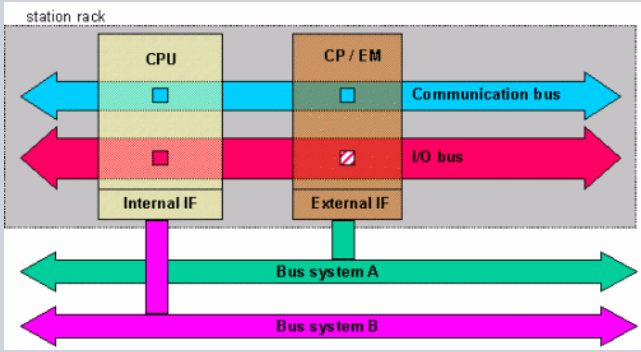
Communication with SIMATIC S7 - manuál

Station 1 / Station 2	S7-200	S7-300	S7-400	WinAC-Slot	WinAC-Basis/RTX (as of V 4.0)
S7-200	X (only PPI connection possible)	S7 basis communication (partner 2 as server via XPUT / XGET)	S7 communication (partner 2 as server) S7 basis communication (partner 2 as server via XPUT / XGET)	S7 communication (partner 2 as server) S7 basis communication (partner 2 as server via XPUT / XGET)	S7 communication
S7-300	X	S7 basis communication global data	S7 basis communication S7 communication	S7 basis communication S7 communication	S7 communication
S7-400	X				
WinAC-Slot	X				
WinAC Basis/RTX (ab V 4.0)	X				

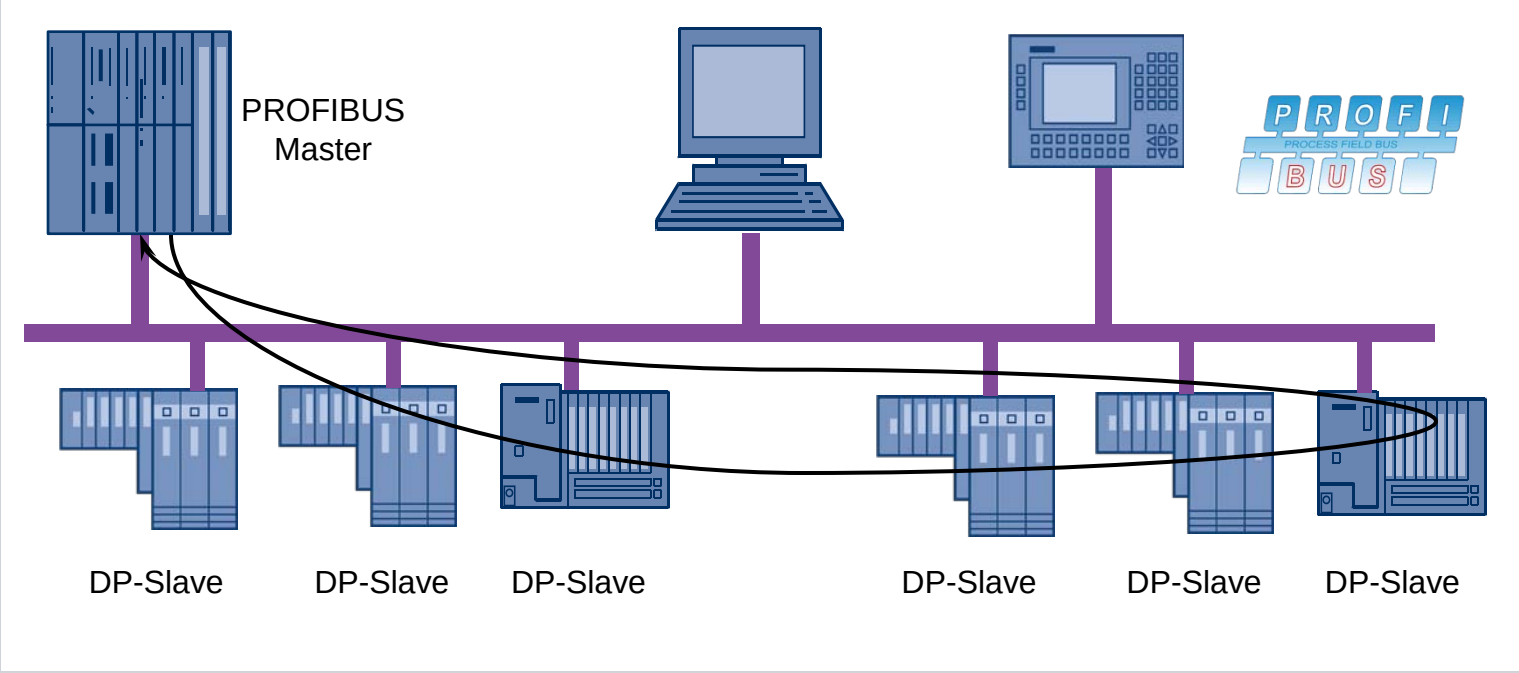
Criterion \ Protocol / Service	S7 basis communication		S7 communication			Global data
	XPUT / XGET	XSEND / XRECV	BSEND / BRCV	USEND / URCV	PUT / GET	
Data range	1 - 64 bytes	1 - 76 bytes	1 – 32768 (S7-300) / 65535 (S7-400) bytes	1 – 165 bytes	1 – 165 bytes	1 - 22 bytes (S7-300) / 1 - 64 bytes (S7-400)
Consistency	Only guaranteed when sending	Yes	Throughout the whole length		8 bytes throughout the whole length	Yes
Acknowledgement mechanism	Operating system of the controller		Level 7 implemented	Operating system of the controller		Operating system of the controller
Connected stations	1 – 1 unidirectional	1 – 1 bidirectional	1 – 1 bidirectional		1 – 1 unidirectional	1-1 / 1-n bidirectional
Configuration type	Non-configured connection		Bilaterally configured		Unilaterally configured	Bilaterally configured
Connection type	Dyn. / stat connection Client / Server	Dyn. / stat connection Client / Client	Stat connection Client / Client		Stat. connection Client / Server	Stat connection Client / Client
Performance: Data connection suitable for:	Small data amounts		Medium to large data amounts	Small data amounts		Smallest data amounts
Performance: Evaluation	☞ In case of static connections ♤ In case of dynamic connections		☞			☞
Configuration effort	None		Low			Medium
Programming effort	Medium		Medium			Medium
Connection of old systems (S5) / third-party systems	No		No			No

