PROFInet

migration

PROFInet   Ethernet

PROFInet

(overhead)

Georg Biehler, Siemens AG
Joachim Feld, Siemens AG

PROFInet   .

PROFInet

PROFInet

PROFInet   · PROFInet

PROFInet

(investment protection)

·   **PROFInet**

PROFInet   TCP/IP   .

DCOM   .

(PROFInet   )

PROFInet

	(Situation)		
	→		
OEM ( )	→OEM		
	→		
	PROFInet (IP DCOM) (: AS-Interface), (,) →		

Engineering, HMI

Ethernet

Proxy

Intelligent field device

Programmable controller

Fieldbus

PROFIBUS

Engineering, HMI

Field device

Drive
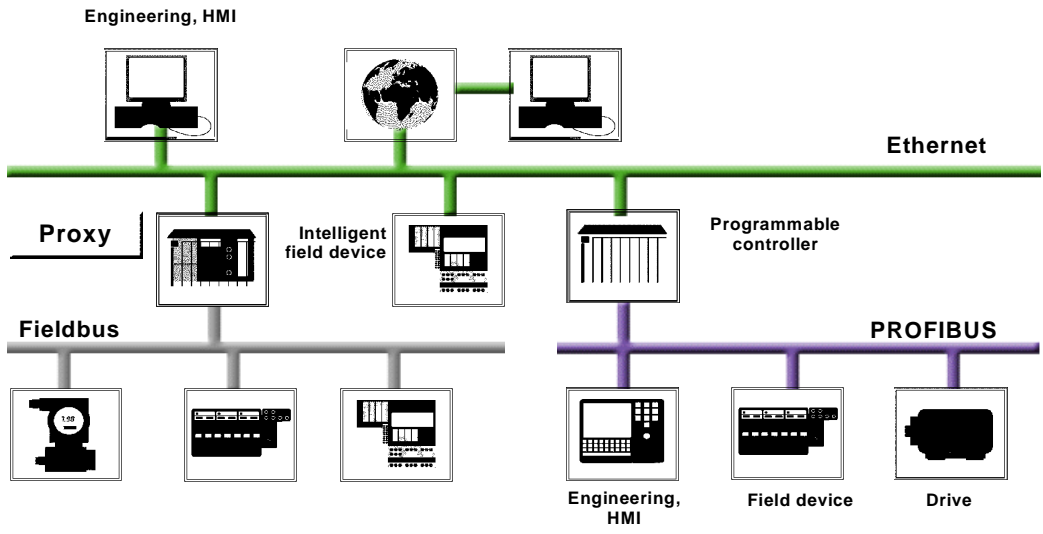
Openness   Investment Protection

OEM   - Ethernet

PROFInet   PROFInet   .

                                                                              PROFInet

                                                              PROFInet

       .   .

        .

                                                    PLC

       PROFInet   .

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                    .   (

)   . PROFInet

           PROFInet

                  PROFInet

                                                             . PLC

                    .   .

  - Ethernet

PROFInet

         CPU   migration

OEM   ,   -

.   .

PROFInet   ."

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"   "

.

"outside world"
PROFInet view
.
proxy   .

proxy

.   PROFInet   (   )

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PROFInet

proxy   "A System of Patterns"(Frank   Ethernet
Buschmann   , 1996)   263, 264
.
"proxy"   .

.

"*Proxy*

.

(placeholder)   ,
.

." "   **view**

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-

PROFInet
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-

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Ethernet

PROFIInet   OEM

PROFIInet   .

(net data)

244   .

PROFIBUS
Foundation Fieldbus, CAN, Interbus,
Suconet   DP
  PROFIInet   .

10

(predictability)

PFORIBUS DP   .

view /

PROFIBUS DP   ,

,

PROFIInet   .

