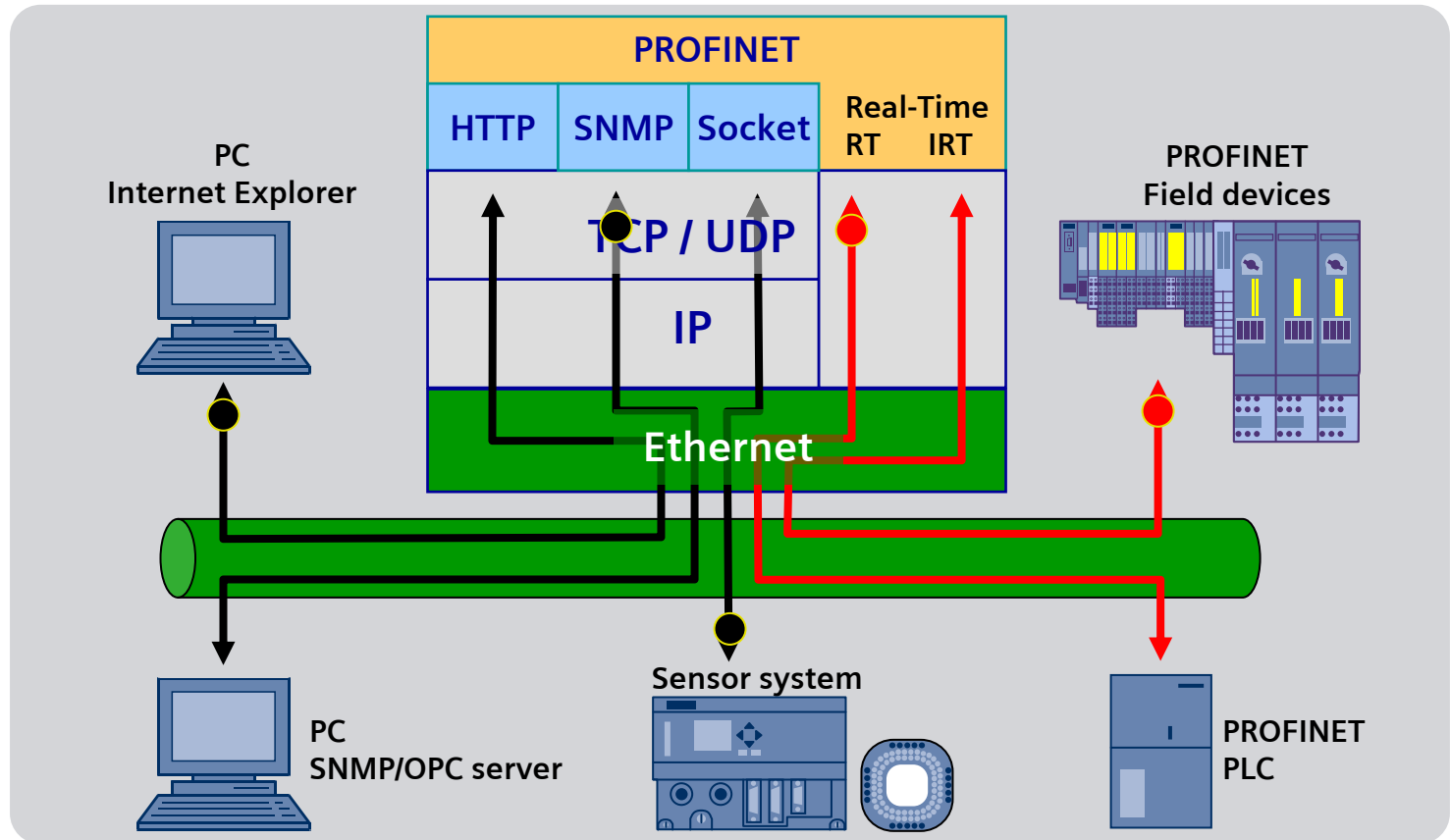


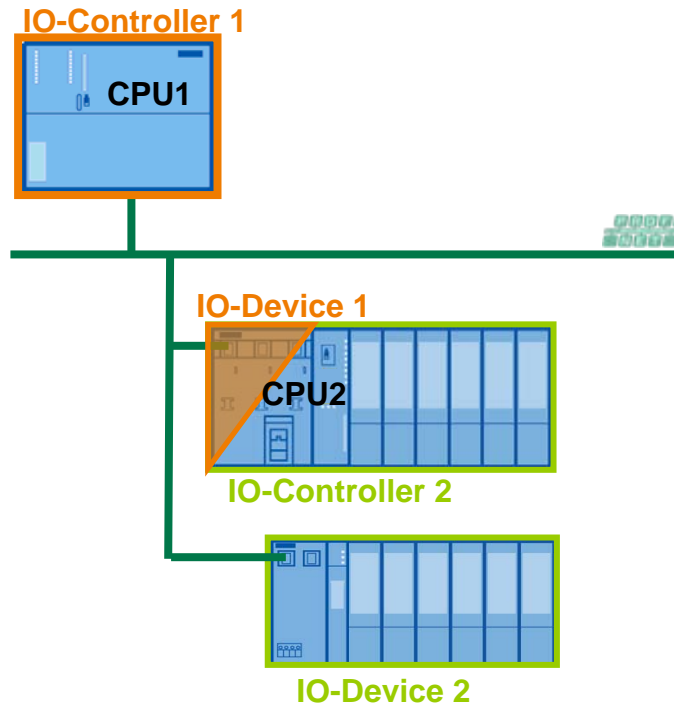
PROFINET
The leading
Industrial
Ethernet
Standard



The Benefits of
PROFINET
