

# CIP4 Technologies II

## Print Product Metadata for PDF

PDF/VT

DPart tree and DPM

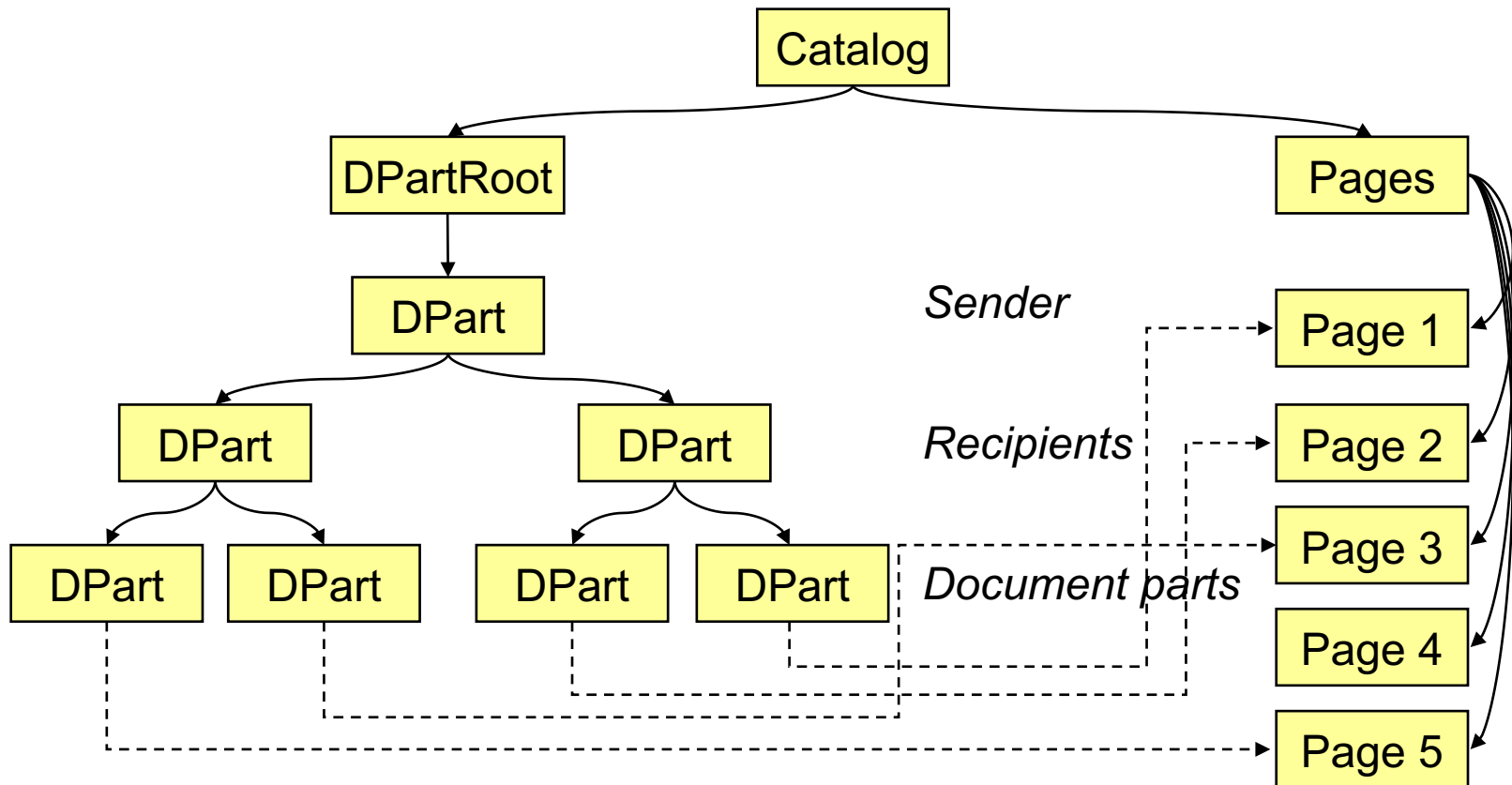
Benefits

Applications

**Thomas Hoffmann-Walbeck**

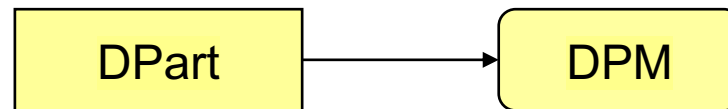
- ▶ Variable Data Printing with PDF/VT.
  - » ISO 16612- 2: 2010, Graphic technology — Variable data exchange — Part 2: Using PDF/ X- 4 and PDF/ X- 5 (PDF/ VT- 1 and PDF/ VT- 2).
- ▶ Nowadays it's part of PDF 2.0 specification.
  - » ISO 32000-2:2020
- ▶ Concept: Creating PDF metadata about pages that are defined in the PDF file.
  - » E.g., which page(s) is sent to which address.

