

PROFINet

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PROFINet (Hanover

Fair for Industry: , 2001, 4)

PROFIBUS International(PI)

. Bosch, Moeller

Siemens 가

2가

PROFINet

PROFINET

, PROFINET

- (*Openess*) :

가

- (*Integration*) :

()

()

PROFIBUS

(,)

PROFINet

가

PROFIBUS

Ethernet

가

PROFINet PROFIBUS

independent)

Ethernet

PROFIBUS

PROFINet

PROFIBUS

PROFIBUS

(fieldbus -

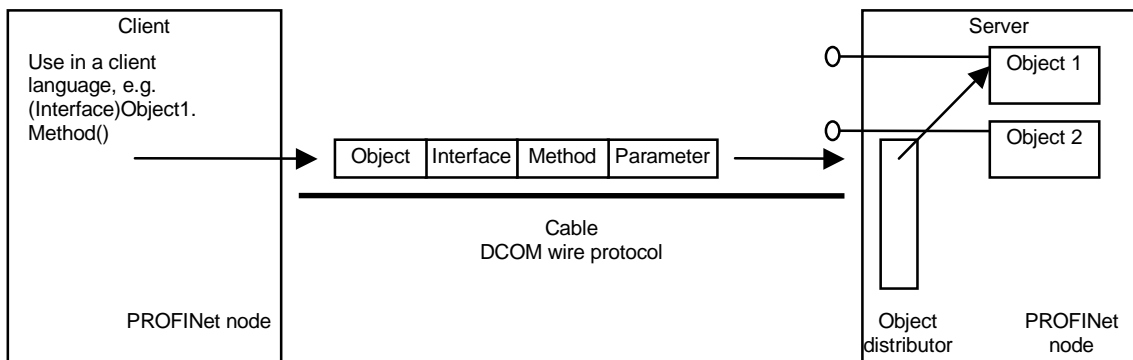
가

“ ”

PROFINet layer 가

PROFINet Microsoft COM XML() ISO/OSI 7 가 (peer-to-peer) TCP/IP suite가 Ethernet TCP, UDP ICMP IT 7 PROFInet ()

PROFINet Microsoft DCOM(COM) DCOM COM DCOM DCE RPC() DCOM 가 DCOM PC Microsoft Windows DCOM IETF DCOM DCOM COM (1.).



1. DCOM COM

PROFINet 가 (: AUTO SIMATIC S7
 가 COM CPU).

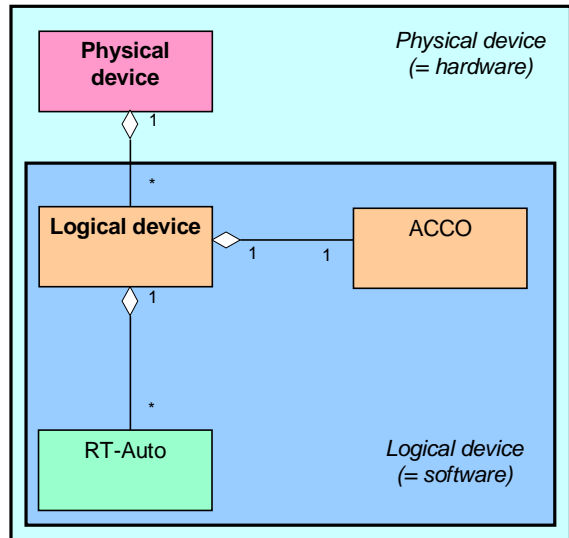
가 .
 (target -
 system -specific)

(D)COM
 ()

PROFINet

PROFINet PROFInet
 가 PROFInet
 4가 (2).

PROFINet
 가 (idnetification)
 COM
 AUTO



2. UML

PROFINet

DCOM

(firmware)

(PDev)

PROFINet

PDev
,
, PC)
가 .

(LDev)

PROFINet

PC

SoftPLC
PC
PC

SoftPLC 2 가

, SoftPLC

가

(RT -Auto)

가

가

RT -Auto

ES -Auto

LDev
ES -Device

. RT -Auto

ACCO

().

ACCO

Auto

).

ACCO

RT -

(

(consumer side)

(:

2 가)

ACCO

(Troubleshooting)

ACCO

(quality code)

(timestamp)

-

-

-

DCOM

가

6. PROFINet

PROFINet

ACCO (Active Control

가

Connection Object)가 가

가 . PROFInet .

1. / 가 PROFInet

2. PROFInet

PROFInet

(interoperability)

Microsoft DCOM COM

OLE -Automation

VBA(Visual Basic for (DCOM, RPC, Applications) PROFInet , RT -Auto, ACCO).

