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Application description • 05/2015

Configuration of the ION SIMATIC S7 PN for a SIMATIC 400 Station

CMS X-Tools / V 04.02 SP2 / CPU 416-3 PN/DP

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1 Preface

1.1 Overview

The ION SIMATIC S7 PN is a software component which is used in order to acquire data from a SIMATIC controller with integrated PROFINET module. The acquired data can be analyzed and stored in X-Tools.

This application description provides an example of the configuration in X-Tools and in the SIMATIC Manager for the CPU 416-3 PN/DP. The configuration steps for the usage of the ION SIMATIC S7 PN with different CPUs are similar.



Figure 1-1: CMS X-Tools -Architecture

1.2 Basic Knowledge required

In order to understand this application description, general knowledge of automation technology and software packages CMS X-Tools (in the following, X-Tools) and STEP 7 is required.

In addition, you must be familiar with network technology (UDP/IP) and with using computers with Windows.

1.3 Required Software

This document is valid for the following software:

- CMS X-Tools ION SIMATIC S7 PN V 01.03
- CMS X-Tools Professional V 04.02 SP2
- SIMATIC Manager V 05.05 SP3

The usage of different software versions can lead to variations of the steps described below.

1.4 Required Hardware

- CPU 416-3 PN/DP
- Engineering System with SIMATIC Manager and X-Tools

NOTE The X-Tools Client and Server can also be installed at different systems.

1.5 Scope of delivery

Following files are delivered:

- SIMATIC Project empty: S7400_and_SW_ION_empty.zip
- SIMATIC Project completed: S7400_and_SW_ION_complet.zip
- X-Tools Project location: X_Tools_File_Location.zip
- SIMATIC Library : CMS_X-Tools_ION_SIMATIC_S7_PN_V_01.03.zip

1.6 Further Information

A detailed description of all features is not subject of this document. Further information can be found in:

- CMS X-Tools User Manual ION SIMATIC S7 PN
- CMS X-Tools User Manual 01 07

1.7 Terms

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The following terms are used in this document:

Definition	Description	
DB	Data Block	
ОВ	Organization Block	
FB	Function Block	
ION	I/O-Node	
UIK	Universal Identification Key	
SW	Software	

2 Configuration and Programming

2.1 SIMATIC Manager

2.1.1 Retrieve the Library

Insert the product-CD "CMS X-Tools" into the drive of your PC. Start the SIMATIC Manager and open via **File>Retrieve...** the dialog for retrieving projects and libraries. Choose the path to your CD-drive and open the archive file "CMS X-Tools ION SIMATIC S7 PN V 01.03.zip" from the product CD. Finally choose the target directory and the storage path for the **ION SIMATIC S7 PN** library and confirm with OK.

When the process of retrieving is completed, click on "Yes" in the shown dialog to open the library:

Figure 2-1: Retrieve Dialog

Retrieve (3280:754)	
The following objects were retrie Projects: None Libraries: ION SIMATIC S7 PN Do you want to open these now	eved: v?
<u>Yes</u> <u>N</u> o	

The library is installed properly.

Figure 2-2: ION SIMATIC S7 PN Library

SION SIMATIC S7 PN (Component	view) C:\Program	Files (x86)\Siemens\ST	EP7\S7Proj\S7_PN		- • ×
	Object name	Symbolic name	Created in langu	Size in the work	Туре
E-B ION SIMATIC S7 PN	🕞 FB3	ION SIMATIC S7 PN	SCL	8790	Function Block
Quellen	🚰 FB65	TCON	STL	860	Function Block
Bausteine	🞜 FB67	TUSEND	STL	416	Function Block
	🚰 FB68	TURCV	STL	472	Function Block
	FC8	DT_TOD	STL	242	Function
	SFC1	READ_CLK	STL	-	System function
	SFC6	RD_SINFO	STL	_	System function
	SFC20	BLKMOV	STL	_	System function
J	€				•

2.1.2 Hardware Configuration

Create a new S7 project or open your already existing project. Figure 2-3 shows the example project which is provided by this application description.

