



**PDF Days
Europe
2025**

“Breaking Good”

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Choose your hammer...

■ Good

- Highly desirable new capabilities
- Clearly communicated
- Understood
- Robust
- Supported
- Valued!



■ Evil

- × No/little user benefit
- × Unprepared marketplace
- × Confusion
- × Exploited
- × Delayed

VS.



“Breaking Good” versus “Breaking Bad”

- Maintaining trust in PDF as a document format
- Maintaining trust in PDF applications
- Marketplace dynamics
- Prepare and communicate
- Opportunities
- ***Good business sense!***

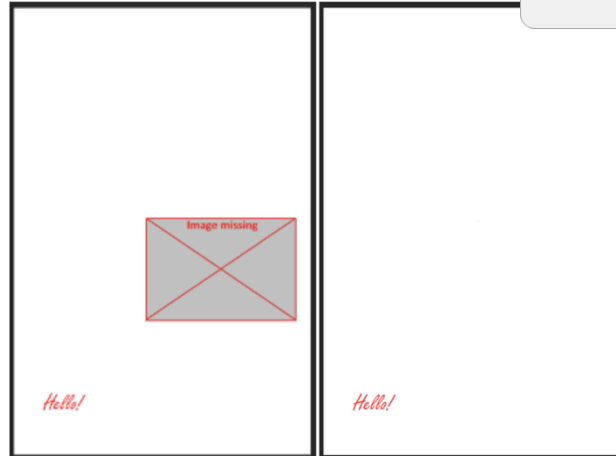
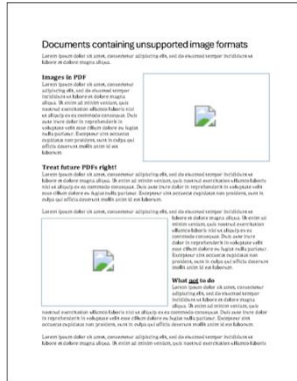
The user experience

MyPDF PDF Editor



This file appears to use a new format that this version of My PDF PDF Editor does not support. It may not open or display correctly and cannot be edited. MyPDF recommends that you upgrade to the latest version of our MyPDF PDF Editor product. Please visit our product site at <http://xxx.mypdf.com/get-MyPDF/>

☐ Do not show this message again



Corrupted PDF document

The PDF document is corrupted and unfortunately cannot be read by PradaPDF.

(PDF header not found)

OK

PDFs don't
work
anymore!



It's been a while...



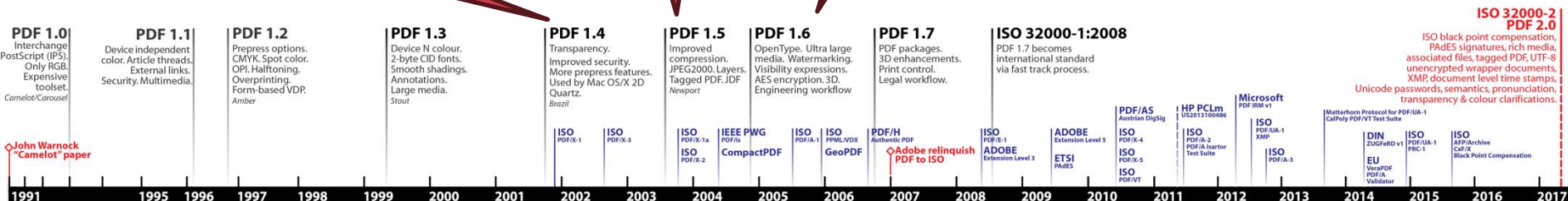
PDF 1.4: transparency and blending, JBIG2

PDF 1.5: object streams, cross reference streams, JPEG 2000

PDF 1.6: OpenType fonts



Relative calm:
*backward compatible new features,
“opt-in” new features...*



Brotli

■ What

- New lossless general purpose Brotli compression (PDF filter): **BrotliDecode**

■ User benefit

- Much smaller PDF files
- Less storage costs, faster transmission

■ Technical

- IETF RFC 7932 (July 2016)
- Tried and trusted
- OSS reference implementation
- Balance performance vs. compressed size



Consequences...

