



# Release Notes

## 3-Heights™ and Classic PDF Tools

### Version 4.4

---

Contact: [pdfsupport@pdf-tools.com](mailto:pdfsupport@pdf-tools.com)

Owner: **PDF Tools AG**  
Kasernenstrasse 1  
8184 Bachenbülach  
Switzerland  
[www.pdf-tools.com](http://www.pdf-tools.com)

December 17, 2014

---

## Table of Contents

<b>1</b>	<b>Overview .....</b>	<b>4</b>
1.1	How to Download the Trial Software.....	4
1.2	Technical Support .....	4
1.3	System Requirements .....	4
1.4	Compiler Versions .....	5
<b>2</b>	<b>New Products.....</b>	<b>6</b>
2.1	3-Heights™ PDF Merge Split Shell .....	6
2.2	3-Heights™ Digital Signature Service .....	6
2.3	New implementation of 3-Heights™ PDF to Image Converter R2 .....	7
<b>3</b>	<b>New Features to all Products .....</b>	<b>8</b>
3.1	Enhancements to all 3-Heights™ Products.....	8
3.2	Enhancements to all Classic Products .....	9
<b>4</b>	<b>New Features to Specific Products .....</b>	<b>10</b>
4.1	3-Heights™ AFP to TIFF Conversion Utility .....	10
4.2	3-Heights™ CryptokI Certificate Utility .....	10
4.3	3-Heights™ Document Assembler .....	10
4.4	3-Heights™ Document Converter .....	10
4.5	3-Heights™ Font to PDF Utility .....	11
4.6	3-Heights™ Image Compare Utility .....	11
4.7	3-Heights™ Image to PDF Converter .....	11
4.8	3-Heights™ JPM to PDF Converter.....	12
4.9	3-Heights™ OCR Enterprise Add-on.....	12
4.10	3-Heights™ PDF Analysis & Repair .....	12
4.11	3-Heights™ PDF Annotation API.....	12
4.12	3-Heights™ PDF Compare Utility .....	12
4.13	3-Heights™ PDF Creator Library .....	12
4.14	3-Heights™ PDF Extract .....	12
4.15	3-Heights™ PDF Merge Split .....	13
4.16	3-Heights™ PDF Optimization.....	13
4.17	3-Heights™ PDF Page Split Tool.....	13
4.18	3-Heights™ PDF Printer .....	13
4.19	3-Heights™ PDF Producer .....	13
4.20	3-Heights™ PDF Security.....	14
4.21	3-Heights™ PDF Studio Utility .....	14
4.22	3-Heights™ PDF Thumbnail Utility .....	14
4.23	3-Heights™ PDF to EMF Converter .....	14
4.24	3-Heights™ PDF to Image Converter .....	15
4.25	3-Heights™ PDF to Image Converter R2.....	15
4.26	3-Heights™ PDF to PDF/A Converter.....	15
4.27	3-Heights™ PDF Uncompress Utility .....	16
4.28	3-Heights™ PDF Validator.....	16

December 17, 2014

---

4.29	3-Heights™ PDF Viewer.....	16
4.30	3-Heights™ Text to PDF Converter.....	17
4.31	3-Heights™ TIFF Tool Suite.....	17
4.32	3-Heights™ XMP Generator.....	17
4.33	Classic Command Line Suite.....	17
4.34	Classic PDF Prep Tool Suite.....	18
<b>5</b>	<b>About PDF Tools AG.....</b>	<b>18</b>

## **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](mailto:pdfsupport@pdf-tools.com)

### **1.3 System Requirements**

All of the tools are available for:

- Windows XP
- Windows Vista
- Windows 7
- Windows 8
- Windows Server 2003
- Windows Server 2003 R2
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012

Windows 9.x and NT 4 and Windows 2000 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 rendering engine: PDF Viewer, PDF Printer, PDF to Image Converter, PDF to EMF Converter

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)

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++:

<b>Platform</b>	<b>C/C++</b>
Windows	MSVC 10.0
MAC OS/X 10.5 x86	gcc 4.0.1
Intel/x86 Linux	gcc 4.1.2
Intel/x64 Linux	gcc 4.3.4
FreeBSD	gcc 3.4.2
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

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

## **2 New Products**

### **2.1 3-Heights™ PDF Merge Split Shell**

The purpose of the 3-Heights™ PDF Merge Split Shell is to either merge several PDF files into one output file or to split one or several PDF files into several output files. A special feature is the component's ability to process and create PDF/A-compliant files.