4

PROFInet

The screenshot shows the Visual Basic code editor for a class named 'Class1'. The code is as follows:

```

(Allgemein) (Deklarationen)
Dim PDev As ICBAPhysicalDevice
Dim LDev As ICBALogicalDevice
Dim Turntable As Object

'Create Object delivers the default Interface (ICBAPhysicalDevice of the physical device
Set PDev = CreateObject("CBAPhysicalDevice.CBAPhysicalDevice", "MyComputer")

' Navigate to a specific logical device
Set LDev = PDev.LogicalDevice("PLC1")

' Navigate to a specific RT-Auto
Set Turntable = LDev.RTAuto("Turntable")

' Move table left
Turntable.Left = True
  
```

4. PROFInet

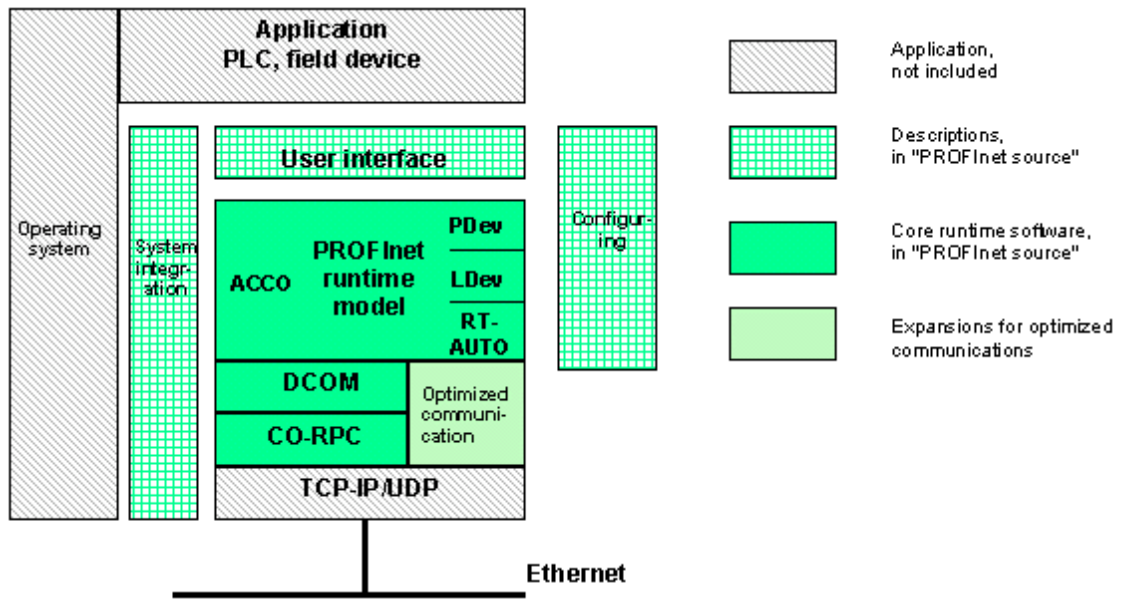
5. PROFInet

PROFInet

PROFInet

PROFInet

PNO



5. PROFInet

5

가

2. Ethernet

UDP/IP

가

가

(

)