(CAN, InterBus, FF   PROFIBUS DP

)   PROFIInet   (map)

( )

I/O

PROFIBUS DP

PRPFInet

PROFIInet
PROFIBUS DP   DP

.   PROFIInet

PROFIBUS DP

. PROFIBUS DP   -

,   **PROFIBUS DP   PROFIInet**

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PROFInet   (TCP/IP   DCOM)

PROFIBUS DP   PROFInet

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                                      .   PROFIBUS DP

-   PROFIBUS DP

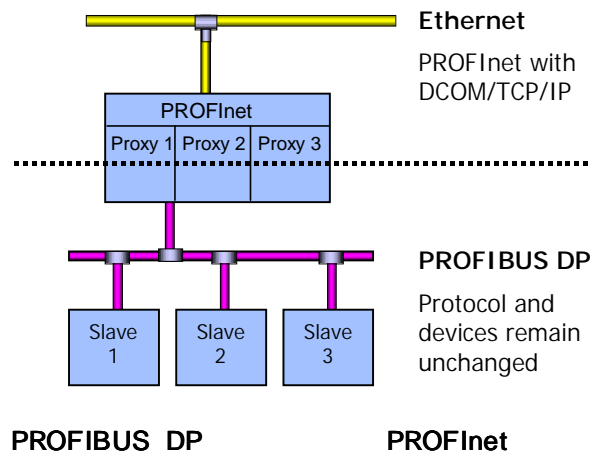   PROFIBUS DP   PROFInet   .

                            .

        DCOM

                            (,

)   (,   : IP,

TCP, RPC   DCOM)   .

Ethernet

PROFInet with
DCOM/TCP/IP

PROFInet		
Proxy 1	Proxy 2	Proxy 3

PROFIBUS DP

Protocol and
devices remain
unchanged

Slave 1	Slave 2	Slave 3

PROFIBUS DP   **PROFInet**

                            .

- PROFIBUS DP   I/O

PROFIBUS DP

                                            .

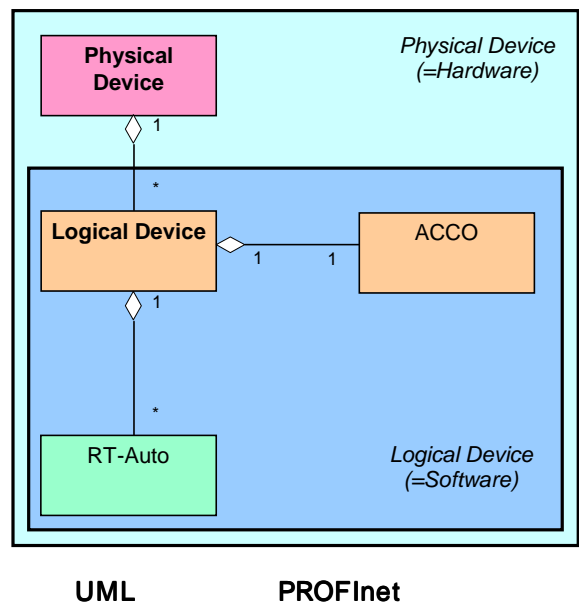   PROFInet   DP

PROFIBUS DP   .

Physical Device		*Physical Device (=Hardware)*
Logical Device	ACCO	
RT-Auto		*Logical Device (=Software)*

PROFInet

                                    . DP

        DP

DP   PROFInet   .
PROFIBUS DP

                            PROFIBUS DP

        .

UML   PROFInet

PROFInet **DP**

PROFInet Ethernet PROFInet

DP

(PROFInet). (DP)

PROFIBUS DP DP .

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PROFInet DP PROFIBUS DP

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PROFInet	DP World
	, DP DP .
	DP . .
	• ,
	•
	• , .
RT-Auto	DP . DP .
ACCO	.

PROFInet **PROFIBUS DP**

DP PROFInet

RT-Auto ACCO , .

