

NAMUR General Meeting 2010

FDI (Field Device Integration) Manufacturer survey and actual Status

(This english presentation is a translation from the original German one , in case of
doubt, follow the original German text)

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Michael Pelz,
Clariant Produkte (D) GmbH

NAMUR AK 2.6 „Feldbus“ / WIB

FDI, Manufacturer survey and actual Status

Composition Working Group AK 2.6 „Fieldbus“

Jörg Degener,
Rong Gul,
Niels Kiupel,
Rüdiger Ohlhoff,
Michael Pelz,
Sven Seintsch,
Stefan Schmitz
Oliver Weigel,
Joachim Zobel,

Merck
Shell
Evonik
Bayer Schering Pharma
Clariant (Obmann)
BIS Prozesstechnik
Bayer Technology Services
BASF SE
Novartis Pharma

Presentation topics

- **Device integration**
 - The FDI concept
 - Requirements

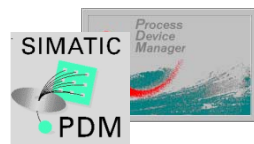
- **Manufacturer Survey**
 - general information
 - Questions asked and returns
 - Result Analysis
 - Positive Feedbacks
 - Critical Points
 - Conclusion

- **Outlook**

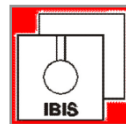
Evolution of Device Integration

From decentralized
Device Configuration ...

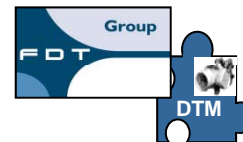
... to centralized
Devicemanagement!



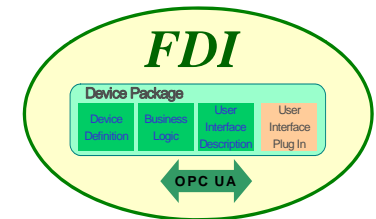
Manufacturer Specific Tools
z.B. IBIS, PDM, Commuwin,
ToF-Tool, AMS, VVO....



EDDL
(Electronic Device Description Language)



FDT-DTM
(Field Device Tool - Device Type Manager)



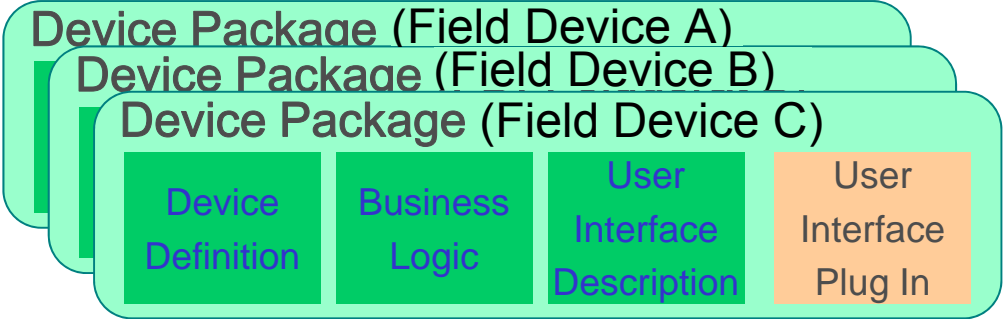
FDI (Field Device Integration)

Target: single uniform Device integration!