Diagnostics



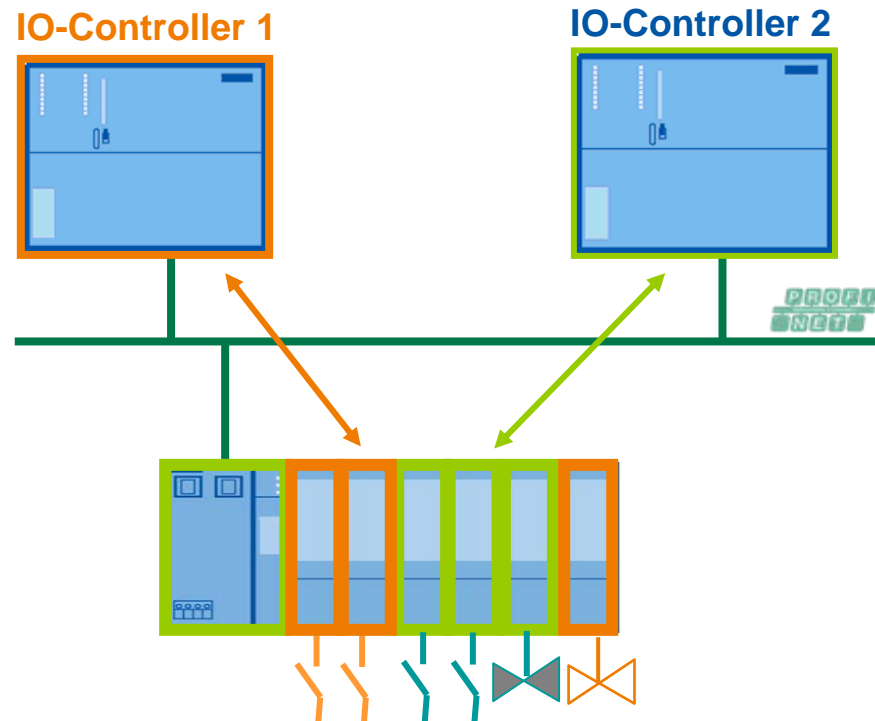
PROFINET features standard TCP/IP communications in compliance with IEEE 802.3 and real-time communications

