○                  | ○              | ●              | ●              | ●              |
| Communication: HART multiplexer  | —                | ○        | ○             | ○                  | ○              | —              | —              | —              |
| Communication: WirelessHART  | —                | ○        | ○             | ○                  | ○              | —              | —              | —              |
| Function: HART SHC mode (increased communication speed)                        | ●                | ●        | ●             | ●                  | ●              | ●              | ●              | ●              |
| Function: Device parameterization on PCS 7 maintenance station clients         | —                | ○        | ○             | ○                  | ○              | ○              | ●              | ○              |
| Function: Device parameter assignment on SIMATIC PDM clients                   | —                | ○        | ○             | ● (2 x)            | ○              | ○              | ○              | ○              |

SIMATIC PDM overview of functions and features

● Product component is part of the product package

○ Optional product component for the product package; order additive

— Product component is not relevant for the product package or not available

#### SIMATIC PDM Stand alone product packages

##### SIMATIC PDM Single Point V9.1

This minimum configuration with handheld functionality is intended for handling exactly *one* field device via point-to-point coupling. It cannot be expanded with functions or with SIMATIC PDM TAG or SIMATIC PDM 1 Client licenses. Upgrading to a different product variant, e.g. SIMATIC PDM Basic, or a different product version is also not possible.

Supported communication types:

## Design (continued)

- PROFIBUS DP/PA
- HART communication (modem, RS 232 and via PROFIBUS/PROFINET)
- Modbus
- Ethernet
- PROFINET

The functionality is matched accordingly. The device functions are supported as defined in the device description, for example:

- Managing the device library and unlimited device selection
- Parameter assignment and diagnostics according to the device description
- Exporting and importing of parameter data
- Device identification
- Lifelist
- Printing the parameter list

### SIMATIC PDM Basic V9.1

SIMATIC PDM Basic is for local service and parameter assignment stations on any computers (IPC/notebook) with local connection to bus segments or direct connection to the device.

Supported communication types:

- PROFIBUS DP/PA
- HART communication (modem, RS 232 and via PROFIBUS/PROFINET)
- Modbus
- Ethernet
- PROFINET

SIMATIC PDM Basic is equipped with all basic functions required for operation and parameter assignment of devices. That is, compared to SIMATIC PDM Single Point, it has the following additional functions:

- EDD-based diagnostics in the lifelist
- Memory function (only exporting and importing of parameter data)
- Report function
- Communication with HART field devices via remote I/Os

As a basic block for an individual configuration, SIMATIC PDM Basic can be expanded with all functional SIMATIC PDM options (PDM Routing only in combination with PDM Integration in STEP 7/PCS 7 required) as well as with cumulative sets of 10, 100 or 1 000 SIMATIC PDM TAGs. Without TAG expansion, SIMATIC PDM Basic is suitable for projects with up to 4 TAGs. SIMATIC PDM 1 Client licenses (sets of 1) can also be added in combination with the SIMATIC PDM Server option.

The SIMATIC PDM Extended option allows the activation of additional SIMATIC PDM system functions (for details, see SIMATIC PDM Extended V9.1 under "Optional product components").

### SIMATIC PDM Service V9.1

With this product package for extended service, local service and parameter assignment stations can be realized on any type of computer (IPC/notebook) with a local connection to a bus segment or direct connection to field devices.

It comprises:

- SIMATIC PDM Basic (incl. 4 SIMATIC PDM TAGs)
- 50 SIMATIC PDM TAGs

Like SIMATIC PDM Basic, SIMATIC PDM Service can be expanded with all functional SIMATIC PDM options (PDM Routing only in combination with PDM Integration in STEP 7/PCS 7 required) as well as with cumulative SIMATIC PDM TAGs (sets of 10, 100 or 1 000) (see "Optional product components"). SIMATIC PDM 1 Client licenses (sets of 1) can also be added in combination with the SIMATIC PDM Server option. It is permitted to upgrade to another product version.