Figure 2-3: S7 Example Project

S7400_and_SW_ION (Component v	view) C:\Program Files	(x86)\Siemens\STEP7\	S7Proj\S7400_an		
	Object name	Symbolic name	Туре	Size Author	Last modifie
	Hardware	_	Station configurati	_	05/13/2015
🖻 – 🚺 CPU 416-3 PN/DP	S CPU 416-3 PN/DP	-	CPU	-	05/11/2015
B- CT S7 Program(2) C Sources C Blocks					
1	•	111			0 4

Open the Hardware Configuration and ensure that the settings of the PN-IO Module fit to your network settings. You will need the IP-address of the PN-IO Module for the X-Tools configurations later.

Figure 2-4: Properties of the PN-IO Module



2.1.3 Copy the Software Blocks

Copy all the SW Blocks from the ION SIMATIC S7 PN Library to your project. The blocks FB65, FB67, FB68, FC8, SFC1, SFC6 and SFC20 originate from the "Standard Library".

NOTICE Rename FB3 before copying it, if your project already contains a FB3!

Figure 2-5: Project with copied SW Blocks

- ION SIMATIC S7 PN	Object name	Symbolic name C	reated in langu Si	ze in the work	Type	
ION SIMATIC S7 PN	FB3	ION SIMATIC S7 PN S	CL	8790	Funct	tion Block
- Duellen	💭 FB65	TCON S	TL	860	Funct	tion Block
Bausteine	5 FB67	TUSEND S	TL	416	Funct	tion Block
	5 FB68	TURCV S	TL	472	Funct	tion Block
	FC8	DT_TOD S	TL	242	Funct	tion
	SFC1	READ_CLK S	TL	-	Syste	em function
	SFC6	RD_SINFO S	TL	-	Syste	em function
	SFC20	BLKMOV S	TL		Syste	em function
S7400_and_SW_ION (Compone	ent view) C:\Progra	m Files (x86)\Siemens\STEP	7\S7Proj\S7400_an	Ì		
) \$7400_and_SW_ION (Compone	ent view) C:\Progra	m Files (x86)\Siemens\STEP	7\S7Proj\S7400_an	Size in the wo		Type
) S7400_and_SW_ION (Compon 身 S7400_and_SW_ION 白田 SIMATIC 400	ent view) C:\Progra	m Files (x86)\Siemens\STEP Symbolic name —	7\S7Proj\S7400_an Created in langu.	Size in the wo	rk	Type SDB
S7400_and_SW_ION (Compone S7400_and_SW_ION 白-顧 SIMATIC 400 由一집 CPU 416-3 PN/DP	 < III ent view) C:\Progra Object name System data a OB1 	m Files (x86)\Siemens\STEP Symbolic name —	7\S7Proj\S7400_an Created in langu. — STL	Size in the wo	rk	Type SDB Organizati
S7400_and_SW_ION (Compone S7400_and_SW_ION ⊕ SIMATIC 400 ⊕	 ✓ III ent view) C:\Progra Object name System data ⇒ OB1 ⇒ FB3 	m Files (x86)\Siemens\STEP Symbolic name 	7\S7Proj\S7400_an Created in langu: — STL SCL	Size in the wo	rk 	Type SDB Organizati Function E
