



**PODi Application Forum, Sydney**  
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## **Talking in Different Languages**

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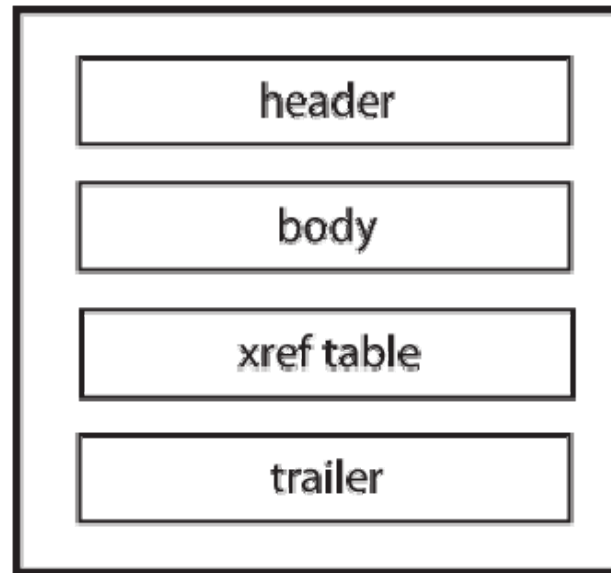
## Background

- VDP accounts for a healthy share of print volume
- Applications diverse in level of sophistication
- Personalisation been around for over 30 years
- Vendors developed their own VI languages in the early 1990's
- Operating system drivers not suitable for regular VDP jobs

## Optimised Portable Document Format (PDF)

- Developed by Adobe in 1993
- Represents documents within an independent, fixed-layout format
- Built on subset of PostScript
- Encapsulates complete description of all objects in a document
- Includes structured storage system
- Four-layer storage system
- Separate page for each record
- Supports object reusability
- PDF emitter needs to support reusable content

## PDF File Structure



## Optimised PostScript

- Developed for DTP market
- Similar to PDF
- PDL and programming language
- Supports reusable content
- Supports programmatic commands to draw page objects from data
- Enables in-RIP composition
- Supports output device commands as variable instructions

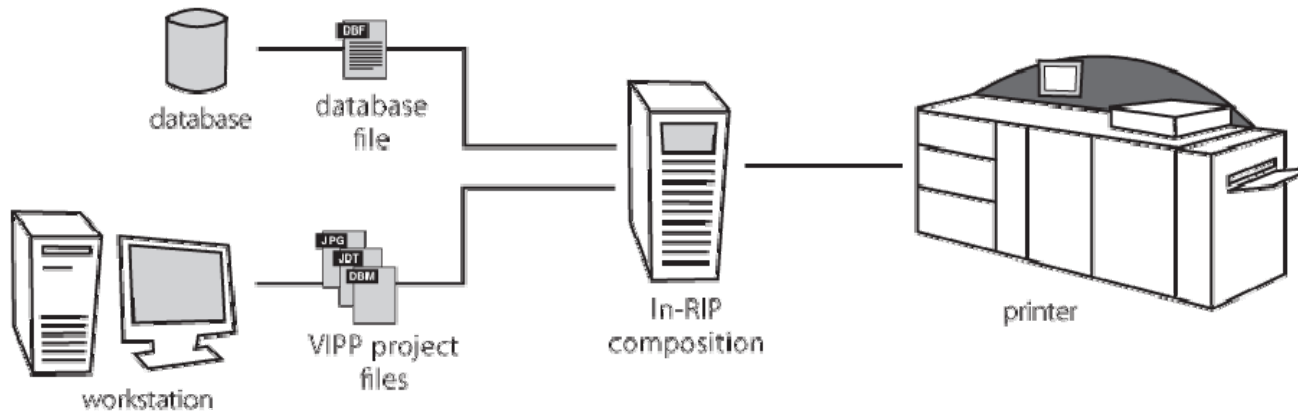
## **Printer Command Language (PCL)**

- Developed by HP for early inkjet printers in 1980's
- Several levels released: v1 - v6
- PCL 6 similar to PostScript
- Not a VI language
- File structure can store common page elements

## **Variable-data Intelligent PostScript Printware (VIPP)**

- Developed by Xerox
- PostScript-based
- VDP elements can remain independent of PostScript
- Load resources on the printer
- Supports in-RIP composition

