



Release Notes

3-Heights™ and Classic PDF Tools

Version 4.6

Contact: pdfsupport@pdf-tools.com

Owner: **PDF Tools AG**
Kasernenstrasse 1
8184 Bachenbülach
Switzerland
www.pdf-tools.com

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1 Overview

The 3-Heights™ PDF tools represent the most recent product line from PDF Tools AG. The 3-Heights™ PDF tools are available as programming libraries (APIs), command line tools and Windows services. The tools allow for a wide variety of manipulation of PDF files including viewing, printing, extracting of information, conversion, digitally signing, validation, repairing, and optimization.

The Classic PDF Tools (formerly known as GLANCE Tools) represent the original product line from PDF Tools AG. Similar to the 3-Heights™ product line the Classic PDF Tools are available as programming libraries (APIs) and command line shell versions but not Windows services. The tools are packaged in two products, the Command Line Suite and the Prep Tool Suite.

1.1 How to Download the Trial Software

The 3-Heights™ PDF tools can be downloaded from the product description pages on our website. There is no charge for downloading evaluation versions (valid for a 30 day period).

<http://www.pdf-tools.com/pdf/products-pdf-pdfa.aspx>

1.2 Technical Support

Please report problems by contacting our support team by mail:

pdfsupport@pdf-tools.com

1.3 System Requirements

All of the tools are available for:

- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2

Windows 95, Windows 98, Windows ME, Windows XP, Windows Vista, Windows NT 4, Windows 2000, and Windows Server 2003 (including R2) are no longer supported by this version.

Some tools are only available on Windows platforms. These are:

- PDF Producer
- Document Converter
- The components which are based on the GDI-based rendering engine: PDF Viewer, PDF Printer, PDF to EMF Converter

Some GDI-based tools have been ported to the new rendering engine which is available on all platforms. These tools have the suffix R2 in their names such as the PDF to Image Converter R2.

Most of the tools, however, are also available for the following platforms, and will run also on newer versions of the same OS family:

- IBM AIX 5.1
- Sun Solaris / SPARC 5.8
- HP-UX 11i incl. IA64
- SunSolaris / Intel 5.10
- Linux 2.4 (RedHat)
- Mac OS X 10.4 x86 / x64
- Linux 2.6 (SuSE)
- Linux 3.18 ARMv7

Other platforms are available on request. Please refer to the individual product pages to obtain information on supported operating system platforms.

1.4 Compiler Versions

The release kits are generated with the following compiler versions for C/C++:

Platform	C/C++
Windows	MSVC 10.0
MAC OS/X 10.5 x86	gcc 4.0.1
Intel/x86 Linux	gcc 4.1.2
Intel/x64 Linux RedHat	gcc 3.4.6
Intel/x64 Linux SUSE	gcc 4.5.0
FreeBSD	gcc 4.1.2
Sun Solaris 2.8/SPARC	gcc 3.4.6
Sun Solaris 2.8/Intel	gcc 3.4.3
IBM AIX 5.1	gcc 4.2.4
HP UX 11.i (11.23)	gcc 4.1.2
HP UX 11.23 IA64	gcc 4.6.0
Raspian 7/Linux 3.18 ARMv7	gcc 4.6.3

For Java, version 1.5 is required as minimum runtime version.

2 New and Enhanced Products

2.1 3-Heights™ PDF Tool Box API

The PDF Tool Box API is a programming library for editing PDF documents. It can be used to modify PDF documents and add new content to them such as text, images and vector graphics.

The component is used for the following tasks:

- Assemble PDF documents
- Personalize documents
- Prepare documents for publication and printing

The main functions are:

- Merge and split pages
- Modify page attributes such as the crop box, the page rotation
- Create new pages and add content to them
- Add metadata to a document
- Set the documents output intent

The PDF Tool Box API, based on the 3-Heights™ Kernel, was designed as a successor of the PDF Prep Tool Suite. The PDF Prep Tool Suite will still be maintained but it is recommended to use the new PDF Tool Box API in future projects.