The shell version offers equally extensive options as the API version. For instance, resources can be optimized on the fly, the output file can be optimized for the web, annotations, form fields and signature appearances can be flattened, and metadata can be copied or set.

The PDF Merge Split Shell is a new implementation built on top of the 3-Heights™ kernel. The Command Line Suite offers a similar function in the pdcat tool which is based on the kernel of the Classic product line.

### **2.2 3-Heights™ Digital Signature Service**

The main purpose of a signature service is to create full signature data on account of a signing request of the signature client. The signing request is generated from both the document which is to be signed and the authentication of the client. The service sends the signature data back to the signature client where it is embedded in the document.

The document itself is not sent to the service but rather a hash value of it (similar to a fingerprint). The content of the document cannot be determined from the hash value. This means the confidentiality of the document remains guaranteed in all conceivable applications such as patient files, banking data, design drawings, etc. The mutual authentication of the client and server and the transaction are via secure connections (TLS). The secure connection is protected by a client certificate and a server certificate. With these measures the service can allocate the signatures clearly to a client.

The service manages the necessary private keys and certificates in a secure and trusted environment for every client. Based on this data the service creates the individual signatures. Advanced certificates are supported according to ZertES and EIDI-V and also qualified certificates conforming to SuisseID.

As an option the service can also generate signatures with long-term validity (LTV) and also integrate a time stamp.

High availability is guaranteed by the redundant design of the service. The service is run by an accredited issuer of certificates which guarantees compliance with all relevant regulations.

The signature client is a software component which can sign data and documents with the help of the signature service from the cloud. The signature client communicates with the service via the OASIS/DSS protocol. The following of our products support the Digital Signature Service:

- 3-Heights™ PDF Security
- 3-Heights™ PDF to PDF/A Converter
- 3-Heights™ Document Converter

### **2.3 New implementation of 3-Heights™ PDF to Image Converter R2**

The major improvement of this release is the re-development of the rendering engine. It is not available as a separate product but is rather a library which is used as an essential part of the 3-Heights™ PDF to Image Converter R2 in this release and will be used in other products such as the 3-Heights™ PDF Printer, 3-Heights™ PDF Viewer, etc. in future releases.

The highlights of the new rendering engine are:

- Full coverage of the upcoming PDF 2.0 specification including transparency groups, patterns, shadings etc.
- High-quality 256 level anti-aliasing
- High-performance ICC color management engine including all device specific, special and calibrated color spaces
- Bi-linear interpolation and low-pass Gauss image filtering
- Specialized glyph rendering based on a combination of hinting and anti-aliasing for optimal legibility
- Improved font replacement algorithm for non-embedded fonts including the on-the-fly generation of multiple master font instances

The complex and unique graphics model of PDF and the upcoming ISO standard for PDF 2.0 which contains many clarifications and improvements regarding the rendering of PDF documents made this development investment necessary.

Whereas the former implementations were all based on existing graphics libraries (GDI, GDI+, etc.) the new implementation has been developed from scratch. This allows for more reliable high-quality rendering, higher performance tuning, and better maintenance and customer support.

