

Inside XPS



Martin Bailey

CTO, Global Graphics

May 8, 2007, Winterthur, Switzerland

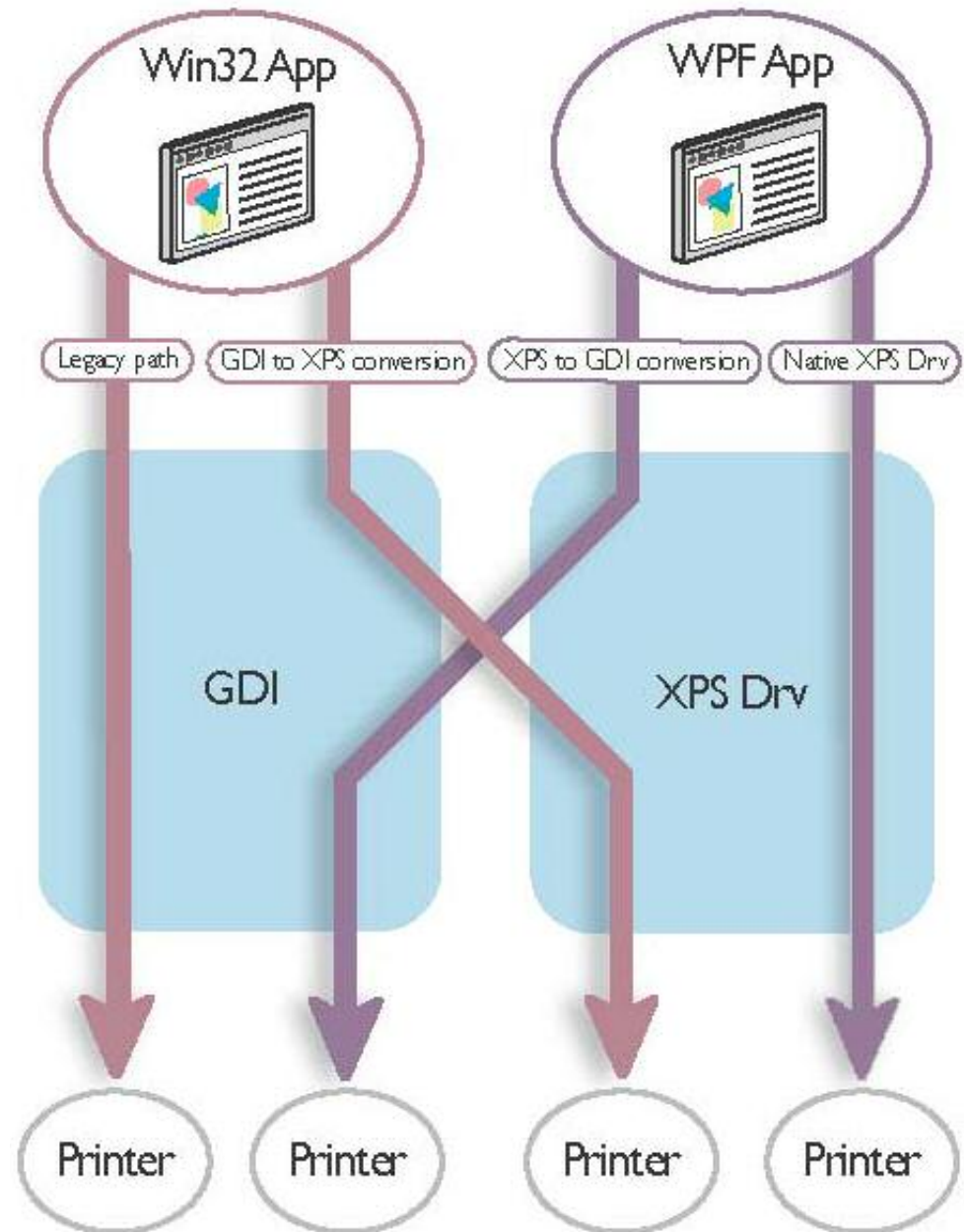


What is XPS?

- XPS is a static page representation
 - XML Paper Specification
- Used for spooling, printing and document sharing
- Supports rich graphical representation
 - Fills, strokes, text, images, smooth graduations
 - Transparency
 - Broad selection of color spaces
 - Including CMYK & spots, and DeviceN as well as colour-managed
 - Support for high dynamic range images
 - Wide gamut, high-precision
- Includes rationalized and extended print ticket

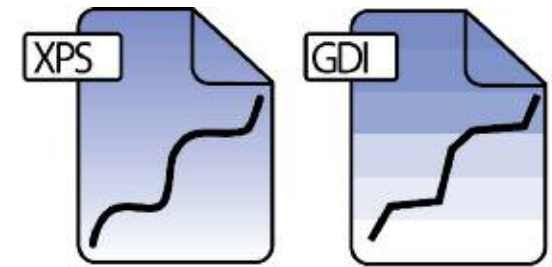
Print Channels

- Vista supports both GDI and XPSDrv print paths
 - Also Windows 2003 Server & XP with .NET 3.0
- Full XPS benefits only from:
 - WPF application + XPSDrv print driver
 - Direct export of XPS from applications