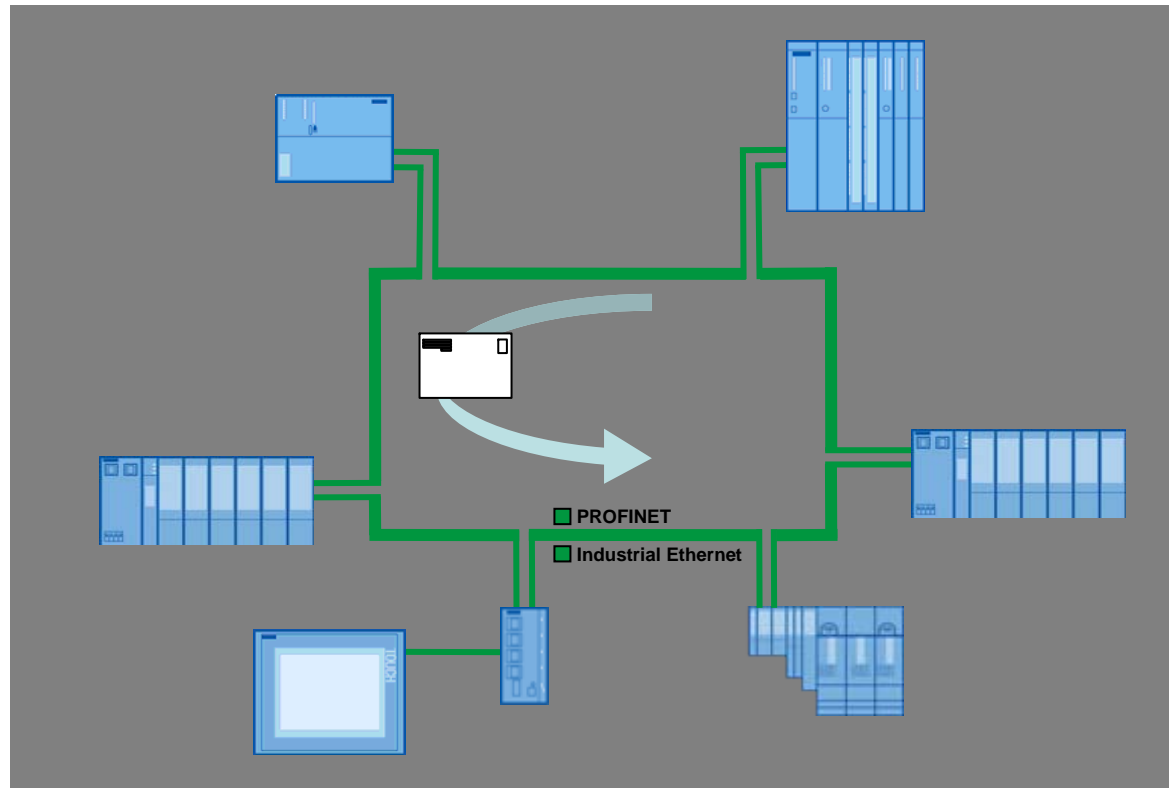


I-Device

- Simple and familiar IO-coupling of CPU's
- Coupling of CPU's in different projects
- Integration in the foreign controller
- Reduction of PN-PN couplers

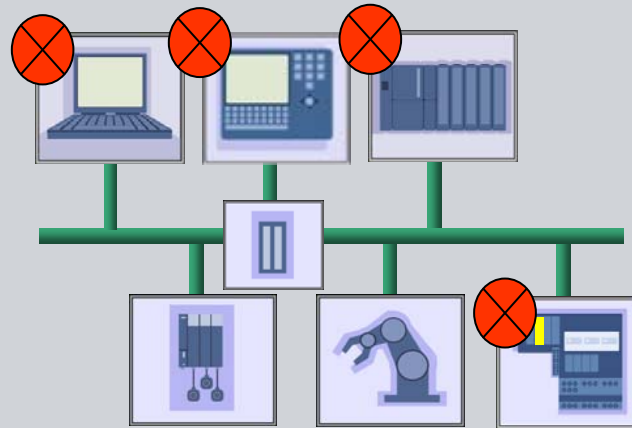
- Accessing one Device from several controllers