S7400_and_SW_ION (Component) B S7400_and_SW_JON Image: SIMATIC 400 Image: SIMATIC	 III ent view) C:\Progra Object name System data GB1 FB3 FB3 FB55 	m Files (x86)\Siemens\STEP Symbolic name — ION SIMATIC S7 PN TCON	7\S7Proj\S7400_an Created in langu. — STL SCL STL STL	I Size in the wo	rk 38 8790 860	Type SDB Organizati Function E Function E
S7400_and_SW_ION (Compon B S7400_and_SW_ION B SIMATIC 400 B CPU 416-3 PN/DP B S7 Program(2) CPU 416-3 SN/DP B SIMATIC 400 B ST Program(2) B SIMATIC 400 B SIMATIC	 III ent view) C:\Progra Object name System data OB1 F83 F855 F867 	m Files (x86)\Siemens\STEP Symbolic name ION SIMATIC S7 PN TCON TUSEND	7\S7Proj\S7400_an Created in langu — STL SCL STL STL STL	I Size in the wo	rk 38 8790 860 416	Type SDB Organizati Function E Function E Function E
S7400_and_SW_ION (Compone S7400_and_SW_ION □ I SIMATIC 400 □ CPU 416-3 PN/DP □ SV 416-3 PN/DP □ Sources □ Sources □ Blocks	C:\Progra Object name System data Object same System data Object same FB3 FB5 FB5 FB5 FB5 FB57 FB68	m Files (x86)\Siemens\STEP Symbolic name ION SIMATIC S7 PN TCON TUBCY	7\S7Proj\S7400_an 	Size in the wo	rk 38 8790 860 416 472	Type SDB Organizati Function E Function E Function E
S7400_and_SW_ION (Component S7400_and_SW_ION B SIMATIC 400 B GPU 416-3 PN/DP B GPU 416-3 PN/DP B SIMATIC 400 B SIMATIC	 III Object name System data OBI FB3 FB65 FB65 FB66 FB66 FC66 FC66	m Files (x86)\Siemens\STEP Symbolic name 	7\\$7Proj\\$7400_an Created in langu T- STL SCL STL STL STL STL STL STL STL	Size in the wo	rk 38 8790 860 416 472 242	Type SDB Organizati Function E Function E Function E Function E
S7400_and_SW_ION (Compone ST400_and_SW_ION D SIMATIC 400 D I CPU 416-3 PN/DP D ST Program(2) D ST Prog	C:\Progra Object name System data Object name System data Object name Settem data FB3 FB5 FB5 FB5 FB5 FB5 FB5 SFC1 SFC1 SFC1	m Files (x86)\Siemens\STEP Symbolic name 	7\S7Proj\S7400_an 	Size in the wo	rk 38 8790 860 416 472 242	Type SDB Organizati Function E Function E Function E Function E Function System fu
S7400_and_SW_ION (Compone S7400_and_SW_ION D SIMATIC 400 D GPU 416-3 PN/DP D GPU 416	C:\Progra Object name System data Obj FB3 FB5 FB57 FB67 FC8 SFC1 SFC1 SFC1 SFC2	m Files (x86)\Siemens\STEP Symbolic name ION SIMATIC S7 PN TOON TURCY DT_TOD DT_TOD READ_CLK RD_SINFO PI (VOV)	7\S7Proj\S7400_an STL SCL STL STL STL STL STL STL STL ST	Size in the wo	rk 38 8790 860 416 472 242 	Type SDB Organizati Function E Function E Function E Function E Function System fu System fu

