About the ISO Draft of the PDF 1.7 Reference

June 4, 2007

1.0 Introduction

On January 29, 2007, Adobe announced its intent to release the full Portable Document Format (PDF) 1.7 specification to AIIM, the Enterprise Content Management Association, for the purpose of publication by the International Organization for Standardization (ISO). As part of that process, in the Spring of 2007 Adobe's PDF experts converted the Adobe PDF 1.7 Reference document into another Adobe document, the ISO Draft. The ISO draft is based on the ISO template and contains edits that make the content from the PDF Reference conform to the ISO documentation rules for International Standards.

The following is a summary of the changes that were made to the to the publicly available Adobe PDF 1.7 Reference in order to produce the ISO Draft. The technical content was maintained; only the presentation was changed.

The reasons why Adobe produced this derived ISO Draft are as follows:

- removal of references to Adobe and Adobe product (e.g., Acrobat) information that is in the Adobe PDF Reference so that the document is vendor neutral,
- use of the ISO template and style rules to enable future versions to be more easily produced by the common and familiar ISO processes,
- removal of obsolete material,
- tighten the specification by removing chances for misinterpretation by following the ISO terminology rules.

1.1 Summary of Changes

There are estimated to be over one billion existing PDF files and thousands of existing implementations that process those files. The goal of the effort to produce the ISO Draft from the Adobe Reference has been to more precisely express the actual PDF standard, as embodied in existing practice.

Following are the type of changes that were made to create an improved document for the PDF 1.7 Standard that provides a better base for future ISO work and yet is more precise, vendor neutral and, in a few cases, technically more aligned with the existing files and existing implementations:

1. reformatted the Adobe Reference using the ISO International Standard template to create a first version of the ISO Draft,

2. made many non-technical changes to the writing style to conform with ISO standards which included:
    - using the words shall, should, may, can, etc. appropriately as defined by ISO,
    - changing the language from American English to International English,
    - separating the normative and informative content,

- removing all references to page numbers, using clause numbers instead, and
- adding required material at the beginning of the document,

3. changed or removed all references to Adobe/Acrobat or other Adobe products that were inappropriate for a vendor neutral specification. In particular:
   - removed the first two chapters of the Adobe Reference as they were Adobe and Acrobat specific informative material, and
   - removed a large portion of Appendix C and a large portion of Appendix H both containing implementation notes for Adobe's products,

4. in a few cases, errors where the existing implementations and files agree on a usage that is contrary to the Adobe Reference were corrected,

5. removed several sections of obsolete material that were being maintained for Adobe product historical reasons.

This many seem like a lot of changes but each was carefully done by the Adobe employees highly proficient in PDF, in consultation with other experts when necessary, maintaining the technical content and faithfully documenting the PDF 1.7 Standard as represented by the Adobe Reference, the existing PDF files, and the implementations that create and process those files. As a result the ISO Draft provides a vendor neutral documentation of PDF 1.7 that is much more precise with less ambiguity.

2.0 Specific Examples

Here are some examples of the kinds of changes that were made.

2.1 Using the words shall, should, may, can, etc. appropriately as defined by ISO

In the Adobe PDF Reference the following sentence occurs:

> *The carriage return (CR) and line feed (LF) characters, also called newline characters, <u>are treated</u> as end-of-line (EOL) markers.*

In the ISO Draft this was changed to:

> *The carriage return (CR) and line feed (LF) characters, also called newline characters, <u>shall be treated</u> as end-of-line (EOL) markers.*

The changed portion is underlined in these quotes. This change makes use of the more precise and well defined ISO writing style using the word shall. Another example is where *should* has been used in the Adobe Reference to have the same meaning as *shall* using ISO definitions.

In the Adobe PDF Reference the following sentence occurs:

> *Note: No two entries in the same dictionary <u>should</u> have the same key*

which in the language of the Adobe Reference actually means that they are not permitted to have the same key.

In the ISO Draft this was changed to:

Multiple entries in the same dictionary <u>shall</u> not have the same key.

Although worded differently in the context of their documents styles these two sentences have the same technical meaning.

In addition, in the Adobe Reference notes are not a means of denoting informative content as is the case using the ISO style, so the *Note:* was removed because this is actually a normative statement.

2.2 Changing the language from American English to International English

As examples, in the Adobe Reference the word "color" is used whereas in the ISO Draft "colour" is used. Note that these substitutions occurred only in descriptive text. Words appearing in PDF files as keywords or names must retain their existing spelling.

2.3 Separating the normative and informative content

In the Adobe PDF Reference the following informative paragraph occurs inline:

Throughout this book, the term number refers to an object whose type may be either integer or real. Wherever a real number is expected, an integer may be used instead <u>and is automatically converted to an equivalent real value.</u> For example, it is not necessary to write the number 1.0 in real format; the integer 1 is sufficient.

In the ISO Draft this was changed to an informative note:

<u>*NOTE*</u>

Throughout this standard, the term number refers to an object whose type may be either integer or real. Wherever a real number is expected, an integer may be used instead. For example, it is not necessary to write the number 1.0 in real format; the integer 1 is sufficient.

The phrase "*and is automatically converted to an equivalent real value*" was also dropped because it is an implementation detail of the Adobe Acrobat implementation.

2.4 We changed or removed all references to Adobe/Acrobat or other Adobe products that were inappropriate for a vendor neutral specification

In the Adobe PDF Reference the following sentence occurs:

Viewer applications, <u>such as Acrobat,</u> which allow users to interact with the document in various ways.

In the ISO Draft this was changed to:

Viewer applications which allow users to interact with the document in various ways.

The following paragraph that occurs in the Adobe Reference was completely removed in the ISO Draft because it is particular to Adobe's Acrobat implementation:

> *The JPEG filter implementation in Acrobat products does not support features of the JPEG standard that are irrelevant to images. In addition, certain choices have been made regarding reserved marker codes and other optional features of the standard. For details, see Adobe Technical Note #5116, Supporting the DCT Filters in PostScript Level 2.*

2.5 We removed several sections of obsolete material that were being maintained for Adobe product historical reasons

An example of this is that Appendix I: Computation of Object Digests was completely removed from the ISO Draft because this method is no longer in use.

3.0 Summary

The Adobe PDF 1.7 Reference was translated into an ISO Draft more suitable for submission to ISO as an International Standard. This document summarizes the type of change made and gives some examples. All the changes preserve the technical integrity of the Adobe PDF 1.7 Reference but make the resulting document vendor neutral and more precise by conforming to ISO conventions.