**PROFINET
offers ...**

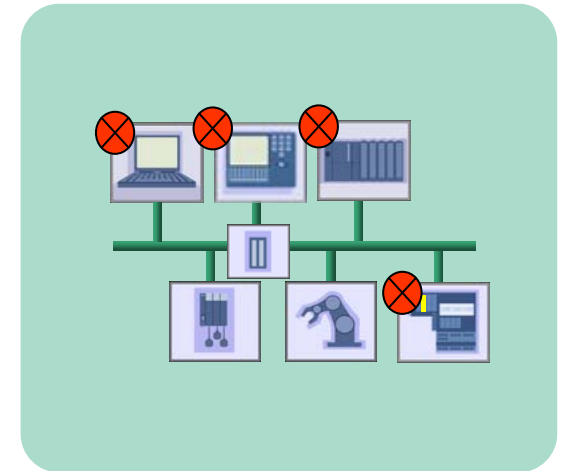
**... more
continuity
(uniform
structures)**



For diagnosis

You want...

- Access to your data from anywhere
- To localize faults quickly
- Fault messages in plain text and foreign languages
- Comprehensive diagnostics down to the channel, even across gateways
- To use common IT standards
- A graphical overview of the real topology
- Preventative diagnostics and maintenance



**Goal: Fast commissioning and increase in
plant availability**

Beside

- Proven channel diagnosis known from field busses
- Guaranteed alarm

... usage of standard Ethernet diagnosis

- Established mechanism like SNMP
- Access anywhere

on top

- Easy localization with topology views
- Simple access with web

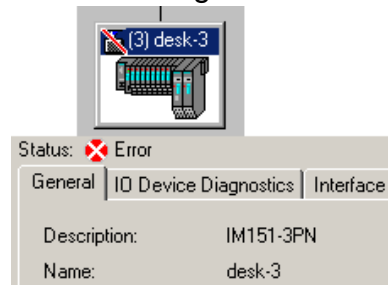
Comprehensible names of devices

- well defined names for the addressing are also used for diagnostic information, e. g. „desk-3“

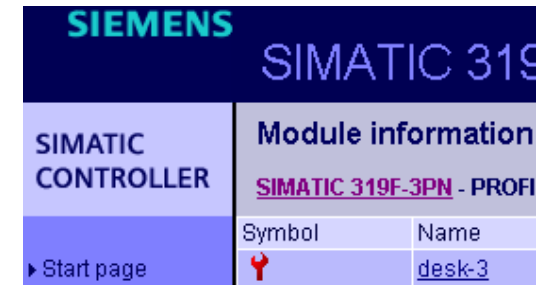
Offline-Engineering



Online-Diagnostics



Web-View



Consequent support also of the connectors/wiring naming

Offline-Engineering

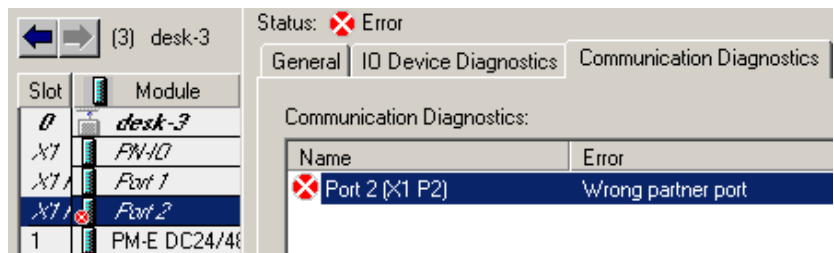
Slot	M..	Order number
0	desk	6ES7 151-3BA2
X1	FN-IQ	
X1	Port 1	
X1	Port 2	

Device-Housing



X1 P2

Online-Diagnostics



Error prevention

Clear identification of the fault location

Fast repair

Diagnostic overview

■ In levels of detail

- Device
- Modul
- Channel
- Interrupts

Current fault events

■ Acknowledged

I&M (Identification & Maintenance)