2.1.4 Initialization

The FB3 must be initialized in the corresponding Startup Organization Blocks (OB100, OB101 and OB102). The initialization is necessary for all possible startup cases of the CPU which depend on the specific application and settings. An example for the implementation of the OB100 is shown in the following part.

Open the OB100 block and type "CALL FB3,DBxy" and press enter. Choose for DBxy any free DB in your project. Figure 2-6 shows the call with DB31 for example.

Figure 2-6: Initialization in OB100

OB100 :	"Complete	Restart"
---------	-----------	----------

Comment:

□ Network 1: Title:

CALL FB3, DB31

Figure 2-7: Generating Instance Data Block Dialog



Apply the upcoming dialog as shown in Figure 2-7 with "Yes". The instance data block is generated automatically. After that all inputs and outputs of FB3 will appear in the editor.

Set input "COM_RST" to "TRUE". This is necessary in order to generate an initialization event for FB3.

The type of the S7 CPU is identified by the input "DEV_ID". Set "DEV_ID" to "B#16#5" for the CPU 416-3 PN/DP.

Save and close OB100 subsequently.

Figure 2-8: FB3 with its Inputs and Outputs

```
OB100 : "Complete Restart"
```

Comment:

```
□ Network 1: Title:
      CALL "ION SIMATIC S7 PN" , DB31
                                           FB3
       COM RST
                        :=TRUE
       CYCLE T
                       :=
       COMMAND ID
                       :=
       DATA ID
                        :=
       COMMAND PORT
                       :=
       DATA PORT
                       :=
       DEV ID
                        :=B#16#5
       CURRENT CHANNELS :=
       CHANNEL
                        :=
       UIK0
                       :=
       UIK1
                       :=
       UIK2
                        :=
       UIK3
                        :=
       UIK4
                        :=
       UIK5
                        .=
       UIK6
                        :=
       UIK7
                        :=
       TIME BASE
                        :=
       STATUS CMD TCON :=
       STATUS DATA TCON:=
```

2.1.5 Cyclic Data Transmission in Interrupt OB3x

FB3 must be called in OB3x for the cyclic data transmission. It is recommended to use a cycle time between 10ms and 100ms. OB36 (50ms cycle time per default) is used in this example.

Create a temporary variable in OB36 as array of DWord as shown in Figure 2-9.

	Contents Of: 'Environment	\Interface\TEMP'		
Interface	Name	Data Type	Address	Comment
E TEMP	DB36_STRT_INF	Byte	1.0	16#37 (OB 36 has started)
- DO OB36 EV CLASS	DB36_PRIORITY	Byte	2.0	Priority of OB Execution
- CB OB36_STRT_INF	DB36_OB_NUMBR	Byte	3.0	36 (Organization block 36, OB36)
- B OB36_PRIORITY	DB36 RESERVED 1	Byte	4.0	Reserved for system
-B OB36_OB_NUMBR	DB36 RESERVED 2	Byte	5.0	Reserved for system
- B OB36_RESERVED_1	DB36_PHS_OFFSET	Int	6.0	Phase offset (integer, milliseconds)
-B OB36_RESERVED_2	DB36_RESERVED_3	Int	8.0	Reserved for system
- CB OB36_PHS_OFFSET	DB36_EXC_FREQ	Int	10.0	Frequency of execution (msec)
OB36_RESERVED_3	DB36_DATE_TIME	Date_And_Time	12.0	Date and time OB36 started
- COBSE EXC FREQ	data_to_transmit	Array[0177] Of DWord	20.0	
data_to_transmit	0		0	

Figure 2-9: Temporary Variable for Data Transmission

Fill this variable with content in order to verify the correct transmission to X-Tools later. In this example we use a counter and a constant as shown in Figure 2-10.

Figure 2-10: Filling "data_to_transmit" with content

Network	1: Increment MD10	
L	"Counter_Calls_of_OB36"	MD10
L	1	
+D		
Т	"Counter_Calls_of_OB36"	MD10
Network L	2: Fill "data_to_transmit" "Counter_Calls_of_OB36"	MD10
L T	"Counter_Calls_of_OB36" #data_to_transmit[0]	MD10 #data_to_transmit[0]
L	DW#16#A	
т	<pre>#data_to_transmit[1]</pre>	<pre>#data_to_transmit[1]</pre>

NOTE

Ξ

This is just an example. This variable should normally be filled with real process values which shall be send to X-Tools.

Call now FB3 with its instance data block DB31 and fill the inputs as shown in Figure 2-11 and save OB36. Further information about the inputs of FB3 can be found in the documents mentioned in chapter 1.6.

Figure 2-11: Calling FB3 in OB36.

Network 3: Title:		
CALL "ION SIMA	TIC S7 PN" , DB31	FB3
COM_RST	:=FALSE	
CYCLE T	:=#OB36_EXC_FREQ	#OB36_EXC_FREQ
COMMAND ID	:=31	
DATA ID	:=32	
COMMAND PORT	:=W#16#7D0	
DATA PORT	:=W#16#7D1	
DEV ID	:=B#16#5	
CURRENT_CHANNE	LS:=178	
CHANNEL	:=#data_to_transmit	#data_to_transmit
UIK0	:=B#16#22	
UIK1	:=B#16#67	
UIK2	:=B#16#42	
UIK3	:=B#16#0	
UIK4	:=B#16#0	
UIK5	:=B#16#0	
UIK6	:=B#16#0	
UIK7	:=B#16#1	
TIME_BASE	:=B#16#1	
STATUS_CMD_TCO	N :=	
STATUS DATA TC	ON:=	