## **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**

- The major improvement of this release is the implementation of a new rendering engine. For a description please read the chapter about new products.
- The font replacement algorithm for non-embedded fonts has been significantly improved by the on-the-fly generation of multiple master font instances.
- The embedding of invoice data conforming to the ZUGFeRD XML format has been adapted to the latest standard. Affected Products: 3-Heights™ PDF to PDF/A Converter, 3-Heights™ Document Converter.
- Support for signature creation using the SuisseID Signing Service of Swiss Post, the Digital Signing Service of Swiss Post and the Swisscom All-in Signing Service.
- Improved performance and reliability of OCSP, CRL and Timestamp caches.
- The Windows development environment has been migrated from Visual Studio 8.0 to Visual Studio 10.0. Some of the tools and libraries now require the C runtime libraries version 10.
- The lcms software library ([www.littlecms.com](http://www.littlecms.com)) has been updated to version 2.6.
- The jpeg software library ([www.ijg.org](http://www.ijg.org)) has been updated to version 9a.
- The libpng software library ([www.libpng.com](http://www.libpng.com)) has been updated to version 1.6.14.
- The libxml2 software library ([www.xmlsoft.org](http://www.xmlsoft.org)) has been updated to version 2.9.2
- Improved thread safety on all Unix platforms.
- Improved on-the-fly repair when opening corrupt PDF documents.

### **3.2 *Enhancements to all Classic Products***

- The Windows development environment has been migrated from Visual Studio 8.0 to Visual Studio 10.0. Some of the tools and libraries now require the C runtime libraries version 10.

## **4 New Features to Specific Products**

### **4.1 3-Heights™ AFP to TIFF Conversion Utility**

- No functional changes.

### **4.2 3-Heights™ CrypTokI Certificate Utility**

- Improved switch 'i': The import of X.509 certificates has been enhanced to read PEM or DER encoded data streams.
- Improved switch 'l': The listed certificates are now verified for validity.

### **4.3 3-Heights™ Document Assembler**

- Improved preview pane now uses the 3-Heights™ PDF Viewer OCX for display.
- Annotations can now be added to the output document (Sticky notes, text highlight).
- The output documents can now be stored in the TIFF format in addition to the PDF and PDF/A format.
- The user interface received numerous improvements.

### **4.4 3-Heights™ Document Converter**

- The Document Converter is now entirely based on Microsoft.NET Framework 4.0. As a consequence, the .NET 2.0 framework no longer needs to be installed. If the web service feature is used, make sure to adjust the IIS application pool settings.
- New options:
  - SIGPROFILE to support signature profiles
  - SKIPFILES = SIZE<12x34 to suppress the conversion of small images in mails
  - PDF.Info to allow to set document attributes
  - LockFiles to freeze MS Word fields that would otherwise be automatically updated
  - PDF.A.OCRM MODE to control the behavior of OCR processing

- FlattenSignatures to preserve the visual appearance of signature fields when the underlying digital signature is removed
- DOCM added to MSWord file extensions
- ZIPX added to ZIP file extensions with 7z provider
- “needs rendering” functionality using Adobe Reader
  - to support the conversion of XFA to PDF/A when Adobe Reader is installed
  - to reject XFA forms or other PDF documents marked as “needing rendering” when Adobe Reader is not installed
- support for the EMF format (enhanced metafiles)
- support to configure certain PDF and TIFF printer settings via configuration file, and automatic resetting of printer user settings to system settings on start
- support to select email header template on a per job basis
- periodic cleanup of the office recently opened documents folder

#### **4.5 3-Heights™ Font to PDF Utility**

- No functional changes.

#### **4.6 3-Heights™ Image Compare Utility**

- No functional changes.

#### **4.7 3-Heights™ Image to PDF Converter**

- New switch `ocb`: Convert images to bitonal before OCR recognition.
- Extensions to interface 'IPDFCodec':
  - New property 'ErrorCode': Returns the error code of the last operation.
  - New property 'ErrorMessage': Returns the error message of the last operation.
  - New property 'Decode': Indicates whether compressed samples need to be decoded.
- Extensions to interface IPDFImg2Pdf:

- New property 'OCRBitonalRecognition': Indicates whether the images should be converted to bi-tonal before passing to the OCR engine.
- New property 'ErrorMessage': Returns the error message of the last operation.

#### **4.8 3-Heights™ JPM to PDF Converter**

- No functional changes.

#### **4.9 3-Heights™ OCR Enterprise Add-on**

- OCR Service: New implementation based on HTTP and TCP/IP (replaces old .NET based edition).
- ABBYY 10: Improved license selection if more than one license is available.
- Improved error reporting.