**Note:** For use of gateways and for PROFINET or Ethernet communication with field devices, SIMATIC PDM TAG licenses are charged for according to the objects configured in the process device plant view as follows:

- 10 SIMATIC PDM TAGs per S7 DSGW (data record gateway) with one PROFIBUS subnet
- 20 SIMATIC PDM TAGs per S7 DSGW with more than one PROFIBUS subnet
- 10 TAGs per IE/PB Link
- 1 TAG per field device (except in the case of special specifications)

### SIMATIC PDM stand-alone server V9.1

With the SIMATIC PDM Stand alone Server product package, you can establish central service and parameter assignment stations that operate according to the client/server principle. Portals opened on licensed SIMATIC PDM clients (SIMATIC PDM sessions) enable handling of production plant field devices via the SIMATIC PDM server on the plant bus assigned via registration. The product package can be used multiple times within a plant, e.g. for various plant units. It comprises:

- SIMATIC PDM Basic (incl. 4 SIMATIC PDM TAGs)
- SIMATIC PDM Extended
- SIMATIC PDM Server
- 2 × SIMATIC PDM 1 Client

## Communication

### Field device integration

#### SIMATIC PDM

##### Design (continued)

- 100 SIMATIC PDM TAGs

SIMATIC PDM Stand alone Server can be expanded with all functional SIMATIC PDM options (PDM Routing only in combination with PDM Integration in STEP 7/PCS 7 required) as well as with cumulative sets of 10, 100 or 1 000 SIMATIC PDM TAGs and SIMATIC PDM 1-client licenses (see "Optional product components"). The portals opened on these clients (SIMATIC PDM sessions) must also be licensed with the SIMATIC PDM 1-client licenses besides the SIMATIC PDM clients. For details about this, refer to "SIMATIC PDM 1 Client" under "Optional product components". For user management of the SIMATIC PDM clients, the SIMATIC Logon product is also required. It is possible to upgrade to another product version.

**Note:** For use of gateways and for PROFINET or Ethernet communication with field devices, SIMATIC PDM TAG licenses are charged according to the objects configured in the process device plant view (for details, see corresponding note under SIMATIC PDM Service V9.1).

#### **SIMATIC PDM system-integrated product packages**

##### SIMATIC PDM S7 V9.1

The SIMATIC PDM S7 product package designed for use in a SIMATIC S7 configuration environment is intended for setup of a local SIMATIC S7 engineering and service station. It requires the installation of STEP 7 V5.5+SP4. It includes:

- SIMATIC PDM Basic (incl. 4 SIMATIC PDM TAGs)
- SIMATIC PDM Extended
- SIMATIC PDM integration in STEP 7/PCS 7
- 100 SIMATIC PDM TAGs

SIMATIC PDM S7 can be expanded with the functional options SIMATIC PDM Routing, SIMATIC PDM Communication FOUNDATION Fieldbus, SIMATIC PDM Server, and SIMATIC PDM HART Server as well as with cumulative SIMATIC PDM TAGs (sets of 10, 100 or 1 000) (see "Optional product components"). SIMATIC PDM 1 Client licenses (sets of 1) can also be added in combination with the SIMATIC PDM Server option.

##### SIMATIC PDM PCS 7 V9.1

The SIMATIC PDM PCS 7 product package suitable for use in a SIMATIC PCS 7 configuration environment is intended for use in a central SIMATIC PCS 7 engineering and service station. It comprises:

- SIMATIC PDM Basic (incl. 4 SIMATIC PDM TAGs)
- SIMATIC PDM Extended
- SIMATIC PDM integration in STEP 7/PCS 7
- SIMATIC PDM Routing
- 100 SIMATIC PDM TAGs

SIMATIC PDM PCS 7 can be expanded with the functional options SIMATIC PDM Communication FOUNDATION Fieldbus and SIMATIC PDM Server as well as with cumulative SIMATIC PDM TAGs (sets of 10, 100 or 1000) (see "Optional product components"). SIMATIC PDM 1 Client licenses (sets of 1) can also be added in combination with the SIMATIC PDM Server option.