http://support.automation.siemens.com/WW/view/en/20982954

Stažení z webu tech. podpory



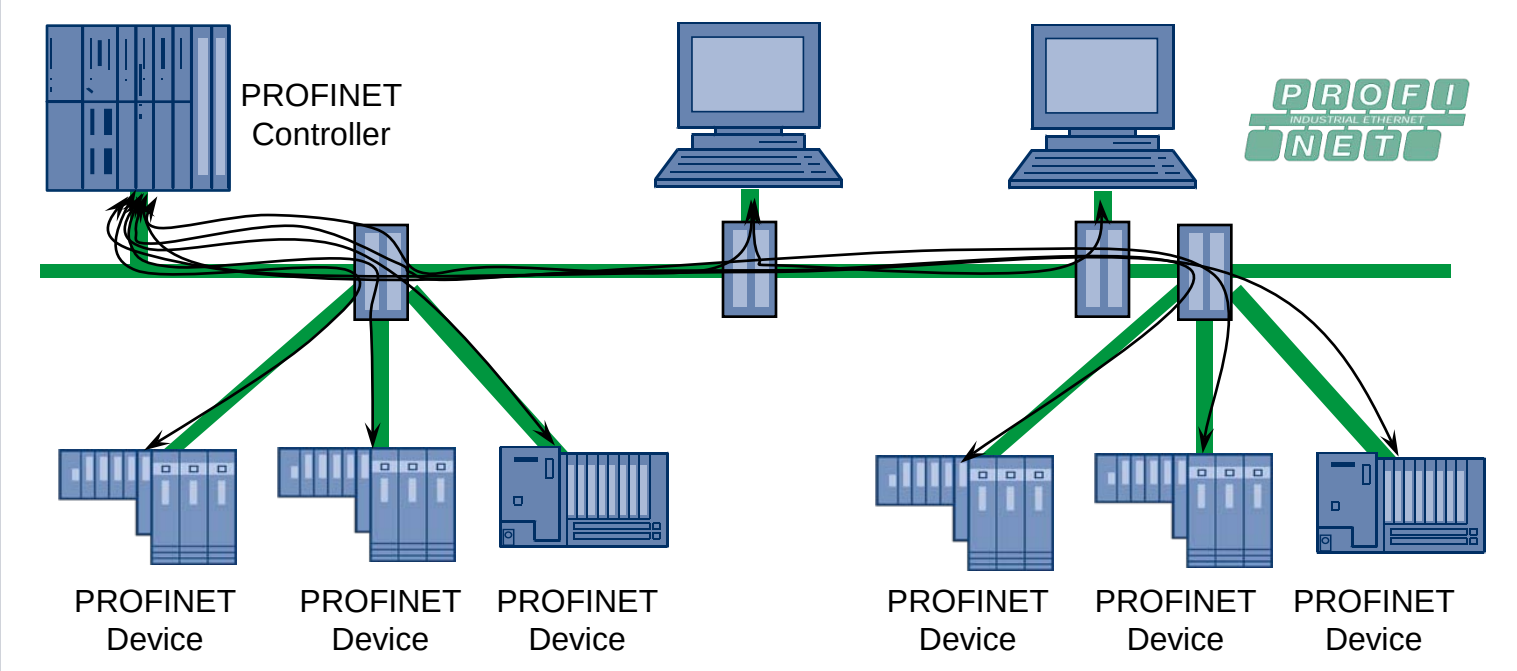
PROFIBUS-DP



DP-Master sbírá IO-Signály z jednotlivých DP-Slave jednotek a obnovuje Process image oblast CPU tak jak to nejrychleji lze.

Každý další Master nebo „aktivní“ zařízení prodlužuje odezvu na sběrnici (update time).