#### **4.10 3-Heights™ PDF Analysis & Repair**

- No functional changes.

#### **4.11 3-Heights™ PDF Annotation API**

- No functional changes.

#### **4.12 3-Heights™ PDF Compare Utility**

- New switch 'ia': Ignore volatile data from annotation (CreationDate).
- New switch 'c': Compare content streams syntactically (tokens).
- More object types are now supported.

#### **4.13 3-Heights™ PDF Creator Library**

- No functional changes.

#### **4.14 3-Heights™ PDF Extract**

- Improved support for collections (aka PDF Portfolios) with new property 'IsCollection' and modified property 'PageCount'.
- Improved treatment of white space for text extraction.

#### **4.15 3-Heights™ PDF Merge Split**

- New property 'FlattenSigAppearances': Flatten the appearance of all signed signature fields.
- Introduced automatic detection of compliance of output file based on compliances of input files.
- Greatly improved linearization performance for large files.
- Detection of XFA forms that contain no rendered PDF content.

#### **4.16 3-Heights™ PDF Optimization**

- New switch 'cms': Set the color management engine.

#### **4.17 3-Heights™ PDF Page Split Tool**

- No functional changes.

#### **4.18 3-Heights™ PDF Printer**

- New switch 'sl': Set the list of available paper sizes.
- New method 'SetPaperList': Set the list of available paper sizes.
- The exception handling in the print service has been improved.
- Improved pre-rendering of images to work around broken printer drivers.
- Improved spool file size when printing images.
- Applying watermarks is now supported for printing both PDF and image files.

#### **4.19 3-Heights™ PDF Producer**

- PDF Producer
  - The printer settings dialog now supports AES encryption.
  - The standard sRGB output intent profile has replaced by a calibrated color space except for the case where stamps are used. This simplifies the merging of such files with files having CMYK output intents.
- TIFF Producer
  - No functional changes.

- Application Runner:
  - The 'SaveAs' dialog can be configured to open in a specific directory.
  - The cancel button has now an image.
- Installer:
  - Product registration is now for all users

#### **4.20 3-Heights™ PDF Security**

- New switch `cps`: Set provider-specific property string.
- New switch `cpf`: Set provider-specific property from file.
- New switch `fs`: Force signature to allow DocMDP and timestamp signatures on PDF/A-1 documents.
- New property 'ForceSignature': Force signature to allow DocMDP and timestamp signatures on PDF/A-1 documents.
- Support Proxy for communication to all supported signature services. Proxy is supported for SSL connections as well.
- Greatly improved stamping functionality.
- Improved signature validation.
  - Validation of signatures of Subtype 'adbe.pkcs7.sha1'.
  - Ability to extract more signature properties, such as the signing time as specified by PAdES.
  - Ability to validate signatures according either to PAdES or to Adobe Acrobat compatibility (PKCS#7 CMS).
- Improved error messages.

#### **4.21 3-Heights™ PDF Studio Utility**

- GUI: The tree view has been enhanced with tool tips.

#### **4.22 3-Heights™ PDF Thumbnail Utility**

- No functional changes.

#### **4.23 3-Heights™ PDF to EMF Converter**

- No functional changes.

#### **4.24 3-Heights™ PDF to Image Converter**

- New switch 't': Specifies the threshold for the conversion from gray to bi-tonal.
- New property 'BilevelThreshold': Specifies the threshold for the conversion from gray to bi-tonal.
- The dither methods have been extended by the 'Atkinson' method.
- Improved image quality and accuracy for very small images and hairlines.
- Support for OpenType fonts in Fast Mode.
- Detection of PDF Portfolios with no initial PDF document.
- Improved rendering of degenerate paths.

#### **4.25 3-Heights™ PDF to Image Converter R2**

- New switch 'pi': Print page information such as the width and height in pixels, the resolution in dpi, and the width and height in user units.
- New switch 'so': Specify the page offset in user units. Together with the 's' switch the user can specify the source rectangle which has to be rendered as part of the page.
- New properties 'PageOffs', 'PageXOffs', 'PageYOffs': These properties have the same function as the 'so' switch (see above).

