

PERSONALIZED PRINT



MARKUP LANGUAGE

**PODi DPT 2.0**

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## **Digital Print Ticket — Printing with PPML and JDF**

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## Foreword

This specification was developed by PODi: the Digital Printing Initiative. The previous version of the Digital Print Ticket (DPT) specification defined a subset of JDF for use with PPML. Now that CIP4 has defined the Integrated Digital Printing (IDP) Interoperability Conformance Subset (ICS) there is no longer a need to define a separate subset of JDF for use with PPML. This specification restricts itself to defining the semantics of how PPML and JDF interact. This specification completely replaces all previous versions of the Digital Print Ticket Specification which have now been withdrawn.

## Introduction

The Digital Print Ticket (DPT) specification defines a conformance subset for PPML data sets for use with JDF. This specification defines the use of JDF semantics in the context of PPML data as a MultiSet content format.



# Digital Print Ticket — Printing with PPML and JDF

## 1 Scope

This specification defines the semantics for using the Personalized Print Markup Language (PPML) and the Job Definition Format (JDF) for printing applications. In particular, this document specifies the semantics of how content data and meta information described in PPML is made available to a JDF Consumer as described by the JDF specification. This specification also defines a set of minimal requirements for a JDF Device that drives a PPML Consumer.

This specification is not intended to define nor does it define a conformance subset of JDF for use with PPML.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Personalized Print Markup Language (all versions, 1.5/2.1), Functional Specification, PODi: the Digital Printing Initiative

JDF Specification, Release 1.2, CIP4 Organization, Dated May 9, 2004

Base ICS, Version: 1.0, CIP4: System Behaviour and Interoperability WG, Dated December 22, 2004

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1 JDF Device

The component of a JDF workflow part that interprets JDF and executes the instructions.

### 3.2 PPML Consumer

A device, process or system that reads and interprets PPML data.

### 3.3 Job Ticket

The instructions required to produce a set of printed documents.

### 3.4 PPML dataset

A file containing a PPML element as defined by the PPML specification.

## 4 Conformance

A conforming PPML dataset shall adhere to the technical requirements set forth in section 5.1.

A conforming JDF job ticket shall adhere to the technical requirements set forth in section 5.2.

A conforming JDF Device shall adhere to the technical requirements set forth in section 5.3 and shall conform to the Base ICS Level 0 and may support additional levels .

NOTE In accordance with the Base Conformance ICS, the JDF job ticket must always be external to the PPML file. To use a DPT 2.0 compliant job ticket embedded in the PPML data, that JDF job ticket must be externalized before submission to the JDF Device. Externalizing a JDF job ticket may require rewriting URLs in the JDF job ticket, in particular self-referencing URLs.

A conforming PPML Consumer shall adhere to the technical requirements set forth in section 5.4.

A conforming JDF Consumer shall adhere to the technical requirements set forth in section 5.5.

## **5 Technical Requirements**

This specification identifies requirements for PPML datasets, PPML Consumers, JDF job tickets and JDF Devices driving PPML Consumers.

### **5.1 Requirements for PPML datasets**

#### **5.1.1**

The PPML element shall include a CONFORMANCE element indicating conformance to this specification. That CONFORMANCE element shall have a SubSet attribute with a value of "DPT" and a Level attribute with a value of "2.0".

#### **5.1.2**

The value of the Label attribute of a PPML PAGE, DOCUMENT, DOCUMENT\_SET and JOB elements must conform to the NMTOKEN production as defined in the XML specification.

NOTE The values of a Label attribute need not be unique. It may however be useful to have unique labels, to allow content data to be correlated with the original database of customer information.

### **5.2 Requirements for JDF Job Tickets**

The ElementType attribute of a JDF LayoutElement element shall be present and have the value "MultiSet" if the containing JDF FileSpec element has a MimeType attribute with a value of "application/vnd.podi-ppml+xml".

### **5.3 Requirements for JDF Devices**

A JDF Device shall model a PPML Consumer as a JDF process node that has a RunList that refers to PPML data as an input resource. That process shall model a DPT 2.0 compliant PPML Consumer.

NOTE If the IgnorePDImposition attribute of that JDF LayoutElement has the value of "true" or is unspecified, the PPML Consumer must process the PPML data as a non-imposing PPML Consumer as defined by the PPML specification.

### **5.4 Requirements for PPML Consumers**

#### **5.4.1**

A PPML Consumer shall support at a minimum the same URL resolving capabilities of the JDF Device driving that Consumer to ensure that files referenced from PPML via relative URL's are supported.

NOTE As the JDF Device driving a PPML Consumer is required to support the JDF Base ICS Level 0, the above only implies support for URL's based on the file protocol.



## 5.4.2

The PPML TICKET\_REF and TICKET elements present in the PPML data shall be ignored.

NOTE Support for TICKET\_REF is strictly for reasons of backwards compatibility with the ANSI CGATS.20.2002 (PPML/VDX) standard. In VDX the TICKET\_REF elements are used in defining product intent only. The TICKET\_REF element is kept in this specification to allow the PPML data to be used unmodified after the intent to process mapping. . The use of partitioning product intent resources, rather than TICKET\_REF, is strongly recommended.

## 5.5 Requirements for accessing PPML content data from JDF

A PPML file organizes page content into a hierarchical structure whose levels correspond to a content file format as characterized by the LayoutElement/@ElementType attribute value of "MultiSet". The following clauses define the input order of the hierarchical elements as seen by a JDF RunList resource definition.