■ Cannot open PDF

- Cross-reference streams → *cannot access cross reference data*
 - Use hybrid reference PDF (or some new equivalent)?
- Object streams → *cannot access PDF objects*
 - Depends on which objects – all objects? Just some (e.g. only logical structure tree objects)?

■ Cannot show page content

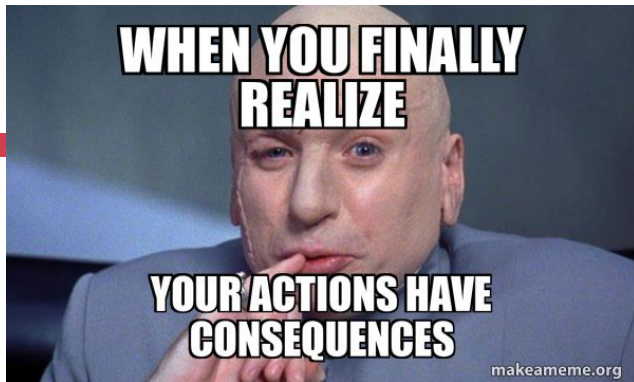
- Page content streams → *cannot show page content*
 - **MediaBox** still allows correct sized blank page to be shown

■ Cannot show part of a page

- XObjects, Type3 glyph description, pattern cell, annotation → cannot show portion of a page
 - Know bounding box so a proxy can be drawn

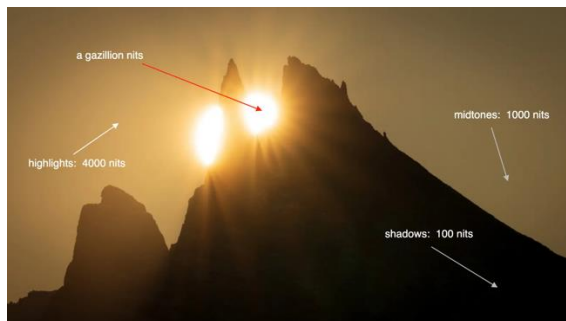
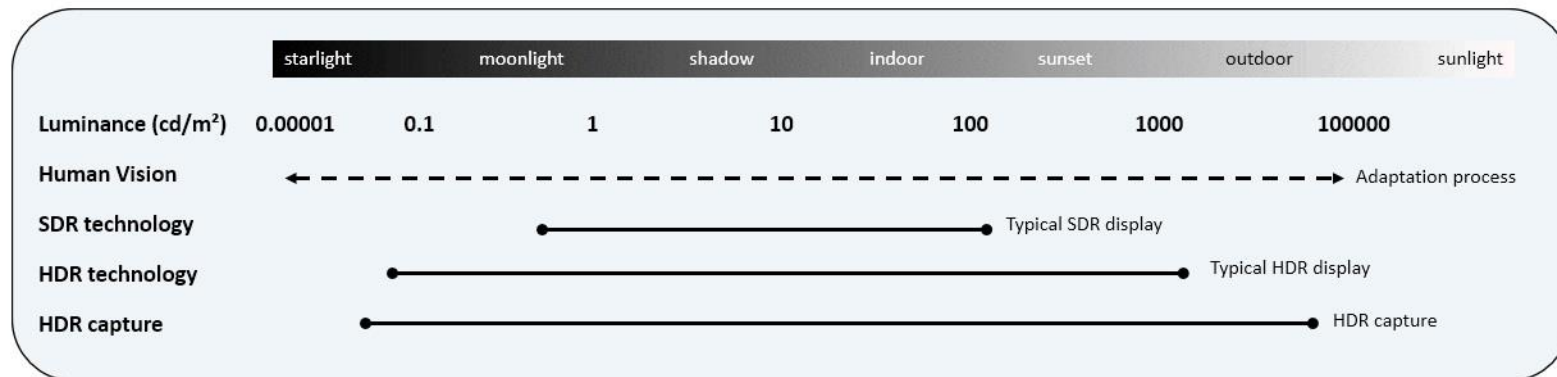
■ Unreliable display

- Font resources → font substitution
- ICC profile → fallback color processing
- Metadata → ...



