Modelling and Simulation of Integration of Web system, Digital and Conventional printing

Vilko Žiljak

Klaudio Pap

Darko Agić

Ivana Žiljak

Faculty of Graphic Arts, University of Zagreb, Croatia

- a premise is that a graphic product is not completed when it comes from the presses

- in addition it should be prepared:
    - PDF publication of low and high quality,
    - Web interactive publication,
    - CD publication,
    - DVD publication,
    - video publication,
    - webTV publication,
    - WAP publication,
    - gradual designer’s publication

- the Internet technology, especially a Web technology, has been integrated with the existing and hybrid printing technology into a new management system

- modern printing house should also evolve into a communication company

- digital information is an asset that one needs to and knows how to receive, send, convert, sort out, browse and assess

- Fotosoft Company e.g.(www.fotosoft.hr) doubles its digital files every 8 months

- data started in 1994. when they bought their first Xeikon 32D

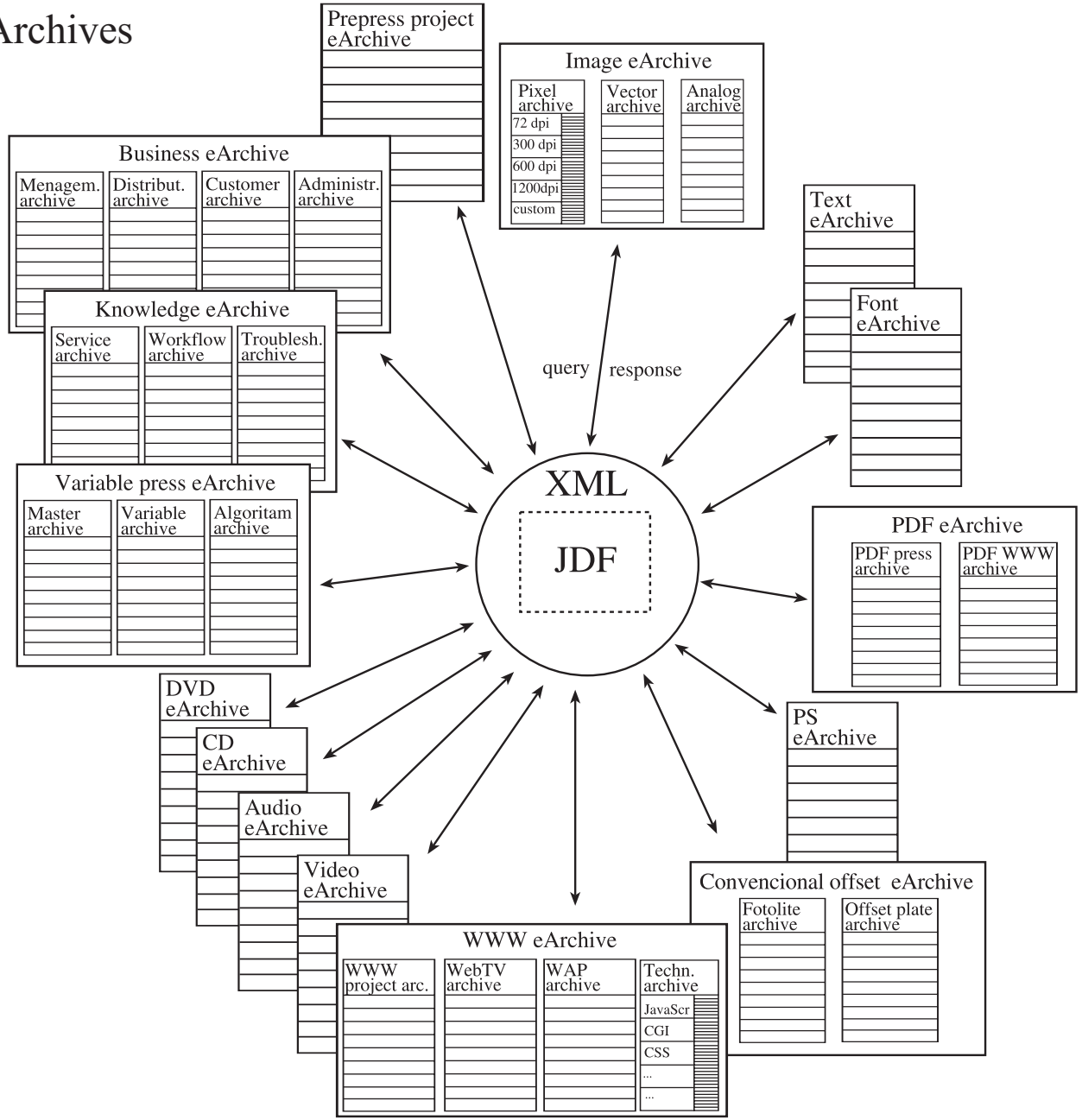
- small editions with constant reprinting created a need for new organization of managing electronic documentation

