

Introduction to PPML: The Personalized Print Markup Language

A new, XML-based, industry standard print language
developed by the world's leading manufacturers of print technology
for high-speed production of reusable page content

Overview

PODi, a consortium of leading companies in digital printing, has developed a specification for a new industry-standard print language. The purpose of this language is to make it much faster to print documents that have reusable content. The language uses XML, the Extensible Markup Language, as its syntactical base, giving it an affinity to many Web-based applications.

The language is called PPML: Personalized Print Markup Language. This document briefly explains what PPML offers and the sort of applications that have created the industry-wide recognition of the need for a new industry standard.

For technical details, see the specification, available at www.ppml.org/standards.

What's the basic issue?

The issue is personalization: the need for digital printing to provide the same level of personalized response that is already available on the Web.

With the advent of high quality digital printing in 1993, for the first time in history it became possible to print high quality individualized messages in full color. But the technology has not come close to realizing its market potential. One reason, it is widely agreed, is that there is no industry standard language for printing color pages with high quality reusable content. PostScript, the most popular language for the graphic arts, is a *page* description language. Non-graphic-arts languages such as PCL and AFP have no way to define or efficiently reuse high quality graphics, especially in full color.

Why? Simple: before 1993 there was no *use* for such a language. But when digital printing presses were introduced, such applications became possible.

However, in the absence of an industry standard way to specify reusable or variable page content, each vendor had to develop its own proprietary method: its own print technology with its own unique features, and its own software to use the technology. The result was an industry with a haphazard set of incompatible solutions: what was possible on one system may or may not have been possible on another system. And even if two systems had an identical feature, the file format

each used was proprietary, not interoperable. Files created for one system could not run on another.

This discouraged widespread adoption of the technology and its applications, which in turn made it difficult for any interested developer to anticipate a broad market for investing in such applications. The market failed to expand.

To address this, in 1999 seven member organizations of PODi voted unanimously to develop a new standard print language for personalized printing. Since then, more companies have joined the standards initiative. Member companies who have contributed to the design, authoring and approval of PPML include:

Adobe Systems	Agfa	Barco	CreoScitex
EFI	Hewlett-Packard	IBM	Indigo
Lexmark	NexPress	Noosh	Océ
Pageflex	Scitex Digital Printing	Xeikon	Xerox

In addition, several other companies participate as non-voting observers, which helps them keep abreast of PPML status in advance of public announcements:

Banta	Canon	Epson	Hitachi-Koki
Minolta	Nimblefish		

What capability will the language add?

In a sense, this new language lets a printer behave like a Web browser, which caches recently used images so they can be redisplayed without being downloaded repeatedly. As with Web browsers, this enables new applications that were never before feasible.

What can you do with it?

Examples of relevant print applications include:

- **Marketing messages** composed from a “virtual catalog” of available items. The “catalog” of items can be loaded into the printer once; then, highly personalized documents—letters, brochures, catalogs, statements—can be printed without slowing the printer down.
- **Financial statements, insurance policies, etc:** individualized *image-rich* documents can be assembled and printed at full speed—something that was never before possible. Since color and images communicate much more effectively, this is important to the potency of the document.
- **Presentations with an image-rich background:** with conventional methods it’s slow to print a slide presentation whose background image is a graphic – the graphic is re-downloaded for every page. With PPML the background image can be sent to the printer just once, so it doesn’t delay the printing of each individual page. (The same benefit will also apply to graphics that appear repeatedly in the presentation: logos, product art, anything.)
- **Company logos and product photos:** a workgroup or company can make commonly used artwork available to all the printers on a network, for

zero-delay inclusion in any document created by any application that supports the PPML reusability feature.

How does it do it?

The language does this by providing two capabilities not available in previous print models:

- **Object-level granularity:** Granularity is the issue of "How small a piece can this system work with?" Previous printers have had page-level granularity. The PPML language can define page content *objects*, so it's no longer necessary to send all of the page content for every page.
- **Reusability:** these page components can be saved with a name, temporarily or permanently, and reused repeatedly within a print run or even from day to day. Parts of pages (or even a complete reusable page image) can be sent to the printer once, assigned a name, then accessed anytime from the printer's memory.

Different PPML-based products will vary in how much storage capacity they offer for reusable objects, so different product solutions can be developed to suit a wide range of different applications.

What difference does it make?

For documents with reusable content, the result can be a tenfold reduction in the amount of data generated, a corresponding reduction in the network traffic required to print the document, and a corresponding reduction in processing time for the printer controller. It may become possible to print sophisticated, effective, individualized graphical documents with the same speed as if the documents were just text, or not personalized at all.

How can I learn more?

PPML was demonstrated by several PODi member companies at the worldwide "drupa 2000" printing exposition in May 2000. Product shipments began by year-end.

For more information, including PPML developer support, contact:

PODi – the Digital Printing initiative
150 Lucius Gordon Drive, Suite 110
W. Henrietta, NY 14586

716.239.6063 voice
716.239.6093 fax
info@pod.org
www.podi.org
www.ppml.org