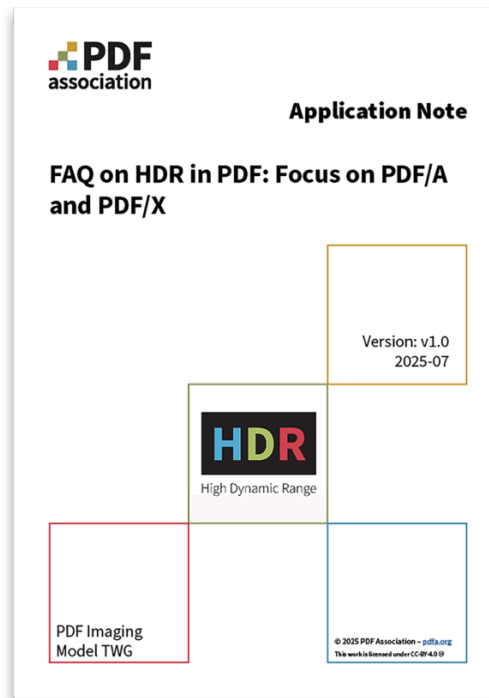
HDR = High Dynamic Range

- HDR is not a single defined output



Helping stakeholders understand HDR today...

- HDR content is everywhere today!
- FAQ style application note
 - PDF/A (Archival)
 - PDF/X (Graphic arts / professional print)



PDF HDR imaging model

■ What

- Updated PDF imaging model for HDR content

■ User benefit

- Modern HDR content working seamlessly with today's SDR content
- Predictable display of content

■ Technical

- *W3C, ICC, and others are working on this...*
- *Details T.B.D.*



JPEG XL

■ What

- New HDR lossy/lossless image compression (PDF filter)

■ User benefit

- HDR and wide gamut images
- Ultra-high resolution images (*>1 billion pixels per side!*)
- Multi-channel images (*up to 4099*)
- <https://jpegxl.info/>

■ Technical

- <https://jpeg.org/jpegxl/>
- ISO 18181 (4 parts), 2024
- *Details T.B.D.*



Content streams

■ What

- New more efficient ways to express graphics in PDF

■ User benefit

- Smaller content streams
- Easier to edit PDF content
- Less errors in PDF files, so more reliable appearances

■ Technical

- *Just ideas and discussion*
 - *Binary operators and operands*
 - *Using a structured format (e.g., JSON CBOR)*

Streamable PDF

■ What

- New more efficient ways to stream PDF

■ User benefit

- Better responsiveness when downloading PDFs over networks
- Simultaneous creation / consumption workflows (e.g., high volume VDP)

■ Technical

- *Just ideas and discussion...*
 - *Improved Linearization*
 - *Object ordering in the PDF file structure*

Breaking Good

- **“Breaking” changes in PDF are inevitable**
 - Content is changing
 - Big breaks are better than constant breaks
 - But it’s been a long time...
- **Consider users**
 - Add visible placeholders for missing content
 - It’s not crashing or "*corrupt PDF*", it’s "*unsupported PDF, please upgrade*"
- **Be proactive**
 - Review error handling messages
 - Review how you communicate feature support
- ***Get involved!***
 - PDF TWG and Imaging Model TWG
 - Collaboration and cooperation opportunities with OSS and other vendors



Resources

■ Articles on pdfa.org

- <https://pdfa.org/brotli-compression-coming-to-pdf/>
- <https://pdfa.org/dont-risk-losing-users-trust-future-proof-your-pdf-implementations/>
- <https://pdfa.org/members-preparing-for-pdf-files-from-the-future/>
- <https://pdfa.org/pdf-versions/>

■ Technical Resources

- Application Note “FAQ on HDR in PDF: Focus on PDF/A and PDF/X”: <https://pdfa.org/faq-on-hdr-in-pdf/>
- Brotli sample PDFs (ZIP): <https://pdfa.org/brotli-compression-coming-to-pdf/>
- Unknown filter PDFs: <https://github.com/pdf-association/pdf-differences>
- Imaging Model TWG
- PDF TWG



Questions?

Thank you!

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