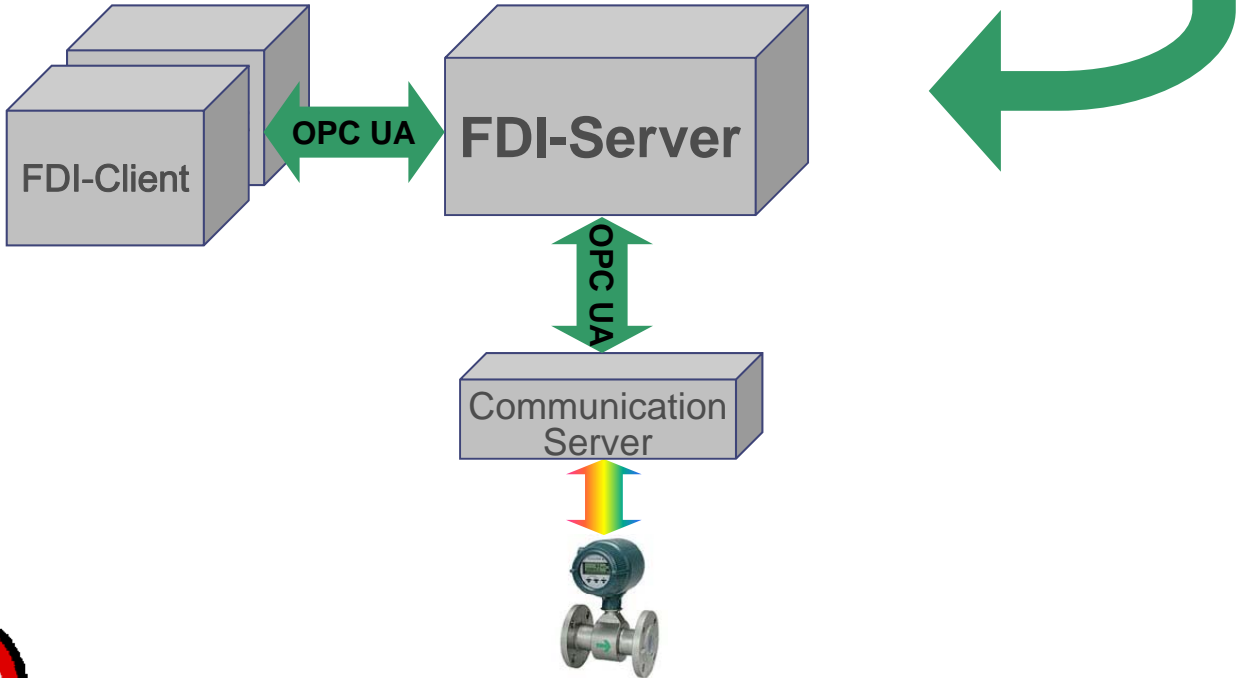
FDI, Manufacturer survey and actual Status

FDI-Concept

each Field Device has its Device Package!