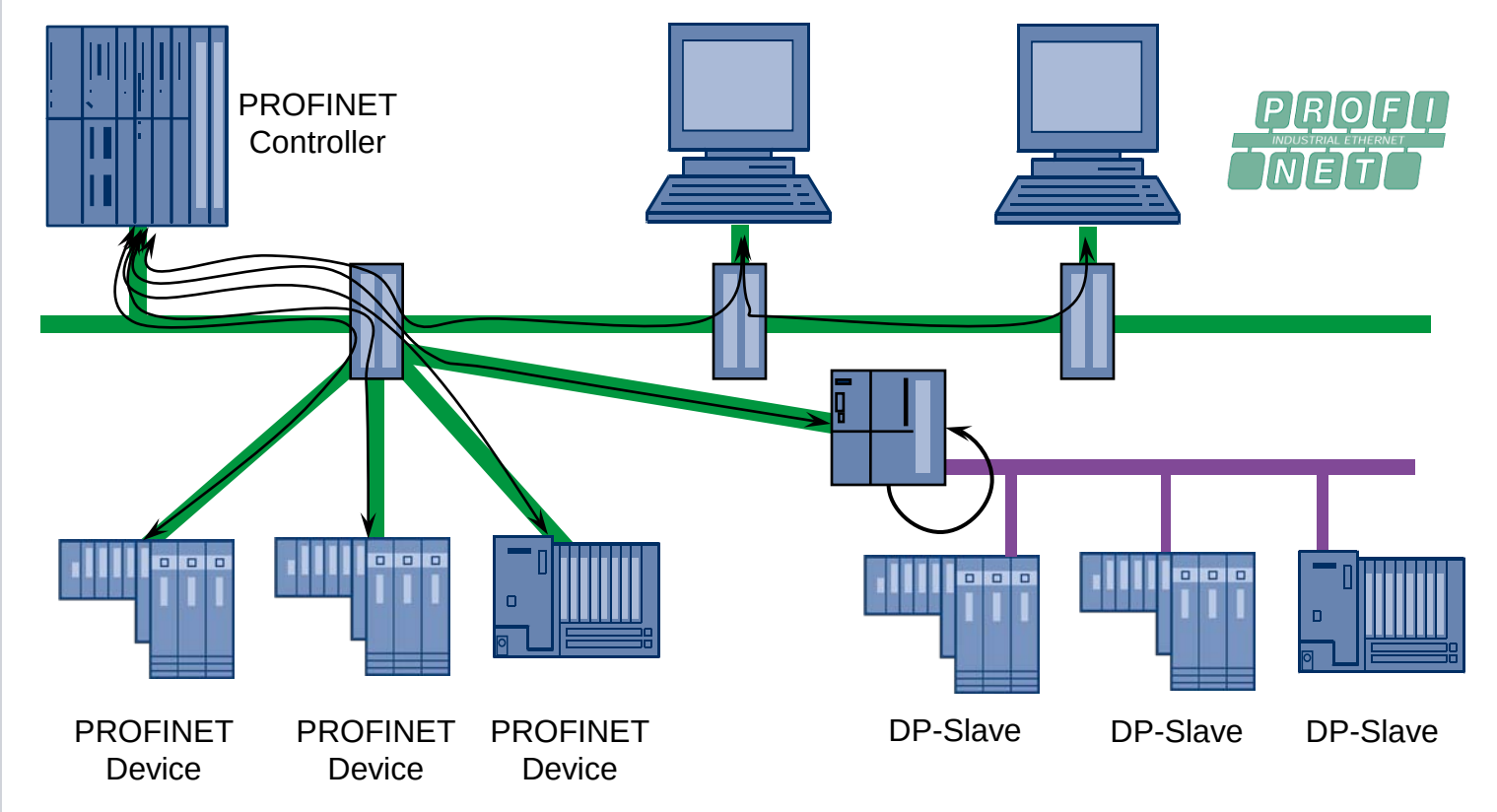
PROFINET IO



PN-Controller sbírá IO-Signály z jednotlivých PN-Devices a obnovuje Process image oblast CPU tak jak to nejrychleji lze.

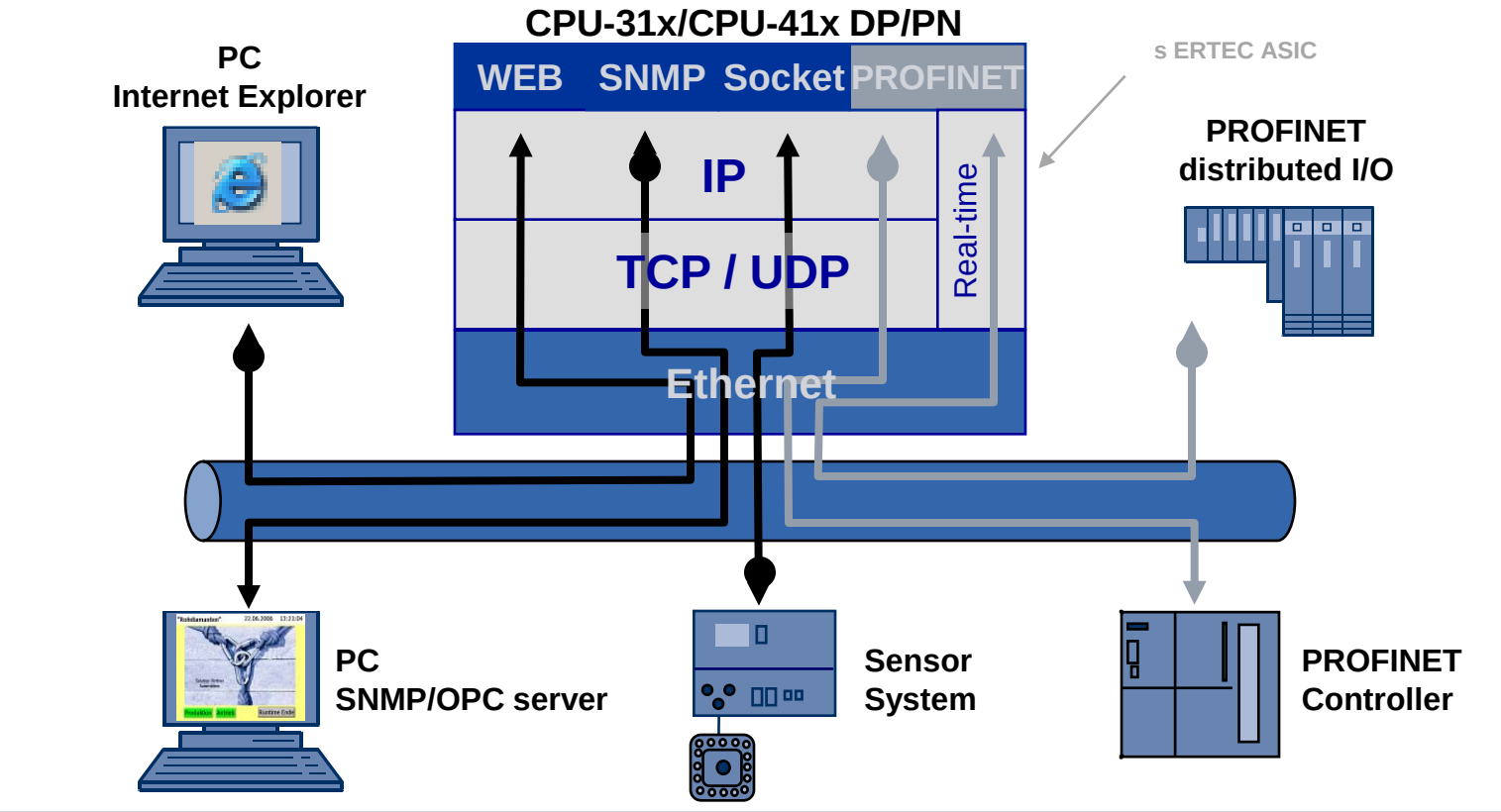
Každý další Controller nebo „aktivní“ stanice neovlivní cyklickou komunikaci (update time).

PROFINET



Stávající PROFBUS-sítě lze připojit pomocí Proxy Device.