- several 1000 CD archive converted u DVD archive

- model (pilot project at Fotosoft) enables painless integration of printing house processes with a Web technology

- Information on digital flows has been collected since 1994 and they have been used to check validity of simulation experiments

Model of eArchives



1) A Prepress Project eArchive:

- latest versions of final documents in original files of a prepress program;

2) An Image eArchive:

- **a Pixel digital eArchive** :5 categories using the criteria of resolution (72 dpi, 300 dpi, 600 dpi, 1200 dpi, custom), 3 or more categories using the criteria of the color system (RGB, CMYK, HSB...), 3 or more categories according to the file and compression type (TIFF, GIF, JPEG,...)
- **an Analog eArchive** :indexes according to the material type (reflex originals and transparent originals)
- **a Vector eArchive**: categories according to the contents and formats (logotype, scheme, .fh, .cdr, .ai, eps ...).

3) The Text eArchive:

- searching on ASCII or DOC format, separate coding for MAC and PC

4) A Font eArchive:

- fonts according to categories from Level1 fonts to TrueType and various coding of Croatian characters;

5) PDF eArchives:

- PDF high-resolution eArchives (for high-quality press)
- PDF web eArchives (low resolution);

6) A PS eArchive:

- PS files with an easy conversion into a PDF as required;

7) A Conventional Offset Archive:

- a photolite eArchive
- an offset plate eArchive;

8) A WWW eArchive:

- an eArchive containing web projects: original designer files, (Flash, Shockwave, Director etc.) as well as a final HTML upload code
- a WebTV eArchive
- a WAP eArchive
- a Web technology eArchive: JavaScript base, CGI base, CSS base i.e. a file base of all web technologies used for a web publication;

9) A Video eArchive:

- according to the file categories (MPEG, AVI, QuickTime, ...). All video files for multiple use in the crossweb publishing from printing of a frozen image, interactive Web to a DVD, TV or a Web TV publication;

10) An Audio eArchive:

- categories according to formats (MP3, WAV, RealAudio, ...);

11) A CD eArchive;

12) A DVD eArchive;

13) A Variable Press Data Base:

- a master information data base: backgrounds of variable press created by using various techniques

- a variable information data base: for a variable press using a digital press technology

- an algorithm base: if algorithms are used for a variable press (typical for algorithms with the stohastic number generator);

14) A Knowledge Data Base:

- a service knowledge data base: guidelines for installation and repairwork, spare parts' code;
- A Troubleshooting eArchive: solving difficulties in the entire system;
- Workflow eArchives: procedure for the entire job workflow to be filled by the employee responsible for the entire job, it contains all comments and exceptions from the rule, this is used for financial assessment of present and future jobs;

15) A Business eArchive:

- a management eArchive: management decisions, assessments and analysis
- a distribution eArchive: distribution channels and alternations
- a customer eArchive: all digital links, individuals, resources and experience
- an administrative eArchive: all administrative documents of a company

- a new model must be developed for almost each company due to differences in current state, Internet infrastructure and financial possibilities

- models for conventional printing house
    - to demonstrate the hybrid situation i.e. the operation with digital printing capacity
    - to demonstrate hybrid model with the integrated web technology
    - to create data bases i.e. archives to serve as a foundation for integration with the Web technology

- models for digital printing house
    - to demonstrate various situations and possibilities enabled by the Web technology already
    - difficulties related to searching
    - presented a situation of investing into a conventional printing capacity, such as an offset for hybrid individualization (master+variable)