2.1.6 Download the Hardware Configuration and Software Blocks

Download the Hardware Configuration and the Software Blocks to the SIMATIC 400 Station and restart the CPU if necessary.

```
Figure 2-12: Downloading the Configuration and all Blocks
```

🗅 🛩 🚼 🛲 👗 🛍 🖻 🎪 🔍 🤗	• • ÷ 🗄 🎹 🛍 <	No Filter >	• 🏹 🐮 🎯 🖷 🗖 [D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
S7400_and_SW_ION (Com Downlo	adw) C:\Program Files	; (x86)\Siemens\STEP	7\S7Proj\S7400_an		
□ B S7400_and_SW_ION	Object name	Symbolic name	Туре	Size Author	Last modifie
BIMATIC 400	🗐 Hardware	_	Station configurati	—	05/13/2015
🖻 – 🚺 CPU 416-3 PN/DP	SPU 416-3 PN/DP	-	CPU	_	05/11/2015
e⊢∰ S7 Program(2) ∰ Sources ∰ Blocks					
	•	111			•

2.2 X-Tools

2.2.1 Configuration of the Windows Firewall

If the firewall does not allow X-Tools, then the communication cannot start between the automation system and X-Tools. Please verify the configuration as follows.

1. Open "Allow a program through Windows Firewall" from the "Control Panel\System and Security" window:

Figure 2-13: Control Panel\System and Security Window



2. Add "X-Tools Server Pro.exe" in the list of exception in order to allow X-Tools through Windows Firewall for public and Home/Work(Private) Networks:

Figure 2-14: Allow X-Tools to communicate through Windows Firewall

♥ 🔐 ト Control Panel ト System and Security ト Windows Firewall ト Allowed Prog	grams 👻 🐓	Search Control	Panel
Allow programs to communicate through Windows	Firewall		
To add, change, or remove allowed programs and ports, click Change	ge settings.		
What are the risks of allowing a program to communicate?	😗 Cha	nge settings	
Allowed programs and features:			
Name	Home/Work (Private)	Public ^	
Windows Communication Foundation			
Windows Firewall Remote Management			
Windows Management Instrumentation (WMI)			
U Windows Media Player			
Windows Media Player Network Sharing Service			
Windows Media Player Network Sharing Service (Internet)			
Windows Peer to Peer Collaboration Foundation			
Windows Remote Management			
Wireless Portable Devices			
□ World Wide Web Services (HTTP)			
✓ X-Tools Server Pro	V	v	
		*	
	Detai <u>l</u> s	Re <u>m</u> ove	
	Allow anothe	r program	
		- P 9	