#### **4.26 3-Heights™ PDF to PDF/A Converter**

- New switch 'cps': Set provider-specific property string.
- New switch 'cpf': Set provider-specific property from file.
- Enhanced switch 'ocm': The OCR mode has been extended by the function 'OCR if input contains no text'.
- New switches 'abg', 'af1', 'af2', 'at1' and 'at2' allow creation of a customized signature appearance.
- New property 'SignatureLocation': The physical location of the signing.
- New method 'SetSessionPropertyString': Set provider-specific session property.
- New method 'SetSessionPropertyBytes': Set provider-specific session property.
- New method 'TestSession': Check, if the session is still alive.
- New method 'AddZUGFeRDXML' and 'AddZUGFeRDXMLMem': Add a ZUGFeRD XML invoice file.

- Improved conversion of corrupt documents:
  - Repair invalid page references.
  - Improved handling of corrupt interactive form fields.
  - Improved conversion of corrupt actions.
  - Improved repair of images with invalid or sample streams.
  - Improved repair of embedded font programs that are corrupt.
  - Improved repair of invalid color space with ICC profile.
  - Improved conversion of corrupt OCR fonts.
- Improved logging, e.g. exact message of signature creation error.

#### **4.27 3-Heights™ PDF Uncompress Utility**

- No functional changes.

#### **4.28 3-Heights™ PDF Validator**

- New switch '-p': Set custom profile to validate compliance with corporate directives.
- New method 'SetProfile': Set custom profile to validate compliance with corporate directives.
- New property 'ErrorMessage': Returns an error message text of the last operation.
- Improved performance of Type 3 font validation.

#### **4.29 3-Heights™ PDF Viewer**

- Viewer Shell & Viewer OCX:
  - GUI: The user can now display, open and save embedded files, e.g. of PDF Portfolios.
  - New method 'CreateAnnotation': Create and display a new annotation.
  - New method 'GoBack': Open parent file of currently displaying embedded file.
  - New method 'SetCursor': Set a custom cursor for a cursor mode.
  - New event 'OnGotoE': Indicates when an embedded file is opened.

- New ability to switch between difference view and individual file view when comparing files.
- Java Document Viewer:
  - New methods 'getEmbeddedFilesCount' and 'getEmbeddedFileInfo': Returns information about embedded files in the open document.
  - New methods 'storeEmbeddedFile' and 'getEmbeddedFile': Saves an embedded file to disk or returns it as a byte array.
  - Swing sample application: The user can now display and open embedded files.
- PDF Viewer WPF:
  - Enhanced method 'Close': The method now waits until the document is closed.
  - Enhanced support for touch input: Multi touch zoom and scrolling inertia.

#### **4.30 3-Heights™ Text to PDF Converter**

- No functional changes.

#### **4.31 3-Heights™ TIFF Tool Suite**

- All tools now support large TIFF files up to 4 GB.
- Tiffimp:
  - New switch 'u': Use JPEG compression according to Technical Note #2.

#### **4.32 3-Heights™ XMP Generator**

- No functional changes.

#### **4.33 Classic Command Line Suite**

- pdform:
  - new listing of the values list of radio button fields.

### **4.34 Classic PDF Prep Tool Suite**

- New method 'SetResolveDestNames' to disable the resolution of named destinations (used by PDF Batch Stamp Tool to increase performance).
- New method 'IDocGetFormBoxW' to support the passing of Unicode string values.
- Enhanced interoperability of the method 'CreateImageEx' with the 3-Heights™ PDF Codec. This allows supporting a wider variety of image types. Please refer to the appropriate code samples for details.
- Awareness for rich text forms: convert to normal text forms when setting a new value; preserve appearance when flattening without changing the value.
- Support to retrieve the radio button field values list.

## **5 About PDF Tools AG**

PDF Tools AG ([www.pdf-tools.com](http://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.