PROFInet

가

➤

(

). 10ms

➤

DCOM

PROFInet

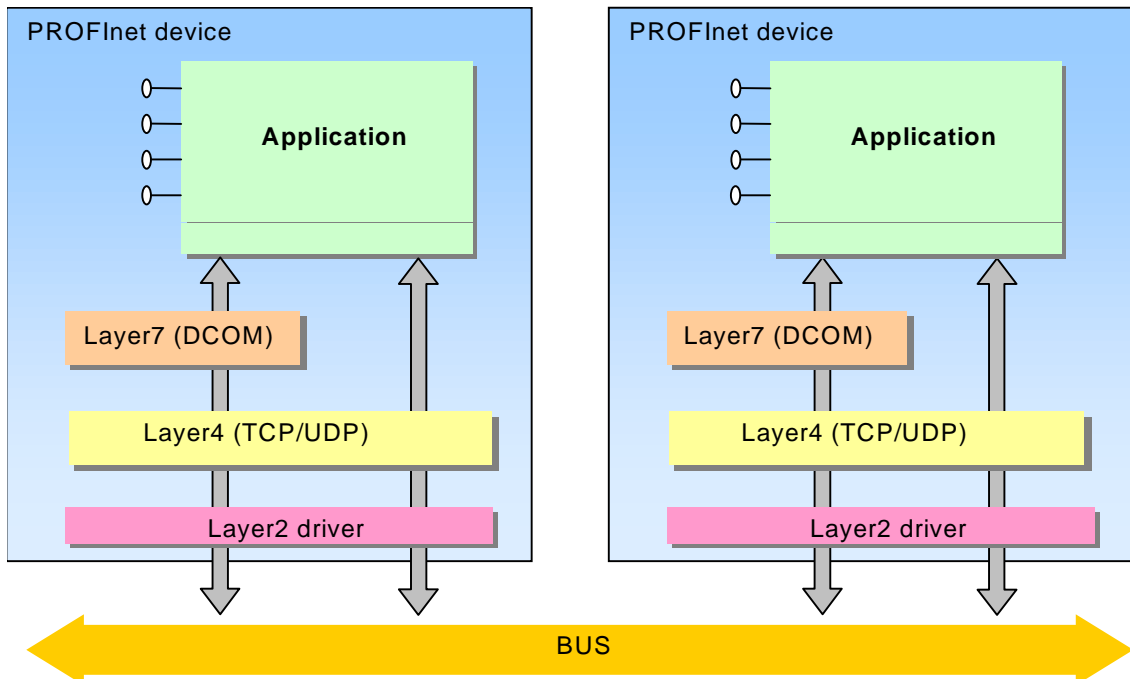
Ethernet

DCOM

1. TCP

DCOM

PROFInet



6. PROFInet

6. PROFInet

PROFInet DCOM

4(UDP)

가

7 TCP

UDP

PROFInet

4

Ethernet PROFInet

(Flexibility)

Ethernet

Ethernet

TCP/IP

FIFO

(, , ,)

()

()

➤ DP/IP

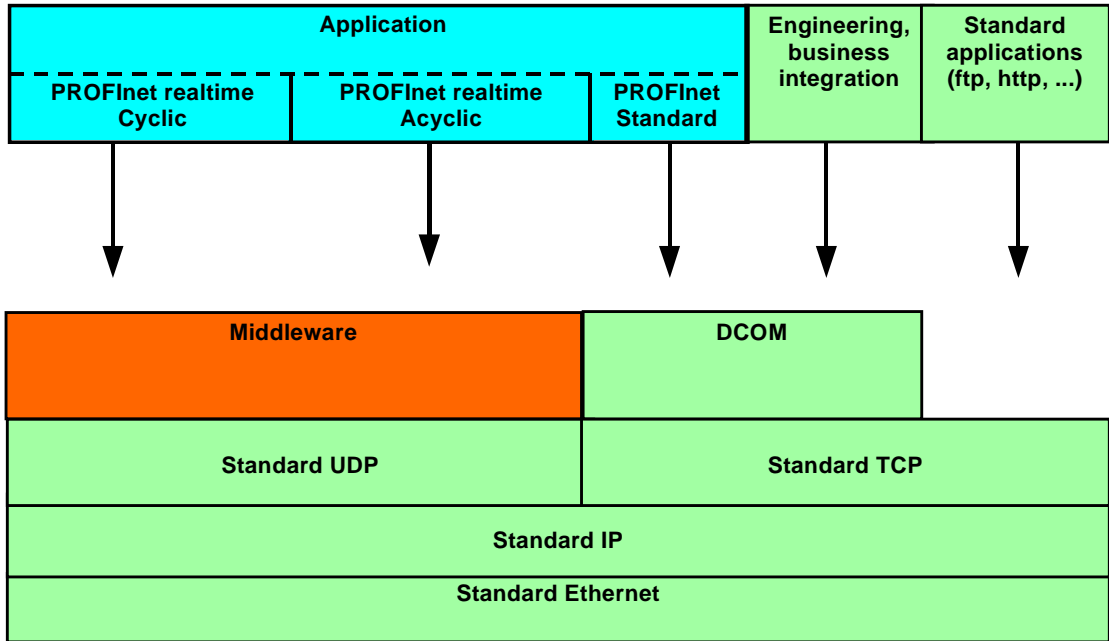
UDP/IP

➤

.

➤

(Acyclic transmission)



7.

(Cyclic transmission)

TCP/IP가

PROFINet

() HTTP

) (가

TCP/IP

(:

)가

). (

TCP/IP

PROFINet UDP/IP

Ethernet

(quality code)

Ethernet

PROFINet

가

가

가

20ms

(quality data) PROFINet

PROFINet

IEEE 802.1

Prio 7(Network Control)

5ms

PROFINet