Jediné rozhraní, jediný kabel - různé komunikační služby



PROFINET – různě výkonná komunikace (NRT, RT, IRT)

Pokus…

S7-400PN s 16x ET200S v linii

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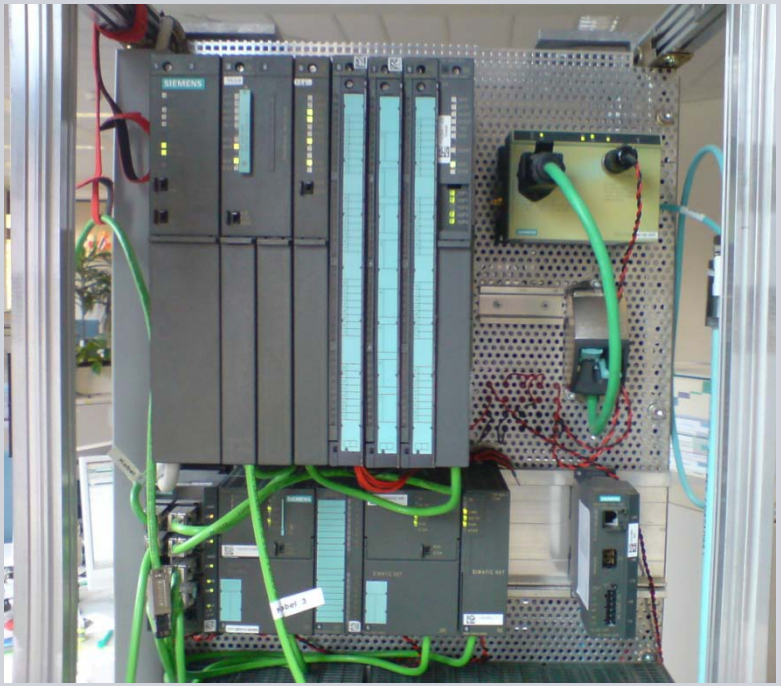

Profinet IO komunikace mezi S7-400 CPU

a ET 200S stanicemi

Pokus…

S7-400PN s 16x ET200S v linii

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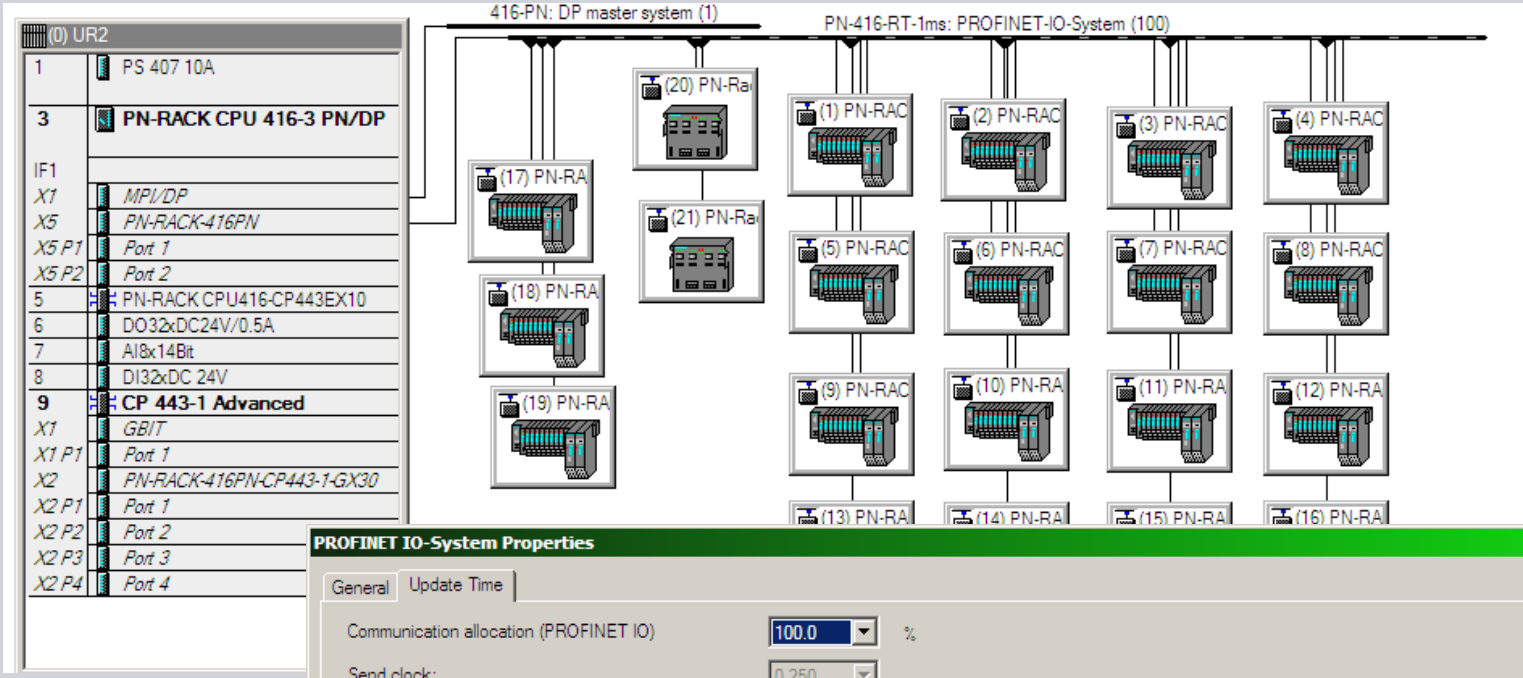
PROFIBUS