PDev

DP RT DP

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PROFInet DP (componentization)

. DP PROFInet

IP DP

. XML(eXtensible

PROFInet DP Markup Language)

. RT-

Auto .

DP   PROFIBUS DP
         (   )   .
                  .   DP
                                                                    DP
                                                                          DP
         .   .
                                                      DP
                                                                          .
    ,   ,
                      .   PROFInet

DP
                                                       DP
       DP   DP   (   )
                                        . DP

    . PROFInet   DP
                                   .   .

           DP
         PROFInet
            DP
                                              PROFIBUS DP
    .   PROFInet
                                                                    .
         PROFInet
                         .
              PROFInet   (cache)
         DP   .   DP
                                                              DP
                         .
                         .
                                   PRFIBUS DP
                                        .
Hanover   Fair   PROFInet   (,
2001,4)   PROFInet   RT- Auto
                                        PROFInet
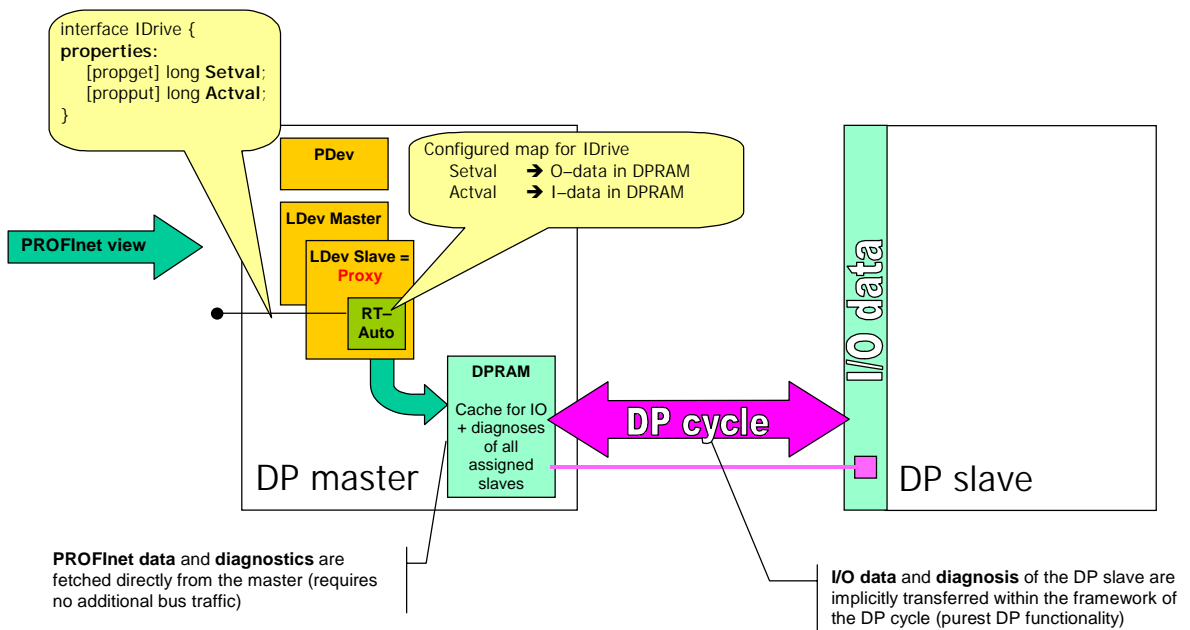   Bosch, Moeller   Siemens   ,
              .

. PROFIBUS PROFInet

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PROFInet

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PROFInet

PROFIBUS

PROFIBUS

DP

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PROFIBUS DP

PROFInet

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PROFInet

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Proxy for PROFIBUS DP

. PROFIBUS

International PROFInet

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PROFInet PROFIBUS DP-

V0 .

PROFIBUS DP- V1   PROFInet

                                    .

        DP

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                                    ,

PROFIBUS International

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PROFInet
PROFIBUS   Ethernet

Ethernet   .

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