## VIPP 'Just Send The Data' Workflow



## **Variable Print Specification (VPS)**

- Originally developed by Scitex
- PostScript-based language
- Page & element based imaging model
- Elements either reusable or non-reusable

## Personalised Print Markup Language (PPML)

- Developed by PODi
- XML-based language
- Framework on object-level granularity and reusable content
- Cannot contain binary data
- Supports in-RIP composition
- Conformance specification created to ensure interoperability

## **PPML/Variable Data Exchange (PPML/VDX)**

- Developed by CGATS
- ISO standard
- Based on subset of PPML
- Can consist of several files (PPML/VDX Instance)
- Uses PDF layout file as container

## FreeForm

- Developed by EFI
- 2 layer imaging model: master and variable
- Master template files loaded on RIP
- Variable data layer is overlaid on RIP
- Limited support for advanced VI commands
- Supported file types: pdf, eps, ps, tif

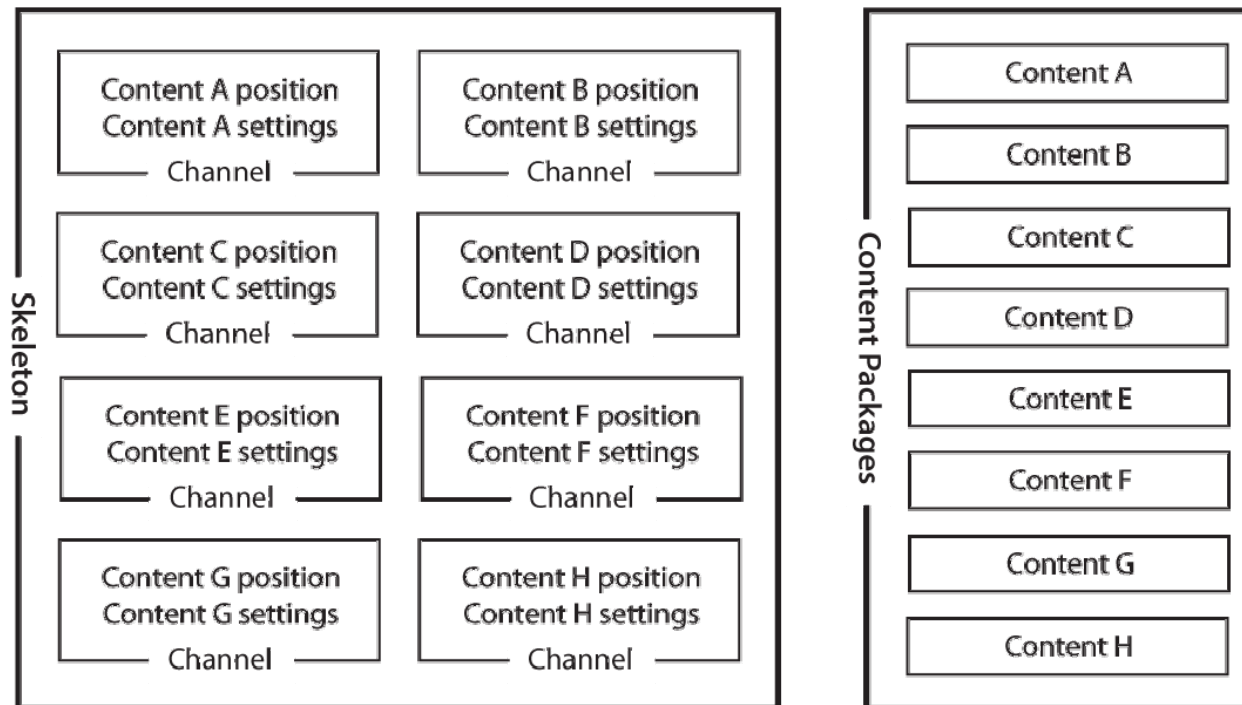
## FreeForm 2

- Extension of FreeForm
- Provides full support for page picking
- Greater flexibility for database integration
- Templates support user-defined names

## **Job Layout ('J Layout')**

- Originally developed by Indigo
- Proprietary job description language
- File format and VI language
- Framework consists of a skeleton & content packages