Module Information - IM151-3PN

Path: CBA\PN#02\PN#02-IM151-8 PN/DP CPU Operating mode of the CPU: RUN

Status: ✖ Error

Network Connection		Statistics		Identification	
General		IO Device Diagnostics		Communication Diagnostics	
IO controller device number: 0		Manufacturer's ID: SIEMENS AG		Device ID: 16# 0301	
Standard diagnostics:					
Module missing in slot: 3					
Channel-specific diagnostics:					
Slot	Channel	Error			

Date/time arrived	ID	Message text	Status
01/13/2009 03:47:30.354 PM	76	PN device 1 on PN system 100 Slot: 3: Module removed	I
Module: CBA RSE			
01/13/2009 03:46:07.480 PM	75	Name: PN#02-IM151-3PN Module: 4DI DC24V HF I/O address: I3	
Module: CBA RSE			
01/13/2009 10:38:55.512 AM	75		
Module: CBA RSE			

Module Information - IM151-3PN

Path: CBA\PN#02\PN#02-IM151-8 PN/DP CPU Operating mode of the CPU: RUN

Status: OK

Network Connection		Statistics		Identification	
General		IO Device Diagnostics		Communication Diagnostics	
Module information					
PLC name: ---		Module name: ---			
Installation date: 19.09.2007		Module revision counter: 0			
Additional information: PNIO-Konfigurationstest					
Manufacturer information					
Manufacturer's description: SIEMENS AG		Serial number: S C-V2L457592007			

High-speed overview
Level of detail according to requirements
Standardized display

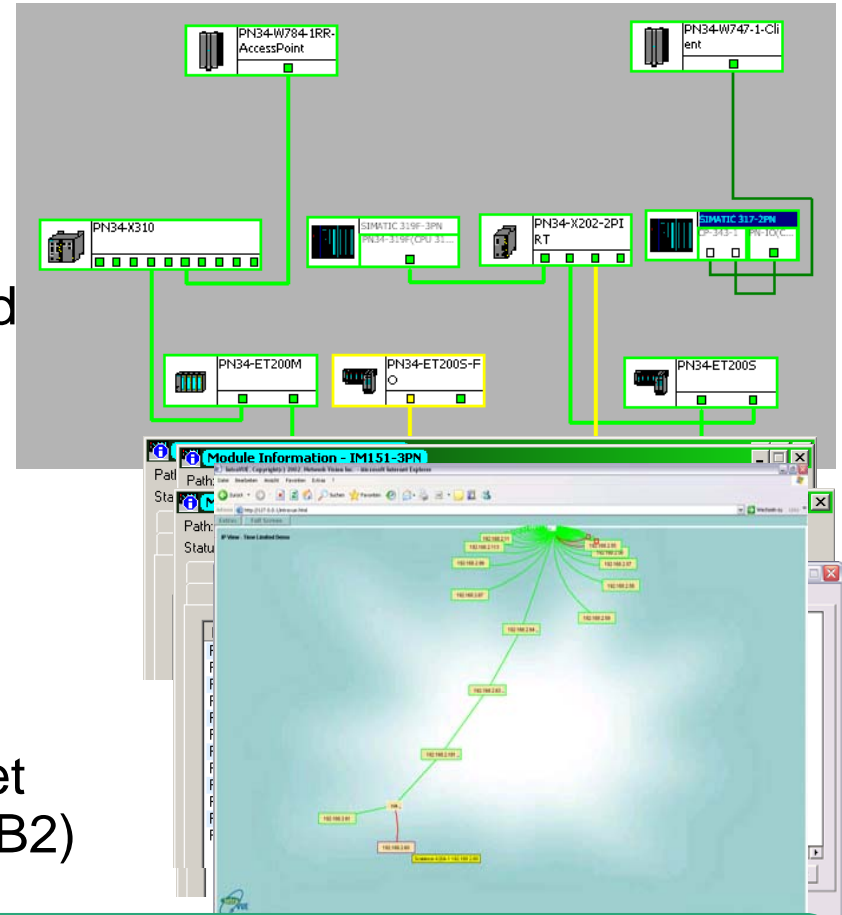
Cable diagnostics as for device diagnostics

