

PDF/A-2 Overview

Introduction

PDF/A was published by the ISO in 2005 to support long-term archiving of PDF documents. The first release, PDF/A-1, was based on the original PDF 1.4 version where a set of standards criteria was introduced such as ensuring the visual reproducibility of PDF documents regardless of future changes to viewer and printing technologies, and making PDF documents accessible to persons with eye vision challenges. A detailed description of the PDF/A-1 standard and its benefits can be found on our White Paper page at <http://www.pdf-tools.com/pdf/pdf-whitepapers-pdfa-english.aspx>.

In July 2011, the ISO released the PDF/A-2 standard. In anticipation of introducing PDF/A-2, businesses are asking us two key questions:

1. What is different from PDF/A-1 to PDF/A-2?
2. Do I have to re-convert my PDF/A-1 documents to PDF/A-2?

This article will answer the two questions and offer insight to the PDF/A-2 standard.

What are the drivers behind the PDF/A-2 standard?

Where PDF/A-1 is based on PDF version 1.4, PDF/A-2 takes advantage of features that only became available in later versions of PDF, up to and including PDF version 1.7. But most importantly, PDF/A-2 is no longer based on a particular Adobe PDF version, but instead, is now based on an ISO standard 32000-1.

What is different from PDF/A-1 to PDF/A-2?

PDF/A-2 introduces a number of features:

- **JPEG2000 Compression:** The JPEG2000 compression was introduced with the PDF 1.5 specification which was past the release time of the PDF/A-1 standard. Adding the JPEG2000 compression benefits particularly scanned documents such as maps, books and documents with color content such as checks, or passports.
- **Embedded PDF/A Files via Collections:** Acrobat allows users to create collections (sometimes also referred to as "portfolios") where multiple PDF/A documents are combined into one "container PDF" document. A possible use of a PDF/A collection is for instance the archival of emails where email attachments can be converted to PDF/A and stored as "collections" inside a converted PDF/A email text body. PDF/A collections can also benefit security applications where a signature can be applied to individual single pages. The PDF/A collection then combines the signed single page. Individual pages can subsequently be removed without affecting the validity of the signatures of the remaining pages.
- **Transparency:** Although transparency is part of PDF 1.4, at the time of the PDF/A-1 standard release it was not defined well enough to be included in the PDF/A-1 standard. The specification has substantially matured since then, and transparency has become a common characteristic of PDF documents. Transparency is often found in the form of drop shadows, cross fades and highlight mark-ups for example.

- **Optional Content (Layers):** Optional content – sometimes also referred to as layers – is useful for mapping applications or engineering drawings where individual layers can be shown or hidden according to the information requirements of the viewing person. Another area of use is in user manuals of products that are sold internationally – where different languages can be implemented on different layers.
- **New Conformance Level PDF/A-2u – "u" for Unicode:** PDF/A-1b and PDF/A-2b concentrate on visual integrity, where "b" stands for "basic". PDF/A-1a and PDF/A-2a concentrate on accessibility – hence the "a" notation. New to PDF/A-2 is the conformance level PDF/A-2u ("u" for "Unicode"). It simplifies the text searching and copying of Unicode text for digitally created PDF documents and PDF documents that were scanned with subsequent optical character recognition (OCR).
- **Object Level XMP Metadata:** PDF/A-2 specifies the requirements for custom XMP metadata.
- **Comment Types and Annotations:** Some of the newer comment types were added to the list of prohibited annotation types, and at the same time some of the newer comment types such as text editing comments are now acceptable to the PDF/A-2 standard.
- **Digital Signatures:** While PDF/A-1 already allows for digital signatures, PDF/A-2 defines the rules that need to be applied to guarantee interoperability.

Do I have to re-convert my PDF/A-1 documents to PDF/A-2?

PDF/A-2 does not replace or supersede PDF/A-1 in any way. PDF/A-1 compliant documents that were already created will remain valid PDF/A files for long-term archiving. Archived PDF/A-1 documents can remain unchanged in the storage archives, so an "upgrade" to PDF/A-2 is not necessary.

For organizations that find the features introduced with PDF/A-2 useful, converting the original source documents to PDF/A-2 will have an advantage. But likewise, for organizations that do not see a benefit of the features introduced with PDF/A-2, converting source documents to PDF/A-1 will continue to work well, both – PDF/A-1 and PDF/A-2 fully support the long-term archiving of PDF documents.