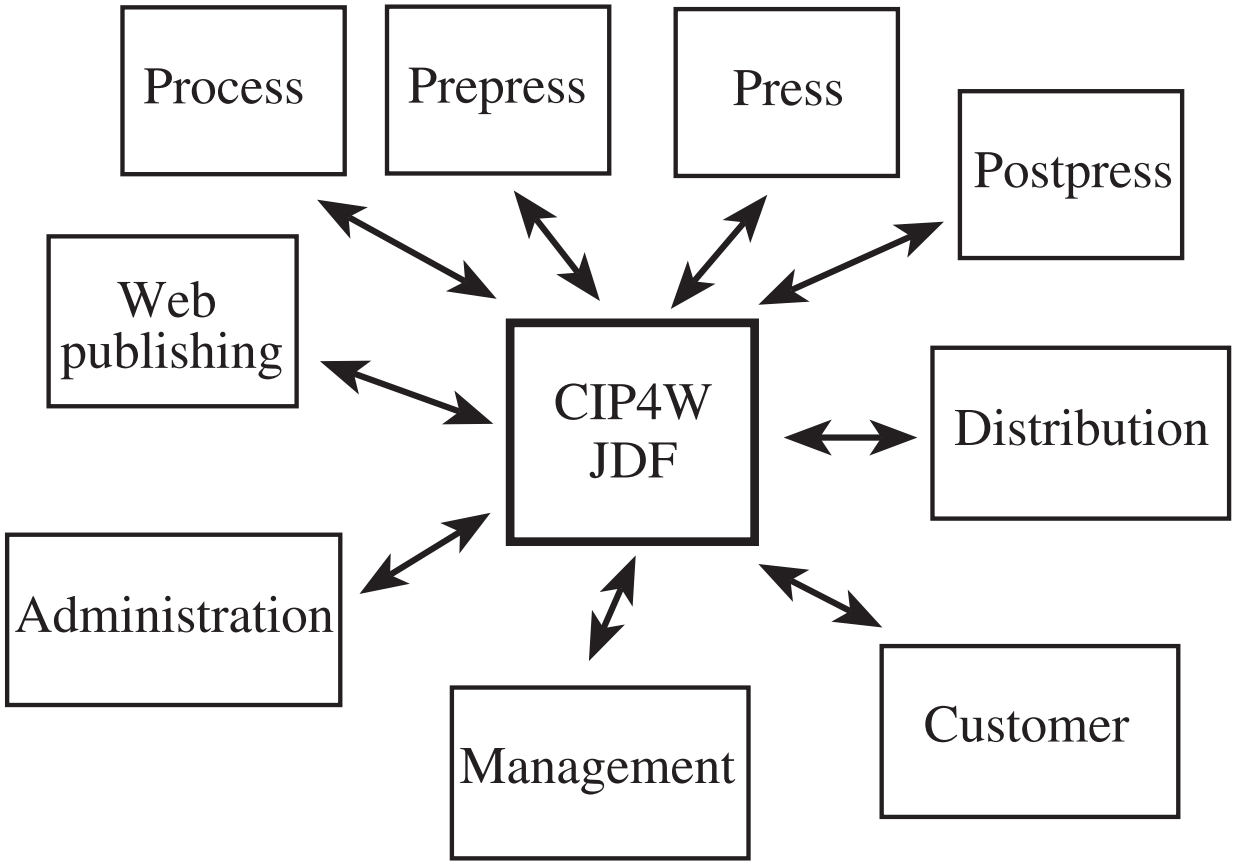
- models for hybrid printing houses
    - integration with the Web technology and its various use as an urgent matter

- 2000. reformed CIP3 into the *CIP4 consortium
- new recommended standard: *JDF file written in the XML language

- the shift in the language of communication from the PostScript using a PPF standard into the XML using a JDF

- Web publishing is not covered adequately with a JDF specification

- CIP4 should evolve into the *CIP4W



A proposed CIP4W scheme

Conclusion

- “Digital” is entering processes from design to the press, from creation to the publishing, from unique items to the reproduction with large editions, from prepress to the eArchive

- The integration of Web, press and ePublishing has a crucial importance for the survival of the press as an integral system

- methods for simulating virtual graphic systems are extremely welcome

- contribute to the discussion on the creation of eArchives, links with the prepress, press and postpress.