

PDF Declarations

A use of ISO 32000

2019-09

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Foreword

PDF is a digital format for representing documents. PDF files may be created natively in PDF form, converted from other electronic formats, or digitized from paper. Businesses, governments, libraries, archives, and other institutions and individuals around the world use PDF to represent considerable bodies of important information.

ISO-standardized PDF and PDF subsets already include identification mechanisms. In many cases, however, users of PDF files wish to leverage 3rd party standards or other profiles of PDF to meet specific needs. The PDF Declarations specification provides authors with a means of affiliating PDF documents with such standards or profiles in an interoperable manner.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The PDF Association shall not be held responsible for identifying any or all such patent rights.

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1 Introduction

The PDF Declarations mechanism allows creation and editing software to declare, via a PDF Declaration, a PDF file to be in conformance with a 3rd party specification or profile that may not be related to PDF technology. The 3rd party specification or profile may describe or require properties specific to some or all content in the PDF document. Cases include, but are not limited to specifications or profiles that:

- Mandate properties (e.g., accessibility specifications)
- Mandate degree of accuracy (e.g., engineering specifications)
- Set limits on content types (e.g., that all images use a specific encoding)
- Make an accountable statement regarding document content (e.g., pertaining to privacy regulations)
- Profile PDF for specific purposes (e.g., to archive email)

By itself, the presence of a PDF Declaration does not guarantee that the document conforms to the 3rd party specification or profile.

Cases beyond the scope of this document include, but are not limited to:

- A malicious PDF Declaration (e.g., to access a targeted workflow)
- An inaccurate PDF Declaration (e.g., that does not reflect the intent of the creation software or human author making the PDF Declaration)
- A PDF Declaration that cannot be usefully applied (e.g., pertaining to content that is not present in the PDF file)
- Formalisms such as certification, that are a matter of policy.

2 Scope

This document specifies how to include machine-readable PDF Declarations in files conforming to ISO 32000.

This document does not specify:

- Any specific PDF Declaration
- Determination of PDF Declaration validity
- Correct processing for PDF Declarations
- Technical design, user interface, implementation, or operational details
- Provisions specific to content or classes (e.g. invoices, reports, etc.) of documents
- Provisions specific to accessibility

3 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.

ISO 16684-1:2012, Graphic technology - Extensible metadata platform (XMP) specification — Part 1: Data model, serialization and core properties

ISO 32000-2, Document management – Portable document format – Part 2: PDF 2.0

4 Terms and definitions

For this document, the following terms and definitions apply.

4.1

author

entity responsible for creating the PDF file. The term deliberately encompasses human author(s) as well as the software used to generate the PDF file. In actual usage, the term may be restricted to referencing the human or software component

4.2

PDF Declaration

machine-readable assertion that the PDF file conforms to or otherwise exhibits the relevant properties of an orthogonal specification or profile (e.g., pertaining to accessibility, privacy or workflow status)

5 Relationship with PDF specifications and features

PDF Declarations is intended as a companion specification in conjunction with ISO 32000-conforming files, and other standards, profiles, guidelines or best practices as may apply.

PDF Declarations have no specific relationship with PDF Extensions (ISO 32000-2, 7.12), but may be used in conjunction with this feature.

PDF Declarations have no specific relationship with DParts (ISO 32000-2, 14.12), but may be used in conjunction with this feature.

6 Established PDF Declarations

A list of industry-agreed PDF Declarations is published by the PDF Association at:

<https://pdfa.org/declarations/>

The PDF Association's list is not exhaustive. Authors may define any PDF Declaration, but only PDF Declarations that appear on pdfa.org are likely to be application-independent.

PDF files including PDF Declarations should include an XMP extension schema for PDF/A, and should conform to PDF/A.

7 PDF Declaration syntax

PDF Declarations are represented as machine-readable XMP metadata contained within a PDF document's **Metadata** entry in its catalog dictionary or in other XMP metadata included elsewhere in the document.

The primary mechanism for declaring conformance is to include a PDF Declaration utilizing a URL to identify the standard to which the document conforms. In addition to the claim of conformance, properties pertaining to the claim may also be included. Such properties are generally defined as optional but may be mandatory for a specific PDF Declaration.

The scope of a claim is defined by the location of the metadata (document or object-level). Claims made at the document-level apply to the entire document, but not to any embedded or referenced content. Claims made at the object-level are limited the data within that specific object.

A document may contain multiple claims at both the document- and object-level.