### 5.5.1

Each PPML JOB or DOCUMENT\_SET element shall define a JDF document set as specified by the definition of the Sets attribute of the JDF RunList resource in the JDF specification.

### 5.5.2

The order in which the PPML JOB or DOCUMENT\_SET elements occur in the PPML element shall define the input order of the document sets to the JDF RunList resource.

### 5.5.3

Each PPML DOCUMENT element shall define a JDF document as specified by the definition of the Docs attribute of the JDF RunList resource in the JDF specification.

### 5.5.4

The order in which the PPML DOCUMENT elements occur in a PPML DOCUMENT\_SET or JOB element shall define the input order of the documents within a set to the JDF RunList resource.

### 5.5.5

Each PPML PAGE element shall define a JDF page as specified by the definition of the Pages attribute of the JDF RunList resource in the JDF specification.

### 5.5.6

The order in which the PPML PAGE elements occur in a PPML DOCUMENT element shall define the input order of the pages within a document to the JDF RunList resource.

### 5.5.7

In PPML each PAGE element shall have a defined trim box that takes it's value from the TrimBox attribute of the PPML PAGE\_DESIGN or PRINT\_LAYOUT element in effect.

The reference coordinate for placing a PPML page into the JDF coordinate space shall be the lower-left corner of the region defined by the trim box of that PPML page.

NOTE PPML requires a PAGE\_DESIGN or PRINT\_LAYOUT to be in effect for each page, therefore the trim box is always defined.

**5.5.8**

The value of the Label attribute of a PPML DOCUMENT\_SET or JOB element shall define the name of the set as used by the JDF SetNames attribute of a RunList resource.

NOTE The value of the SetNames attribute of the JDF RunList element identifies for selection those PPML JOB or DOCUMENT\_SET elements whose Label attribute value is included in the SetNames attribute of the RunList element.

**5.5.9**

The value of the Label attribute of a PPML DOCUMENT element shall define the name of the document as used by the JDF DocNames attribute of a RunList resource.

NOTE The value of the DocNames attribute of the JDF RunList element identifies for selection those PPML DOCUMENT elements whose Label attribute value is included in the DocNames attribute of the RunList element.

**5.5.10**

The value of the Label attribute of a PPML PAGE element shall define the name of the page as used by the JDF PageNames attribute of a RunList resource.

NOTE The value of the PageNames attribute of the JDF RunList element identifies for selection those PPML PAGE elements whose Label attribute value is included in the PageNames attribute of the RunList element.

**5.5.11**

The value of the Label attribute of a PPML DOCUMENT element shall define for the document in JDF defined by that DOCUMENT element the value for an implicit label as defined in the description of the RunTag attribute of the RunList element in the JDF specification.

NOTE If the value of the Label attribute of a PPML DOCUMENT element matches an entry in the value of a RunTags attribute of a JDF Part element or a JDF Resource partition, then the pages in the identified PPML DOCUMENT element will be processed in accordance with the JDF specification.

## Annex A (informative)

### Overview of the mapping between PPML and JDF

#### A.1 PPML Element mapping

Table 1 shows the mapping between PPML elements and the corresponding JDF concept. Note that the order of occurrence of the elements in PPML defines the order of pages, documents and sets in JDF.

**Table 1 — PPML elements mapping to JDF**

PPML	JDF
PAGE	Reader page
DOCUMENT	Document
DOCUMENT_SET	Set
JOB	Set

#### A.2 PPML attribute mapping

Table 2 shows the mapping between PPML attributes and the JDF partition keys that may be used to select a subset of the PPML content data for processing. If the value of the PPML attribute matches a value in the list of values in the corresponding JDF partition key then the content data described by that PPML element to which that attribute belongs is selected.

**Table 2 — PPML attributes mapping to JDF partition keys**

PPML	JDF
PAGE/@Label	RunList/@PageNames
DOCUMENT /@Label	RunList/@DocNames, RunTags
DOCUMENT_SET/@Label	RunList/@SetNames
JOB/@Label	RunList/@SetNames

#### A.3 Requirements for PPML data

Table 3 lists the requirements for PPML elements and attributes in DPT 2.0 compliant PPML data.

**Table 3 — Requirements on PPML elements and attributes**

PPML element/attribute	Requirement
PAGE/@Label	NMTOKEN value
DOCUMENT /@Label	NMTOKEN value

PPML element/attribute	Requirement
DOCUMENT_SET/@Label	NMTOKEN value
JOB/@Label	NMTOKEN value
CONFORMANCE	At least one required with the required Subset/Level attributes
CONFORMANCE/@SubSet	Required value "DPT"
CONFORMANCE/@Level	Required value "2 . 0"
TICKET	Ignored
TICKET_REF	Ignored
SHEET_LAYOUT	Ignored if LayoutElement/@IgnorePDLImposition equals "true"
EXTERNAL_DATA/@Src	Required support for file protocol.
EXTERNAL_DATA_ARRAY/@Src	Required support for file protocol.
SEGMENT_ARRAY/@Src	Required support for file protocol.
SUPPLIED_RESOURCE/@Src (deprecated attribute)	Required support for file protocol.

### A.4 Requirements on JDF job tickets

Table 4 lists the requirements for JDF elements and attributes in a DPT 2.0 compliant JDF job ticket.

**Table 4 — Requirements for JDF elements and attributes**

JDF element/attribute	Requirement
LayoutElement/@ElementType	Value must be "MultiSet" if attribute MimeType of containing FileSpec element equals "application/vnd.podi-ppml+xml"