## JLT File Structure



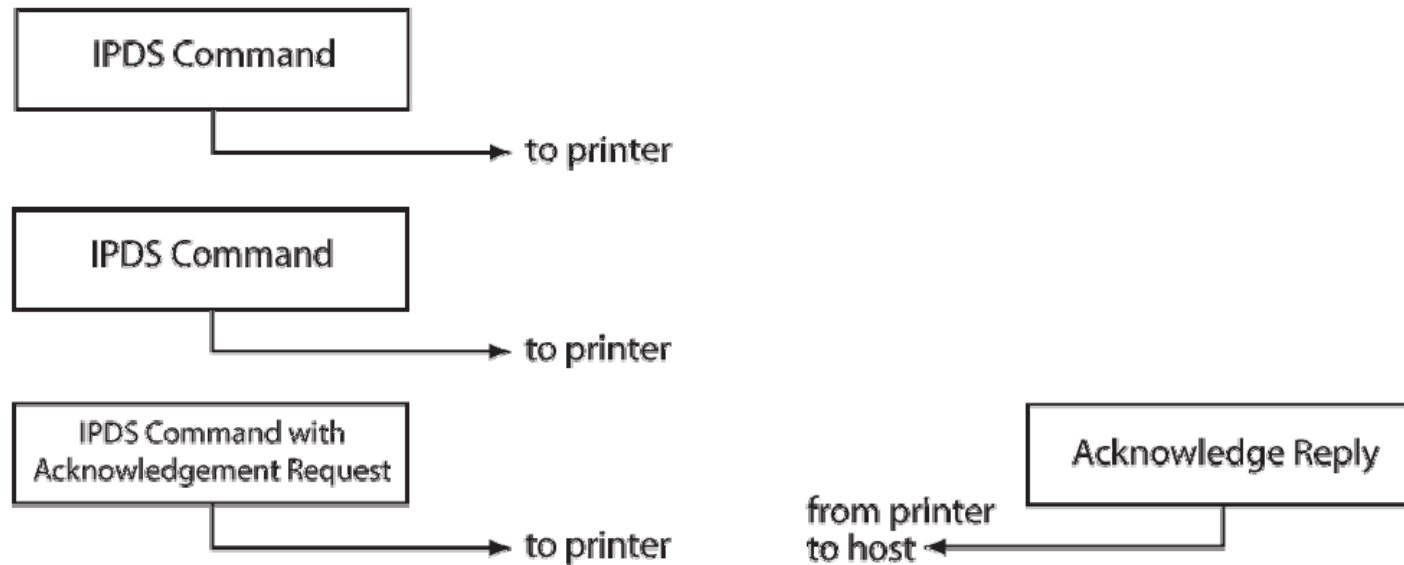
## **Variable Data File (VDF)**

- Originally developed by Agfa
- PostScript-based language
- Uses PostScript file as document template
- Separate VDF file created for each variable object
- Not supported in current Xeikon DFE.

## **Intelligent Printer Data Streams (IPDS)**

- Developed by IBM
- Part of IBM's AFP architecture
- Control and definition language
- Bi-directional communication
- Supports finishing commands

## Processing IPDS Commands



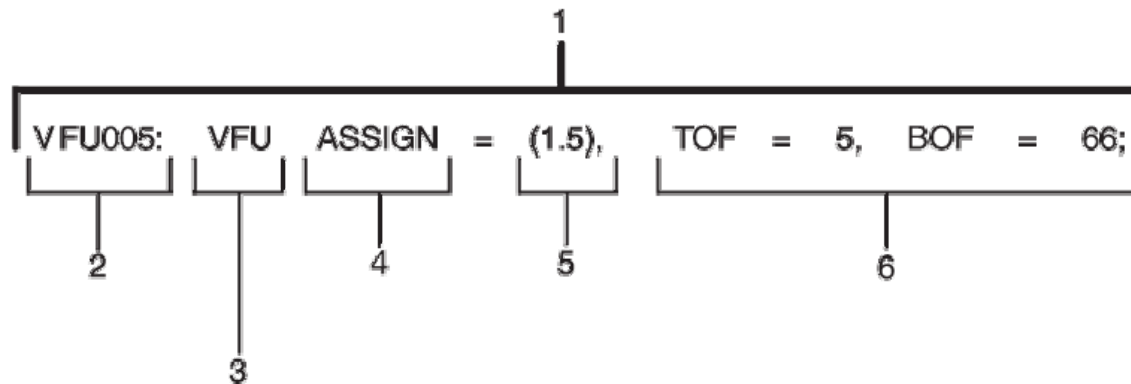
## **Inkjet Printer Data Stream (IJPDS)**

