



# Release Notes

**3-Heights™ and Classic PDF Tools**

**Version 4.10**



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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 <https://www.pdf-tools.com/>. There is no charge for downloading product kits and evaluation license keys (valid for a 30 day period).

## 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 Operating Systems

Most of the products are available for the following operating systems:

- Windows 7, 8, 8.1, 10 – 32 and 64 bit
- Windows Server 2008, 2008 R2, 2012, 2012 R2, 2016 – 32 and 64 bit
- HP-UX 11i and later PA-RISC2.0 – 32 bit
- HP-UX 11i and later ia64 (Itanium) – 64 bit
- IBM AIX 6.1 and later – 64 bit
- Linux 2.6 – 32 and 64 bit
- Oracle Solaris 2.8 and later, SPARC and Intel
- FreeBSD 4.7 and later (32 bit) or FreeBSD 9.3 and later (64 bit, on request)
- macOS 10.4 and later – 32 and 64 bit

Windows Vista is 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.

Other platforms are available on request. Please refer to the individual product information on the website or in the respective manual 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	Compiler	Library
Windows	MSVC 14.0	toolset v140_xp
macOS 10.5 x86	gcc 4.0.1	glibc 1.0.0
Linux Intel	gcc 4.1.2 gcc 4.7	glibc 2.5 glibc 2.22
FreeBSD Intel/x64	gcc 4.1.2	glibc 2.3
Oracle Solaris 5.10/SPARC	gcc 3.4.6	glibc 1.2.10
Oracle Solaris 5.10/Intel	gcc 3.4.6	glibc 1.2.10
IBM AIX 6.1	gcc 4.2.4	glibc 2.3
HP UX 11.i (11.23)	gcc 4.1.2	glibc 2.3
HP UX 11.23 IA64	gcc 4.6.0	glibc 2.3
Raspian 7/Linux 3.18 ARMv7	gcc 4.6.3	glibc 2.14.1

## 1.5 Runtime Environment

The Windows variants of the components have been compiled with Visual Studio 2015. The C++ based components are statically linked so there is no need for a redistributable package.

The C++ code has been compiled and linked using the v140\_xp toolset. Although, the software may run on Windows XP systems we only provide support for operating systems which are listed under system requirements.

.NET based solutions and desktop applications such as the 3-Heights™ Document Converter, the 3-Heights™ Document Assembler and the 3-Heights™ PDF Viewer, are compiled with version 4.5.2 of the .NET Framework. Although the code has been developed using C#, these components may require a C++ redistributable package as they are combined with native C++ code.

For .NET components (API), version 2.0 of the .NET Framework is required.

For Java components (API), version 1.6 is required as minimum runtime version.

## 2 New and Enhanced Products

### 2.1 3-Heights™ PDF Web Viewer

- Brand new PDF Web Viewer based on JavaScript
- Create, edit and delete different annotations
  - Sticky
  - Freetext
  - Highlight (Strikeout, Underline, Squiggly)
  - Stamps (text and image stamps)
- Extensive API for maximum flexibility when implementing the viewer in your environment
- Mobile-friendly: The viewer was specifically developed with desktop and mobile devices alike in mind
- Save to PDF or to FDF files
- Open a PDF with an associated FDF file

### 2.2 3-Heights™ PDF Tools PHP5.6 Extension

The 3-Heights™ PDF Tools PHP5.6 Extension provides a PHP interface for the [API Pdf2ImgAPI](#) and the [API PdfSecureAPI](#). This product is supported for PHP 5.6 32-bit (Non ThreadSafe) on Windows and Linux environments.

### 2.3 3-Heights™ PDF Tools PHP7.0 Extension

The 3-Heights™ PDF Tools PHP5.6 Extension provides a PHP interface for the [API Pdf2ImgAPI](#) and the [API PdfSecureAPI](#). This product is supported for PHP 7.0 (NonThread Safe) on Windows and Linux environments.

## 3 New Features to all Products

Some of the documented changes below may be preceded by a marker that specifies the interface technologies the change applies to. E.g. [C, Java] applies to the C and the Java interface.