2.2 3-Heights™ Scan to PDF Server

The Scan to PDF Server is a central service that converts locally scanned into the standardized PDF/A file format within a company. To this end, the service performs all tasks that can be delegated to it by the local scanning station. The solution is particularly suitable for processing stages that do not require any user interaction or which impair the efficiency of the local scanning station with CPU intensive functions (OCR, compression).

The main functions of this service are:

- Text and barcode recognition: Scanned image files need to be made searchable. The services can use the 3-Heights™ OCR Service to identify text in an image file and embed it into the converted file in a way that makes it searchable. The recognized barcodes can be used in several ways: in the text search or to control the processing (e.g. page separation) within the service.
- Compression: Color images are broken down into several elements. Using the Mixed Raster Content (MRC) process, they are then heavily compressed with no visible losses.
- Embedding of metadata: The PDF/A standard requires metadata to be embedded in the document as XMP packets. This function is offered by the service.

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- PDF/A creation: The service creates single or multi-page output documents in accordance with the ISO 19005 series of standards. All published parts of the standard – PDF/A-1, PDF/A-2 and PDF/A-3 – are supported.
- Digital signature: The signature can be advanced or qualified, suitable for long-term storage or simply for document exchange. It may also contain a time stamp. A time stamp can be applied in place of a personal signature. The service can use a cryptographic infrastructure (USB token, HSM) via a standard interface (PKCS#11) to create the digital signature.

Please read our [white paper](#) and our [blog](#) for more information on this topic.

2.3 3-Heights™ Document Converter

Based on customer feedback the Small and Medium Enterprise (SME) Edition of our Document Converter has been revised to reflect the needs of its target audience. In particular the feature set of the SME Edition has been newly defined and implemented. Furthermore, a comprehensive configuration help utility has been added to the product in order to simplify the installation and configuration and minimize the amount of time to get the system up and running.

The new feature set compared to the Large Enterprise Edition is as follows:

Interfaces	Enterprise	Small-Medium Enterprise
Watched file folders	✓	✓
Watched Email Folders (IMAP)	✓	
GUI Client	✓	✓
Shell Extension for Windows Explorer	✓	✓
Command Line Tool	✓	✓
Programming Interface (API)	✓	✓
MS Word / Outlook Add-Ins	✓	✓
Web-service IIS	✓	
.NET Plugin	✓	
VB Script Plugin	✓	

Added value functions	Enterprise	Small-Medium Enterprise
OCR***	✓	✓

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Merge Files	✓	✓
Conformance Validation	✓	✓
Digital Signature	✓	✓
Encryption	✓	✓
Fast Web Viewing	✓	✓
File Compression	✓	✓
Embedding of Metadata	✓	✓
Stamping	✓	✓
Document Pre-processing	✓	
XSL Transformations	✓	

Input formats	Enterprise	Small-Medium Enterprise
MS Word, Excel, Powerpoint, Visio*	✓	✓
Open Office, Libre Office*	✓	✓
Email [with attachments (*): MSG, EML, MIME**]	✓	✓
Plain Text (ASCII, UNICODE), WordPerfect	✓	✓
PDF	✓	✓
Image Formats: BMP, GIF, JPEG, PNG, TIFF, JB2, JP2, JPX, PBM	✓	✓
Nested Containers: ZIP, TAR, RAR	✓	✓
Websites: URL	✓	✓
HTML	✓	✓
Customer specific extensions: e.g. CAD	✓	

Output formats	Enterprise	Small-Medium Enterprise
TIFF V6, TIFF JPEG TN2	✓	✓
PDF 1.7	✓	✓
PDF/A-1a, PDF/A-1b	✓	✓

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PDF/A-2a, PDF/A-2b, PDF/A-2u	✓	✓
PDF/A-3a, PDF/A-3b, PDF/A-3u	✓	✓
ZIP-Archives (TIFF or PDF or PDF/A)	✓	✓

Platforms	Enterprise	Small-Medium Enterprise
Windows Server (Windows Server 2008 or higher)	✓	✓
Windows Client (Windows 7 or higher)		✓

Performance and Maintenance	Enterprise	Small-Medium Enterprise
Number of Clients	unlimited	unlimited
Dispatcher Service	✓	
Number of Worker Sessions (scale up)	1 to n	1
Distributed Worker Sessions / Multiple Servers (scale out)	1 to n	1
Windows Terminal Server Sessions	✓	
Monitoring	✓	

* Requires Office (MS Office or LibreOffice)

** Requires MS Outlook

*** Requires 3-Heights™ OCR Service

Please read our [white paper](#) for more information on this topic.