3. Open the "Advanced settings" from the "Control Panel\System and Security\Windows Firewall" window:

Figure 2-15: Control Panel\System and Security\Windows Firewall Window



4. Ensure that all ports which are used by X-Tools are allowed for the private and public group for protocol type UDP:

🔿 🖄 🗊 🔒 🖬 🖬		>	-Tools Server Pro V 04.02 P	roperties		
Windows Firewall with Advance Inbound Rules; ≦ Outbound Rules; ▲ Connection Security Rules ▶ ➡ Monitoring	Inbound Rules		General	Programs and Services Computers		
	Name File and Printer Sharing (Spooler Service SCSI Service (TCP-In) Performance Logs and Alerts (TCP-In) Remote Event Log Management (NP-In) Remote Event Log Management (NP-In) Remote Event Log Management (PC-EPL Remote Scheduled Tasks Management (Remote Scheduled Tasks Management (Remote Scheduled Tasks Management (Remote Scheduled Tasks Management (Remote Scheduled Tasks Management ()	Group	Protocols and Ports Scope Advanced Users			
		File and Printer sharing ISCSI Service Performance Logs and Ale Performance Logs and Ale Remote Event Log Manag Remote Event Log Manag Remote Scheduled Tasks h Remote Scheduled Tasks h	Protocol sand ports Protocol type: Protocol numbe	dubp ◆		
			Remole port	All Ports Example: 80, 443, 5000-5010 All Ports		
	Remote Service Management (RPC) Remote Service Management (RPC-EPM Remote Volume Management - Virtual D Remote Volume Management - Virtual D Remote Volume Management - Virtual D Remote Volume Management (RPC-EPM	Remote Service Managem Remote Service Managem Remote Volume Managen Remote Volume Managen Remote Volume Managen	Internet Control (ICMP) settings:	Example: 80, 443, 5000-5010 Message Protocol		
	SNAP Trap Service (UDP In) Windows Firevall Remote Management (Windows Firevall Remote Management (Windows Management Instrumentation Windows Management Instrumentation Windows Management Instrumentation Windows Media Player Network Sharing Windows Media Player Network Sharing	SNMP Trap Windows Firewall Remote Windows Firewall Remote Windows Management In Windows Management In Windows Management In Windows Media Player Ne Windows Media Player Ne	Learn more about protocol	and ports		
	Windows Media Player Network Sharing Windows Media Player Network Sharing	Windows Media Player Ne Windows Media Player Ne		OK Cancel Apply		
	Windows Media Player Network Sharing Windows Media Player Network Sharing Windows Remote Management - Compa Windows Remote Management (HTTP-In) X-Tools Server Pro V 04.02	Windows Media Player Net Windows Media Player Net Windows Remote Manage Windows Remote Manage	Private, Public Private, Public Private, Public Private, Public Private, Public	ICP No III UDP No III TCP No III TCP No III TCP Yes IIII		
	X-Tools Server Pro V 04.02		Private, Public	UDP Yes +		

Figure 2-16: Allow Ports in Windows Firewall with Advanced Security for UDP

5. Ensure that all ports which are used by X-Tools are allowed for the private and public group for protocol type TCP:

Figure 2-17: Allow Ports in Windows Firewall with Advanced Security for TCF

• • 2 🖬 🗟 🖬			X-Tools Server Pro V	04.02 Prop	perties		
P Windows Firewall with Advance	Inbound Rules		General Pro		rograms and Services Compute		Computers
🔛 Inbound Rules	Name	Group	Protocols and Po	ets	Scope	Advanced	Users
Outbound Rules	File and Printer Sharing (Spooler Service	File and Printer Sharing	Protocols and no	te			
 Monitoring 	SCSI Service (TCP-In) SCSI Service Performance Logs and Alerts (DCOM-In) Performance Logs and Alerts (TCP-In) Performance Logs Remote Event Log Management (NP-C) Remote Event Log Management (NP-C)	iSCSI Service	TCD.				
		Performance Logs and Ale Performance Logs and Ale	Protoco	(ype:	TUP	10110	•
			Protocol number:		я; <u>b</u>		
		Remote Event Log Manag					
		Remote Event Log Manag	Local port		All Ports 👻		
	Remote Event Log Management (RPC-EP	Remote Event Log Manag					
	Remote Scheduled Tasks Management (Rem Remote Scheduled Tasks Management (Rem	Remote Scheduled Tasks			Example: 80, 443, 5000-5010		
		Remote Scheduled Tasks	Remote port:		All Ports		•
	Remote Service Management (NP-In)	Remote Service Managem					
	Remote Service Management (RPC)	Remote Service Managem			Example	80 443 5000.5	5010
	Remote Service Management (RPC-EPM	Remote Service Managem			e nompro.		
	Remote Volume Management - Virtual D	Remote Volume Managen	Internel (ICMP)	Control Me	ssage Protocol	Cust	tornize
	Remote Volume Management - Virtual D.	Remote Volume Managen	(ic.mr.) seconds.				
	Remote Volume Management Virtual D, Remote Volume Managen Remote Volume Management (RPC-EPM, Remote Volume Managen SNMP Trap Service (UDP In) SNMP Trap Windows Firewall Remote Management (, Windows Firewall Remote						
		Learn more about protocol and ports					
	Windows Firewall Remote Management (Windows Firewall Remote					
	Windows Management Instrumentation	Windows Management In					
	Windows Management Instrumentation	Windows Management In					
	Windows Management Instrumentation	Windows Management In					
	Windows Media Player Network Sharing	Windows Media Player Ne					
	Windows Media Player Network Sharing	Windows Media Player Ne					
	Windows Media Player Network Sharing	Windows Media Player Ne			Or	Carro	al Ann
	Windows Media Player Network Sharing	Windows Media Player Ne			UN	Cano	ei App
	Windows Media Player Network Sharing	Windows Media Player Nec.	Private, Public		TCP	140	120
	Windows Media Player Network Sharing	Windows Media Player Net	Private, Public		UDP	No	
	Windows Remote Management - Compa	Windows Remote Manage	Private, Public		TCP	No	
	Windows Remote Management (HTTP-In)	Windows Remote Manage	Private, Public		TCP	No	
	X-Tools Server Pro V 04.02		Private, Public		TCP	Yes	
	WX-Tools Server Pro V 04.02		Private, Public		UDP	Yes	-