- ▶ Creating inside PDF another branch for document parts (*DPart* tree) in parallel to the PDF *Page* tree.



# Document Part Metadata (DPM),

- ▶ Each DPart Object can be associated with its own Dictionary *Document Part Metadata* (DPM), which in turn can hold application-specific information about the document part.



- ▶ This allows a *DPart* object to describe information about the sender and the recipients, for example, the addresses of the recipients.
- ▶ All in all you can define which pages go to which address.

# Print Product Intent in *DPM*

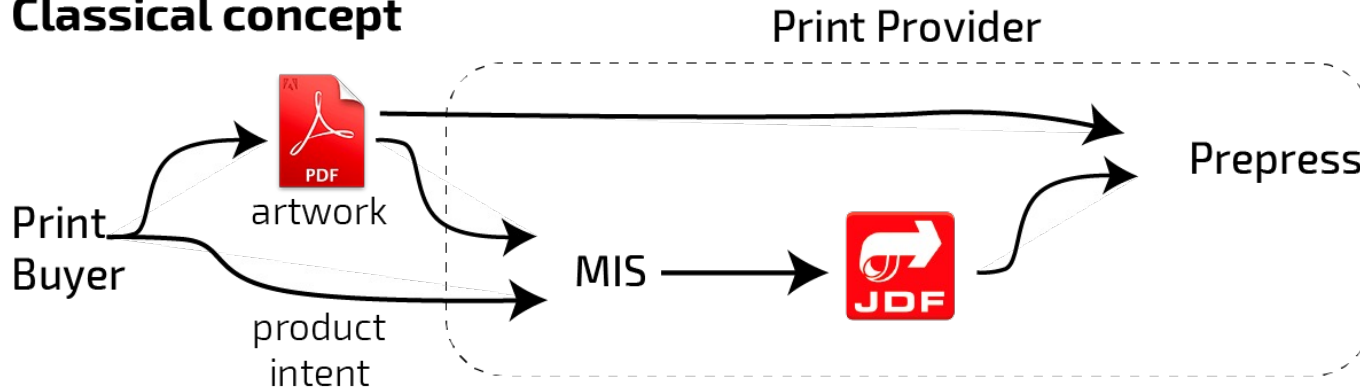
- ▶ The PDF/VT standard defines only the *DPM* structure that can be populated with basically anything.
  - » It does not define specific entries to be used within that structure.
- ▶ It also can contain Print Product Intents, for example
  - » /CIP4\_LastName,
  - » /CIP4\_CopyCount (500),
  - » /CIP4\_ProductType (booklet),
  - » /CIP4\_BindingSide (left),
  - » /CIP4\_BindingType (saddleStitch),
  - » /CIP4\_MediaQuality (lumisilk\_135).

# Order Creation by PDF (The Future?)

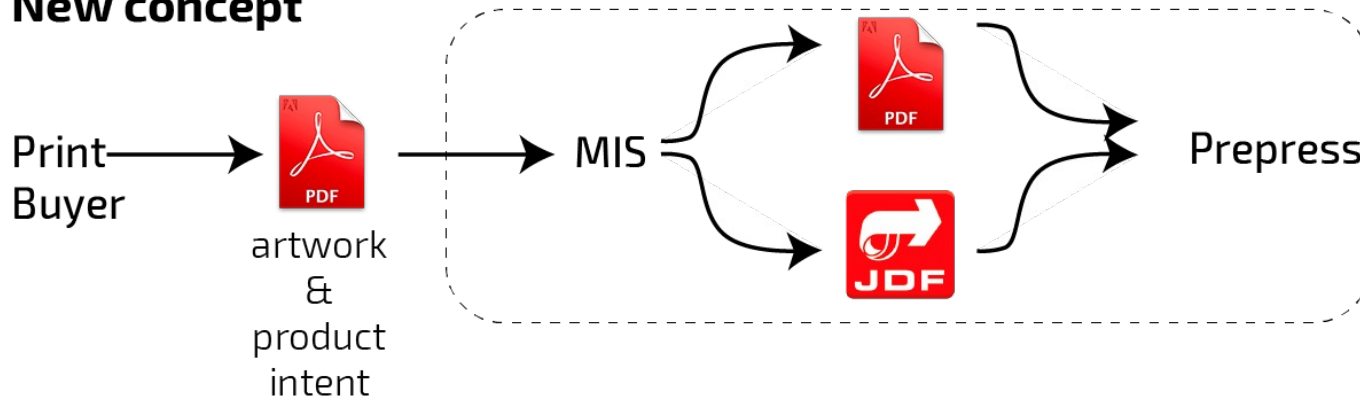
- ▶ In the future: product intent description inside PDF?
  - » The ISO 16612- 2 allows to define document parts.  
E.g., pages for cover and for content in one PDF file.
  - » The ISO 21812-1 defines metadata about customer's product intents in the *DPMs* for each *DPart* inside PDF.  
The entries are not flat but rather in specified dictionary hierarchies.
  - » See also [ICS – Common Metadata for Document Production Workflows](#).
- ▶ The print buyer writes this information into the PDF.
- ▶ A print job can then automatically be generated from PDF, for example by the print provider's MIS.