##### SIMATIC PDM PCS 7 Server V9.1

Instead of SIMATIC PDM PCS 7, the SIMATIC PDM PCS 7 Server product package expanded with the SIMATIC PDM Server option can also be used for a central SIMATIC PCS 7 engineering and service station. Field devices integrated using an Electronic Device Description (EDD) can then be assigned parameters on any client of the SIMATIC PCS 7 Maintenance Station as well as on local SIMATIC PDM clients. The following are components of SIMATIC PDM PCS 7 Server:

- SIMATIC PDM Basic (incl. 4 SIMATIC PDM TAGs)
- SIMATIC PDM Extended
- SIMATIC PDM integration in STEP 7/PCS 7
- SIMATIC PDM Routing
- SIMATIC PDM Server
- 100 SIMATIC PDM TAGs

SIMATIC PDM PCS 7 Server can be expanded with the functional option SIMATIC PDM Communication FOUNDATION Fieldbus as well as with cumulative sets of 10, 100 or 1 000 SIMATIC PDM TAGs and SIMATIC PDM 1-Client licenses (see "Optional product components"). The portals opened on these clients (SIMATIC PDM sessions) must also be licensed with the SIMATIC PDM 1-client licenses besides the SIMATIC PDM clients. For details about this, refer to "SIMATIC PDM 1 Client" under "Optional product components".

##### SIMATIC PDM PCS 7-FF V9.1

Instead of SIMATIC PDM PCS 7, the SIMATIC PDM PCS 7-FF product package expanded with the SIMATIC PDM Communication FOUNDATION Fieldbus option can also be used for a central SIMATIC PCS 7 engineering and service station. This additionally supports parameter assignment of field devices on FOUNDATION Fieldbus H1. Components of SIMATIC PDM PCS 7-FF are:

- SIMATIC PDM Basic (incl. 4 SIMATIC PDM TAGs)
- SIMATIC PDM Extended
- SIMATIC PDM integration in STEP 7/PCS 7
- SIMATIC PDM Routing
- SIMATIC PDM Communication FOUNDATION Fieldbus
- 100 SIMATIC PDM TAGs

SIMATIC PDM PCS 7-FF V9.1 can be expanded with the functional option SIMATIC PDM Server as well as with cumulative sets of 10, 100 or 1 000 SIMATIC PDM TAGs (see "Optional product components"). SIMATIC PDM 1 Client licenses (sets of 1) can also be added in combination with the SIMATIC PDM Server option.

**Design (continued)**
**Optional product components**
SIMATIC PDM Extended V9.1 option

The SIMATIC PDM Extended option enables you to unlock other system functions for SIMATIC PDM Basic and SIMATIC PDM, for example:

- Change log
- Calibration report
- Extended information in the Lifelist
- Export and import functions
- Print functions
- Document manager
- Comparison function
- Group operations
- Setting device IDs

This functionality is already integrated in the following product packages: SIMATIC PDM Stand alone Server, SIMATIC PDM S7, SIMATIC PDM PCS 7, SIMATIC PDM PCS 7 Server and SIMATIC PDM PCS 7-FF.

SIMATIC PDM Integration option in STEP 7/PCS 7 V9.1

This option is used for the integration of SIMATIC PDM in a SIMATIC S7 or SIMATIC PCS 7 configuration environment. SIMATIC PDM can then be started directly from the hardware configurator (HW Config) in STEP 7/SIMATIC PCS 7.

This functionality is already integrated in the product packages of category "SIMATIC PDM System-integrated" (SIMATIC PDM S7, SIMATIC PDM PCS 7, SIMATIC PDM PCS 7 Server, and SIMATIC PDM PCS 7-FF).

SIMATIC PDM Routing V9.1 option

If SIMATIC PDM is used on an engineering station, the SIMATIC PDM Routing option enables handling of every device in the field that can be configured per EDD throughout the plant and across different bus systems and remote I/Os. SIMATIC PDM Routing can be used in combination with SIMATIC PDM Integration in STEP 7/SIMATIC PCS 7.