2.4 3-Heights™ TIFF Tool Suite

The well-known TIFF Tool Suite has been extended by the new *tiffextract* tool. It is a means to extract specific information from a TIFF file. The tool currently offers the following functions:

- Extract ICC color profiles
- Extract OCR data

More functions will be supported in future releases.

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The enhanced *tiffimp* tool now accepts scanned PDF files. Scanned PDF files consist of pages containing a single image that fills the entire visible area of the page.

2.5 3-Heights™ PDF Optimizer

The PDF Optimizer Shell Tool has been complemented by two specialized new tools which have been designed to be used in mass printing applications. These tools are bundled together with the corresponding Shell and API product.

2.5.1 3-Heights™ Font Merging API

Large print jobs often contain hundreds and thousands of embedded fonts. The new Font Merging API tool can reduce the number of embedded fonts significantly.

Please read our [blog](#) for more information on this topic.

2.5.2 3-Heights™ Color Converter Shell

The new Color Converter Shell tool can convert the colors of various input color spaces to the native CMYK process color space of the output device. Specifically the tool offers the following functions:

- Conversion of RGB, Lab, etc. input colors to the native CMYK process colors of the output device
- Conversion of "rich" black to "true" black.
- Conversion of named spot colors to their CMYK equivalent.
- Conversion of specific RGB triples to a given CMYK value.

The tool specifically supports the colors of filled and stroked vector graphics as well as raster images, even if they contain anti-aliased pixels. Currently the tool doesn't support the conversion of transparent content.

Please read our [blog](#) for more information on this topic.

2.6 3-Heights™ Document Viewer R2

The Document Viewer R2, based on the new rendering engine R2, is a programming library designed as a successor of the various viewer products 3-Heights™ PDF Viewer, 3-Heights™ Java Document Viewer and the 3-Heights™ PDF Viewer .NET WPF Control. These products will still be maintained but it is recommended to use the new Document Viewer R2 in future projects.

The main goal of the new design was to unify the function set, offer ready-to-use controls (currently Java AWT, .NET WPF and Windows Forms) that are easier to integrate into an application and profit from the rendering quality and speed of the new rendering engine R2.

However, not all features which can be found in the predecessor products have been newly implemented in the new Document Viewer R2, e.g. it is lacking a COM interface. The missing features will be implemented in future releases.

3 New Features to all Products

The following enhancements affect all components and solutions unless otherwise noted.

3.1 Enhancements to all 3-Heights™ Products

- Fonts:
 - OpenType fonts can now be embedded directly without conversion unless a conversion to a CFF or TrueType is required due to a specific conformance level such as PDF/A-1.
 - Merging of embedded fonts has been significantly improved to cover more use cases (see font merging tool for more information on this).
 - The subsetting of symbolic fonts has been enabled.
 - The subsetting of TrueType fonts has been improved to create even smaller output files.
 - The handling of embedded fonts for forms and form fields has been improved.
 - The caching of installed fonts has been revised.
- Digital Signatures:
 - The Windows Cryptographic Provider has been complemented by the integration of the Cryptography API: Next Generation (CNG). CNG is supported beginning with Windows Vista and Windows Server 2008 and supports advanced cryptographic algorithms for both signature creation and validation.
 - The default message digest algorithm is now SHA-256 for all cryptographic providers.
 - Proxy support for CRL, OCSP and Time-stamp retrieval has been improved. HTTPS is supported for all connections.
 - The PDF version is now upgraded to 1.6 if MDP signatures are applied.
- JBIG2 Compression: The quality parameter doesn't have an effect for this compression method any more as it is internally always set to 100. This is to prevent problems with pattern matching and replacement. Please read our [blog](#) for more information on this topic.
- Annotation appearances: Missing annotation appearances for most of the annotation types including form fields can now be created on the fly. This is used in various tools such as the PDF Optimization Tool, the Rendering Engine R2, the PDF to PDF/A Converter etc.
- Stamping: The XML stamping language has been extended by more flexible page ranges. The PDF Security Tool and the Document Converter can profit from this extension.