NOTE If it is not possible to allow all ports (e.g. due to security reasons), allow all ports which are used by X-Tools separately.

2.2.2 Main Management System

Open the X-Tools Client and start the corresponding Main Profile in the Main Management System in order to connect to the X-Tools Server.

Figure 2-18: Starting Main Profile



2.2.3 Device Management System

1. Switch to the Device Management System and create a new Interface Profile from type Socket T001 by using the context menu as shown in Figure 2-19.

Figure 2-19: Creating Interface Profile



2. Create a new connection in this interface profile. Enter the IP-Address of the CPU 416-3 PN/DP PN-IO Module and also the Command Port and the Data Port which were used as inputs of FB3 in OB36. Choose UDP as connection type and ensure that the checkbox "Enabled" is set. Save the edited interface profile and start it as shown in Figure 2-21.

Figure 2-20: Editing the Interface Profile

nterface Profile 01 (*) - IPE Socket T001								
	🔄 Interface Profile Settings							
No.	Parameter	Value						
1	Target Name	MD1EGDAC	ID1EGDAC					
2	Storage Path	Default Location	efault Location					
3	Creation Date	N/A	1/A					
4	Modification Date	N/A	N/A					
5	Target Interface N	lame Socket T001	Socket T001					
6	Profile Description	ı						
7	Company Name							
8	Author Name							
20	2 Connections							
No.	Enabled	IP Address	Command Port	Data Port	Connection Type	Time Domain		
1	V	10.119.53.226	2000	2001	UDP 🔻	Unique		
2		0.0.0.0						

Figure 2-21: Starting the Interface Profile



3. If the interface profile has started successfully it will get a green icon and the ION SIMATIC S7 PN appears in the directory Interfaces>Socket T001:

Figure 2-22: ION SIMATIC S7 PN appears after Starting the Interface Profile



4. Create a new Device Profile for the ION SIMATIC S7 PN by using the context menu:

Figure 2-23: Creating Device Profile



5. Edit the Message Cannel Content of the Device Profile. Use the crosshair cursor in order to set the beginning of each channel. The necessary Device Profile for this example is shown in Figure 2-25.

Figure 2-24: Editing the Device Profile







Configuration of the ION SIMATIC S7 PN for a SIMATIC 400 Station Entry-ID: 109477785, V1.0, 05/2015

6. Save the Device Profile and start it in the Device Management System by using the context menu:

Figure 2-26: Starting the Device Profile



7. The Online Data of the ION SIMATIC S7 PN appear in the MDS Explorer when the Device Profile is started successfully.

Figure 2-27: Online Data appear in the MDS Explorer



2.2.4 Visualization of the Online Data

Visualize the incoming data from the ION SIMATIC S7 PN in the Monitoring System. X-Tools receives a value which increases each 50ms and a second constant value of 10. These are the data which are transmitted by the OB36 of the S7 CPU.



Figure 2-28: Visualization of the Online Data

3

4

Contact Information

Should you have any questions concerning the software application, please refer to the Industry Sector Technical Support.

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Thank you for using one of the above mentioned contacts to ensure your inquiry is registered and can be processed.

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History

Version	Date	Modifications
V1.0	05/2015	First version