Routing is already integrated in SIMATIC PDM PCS 7, SIMATIC PDM PCS 7 Server, and SIMATIC PDM PCS 7-FF. SIMATIC PDM Routing can be additionally installed as an option on a local SIMATIC S7 engineering and service station with SIMATIC PDM S7.

SIMATIC PDM Server V9.1 option

The server functionality can be activated in a local or central service station with this option. It enables parameter assignment of selected field devices on any client of the SIMATIC PCS 7 Maintenance Station as well as on local SIMATIC PDM clients. This functionality is already integrated in the SIMATIC PDM Stand alone Server and SIMATIC PDM PCS 7 Server. The SIMATIC PDM clients as well as the portals opened on these clients (SIMATIC PDM sessions) must be licensed with SIMATIC PDM 1 client licenses. For details about this, refer to "SIMATIC PDM 1 Client" under "Optional product components".

SIMATIC PDM Communication FOUNDATION Fieldbus V9.1 option

In a SIMATIC S7/PCS 7 configuration environment, using this option SIMATIC PDM can communicate with field devices on the FOUNDATION Fieldbus H1 via the FF link.

This functionality is already integrated in the SIMATIC PDM PCS 7-FF product package.

SIMATIC PDM HART Server V9.1 option

This option permits the use of HART multiplexers from various vendors in SIMATIC PDM. Furthermore, WirelessHART field devices can also be parameterized with SIMATIC PDM.

**SIMATIC PDM TAGs (version-independent)**

Depending on the project size, the SIMATIC PDM TAGs supplied with a product package (except SIMATIC PDM Single Point) can be cumulatively expanded with sets of 10, 100 or 1 000 SIMATIC PDM TAGs.

A SIMATIC PDM TAG corresponds to a SIMATIC PDM object that represents the individual field devices or field components within a project, e.g. measuring instruments, positioners, switching devices or remote I/Os. SIMATIC PDM TAGs are also relevant for diagnostics with the lifelist of SIMATIC PDM. In this case, TAGs are considered to be all recognized devices with diagnostics capability, whose detailed diagnostics is effected through the device description (EDD).

**SIMATIC PDM 1 Client (version-independent)**

SIMATIC PDM 1 Client is a cumulative single-client license for SIMATIC PDM configurations with SIMATIC PDM Server, for example SIMATIC PDM Stand alone Server or SIMATIC PDM PCS 7 Server. The license is used to activate registered SIMATIC PDM clients and SIMATIC PDM sessions (opened portals) on these clients.

Each "SIMATIC PDM 1 Client" license activates one SIMATIC PDM client with one SIMATIC PDM session. A SIMATIC PDM session is defined as one opened portal together with the parameter views of the field devices opened from the portal. Each additional simultaneously opened SIMATIC PDM session on this client requires its own "SIMATIC PDM 1 Client" license. For larger projects, up to 30 registered SIMATIC PDM Clients are possible.

The "SIMATIC PDM 1 Client" license must be transferred to the computer with the SIMATIC PDM Server. The SIMATIC PDM Standalone Server product package comes with 2 "SIMATIC PDM 1 Client" licenses.

**SIMATIC PDM Software Media Package V9.1**

The current SIMATIC PDM installation software is offered without a license in the form of the SIMATIC PDM Software Media Package. Purchasing of corresponding software licenses is necessary to unlock the product-specific functionalities.

## Communication

### Field device integration

#### SIMATIC PDM

##### Design (continued)

With SIMATIC PDM product packages, a SIMATIC PDM Software Media Package is supplied together with each ordering item when supplied via "Goods delivery" (not with optional product components). Further SIMATIC PDM Software Media Packages must be ordered separately as required.