- Same modeling of Ports as of I/O channels

Representation in standard and topology view

Additionally with POF:
Maintenance
(plastic optical fiber)

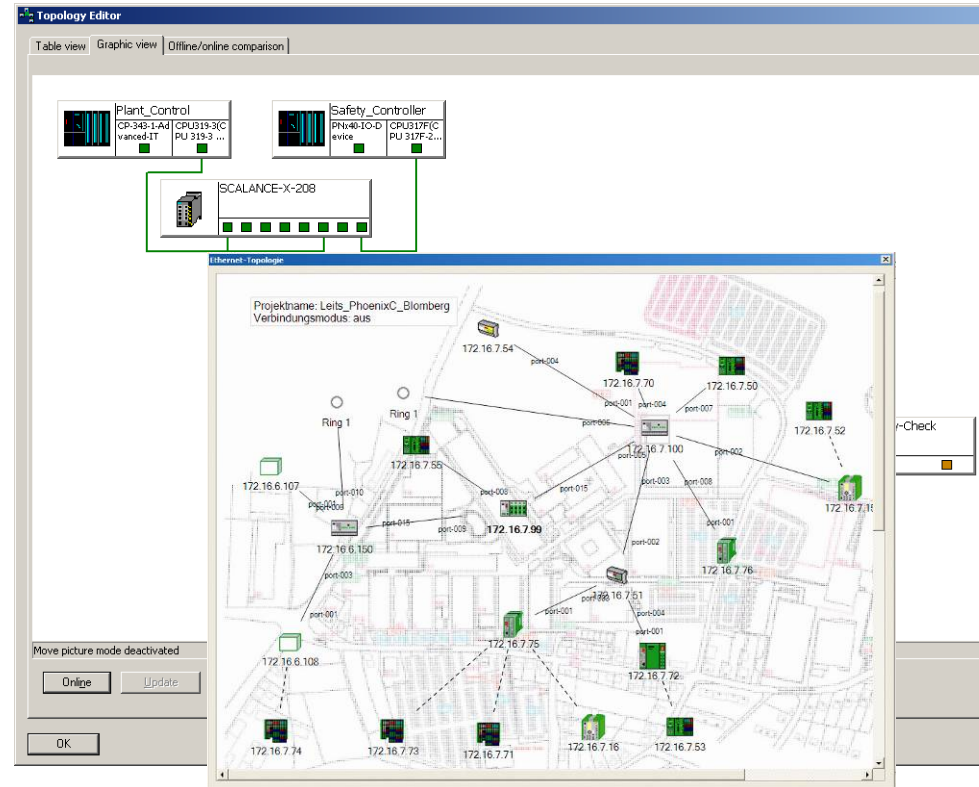
Additionally:
Use of standard Ethernet
mechanisms (SNMP/MIB2)



Familiar engineering
Fast and location-related diagnostics
Use also by standard Ethernet diagnostics

Engineering view in addition to the actual plant structure

- graphical
 - tabular
 - offline
 - online
-
- integrated in
 - Engineering
 - Controller