7.1 Namespace information

The namespace URI for a PDF Declaration is <http://pdfa.org/declarations/>.

The preferred schema namespace prefix is **pdfd**.

7.2 PDF Declaration example

A document for which an author or other responsible entity wishes to declare that the document does not contain information covered by the HIPAA privacy regulations could include the following XMP metadata:

```
<?xml version="1.0" encoding="utf-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  <rdf:Description rdf:about="" xmlns:pdfd="http://pdfa.org/declarations/"
    <pdfd:declarations>
      <rdf:Bag>
        <!-- Declaration for conformance with standard "hipaa" -->
        <rdf:li rdf:parseType="Resource">
          <pdfd:conformsTo>http://pdfa.org/declarations/#hipaa</pdfd:conformsTo>
```

PDF Association

```
<!-- Optional entries permitted by the Declaration mechanism -->
<pdfd:claimData>
  <rdf:Bag>
    <rdf:li rdf:parseType="Resource">
      <!-- Optional properties of an individual claim -->
      <pdfd:claimBy>Validator company</pdfd:claimBy>
      <pdfd:claimDate>2019-01-17</pdfd:claimDate>
      <pdfd:claimCredentials>Validation credentials</pdfd:claimCredentials>
      <pdfd:claimReport>http://pdfa.org/report67890.html</pdfd:claimReport>
    </rdf:li>
  </rdf:Bag>
</pdfd:claimData>
</rdf:li>
</rdf:Bag>
</pdfd:declarations>
</rdf:Description>
</rdf:RDF>
```

8 PDF Declaration requirements

A PDF file containing one or more valid PDF Declarations shall:

- adhere to all requirements of ISO 32000 including any metadata additions as specified in this document
- include one or more PDF Declarations in its XMP metadata

A PDF Declaration is comprised of the fields and values defined in the following sub-clauses.

8.1 PDF Declarations schema

The PDF Declarations Schema provides a list of PDF Declarations asserting conformance with external standards or profiles.

- The schema name is <http://pdfa.org/declarations/>
- The preferred schema namespace prefix is pdfd

Table 1 defines the field name for the **declarations** field.

Table 1: PDF Declarations field name.

Name	Type	Property content
pdfd:declarations	Unordered array of "Declaration"	(Required) An unordered array of PDF Declaration entries, where each PDF Declaration represents a statement of conformance with an identified external standard or profile, along with optional information identifying the nature of the claim.

8.2 PDF Declarations Property Value Types

8.2.1 Declaration

A structure describing a single PDF Declaration asserting conformance with an externally-identified standard or profile.

- The field namespace URI is <http://pdfa.org/declarations/>
- The preferred field namespace prefix is pdfd

Table 2 defines the fields contained within a given PDF Declaration.

Table 2: PDF Declaration fields.

Name	Type	Property content
pdfd:conformsTo	URI	(Required) A property containing a URI specifying the standard or profile referred to by the PDF Declaration. This property is intended to mirror the Dublin Core property dc:conformsTo .
pdfd:claimData	Unordered array of ClaimData	(Optional) An unordered array of claim data, where each claim identifies the nature of the claim.

8.2.2 ClaimData

A structure describing properties of an individual claim.

- The field namespace URI is <http://pdfa.org/declarations/>
- The preferred field namespace prefix is pdfd

Table 3 defines the fields comprising the claim.

Table 3: Claim fields.

Name	Type	Property content
pdfd:claimBy	Text	(Optional) The name of the organization and/or individual and/or software making the claim.
pdfd:claimDate	Date	(Optional) A date identifying when the claim was made.
pdfd:claimCredentials	Text	(Optional) The claimant's credentials.

PDF Association

Name	Type	Property content
pdfd:claimReport	URL	<p>(Optional) A URL to a report containing details of the specific conformance claim.</p> <p>NOTE: ISO 32000-2:2017 introduces a fragment identifier mechanism (see ISO 32000-2:2017, “Annex O”) that includes the capability to reference embedded files within the PDF file. To reference a report embedded as a file directly within the PDF file, include a URL solely comprised of a fragment identifier with the parameter <i>ef</i> and the value of the name of the file.</p>

9 PDF Declarations in a PDF/A context

In order to use PDF Declarations in a PDF/A-conforming document it is necessary to include a PDF/A extension schema in the document’s XMP metadata.

An example schema is included as both an associated file embedded in this document, and in the document's XMP metadata.