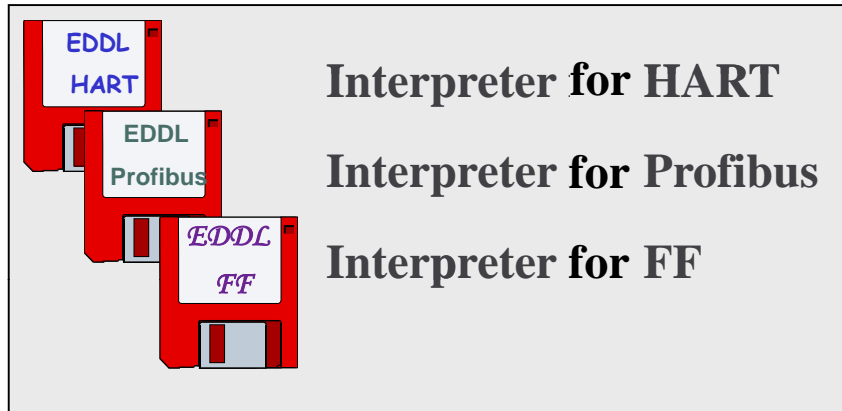
Example: Server/Client



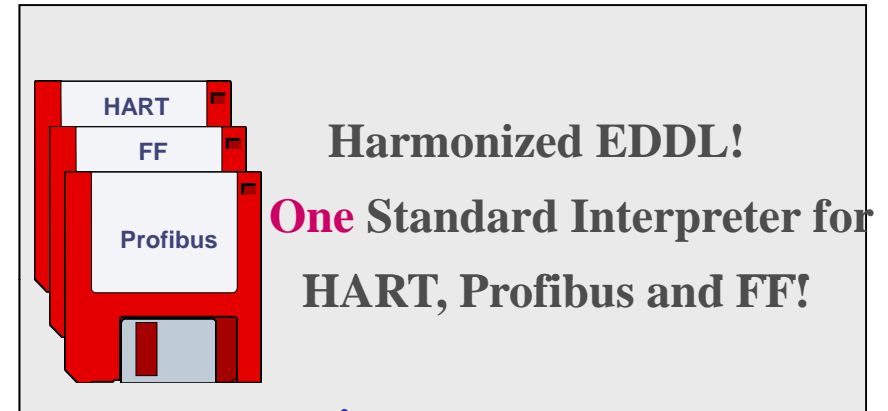
FDI-Requirements

Harmonized EDDL + Standard Interpreter

Current



Future



Harmonized EDDL

Device Package (FDI)

Device
Definition

Business
Logic

User
Interface
Description

User
Interface
Plug In

- **User Requirement:**

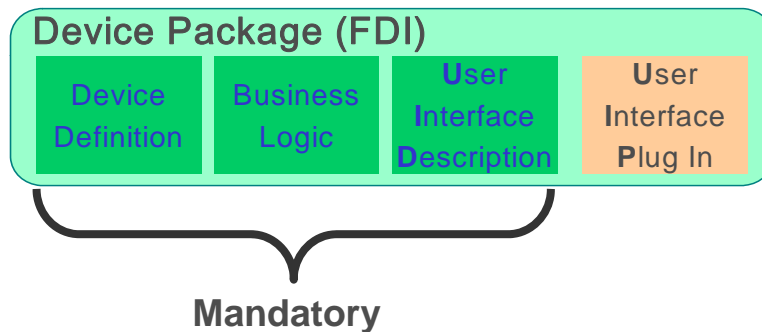
Using harmonized EDDL is a must!

It must use the FDI-Standard interpreter across the board

FDI-Requirements

Ensuring Availability

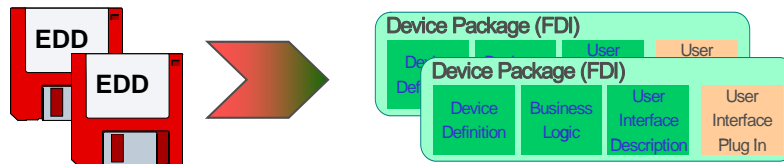
- Full functionality with **UIP**
- EDDL functionality with UID, without **UIP**



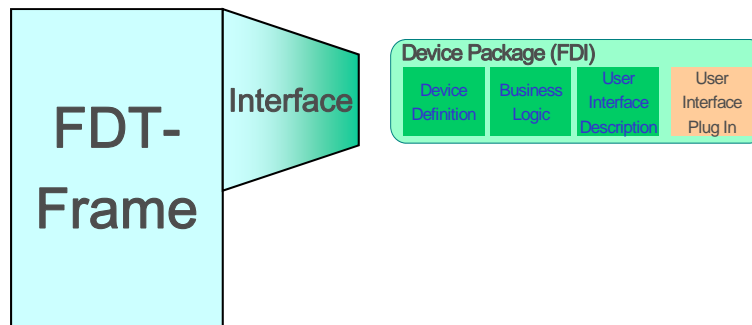
- **User Requirements:**
All the EDDL parts of the Device Package must be available!
A customizable Installation of the parts must be possible!