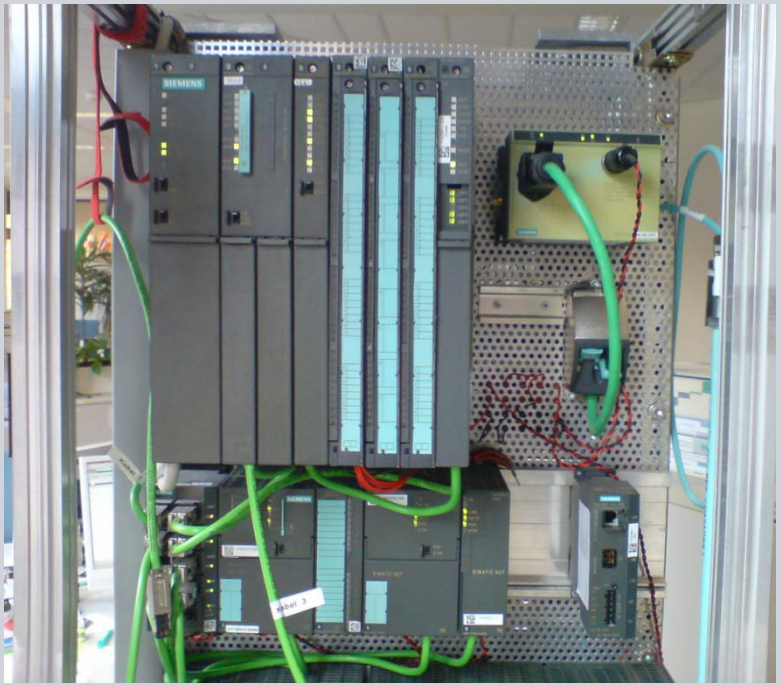
PROFINET



Pokus…

S7-400PN s 16x ET200S v linii

SIEMENS



Simulace útoku hackera – přetížení síťě

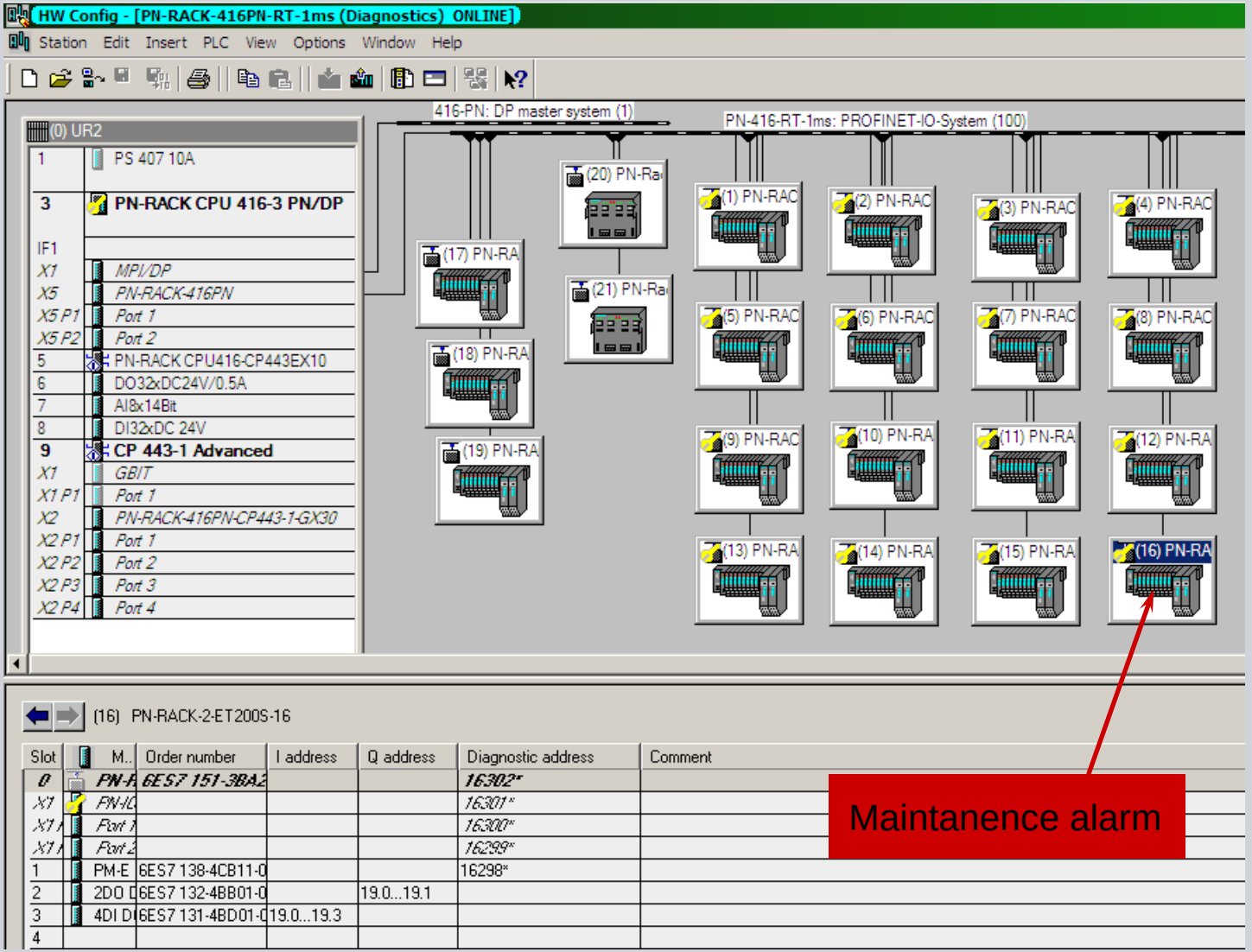
Pokus…

S7-400PN s 16x ET200S v linii

SIEMENS

PROFIBUS

PROFINET



Pokus…

S7-400PN s 16x ET200S v linii

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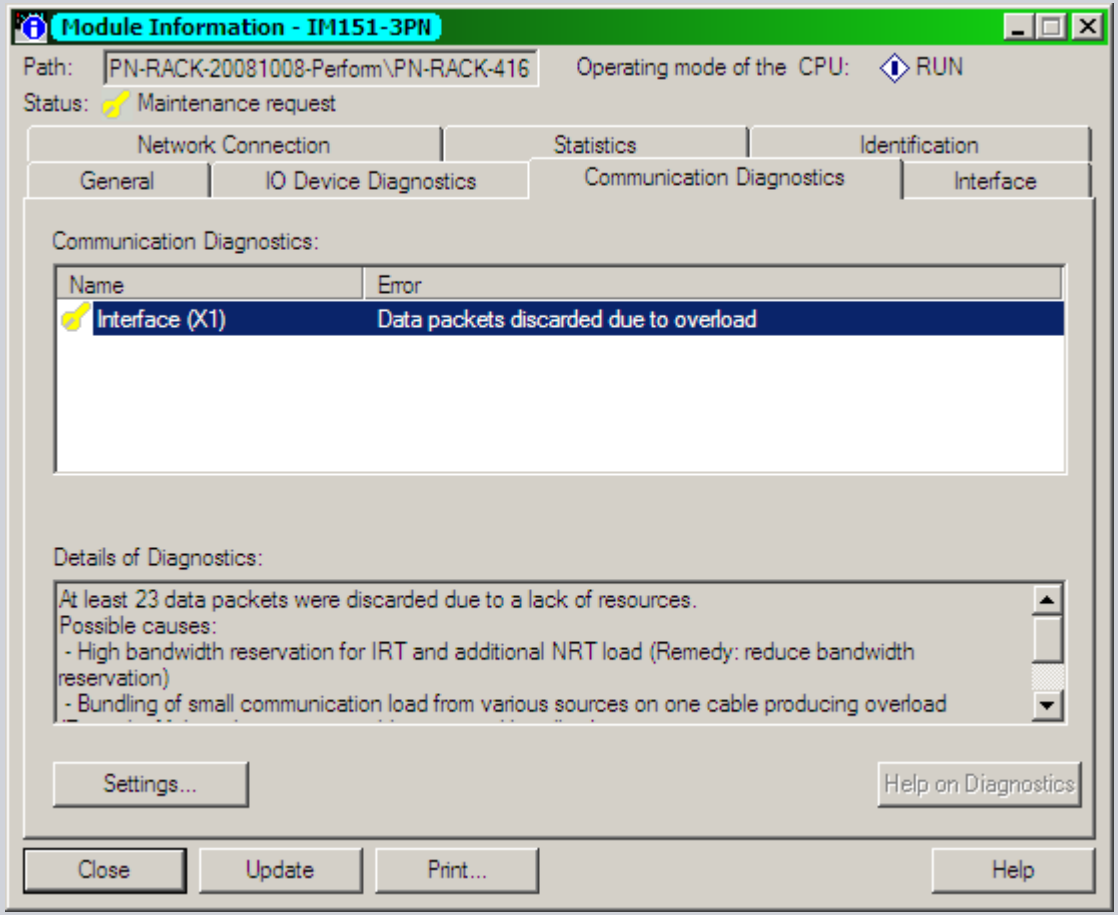
PROFIBUS