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

### 3.1 Enhancements to all Products

- The product packages (\*.zip, \*.msi, \*.tar.gz) are significantly improved.
- **Name schema:** The names of the product packages (available for download) have changed. The new names are a combination of the product name, full version number as well as the platform, on which the executable will run. E.g. the "3-Heights™ PDF to PDF Converter API" product package is named Pdf2Pdf-API-`<Version>`-Windows.zip.
- **Platform architecture:** If available, the new product packages (\*.zip, \*.tar.gz) include binaries for both platform architectures (32-bit and 64-bit).
- Sample projects have been changed such that they work for both platform architectures.

### 3.2 Enhancements to all 3-Heights™ Products

- Increased robustness against corrupt input PDF documents.
- Improved annotation appearance generation for polyline, squiggly, and stamp annotations.
- PDF producing products are now capable of writing object streams. Most objects that are contained in object streams in the input document are now also stored into object streams in the output document.
- The font ZapfDingbats.ttf is not required anymore and has been removed from all product kits.
- [C] **Clarified** Error handling of `TPdfStreamDescriptor` functions.

### 3.3 Enhancements to all Classic Products

No functional changes.

## 4 New Features to Specific Products

Some of the documented changes below may be preceded by a marker that specifies the interface technologies the change applies to. E.g. [C, Java] applies to the C and the Java interface.

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

No functional changes.

### 4.2 3-Heights™ Certificate Store Utility for PKCS#11

No functional changes.

### 4.3 3-Heights™ PDF Document Assembler

No functional changes.

### 4.4 3-Heights™ Document Converter

- Improved “direct” conversion of MSG files (without using MS Outlook)
- Improved HTML optimization
- **New** 64-bit installer package
- Digital Signatures
  - **New** support for the new European PAdES norm (ETSI EN 319 142). See chapter “How to Create a PAdES Signature” in the user manual for more information.
  - **New** support for the GlobalSign Digital Signing Service as cryptographic provider to create signatures and time-stamps.
  - **New** signature algorithm RSA with SSA-PSS (PKCS#1v2.1) can be chosen by setting the provider session property `SigAlgo`.
- Stamping
  - **New** attribute `flags` of `<stamp>`, e.g. to create modifiable stamps or stamps that are only visible when printing.
  - **New** attribute `src` of `<image>` allows a HTTP URL or file path.

### 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

### API Img2PdfAPI

#### Interface Img2Pdf

- [.NET, C, COM, Java] **New** property `AdjustOrientation`: Adjust page orientation.

#### Shell `img2pdf`

- **New** option `-ao`: Adjust page orientation.

#### Shell `img2img`

- **New** option `-pg first last`: If not all pages should be converted, the page range can be defined explicitly.

#### Service `Img2PdfSvr`

- **New** option `-ao`: Adjust page orientation.

#### Service `Img2ImgSvr`

- **New** option `-pg first last`: If not all pages should be converted, the page range can be defined explicitly.

## 4.8 3-Heights™ OCR Enterprise Add-on

- Spaces in the ocr parameters at the beginning or at the end of key and value are allowed.
- `OcrService` made more robust to network errors/delays. Better error handling implemented.

## 4.9 3-Heights™ PDF Analysis & Repair

- Increased robustness against corrupt embedded font files.

### API `PdfRepairAPI`

No functional changes.

#### Shell `pdfrepair`

No functional changes.

#### Service `PdfRepairSvr`

No functional changes.

## 4.10 3-Heights™ PDF Annotation API

No functional changes.

## 4.11 3-Heights™ PDF Checker API

- Digital Signatures
  - Improved signature validation.
    - More signature formats supported, most notably the new European PAdES norm. The Windows cryptographic provider now supports the same formats as the PKCS#11 provider.
    - Support signature algorithm RSA with SSA-PSS (PKCS#1v2.1).

## 4.12 3-Heights™ PDF Compare Utility

- **New** option `-os`: Report a difference for two objects if one is contained in an object stream and the other not.
- **New** option `-r`: To compare trailer dictionaries.

## 4.13 3-Heights™ PDF Creator Library

No functional changes.

## 4.14 3-Heights™ PDF Extract

### API PdfExtractAPI

- Overlapping code ranges in font's ToUnicode tables (used for text extraction) are now supported.

### Shell pdfextract

- **New** exit code 5 indicating an extraction or file save error.
- **Changed** options `-ls` and `-x`: Extraction of signatures for encrypted documents is now possible.