The software of the SIMATIC PDM Media Package without a license can be used for demonstration purposes in demo mode. The SIMATIC PDM functionality is limited as follows in demo mode:

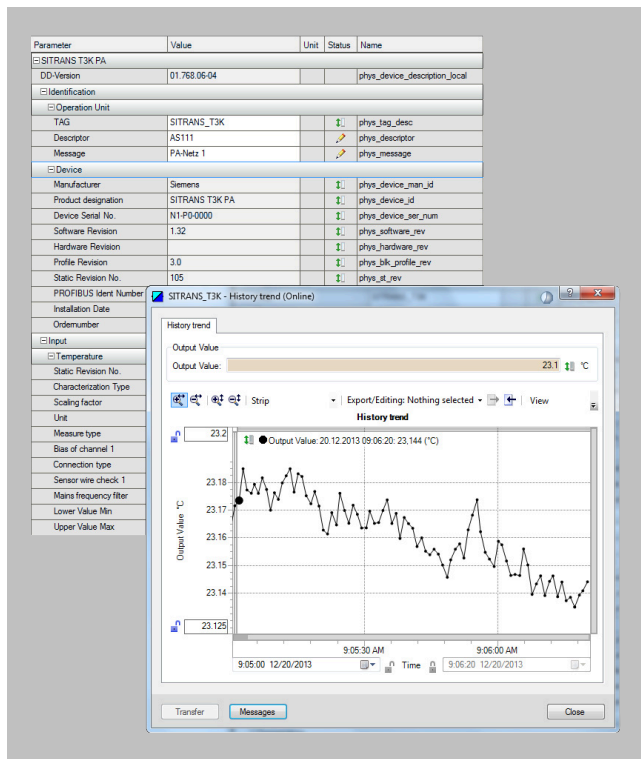
- Stand alone mode
- Storage functions disabled
- Export and import functions disabled
- Expanded functionality disabled
- Communication functions restricted

##### Information on ordering and delivery

Installation software for the SIMATIC PDM is provided in the form of a software media package. Software media packages and product-specific software licenses are separate packages, which are not merged into a single delivery unit for a goods delivery.

The number of delivered software media packages can be determined by the number of ordered items. You can find more information under "Goods delivery" in the "Software Media and Logistics" section, "PCS 7 Software Packages" subsection in the ST PCS 7 catalog.

##### Function



SIMATIC PDM, parameter view and trend window

##### SIMATIC PDM core functions

- Creation of project-specific device libraries
- Adjustment and modification of device parameters
- Comparing (e.g. project and device data)
- Plausibility testing of data input
- Device identification and testing
- Device status indication (operating modes, interrupts, states)
- Simulation
- Diagnostics (standard, detailed)
- Export/import (parameter data, logs, documents)
- Management (e.g. networks and PCs)

##### Function (continued)

- Commissioning functions, e.g. measuring circuit tests of device data
- Lifecycle management functions, e.g. for device replacement
- Global and device-specific modification logbook for user operations (audit trail)
- Device-specific calibration reports
- Graphic presentations of echo envelope curves, trend displays, valve diagnosis results etc.
- Presentation of incorporated manuals
- Document manager for integration of up to 10 multimedia files

##### Integration

###### Device integration

SIMATIC PDM supports all devices defined by the Electronic Device Description (EDD) and devices described by Field Device Integration Technology (FDI Technology V1.2). EDD is standardized to EN 50391 and IEC 61804. Internationally it is the most widely used standardized technology for device integration. At the same time, it is the guideline of the established organizations for

- PROFIBUS and PROFINET (PI – PROFIBUS & PROFINET International)
- HART (FCG: Field Communication Group)
- Foundation Fieldbus (FCG: Field Communication Group)

The devices are integrated directly in SIMATIC PDM through a company-specific EDD or through the libraries of the FCG. To achieve improved transparency, they can be managed in project-specific device libraries.

Field devices are described in the EDD or FDI device description packages in terms of functionality and construction using the Electronic Device Description Language (EDDL). Using this description, SIMATIC PDM automatically creates its user interfaces with the specific device data. By simply importing the manufacturer's device-specific device description packages, you can update existing devices and integrate further devices in SIMATIC PDM.

###### Technical support

If you wish to use devices which cannot be found in the SIMATIC PDM device description library, we would be pleased to help you integrate them.

