

PERSONALIZED PRINT



MARKUP LANGUAGE

PPML Consumer Interoperability Report

Personalized Print Markup Language

PPML v2.2

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the Digital Printing Initiative

PODi is a non-profit industry consortium formed in 1996 to foster the growth of the digital printing industry through market and standards development activities. PODi constantly monitors market and technology trends in the industry, and shares information through seminars, independent research, white papers, articles and the web. PODi promotes interoperability through the PPML suite of open, XML based standards, test suites and certification.

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Introduction

PPML, the Personalized Print Markup Language, is an industry-standard language for digital print. Developed by PODi (a consortium of leading companies in digital printing), PPML is completely vendor-neutral and royalty-free. The current release, PPML v2.2 is available for use in a wide range of digital print systems across a broad range of applications.

Note: The "PPML v2.2" name used throughout this document is the commonly-used name for the PPML/GA v2.2 conformance subset of the PPML Standard

This second Interoperability Report is based on reported results from the following PPML Consumer applications, when running the PPML v2.2 Test Suite.

Vendor	Product version tested
EFI	Fiery System 8 release 2 [1]
HP Indigo	Production Stream Server, Powered by Creo v1.2 [2]
HP Indigo	Production Manager v1.1 [3]
Punch Graphix Xeikon	X800 v1.8 DFE [4]
Xerox	FreeFlow Print Server 6.0 [5]

The PPML Test Suite contains test cases covering the following features:

- object placement, clipping and transformation
- content data the use of fonts and ProcSets in Adobe PostScript
- definition and use of reusable objects
- referencing external files
- embedding content data in PPML
- multi-page content data

This report clearly demonstrates extensive cooperation among vendors striving for interoperability. It also describes the level of interoperability that can be expected among these products today, as suggested by analysis of the test results.

[1] The EFI Fiery Server is available on printers manufactured by Canon, Fuji Xerox, IKON, Kodak Versamark, Konica Minolta, Oce, Ricoh and Xerox.

[2&3] The HP Indigo Production Stream Server and Production Manager are available on all Indigo products.

[4] The Xeikon X800 DFE is available on all Punch Graphix Xeikon Digital Presses

[5] The Xerox FreeFlow Print Server 6.0 is available on most of the Xerox Production and Light Production Color, Highlight Color, and Monochrome Printers. Additional printers will become available in 2008.

Interoperability Findings

The PODi PPML v2.2 Test Suite was run on the DFEs (Digital Front Ends) available from ten major vendors of printing devices. Results were delivered to Paul Jones, PODi's Senior Technical Analyst, who provided the interpretation for this report.

PODi PPML v2.2 Test Suite results received from EFI, HP, Xeikon and Xerox have demonstrated that compliant PPML v2.2 datasets can be constructed and sent to any of these Consumers, and they will (with caveats noted in the Appendix) deliver predictable results.

PPML v2.2 datasets that take PostScript, PDF and JPEG data and apply arbitrary transformations and clipping do work consistently across each vendor. Each vendor also supports optimizing the PostScript content by allowing fonts and ProcSets (incl. the PostScript prolog) to be defined once, and used in the PostScript fragments.

Note that the fonts and ProcSets must specifically be defined as supplied resources in PPML and made a required resource for each job/document_set in the data set.

Job ticketing is not part of PPML, but vendors are broadly embracing JDF job ticketing for use with PPML datasets, as described in the DPT2.2 specification. This specification details how a JDF job ticket can refer to PPML datasets for content and for the dynamic selection of job ticketing parameters.

Note that the DPT specification does not depend or use the job ticket related elements: TICKET, TICKET_REF, TICKET_SET and TICKET_STATE in PPML.

Conclusions

Conformance testing shows that PPML v2.2 provides a significant advance in interoperability between the tested systems. Fully-interoperable PPML v2.2 documents (datasets) can be created and consumed successfully today. The following Appendix provides additional guidance in creating interoperable files.

The PPML v2.2 Test Suite is a valuable tool for both test and development of PPML consuming devices. Vendors use the Test Suite to evaluate conformance to the PPML specification. A copy of the test suite may be downloaded from PODi at <http://ppml.podi.org> for free after registration.

While the interoperability report demonstrates that Producers can generate interoperable PPML v2.2 files that will print correctly on multiple Consuming devices, it does not provide a guarantee that the output of a non-certified Producer will be correctly reproduced on a particular Consumer. For certified Producers and Consumers, PODi has performed the interoperability testing such that the end-user is only left with selecting those certified Producers and Consumers that best match business needs, without needing to worry about compatibility.

Appendix: Guidance

Although single-page Postscript may be used across all vendors, multi-page PostScript cannot. One can easily distill a multi-page PostScript file into a multi-page PDF file and use that content instead, which is well supported by each of the vendors.

Note that the SEGMENT_REF and SEGMENT_ARRAY elements that were defined primarily for use with multi-page PostScript are therefore also not supported by all vendors. (Note that PPML v2.2 does not allow the use of multi-page Postscript, SEGMENT_REF or SEGMENT_ARRAY.)

With the release of JDF version 1.2, the PPML Ticket references are no longer supported by many of the vendors who are using JDF job ticketing. (Note that PPML v2.2 prohibits the use these TICKET* elements.)

Troubleshooting:

- If font substitution occurs on the printer even though the fonts are embedded into the PPML stream, try moving the supplied resource definition to the job/document_set level and make sure that the font is a required resource for each PostScript fragment that needs that font. If the problems persist, please make sure that each font has a unique resource name. If PostScript font definitions are generating PostScript errors one should check that the PostScript font definition does not depend on user-defined functions (which is the case for Type1 and Type42 font definitions purchased from any of the font vendors).
- If PostScript errors are occurring please ensure that all the ProcSets are defined as supplied resource at the job/document_set level and make sure that the ProcSet is a required resource for each PostScript fragment that needs that ProcSet. If the problems persist, please ensure that each ProcSet has a unique resource name.
- convert any multi-page content data to multi-page PDF if content is missing or is incorrectly placed
- If TIFF images are displayed incorrectly, please ensure that the TIFF images have resolution information
- If JPEG or TIFF images are being placed or clipped incorrectly, please ensure that the Dimensions attribute is consistent with the size of the image.
- if rotated or clipped TIFF or JPEG content is being displayed incorrectly, consider using PostScript or PDF instead as not all Consumers support arbitrary clipping and rotation of JPEG and TIFF images.

PPML 3.0 is currently under active development to further enhance capabilities across both generating and consuming systems. Upon completion, a corresponding test suite will be made available.