### Shell pdtxt

- **Changed** option `-uf`: The file to update the ToUnicode font information now supports mappings from a character code to a sequence of Unicodes.
- Overlapping code ranges in font's ToUnicode tables (used for text extraction) are now supported.

## 4.15 3-Heights™ PDF Merge Split

- **Changed** the behavior when copying outlines. The outline structure in the output file now always matches the outline structure in the input file, regardless of the order in which pages are copied.
- Improved reparation of corrupt form fields.
- Writing PDF objects into object streams is now supported. Most objects that are contained in object streams in the input document are now also stored in object streams in the output document. When enabling linearization, however, no objects are stored in object streams.

### API PdfSp1MrgAPI

No functional changes.

## 4.16 3-Heights™ PDF Optimizer

- The down-sampling of non-shared Masks and SMasks is supported.
- The removal of redundant objects now includes more types of dictionaries.
- Writing PDF objects into object streams is now supported. Most objects that are contained in object streams in the input document are now also stored in object streams in the output document. When enabling linearization, however, no objects are stored in object streams.
- If linearization and the removal of document structure information are both disabled, then any document structure elements, if present in the input document, are stored in objects streams in the output document.

### API PdfOptimizeAPI

- [.NET, C, COM, Java, PHP] **Changed** enum `TPDFOptimizationProfile`: Added a new profile `eProfileArchive` to optimize for archiving purposes.

### Shell pdfoptimize

- **Changed** option `-pr`: Added a new profile `archive` to optimize for archiving purposes.

### Service PdfOptimizeSvr

- **Changed** option `-pr`: Added a new profile `archive` to optimize for archiving purposes.

## 4.17 3-Heights™ PDF Printer

### API PrinterOCX

- **Changed** method `SetDataType` to accept input values `"null"` or `""`, to delegate setting of data type to the printer driver.

### Shell pdprint

- **Deprecated** option `-e`: To set the datatype to EMF use `-dt emf`.

- **New** option `-dt`: Set `DataType` of spool file to EMF, raw or delegate the decision to the printer driver.

## Service PdfPrintSvr

- **Deprecated** option `-e`: To set the datatype to EMF use `-dt "emf"`.
- **New** option `-dt`: Set `DataType` of spool file to EMF, raw or delegate the decision to the printer driver.

## 4.18 3-Heights™ PDF Producer

- Improved installation process (msi).
- XMP Metadata File can now also be added through the document options (DEVMODE).
- Automated installation supports DEVMODE files for predefined configurations.

## 4.19 3-Heights™ PDF Security

- Digital Signatures
  - **New** support for the new European PAdES norm (ETSI EN 319 142). See chapter “How to Create a PAdES Signature” in the user manual for more information.
  - **New** support for the GlobalSign Digital Signing Service as cryptographic provider to create signatures and time-stamps.
  - **New** signature algorithm RSA with SSA-PSS (PKCS#1v2.1) can be chosen by setting the provider session property `SigAlgo`.
  - Improved signature validation.
    - More signature formats supported, most notably the new European PAdES norm. The Windows cryptographic provider now supports the same formats as the PKCS#11 provider.
    - Support signature algorithm RSA with SSA-PSS (PKCS#1v2.1).
    - New and improved validation warnings.
    - Check for missing revocation information.
    - Use validation data embedded in the document security store (DSS).
  - **New** ability to add multiple signatures to encrypted files.
- Stamping
  - **New** attribute `flags` of `<stamp>`, e.g. to create modifiable stamps or stamps that are only visible when printing.
  - **New** attribute `src` of `<image>` allows a HTTP URL or file path.
  - **New** ability to add or modify stamps of signed files that are also encrypted.
- Writing PDF objects into object streams is now supported. Most objects that are contained in object streams in the input document are now also stored in object streams in the output document. When enabling linearization, however, no objects are stored in object streams.

## API PdfSecureAPI

- [PHP] **New** Interface for Windows and Linux. Supported versions are PHP 5.6 & 7.0 (Non Thread Safe). The Pdf-SecureAPI PHP Interface is contained in the 3-Heights™ PDF Tools PHP5.6 Extension and the 3-Heights™ PDF Tools PHP7.0 Extension.