###### Support Request

You can request support by service specialists at Technical Support by using a "Support Request" on the Internet:



**Integration (continued)**
**Contacts in the Region**

The Technical Support responsible for your Region can be found on the Internet at:

**Selection and ordering data**

|  |                    |
|--|--------------------|
| <b>SIMATIC PDM Stand alone product packages</b>  |                    |
| <b>Minimum configuration</b>   |                    |
| <b>SIMATIC PDM Single Point V9.1</b><br>including 1 TAG; product package for operation and configuration of one field device; communication via PROFIBUS DP/PA, HART (modem, RS 232, PROFIBUS/PROFINET), Modbus, Ethernet or PROFINET<br>Additional functions or SIMATIC PDM TAGs are not possible<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7 Software Media Package |                    |
| <ul style="list-style-type: none"> <li>• Goods delivery<br/>License key on USB flash drive and Certificate of License, bundle with 1 × SIMATIC PDM Software Media Package per order item</li> </ul>  | 6ES7658-3HA68-0YA5 |
| <ul style="list-style-type: none"> <li>• Online delivery<br/>License key download and online Certificate of License combined with SIMATIC PDM Software Media Package (SIMATIC PDM and device library software download)<br/>: Email address required!</li> </ul>   | 6ES7658-3HA68-0YH5 |
| <b>Basic configuration for individual product package as well as local service and parameter assignment stations</b>   |                    |
| <b>SIMATIC PDM Basic V9.1</b><br>including 4 TAGs; product package for operation and configuration of field devices and components; communication via PROFIBUS DP/PA, HART (modem, RS 232, PROFIBUS/PROFINET), Modbus, Ethernet or PROFINET<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7 Software Media Package  |                    |
| <ul style="list-style-type: none"> <li>• Goods delivery<br/>License key on USB flash drive and Certificate of License, bundle with 1 × SIMATIC PDM Software Media Package per order item</li> </ul>  | 6ES7658-3AB68-0YA5 |

**Selection and ordering data (continued)**

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>• Online delivery<br/>License key download and online Certificate of License combined with SIMATIC PDM Software Media Package (SIMATIC PDM and device library software download)<br/>: Email address required!</li> </ul>  | 6ES7658-3AB68-0YH5 |
| <b>Configuration for local service and parameter assignment station</b>   |                    |
| <b>SIMATIC PDM Service V9.1</b>   |                    |
| Product package for service and measuring circuit tests on a local service station, with  |                    |
| <ul style="list-style-type: none"> <li>• SIMATIC PDM Basic incl. 4 TAGs</li> <li>• 50 TAGs</li> </ul> 6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7 Software Media Package  |                    |
| <ul style="list-style-type: none"> <li>• Goods delivery<br/>License key on USB flash drive and Certificate of License, bundle with 1 × SIMATIC PDM Software Media Package per order item</li> </ul>   | 6ES7658-3JD68-0YA5 |
| <ul style="list-style-type: none"> <li>• Online delivery<br/>License key download and online Certificate of License combined with SIMATIC PDM Software Media Package (SIMATIC PDM and device library software download)<br/>: Email address required!</li> </ul>  | 6ES7658-3JD68-0YH5 |
| <b>Configuration for central service and parameter assignment station</b>   |                    |
| <b>SIMATIC PDM stand-alone server V9.1</b>  |                    |
| Product package for service and device management in plant units, with  |                    |
| <ul style="list-style-type: none"> <li>- SIMATIC PDM Basic incl. 4 TAGs</li> <li>- SIMATIC PDM Extended</li> <li>- SIMATIC PDM Server</li> <li>- 2 × SIMATIC PDM 1 Client</li> <li>- 100 TAGs</li> </ul> 6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs with Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), single license for 1 installation<br>Without SIMATIC PCS 7 Software Media Package |                    |
| <ul style="list-style-type: none"> <li>• Goods delivery<br/>License key on USB flash drive and Certificate of License, bundle with 1 × SIMATIC PDM Software Media Package per order item</li> </ul>   | 6ES7658-3TX68-0YA5 |
| <ul style="list-style-type: none"> <li>• Online delivery<br/>License key download and online Certificate of License combined with SIMATIC PDM Software Media Package (SIMATIC PDM and device library software download)</li> </ul>  | 6ES7658-3TX68-0YH5 |