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- Text import: The text import function can now create full tagging information and therefore supports conformance level 'a' such as PDF/A-1a, PDF/A-2a and PDF/A-3a. Furthermore the function does not embed fonts anymore if the output file's conformance is not PDF/A. The txt2pdf tool and the Document Converter can profit from this enhancement.
- Repair function:
 - Circular references in page trees are now resolved.
 - The nesting level of XObject invocations is now limited to a depth of 50.

3.2 Enhancements to all Classic Products

- See PDF Prep Tool Suite and PDF Command Line Suite for details.

New Features to Specific Products

3.3 3-Heights™ AFP to TIFF Conversion Utility

- No functional changes.

3.4 3-Heights™ CryptTokI Certificate Utility

- Enhanced certificate listing details.
- Support Unicode characters on the command line.

3.5 3-Heights™ Document Assembler

- No functional changes.

3.6 3-Heights™ Document Converter

- new installer for SME edition; includes first configuration wizard
- new option for integrating PDF optimization
- new "ALIVECHECK" job option (no page counting, but eval watermark)
- new support to convert XPS documents
- idle worker session pausing during maintenance window (MaintenanceHour setting in O2PSRV.exe.config)
- configuration option to bind service port to specific network interface
- service uses distinct event IDs for logging to windows event log

3.7 3-Heights™ Font to PDF Utility

- No functional changes.

3.8 3-Heights™ Image Compare Utility

- New switch 'c': Contrast mode. If two pixels are different, show them as blue / yellow in the difference image.

3.9 3-Heights™ Image to PDF Converter

- No functional changes.

3.10 3-Heights™ JPM to PDF Converter

- No functional changes.

3.11 3-Heights™ OCR Enterprise Add-on

- No functional changes.

3.12 3-Heights™ PDF Analysis & Repair

- No functional changes.

3.13 3-Heights™ PDF Annotation API

- No functional changes.

3.14 3-Heights™ PDF Compare Utility

- New switch 'rp': Visual compare mode.
- New switch 'rr': Rendering resolution.
- New switch 'rt': The tolerance used when comparing page images.
- New switch 'ro': Output image with differences highlighted in red and green.
- More object types are now supported such as embedded files, transparency groups, shadings, functions, JBIG2 globals, etc.

3.15 3-Heights™ PDF Creator Library

- No functional changes.

3.16 3-Heights™ PDF Extract

- If masked images are extracted then the image and the mask are stored in individual files.
- The extraction of JPEG compressed streams has been improved.
- The extracted images now contain the resolution in dpi.
- The list of embedded files now contains the media type attribute.
- New switch 'if' in pdtxt tool: Ignore font when merging characters to words.
- New property 'MediaType' in embedded file interface.
- New property 'WMode' in font interface.
- New return type 'Image' in 'GetMask' and 'GetSMask' method.
- The extraction of a geometric path as an image has been implemented using the R2 rendering engine.

3.17 3-Heights™ PDF Merge Split

- New switch 'go': Generate an outline (bookmark) for each input document.
- New switch 'ot': Set an outline title.
- New switch 'r': Rotate the pages by a multiple of 90 degrees.
- Enhanced switch 'pg': Specify page numbers relative to the last page.

3.18 3-Heights™ PDF Optimizer

- New switch 'ft': Force compression types given in 'fb', 'fi', and 'fc'.
- New switch 'fv': Set the version number of the output document.
- New switch 'h': Dithering mode for the down sampling of bilevel images.
- New property 'ForceCompressionTypes': same as 'ft'.
- New property 'DitheringMode': same as 'h'.
- New method 'SetCMSEngine': Set the name of the CMS engine (None, Neugebauer, MSICM, lcms).

3.19 3-Heights™ PDF Page Split Tool

- Support most box types: MediaBox, CropBox, BleedBox, TrimBox, ArtBox.