# 9. Data Flow of Content and Metadata

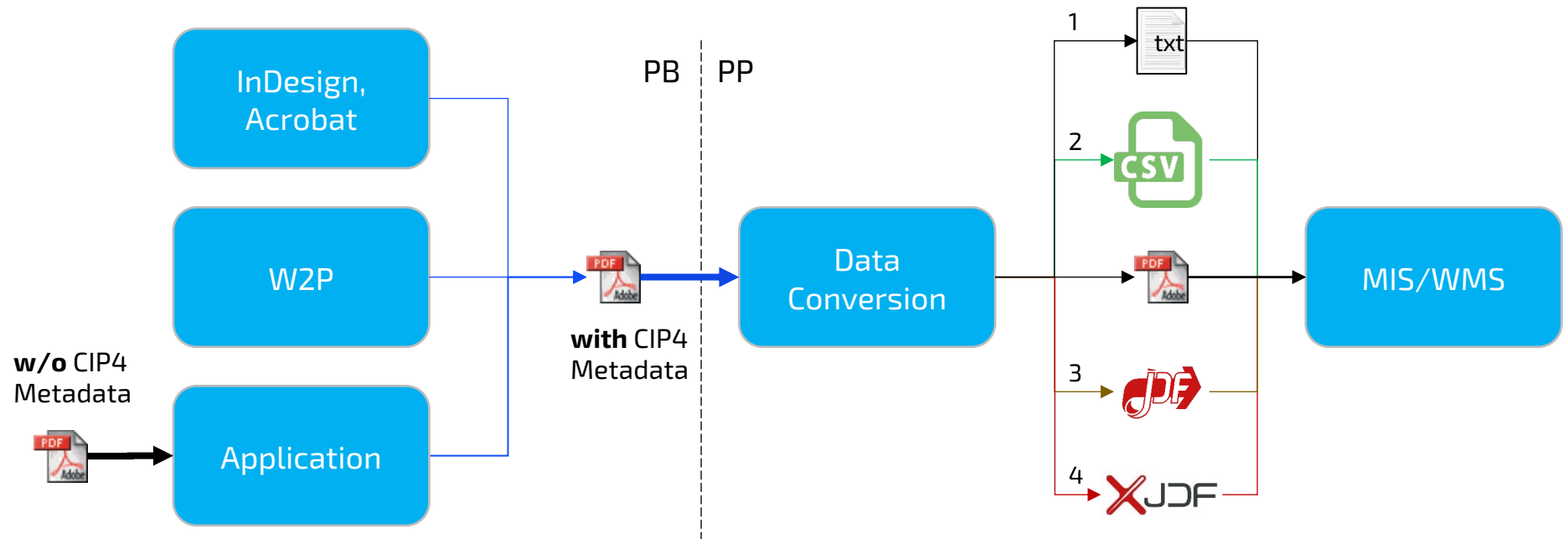
## Classical concept



## New concept



# 9. Feasible Usage for Metadata in PDF



PDF/VT Builder

Customer	Product	Action
First Name	Daisy and Donald	
Last Name	Duck	
Email	duck@hdm-stuttgart.de	
Company	Universal Studios	
Department	A3	
Street Name	Hollywood Drive	
Civic Number	42	
Zip Code	1234	
City	Entenhausen	
Country	USA	

Customer	Product	Action	
Job ID	ID4711		
Customer ID	0816		
Copies	500		
Cover:		Content:	
Start Page	1	Start Page	3
End Page	2	End Page	8
Paper	lumisik_100	Paper	lumisik_130



# Page-Product-Production-Description



- ▶ JDF & XJDF contain product & production information.
  - » JDF: 1:1 relation, XJDF: n:1 relation.
- ▶ PDF Metadata could contain product description.

# Summary Print Product Metadata for PDF



- ▶ Defines standard metadata keys for product intent, e.g.,
  - » Detailed customer information,
  - » Printing substrate, binding information, number of copies,
  - » Information which PDF pages belong to which product part,
  - » All keyword start with *CIP4\_*,
  - » Customer provides product intents for the PP.
- ▶ Conclusion
  - » PDF finally is a Document Description Language and not any more merely a Page Description Language.
- ▶ Implementations?