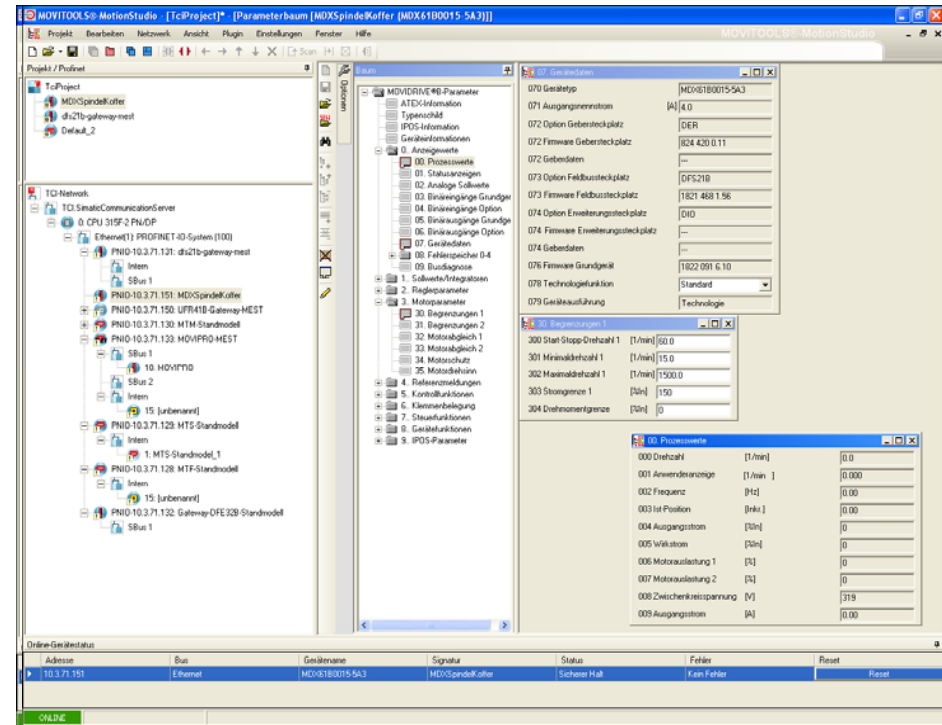


- Clear plant overview, documentation
- Fast fault location
- Fast access to detailed diagnostics

Calling of vendor-specific device tools for complex devices

Simple user handling

- Automatic assignment of tool
→ associated device
- Use of the existing interface paths
- Standardized behavior of tools, e.g. for storage path
- Simple user handling



Fast, easy access to device tools
Vendor-specific diagnostics and parameter setting
Use of familiar tools

Presentation of diagnostics and parameter settings

SIEMENS Automation & Drives

Console Support Logout

SIMATIC NET

SIMATIC NET Industrial Ethernet Switch
SCALANCE X208
SCALANCE-X208

Power ☒ Fault ☐

Port 1 Port 2 Port 3 Port 4
Port 5 Port 6 Port 7 Port 8

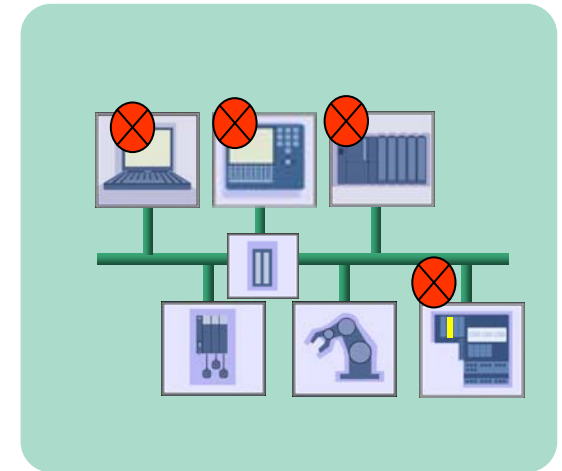
Statistics Packet Size

Port	64	65-127	128-255	256-511	512-1023	1024-1518
1	75	16606584	68	8	4	-
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	5518402	30	6	-	-
5	-	5512938	13	4	-	-
6	-	5518048	12	3	-	-
7	153	4887	175	49	13	-
8	3	309	35	676	-	-
All	231	33161168	333	746	17	-

Simple access
Regardless of location, even wireless
No engineering

Added value for our customers

- Fast engineering
- High plant availability
- Cuts costs of configuration and commissioning
- Diagnostic information worldwide
- Fast localization of faults
- Transparency in the network
- Automatic documentation
- Preventative maintenance
- Data available from anywhere



Summary

... Increase of efficiency by fast commissioning and increased plant availability

Demo