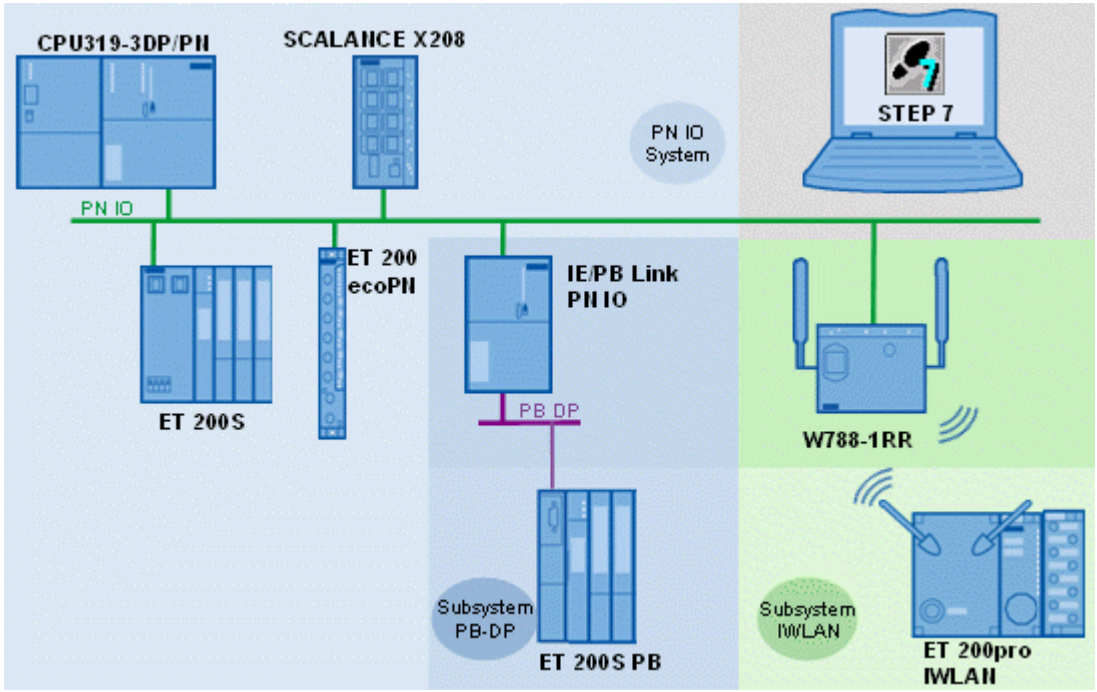
PROFINET



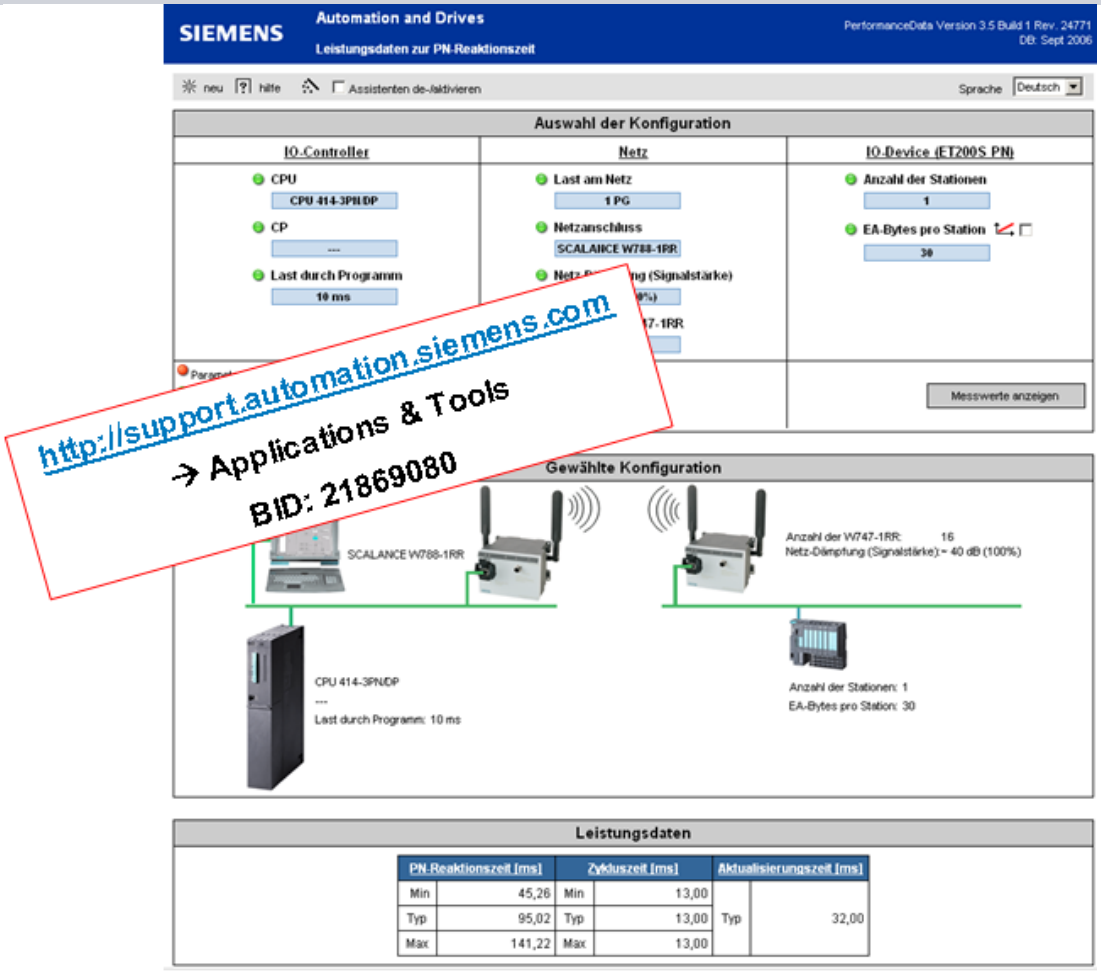
PROFINET IO - Configuration & Diagnostics