**Selection and ordering data (continued)**

|  |                    |
|--|--------------------|
| <b>SIMATIC PDM Extended V9.1</b><br>For enabling additional system functions<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7/SIMATIC PDM Software Media Package   |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive and Certificate of License</li> </ul>   | 6ES7658-3NX68-2YB5 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>(without SIMATIC PCS 7/SIMATIC PDM Software Media Package)<br/>License key download and online Certificate of License<br/>: Email address required!</li> </ul>  | 6ES7658-3NX68-2YH5 |
| <b>SIMATIC PDM Integration in STEP 7/SIMATIC PCS 7 V9.1</b><br>For integration in a SIMATIC S7/SIMATIC PCS 7 configuration environment<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7/SIMATIC PDM Software Media Package |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive and Certificate of License</li> </ul>   | 6ES7658-3BX68-2YB5 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>License key download and online Certificate of License<br/>: Email address required!</li> </ul>   | 6ES7658-3BX68-2YH5 |
| <b>SIMATIC PDM Routing V9.1</b><br>For plant-wide navigation to field devices<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7/SIMATIC PDM Software Media Package  |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive and Certificate of License</li> </ul>   | 6ES7658-3CX68-2YB5 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>License key download, online Certificate of License<br/>: Email address required!</li> </ul>  | 6ES7658-3CX68-2YH5 |
| <b>SIMATIC PDM Server V9.1</b><br>For activating the server functionality<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs with Windows 7   |                    |

**Selection and ordering data (continued)**

|   |                    |
|---|--------------------|
| Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), single license for 1 installation<br>Without SIMATIC PCS 7/SIMATIC PDM Software Media Package  |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive, Certificate of License</li> </ul>   | 6ES7658-3TX68-2YB5 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>License key download and online Certificate of License<br/>: Email address required!</li> </ul>  | 6ES7658-3TX68-2YH5 |
| <b>SIMATIC PDM Communication FOUNDATION Fieldbus V9.1</b><br>For communication with field devices on FOUNDATION Fieldbus H1<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7/SIMATIC PDM Software Media Package   |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive and Certificate of License</li> </ul>  | 6ES7658-3QX68-2YB5 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>License key download and online Certificate of License<br/>: Email address required!</li> </ul>  | 6ES7658-3QX68-2YH5 |
| <b>SIMATIC PDM HART Server V9.1</b><br>For using HART multiplexers as well as for configuration of WirelessHART field devices<br>6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information), floating license for 1 user<br>Without SIMATIC PCS 7/SIMATIC PDM Software Media Package |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive and Certificate of License</li> </ul>  | 6ES7658-3EX68-2YB5 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>License key download and online Certificate of License<br/>: Email address required!</li> </ul>  | 6ES7658-3EX68-2YH5 |
| <b>SIMATIC PDM 1 Client</b><br>Cumulative client license for SIMATIC PDM configurations with SIMATIC PDM Server, software class A, single license for 1 installation  |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive and Certificate of License</li> </ul>  | 6ES7658-3UA00-2YB5 |