FDI-Requirements

Migration Concepts for the Crossover



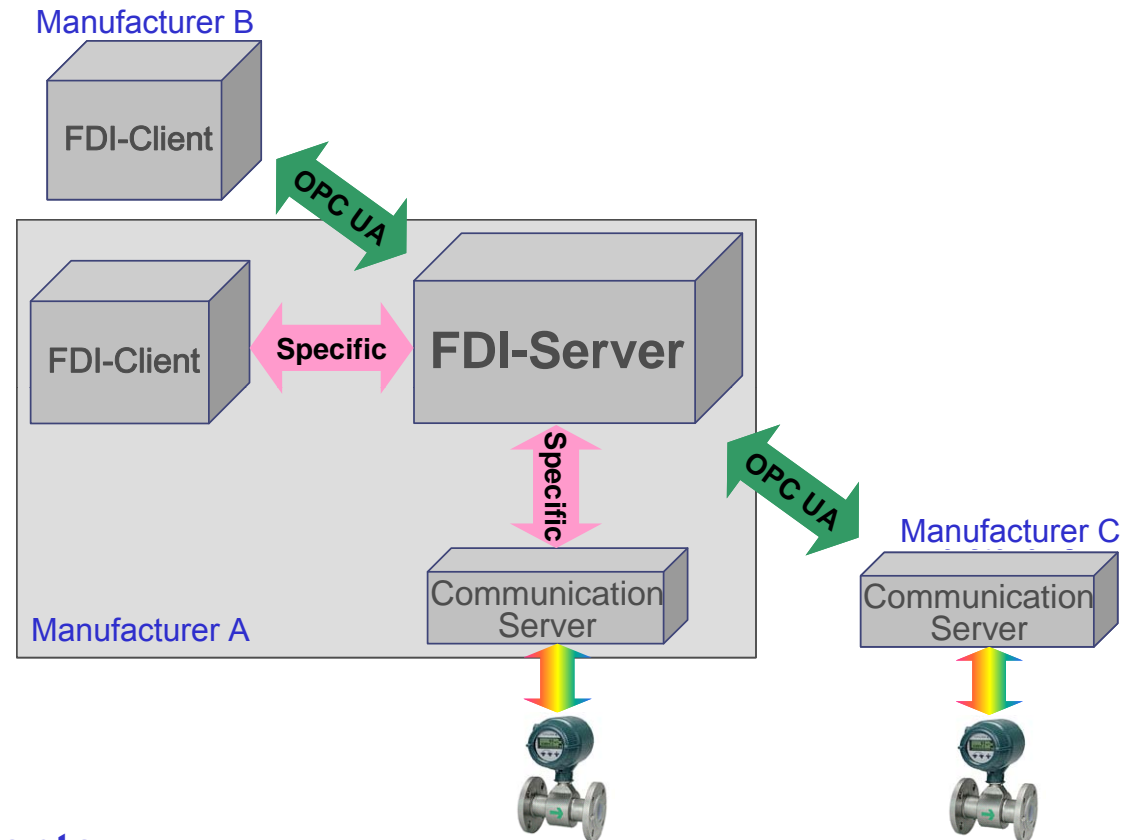
- **Example:**
For „Old device“ create a Device Package afterwards!



- **Example:**
A single „Interface“ with integrated standard interpreter for all FDT-Frames!

FDI-Requirements

Standard Interfaces



- **User Requirements:**
Manufacturer neutral standard interface must be available (OPC-UA?!)

Manufacturer survey

Amount of Answers/Questions:

- 4 Organizations 4 Questions
- 7 System Manufacturers 14 Questions
- 11 Device Manufacturers 15 Questions

Responses from the Manufacturers:

- listing (Excel-file / Word-file)
- E-mail Text (Word-file / Mail)
- Answers often not unambiguous formulated

Manufacturer Survey

Evaluation of results:

- Independent evaluation of a wide variety of users, followed by summary results
- Show compiled results rated with „Smileys“

Results grouped in 4 Categories :

- Common
- Harmonization
- Standard interfaces
- Migration

Who was asked ?

Organizations

Answered

- **FDT-Group** **Yes**
- **HART Communication Foundation** **Yes**
- **PROFIBUS Nutzerorganisation e.V. (PNO)** **Yes**
- **Fieldbus Foundation** **No**

Who was asked ?