3.20 3-Heights™ PDF Printer

- New switch 'cj': Collect all input files in a single print job.
- New switch 'mt': Set media type.
- New switch 'oaa': Automatically switch to accurate mode if necessary.
- New switch 'ops2': Set PostScript language level 2.
- New switch 'wz': Set watermark scale factor.
- The printer now supports PostScript language level 3 for masked images.

3.21 3-Heights™ PDF Producer

- PDF Producer
 - Encryption methods for AES 128 and 256 bits has been added.
- TIFF Producer
 - No functional changes.
- Application Runner:
 - The 'shelopen' utility has now been included in the application runner to simplify OEM deployment.
- Installer:
 - The spooler is now stopped during the installation of the port monitor files.

3.22 3-Heights™ PDF Security

- New switches 'af1' and 'af2': Fonts used in appearance of digital signatures can now also be specified by name (in addition to file name).
- New properties 'FontName1' and 'FontName2': same as 'af1' and 'af2'.

3.23 3-Heights™ PDF Studio Utility

- List form XObjects in document tree.

3.24 3-Heights™ PDF Thumbnail Utility

- No functional changes.

3.25 3-Heights™ PDF to EMF Converter

- No functional changes.

3.26 3-Heights™ PDF to Image Converter

- New switch 'oaa': Automatically switch to accurate mode if necessary.
- New dithering mode: Atkison (6).

3.27 3-Heights™ PDF to Image Converter R2

- New switch 'oh': Disable hinting in glyph rendering.
- New switch 'ri': Ignore page rotate attribute.
- New property 'Options2': These options support the specific features of the R2 rendering engine.

3.28 3-Heights™ PDF to PDF/A Converter

- New property 'SignatureLocation': The location where the document was signed (informative).
- New method 'AddAssociatedFileMem': the same as 'AddAssociatedFile' but with a memory block as parameter.
- The product can now repair issues with the cmap of embedded TrueType font programs.
- Improved detection, whether or not an upgrade to PDF/A-2 is necessary (optional).

3.29 3-Heights™ PDF Uncompress Utility

- Uncompress embedded files.
- Reliable detection of streams than can be uncompressed.

3.30 3-Heights™ PDF Validator

- No functional changes.

3.31 3-Heights™ PDF Viewer

- No functional changes.

3.32 3-Heights™ Text to PDF Converter

- New switch 'cl': Set conformance level (pdf-1.x, pdfa, etc.).
- New switch 'id': Set entry (key / value) in the document information dictionary.
- New switch 'l': Set the document language as ISO 639 code, e.g. en, de, ja, etc.

3.33 3-Heights™ TIFF Tool Suite

- Enhanced tool tiff2pdf:
 - New switch 'cl': Set compliance level (pdf1.x, pdf-a, etc).
 - New switch 'io': Ignore OCR data.
- Enhanced tool tiffcompress:
 - New switches 'db', 'dg', 'dl', 'dr', 'ds': Set down sampling factor for the corresponding TIFF class.
- New tool tiffextract:
 - New switch 'xc': Extract ICC color profile.
 - New switch 'xo': Extract OCR data.
- Enhanced tool tiffimp:
 - Supports now the import of scanned PDF documents.
- Enhanced tool tiffocr:
 - New switch 'pr': Performs picture recognition only.

3.34 3-Heights™ XMP Generator

- No functional changes.

3.35 Classic PDF Command Line Suite

- pdcat:
 - The tool now accepts Unicode characters on the command line.
 - New switch 'pp': Bypass password protection policy.
- pdsel:
 - New switch 'pp': Bypass password protection policy.
- pdform:
 - form flattening now includes also signature fields

3.36 Classic PDF Prep Tool Suite

- Ability to flatten signature appearances.

- Extended support for custom fonts used in forms to overcome implementation limit of earlier versions

4 About PDF Tools AG

PDF Tools AG (www.pdf-tools.com) is a world leader in PDF (Portable Document Format) software, delivering reliable PDF products to international customers in all market segments.

PDF Tools AG provides server-based software products designed specifically for developers, integrators, consultants, customizing specialists and IT-departments. Thousands of companies worldwide use our products directly and hundreds of thousands of users benefit from the technology indirectly via a global network of OEM partners. The tools can be easily embedded into application programs and are available for a multitude of operating system platforms.