Základní pravidla pro konfiguraci a správu PROFINET IO

http://support.automation.siemens.com/WW/view/en/22981197

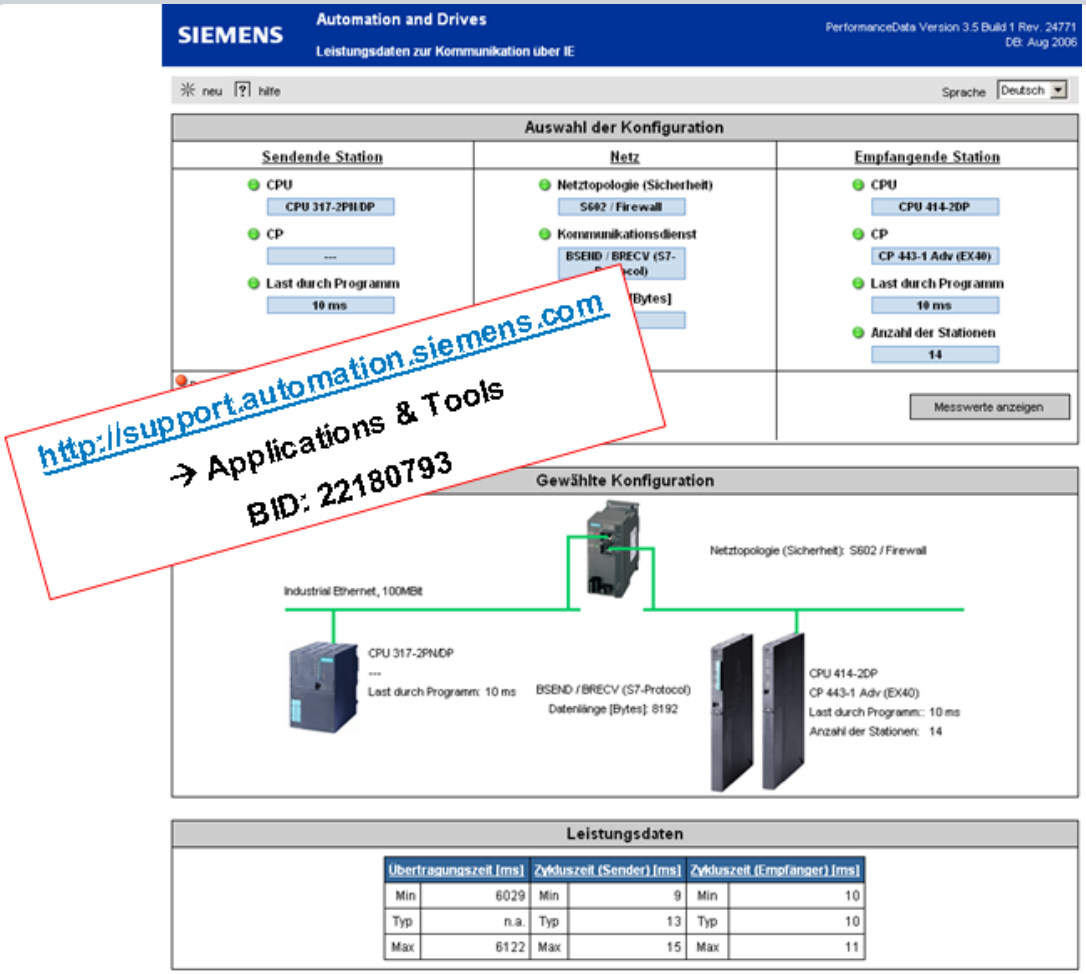


PROFINET-Performance Data in the Internet



http://support.automation.siemens.com/WW/view/de/21869080

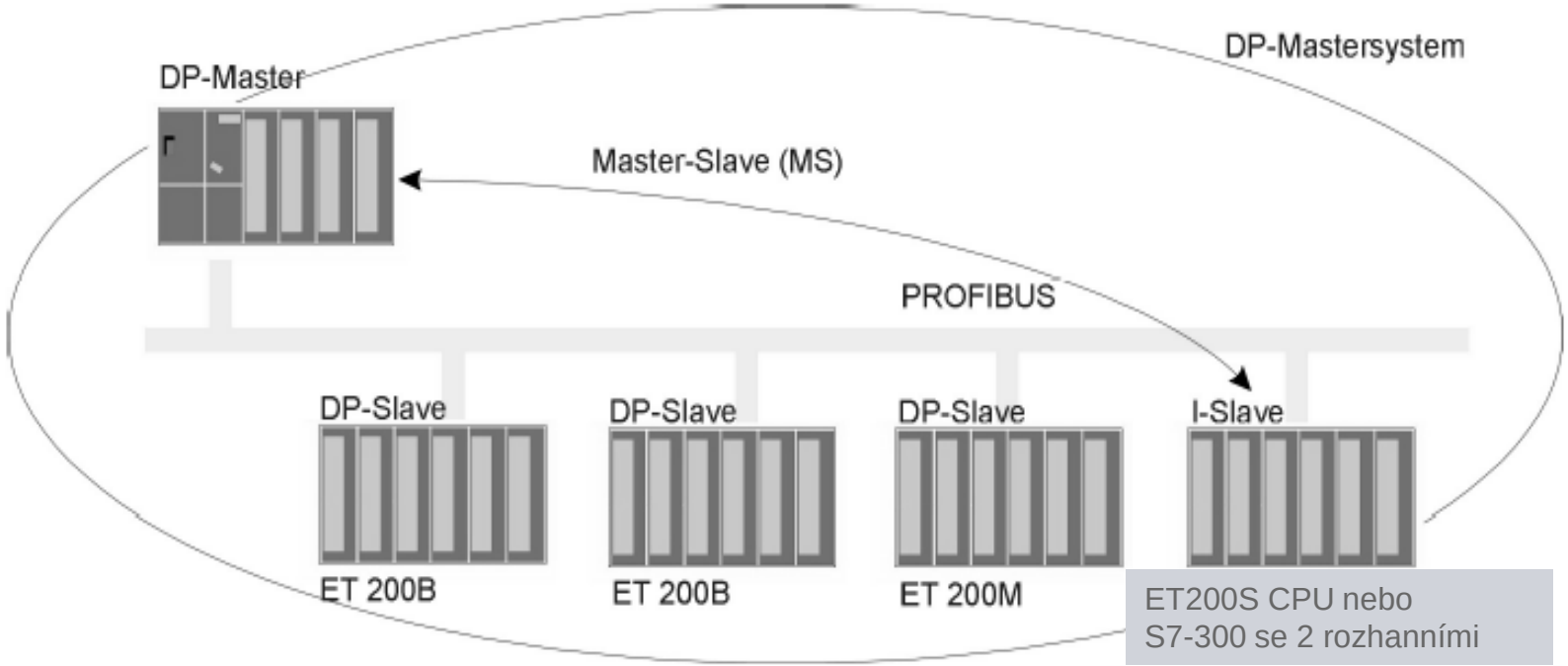
PROFINET-Performance Data in the Internet



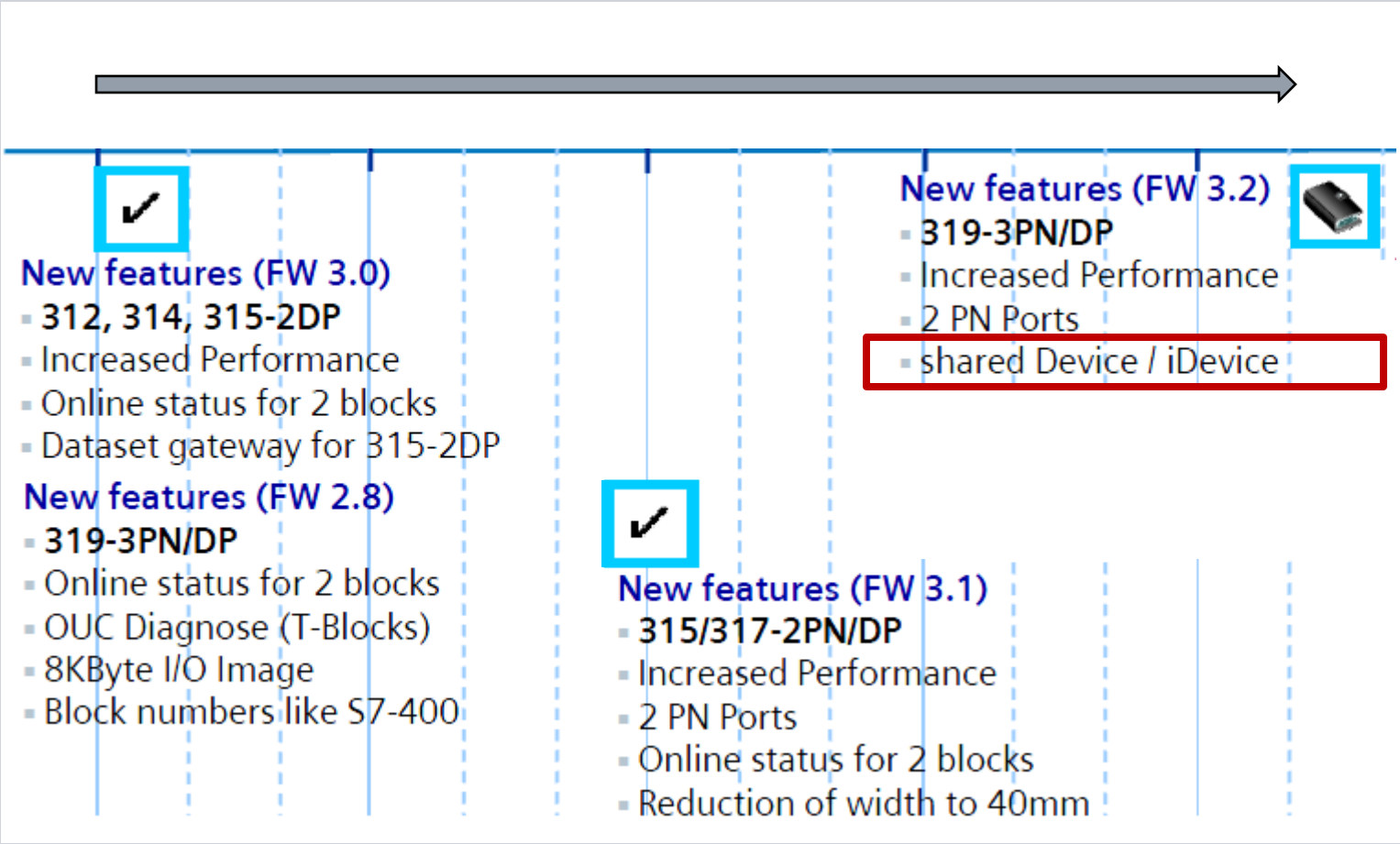
http://support.automation.siemens.com/WW/view/de/22180793

Připomenutí: I-DP slave na Profibusu

..ukázka - video



I-Device na Profinetu… Blízká budoucnost



uvolněno

plánováno

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Program

13:00 – 13:05	Úvod
13:05 – 14:15	Simatic - Přehled komunikace
14:15 – 14:45	Přestávka I
14:45 – 15:45	Profinet
15:45 – 16:15	Přestávka II
16:15 – 17:10	Novinky – Simatic, ET 200, …
17:10 – 17:15	Diskuze, závěr