XPS vs GDI

- Legacy Windows display and print mediated by GDI
- GDI has limited graphics capabilities:
 - No smooth grads or transparency
 - Coarse control of bezier curves
 - 8-bit per channel, RGB only
 - Can be circumvented by specific cooperation between application and printer driver
 - Limited typographic control
 - No metadata capability



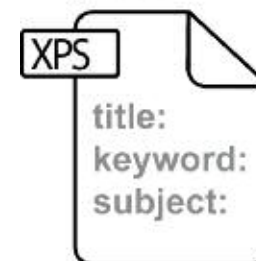
Smooth gradients and curves.



Transparency.

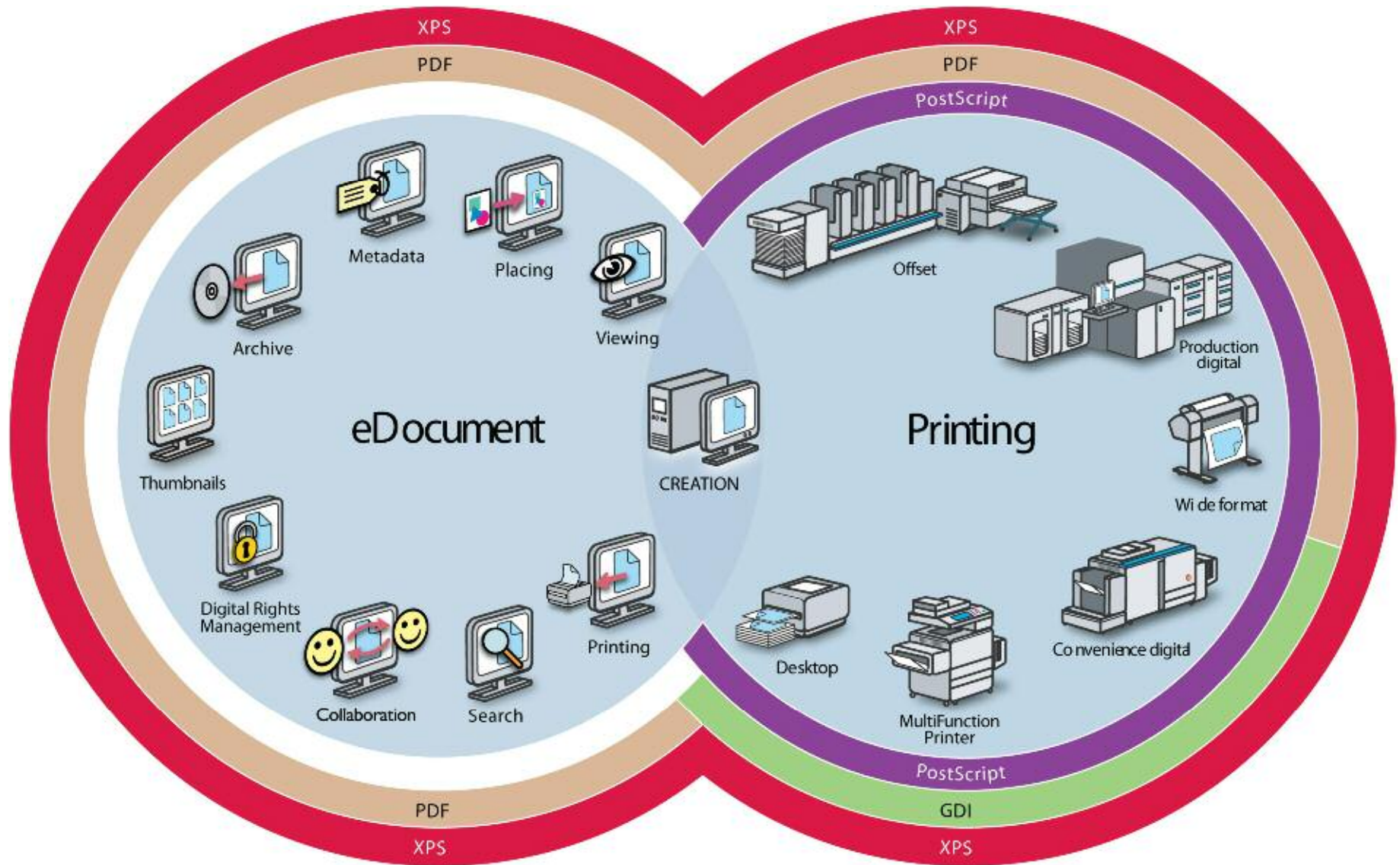


Wider color gamut with greater color precision.