System Manufacturers

Answered

- ABB Yes
- Emerson Yes
- Honeywell No
- Invensys No
- Schneider Electric Yes
- Siemens Yes
- Yokogawa Yes

Who as asked ?













Device Manufacturers

	Answered
▪ ABB	Yes
▪ Emerson	Yes
▪ Endress+Hauser	Yes
▪ Krohne	Yes
▪ Pepperl+Fuchs	Yes
▪ Samson	Yes
▪ Siemens	Yes
▪ Stahl	Yes
▪ Turck	Yes
▪ Vega	Yes
▪ Yokogawa	Yes

Analysis of Manufacturer Survey

Organizations

Summary of the individual evaluations





FDI Question	FDT-Group	HART-Foundation	PNO
Does your organization follow the goal of a single device integration (FDI)			
How will your organization actively participate in the implementation of the FDI concept ?			
Do you agree that harmonized EDDL is to be used ?			
how your organization is involved in the adoption of harmonized EDDL within FDI ?			



Analysis of Manufacturer Survey

System Manufacturers

Summary from the 4 Categories

FDI-Question Block	Answers from System Manufacturers
Common	
Harmonization	
Standard interfaces	
Migration	



Analysis of Manufacturer Survey

System manufacturers

Summary for each System Manufacturer




- **ABB**
- **Emerson**
- **Schneider Electric**
- **Siemens**
- **Yokogawa**



Analysis of Manufacturer Survey

Device Manufacturers

Summary from the 4 Categories

FDI Question Category	Answers from the device manufacturers
Common	
Harmonization	
Migration	

Evaluation of the answers

Device Manufacturer

Summary for each manufacturer

- ABB
- Emerson
- Endress+Hauser
- Krohne
- Pepperl+Fuchs
- Samson
- Siemens
- Stahl
- Turck
- Vega
- Yokogawa














Positive Feedbacks

- In principle, most feedback was very positive for FDI!
- Willingness for future use of FDI, especially the Device Packages (only with EDDL harmonization)!
- FDI is seen as a real opportunity to solve current problems of device integration, in a sustainable way!

critical Points from Manufacturers

Organizations:

- Not fully support of the EDDL harmonization

System Manufacturer:

- Fear to have to support at the end, 3 Technologies
- Missing interest at Customer side
- Missing migration Concepts

Device Manufacturers:

- Fear to have to implement at the end 3 Technologies
- Statement, a EDDL-Standard interpreter will not be used at a broad scale
- Statement, Standard interfaces will not be used at a broad scale
- missing Migration concepts

Critical points from User standpoint

Organizations:

- Not all organizations support the use of harmonized EDDL, although system vendors, device manufacturers and users support the harmonized EDDL or ask for it!

System Manufacturers:

- Not all system manufacturer to confirm the future use of the standard interpreter (except if their own interpreter is the standard)!
- **Missing migration concepts !**
- No consistent requirement for the use of standard interfaces!

Device Manufacturers:

- **Missing Migration Concepts!**
- No consistent requirement that all EDDL-Blocks have to be in the Device Package (e.g. the block "User Interface Description,,)!

Conclusion

- Feedback shows that FDI is seen as a future device integration..
- Critical feedback from the equipment manufacturers are in line with the concerns and requirements of the users!
- Different interests between organizations, systems manufacturers and equipment manufacturers, impede strongly the actual technological development !

Outlook

Our objective remains to establish the device integration as a single standard and a stable interface!!

Only when an FDI organization confirms the implementation of the key requirements, NAMUR and WIB will recommend use of FDI!

To demonstrate the application of these requirements, we think about another manufacturer survey. All voluntary feedback of this survey will then be displayed on a website (FDI website, NAMUR homepage WIB home page?)

FDI (Field Device Integration) Manufacturer Survey and actual Status



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