# Communication

## Field device integration

### SIMATIC PDM

#### Selection and ordering data (continued)

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>Online delivery<br/>License key download and online Certificate of License<br/>: Email address required!</li> </ul>   | 6ES7658-3UA00-2YH5 |
| <b>SIMATIC PDM TAGs</b><br>TAG licenses for expanding the available TAG volume, cumulative, software class A, floating license for 1 user  |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>License key on USB flash drive and Certificate of License</li> </ul>   |                    |
| - 10 TAGs  | 6ES7658-3XC00-2YB5 |
| - 100 TAGs   | 6ES7658-3XD00-2YB5 |
| - 1 000 TAGs   | 6ES7658-3XE00-2YB5 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>License key download and online Certificate of License<br/>: Email address required!</li> </ul>   |                    |
| - 10 TAGs  | 6ES7658-3XC00-2YH5 |
| - 100 TAGs   | 6ES7658-3XD00-2YH5 |
| - 1 000 TAGs   | 6ES7658-3XE00-2YH5 |
| <b>SIMATIC PDM Software Media Package</b>  |                    |
| <b>SIMATIC PDM Software Media Package V9.1</b><br>Installation software without license, 6 languages (English, German, French, Italian, Spanish, Chinese), software class A, runs on Windows 7 Ultimate 64-bit, Windows 10 Enterprise 2015 LTSB 64-bit, Windows Server 2012 R2 Standard 64-bit or Microsoft Windows Server 2016 Standard 64-bit (see SIMATIC PDM V9.1 Readme for latest information) Without SIMATIC PCS 7 Software Media Package<br><b>Note:</b><br>Can only be used in conjunction with a valid license or in demo mode! |                    |
| <ul style="list-style-type: none"> <li>Goods delivery<br/>SIMATIC PDM and device library software on DVD</li> </ul>  | 6ES7658-3GX68-0YT8 |
| <ul style="list-style-type: none"> <li>Online delivery<br/>SIMATIC PDM and device library software download<br/>: Email address required!</li> </ul>   | 6ES7658-3GX68-0YG8 |

#### Technical specifications

| SIMATIC PDM V9.1                |  |
|---------------------------------|--|
| Hardware                        | <ul style="list-style-type: none"> <li>PG/PC/notebook with processor corresponding to operating system requirements</li> </ul>   |
| Operating system (alternatives) | <ul style="list-style-type: none"> <li>Windows 7 Professional/Ultimate/Enterprise SP1 32-bit/64-bit</li> <li>Windows 10 Enterprise 2015 LTSB 64-bit</li> <li>Windows Server 2012 R2 SP1 Standard Edition, 64-bit</li> <li>Microsoft Windows Server 2016 Standard 64-bit</li> </ul> |
| Integration in STEP 7/PCS 7     | <ul style="list-style-type: none"> <li>SIMATIC PCS 7 V8.0+SP2/V8.1/V8.2 (without Communication FOUNDATION Fieldbus)</li> <li>SIMATIC PCS 7 V9.0</li> <li>STEP 7 V5.5+SP4/V5.6</li> </ul>   |
| SIMATIC PDM Client              | <ul style="list-style-type: none"> <li>Microsoft Internet Explorer 10 or 11</li> <li>Google Chrome</li> </ul>  |

#### More information

##### Update/Upgrade

Existing installations based on SIMATIC PDM V6.x or V8.x/V9.0 (including SP in each case) can be upgraded straight to V9.1 with upgrade packages.

Projects with SIMATIC PDM V7.0 can only be upgraded to version 9.1 by first upgrading to version 8.0. Two upgrade packages are offered for SIMATIC PDM V8.x/V9.0:

- SIMATIC PDM Upgrade Package Basic<sup>1)</sup> (with/without SIMATIC PDM HART Server option in each case) for configurations based on:

- SIMATIC PDM Basic
- SIMATIC PDM Service
- SIMATIC PDM S7
- SIMATIC PDM PCS 7

- SIMATIC PDM Upgrade Package Complete<sup>1)</sup> for configurations based on:

- SIMATIC PDM PCS 7 Server
- SIMATIC PDM PCS 7-FF

<sup>1)</sup> Optional product components for SIMATIC PDM such as PDM Extended, PDM Integration in STEP 7/PCS 7, PDM Routing, PDM Server and PDM Communication FOUNDATION Fieldbus are each included in a product package listed in the SIMATIC PDM Upgrade Package Basic or SIMATIC PDM Upgrade Package Complete and are implicitly authorized to be updated via the corresponding license. The SIMATIC PDM Upgrade Package Complete is required for use of the product components PDM Server or PDM Communication FOUNDATION Fieldbus.

For more information, see the section "Update/upgrade packages", "Updates/upgrades asynchronous to the PCS 7 version" - "Upgrades SIMATIC PDM".