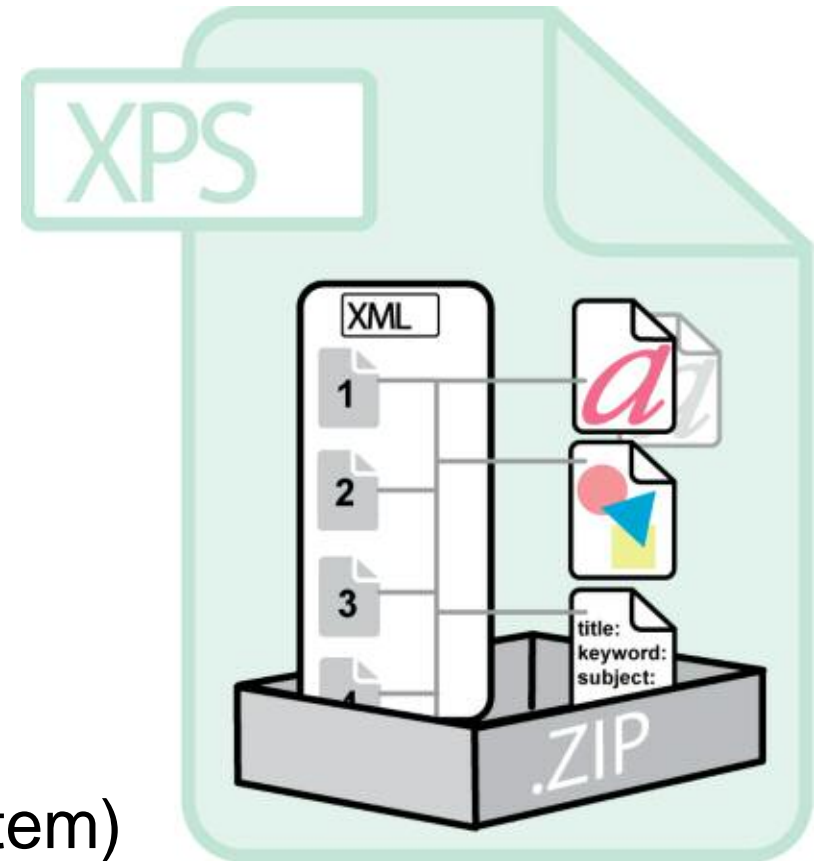
Extensible metadata capabilities.

The first true cross-over format?



Inside XPS

- Based on published standards and specs:
 - XML
 - ZIP
 - ICC color profiles
 - OpenType fonts
 - JPEG, PNG, TIFF
- Adds
 - WCS (Windows Color System)
 - HD Photo



How open is XPS?

- Proprietary format
 - Currently owned by single vendor
- Published specification
- Public statements around IP
- No license/fee to implement
- To be developed as international standards

- Just like PDF!

Making XPS files

- Windows Vista – any application
 - Print to Microsoft XPS Document Writer (MXDW) printer instance
- Windows XP & 2003 Server – any application
 - Download & install free .NET 3.0 framework
 - Print to Microsoft XPS Document Writer (MXDW) printer instance
- Microsoft Office 2007 – Windows XP & 2003 Server
 - Download & install free “Save as XPS” plugin
 - Equivalent for Office 2007 on Macintosh has been promised
- Other tools starting to appear as well
 - Widely implemented foundation specs makes XPS creation relatively simple

Viewing XPS files

- Windows Vista
 - Files open in Internet Explorer
- Windows XP & 2003 Server
 - Files open in Internet Explorer if .NET 3.0 Framework is installed
- Windows 2000, XP & 2003 Server
 - “XPS Essentials” pack provides stand-alone viewer
- Macintosh, Unix, Linux
 - Microsoft has stated that viewers are planned

How to print XPS?

- Print from XPS viewer
 - Implies conversion
- Conversion component before RIP
 - In prepress workflow product or digital front end
 - Explicit conversion
- RIP with native XPS support
 - No conversion

- Print ticket considerations
 - How much do you trust your customer?

What's wrong with conversion for printing?

- Possibility of introducing artifacts
 - Reduced if conversion tightly associated with RIP
- Probability of reducing performance
 - May prevent streaming
- Conversion is not always wrong
 - It has a cost; benefits of converting must outweigh that cost
- Often useful:
 - As part of a migration strategy
 - To reduce testing requirements when adding functionality

What about Mars?

- Adobe technology project
- PDF, but encoded using XML, ZIP, SVG, etc
- Counters some XPS advantages
 - Easier creation, modification etc
 - At the cost of backward compatibility
- No published adoption path or schedule

For more info

- Global Graphics:
 - XPS FAQ
 - White paper: Analysis: XPS and the Graphic Arts

- www.globalgraphics.com

NEW! Next Generation
Technology >



THE TECHNOLOGY EXPERTS FOR OPEN DOCUMENT AND PRINT SOLUTIONS

- Martin.Bailey@globalgraphics.com