- Originally developed by Scitex
- Proprietary format
- Simple binary file
- Developed for variable text
- Support for parallel processing

## **Line Conditioned Data Stream (LCDS)**

- Developed by Xerox
- Set of printing system commands
- Enabled migration from impact-based printers
- Uses job source library (JSL) file
- Does not support colour printing

## Printing Systems Command Structure



1. Command statement
2. Identifier
3. Command keyword
4. Parameter keyword
5. Parameter option
6. Additional parameter keywords and options

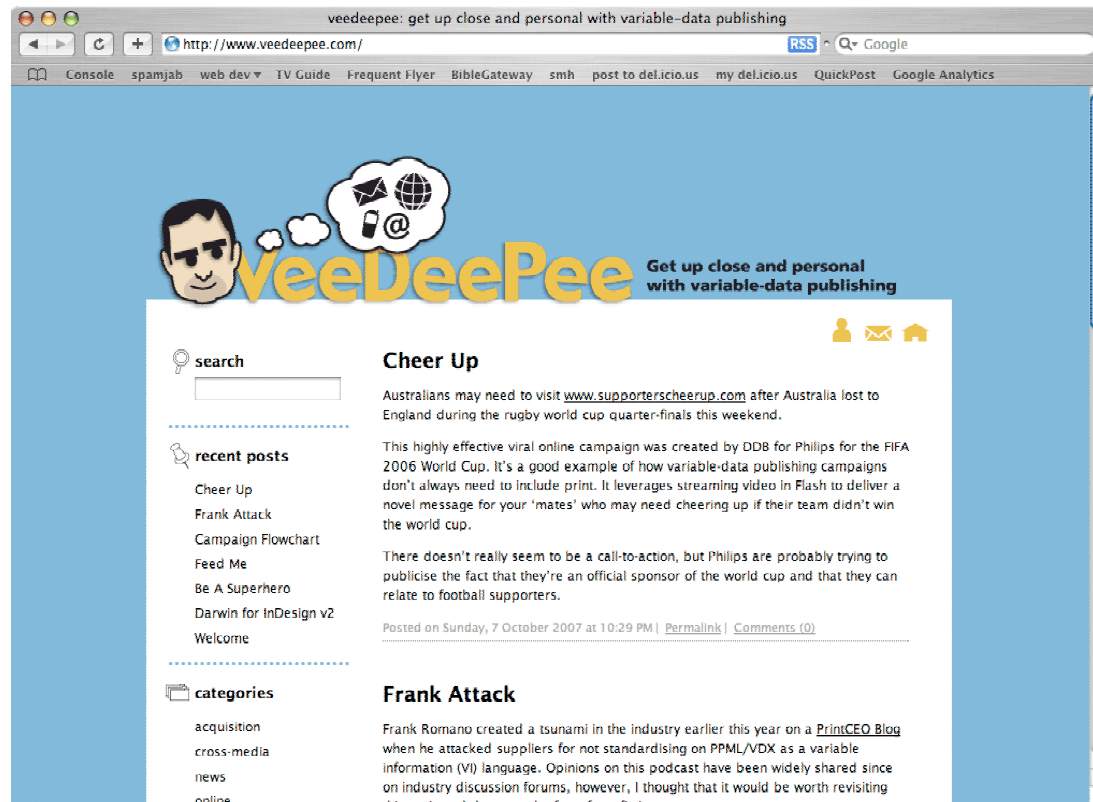
## Metacode

- Developed by Xerox
- Machine code variant of LCDS
- Uses a proprietary metalanguage
- Supports page orientation, font selection and highlight colour

## Summary

- Your production environment will govern your VI language choice
- VI language support varies across different VDP software and RIPs
- VI performance will vary across different RIPs
- Try before you buy
- Base your choice on your own research
- Ensure that you can run your print your engine at rated-speed

# Thank You



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