## Interface PdfSecure

- **New** method `AddValidationInformation()`: Add signature validation information to the document. This method can be used to create signatures with long term validation material or to enlarge the longevity of existing signatures.
- **Changed** method `ValidateSignature()`:
  - The warning `SIG_VAL_W_NOTSP` has been removed because it is unnecessary and masks other warnings that have a lower priority. The property `TimeStampFingerprint` can be used to detect whether a time-stamp is available.
  - See documentation of the method for a list of new warnings.
- [C] **Changed** API of the custom signature handler `pdfsignaturehandler.h`.

## Shell pdfsecure

- **Changed** option `-vs`: The validation warning “No time-stamp is present.” has been removed and replaced by a new column “time-stamp authority”.
- **New** option `-dss`: Add signature validation information to the document. This option can be used to create signatures with long term validation material or to enlarge the longevity of existing signatures.
- **New** option `-sf` to set signature format, e.g. for new European PAdES norm.
- **New** options `-afs1` and `-afs2` to set font size of the signature appearance.

## Service PdfSecureSvr

- **New** option `-dss`: Add signature validation information to the document. This option can be used to create signatures with long term validation material or to enlarge the longevity of existing signatures.
- **New** option `-sf` to set signature format, e.g. for new European PAdES norm.
- **New** options `-afs1` and `-afs2` to set font size of the signature appearance.

## 4.20 3-Heights™ PDF Studio Utility

- Allow to save content of streams, such as images, metadata or embedded files, to a file.
- List embedded files.
- Dump the contents of binary data to the text window, e.g. for signatures, document security store (DSS) data, or fonts (if `ttfdump.exe` is installed).
- Display object stream number for objects that are contained in object streams.
- List all object stream and contained objects.

## 4.21 3-Heights™ PDF to EMF Converter

No functional changes.

## 4.22 3-Heights™ PDF to Image Converter

- RenderingEngine R2 performance enhanced when using Type 3 fonts

### API Pdf2ImgAPI

- [PHP] **New** Interface for Windows and Linux. Supported versions are PHP 5.6 & 7.0 (Non Thread Safe). The Pdf2ImgAPI PHP Interface is contained in the 3-Heights™ PDF Tools PHP5.6 Extension and the 3-Heights™ PDF Tools PHP7.0 Extension.

## 4.23 3-Heights™ PDF to PDF/A Converter

- Improved conversion of transparent objects to PDF/A-1. E.g. filled paths that are transparent are converted to outlines in order to not cover underlying content when the transparency attribute is removed.
- Improved conversion of numbers that are larger than the implementation limit of PDF/A-1.
- Improved conversion of logical structure information (PDF/A level A).
- Lock OCGs (layers) that need to be added to user interface (PDF/A-2 and PDF/A-3).
- Digital Signatures
  - **New** support for the new European PAdES norm (ETSI EN 319 142). See chapter “How to Create a PAdES Signature” in the user manual for more information.
  - **New** support for the GlobalSign Digital Signing Service as cryptographic provider to create signatures and time-stamps.
  - **New** signature algorithm RSA with SSA-PSS (PKCS#1v2.1) can be chosen by setting the provider session property [SigAlgo](#).
- **New** conversion event [ePDFConversionErrorStructureRemoved](#) (65536) when logical structure information is removed.
- Writing PDF objects into object streams is now supported. Most objects that are contained in object streams in the input document are now also stored in object streams in the output document. When enabling linearization, however, no objects are stored in object streams.

### API Pdf2PdfAPI

#### Interface PdfSignature

- **New** property [SubFilter](#) to set signature format, e.g. for new European PAdES norm.

### Shell pdf2pdf

- **Changed** option `-uf`: The file to update the ToUnicode font information now supports mappings from a character code to a sequence of Unicodes.
- **New** option `-sf` to set signature format, e.g. for new European PAdES norm.
- **New** options `-afs1` and `-afs2` to set font size of the signature appearance.

### Service Pdf2PdfSvr

- **New** option `-sf` to set signature format, e.g. for new European PAdES norm.
- **New** options `-afs1` and `-afs2` to set font size of the signature appearance.

## 4.24 3-Heights™ PDF Toolbox API

- Improved reparation of corrupt form fields.
- Writing PDF objects into object streams is now supported. Most objects that are contained in object streams in the input document are now also stored in object streams in the output document. When enabling linearization, however, no objects are stored in object streams.
- [.NET, C, Java] **New** enumeration `BlendMode`.

### Interface Document

- [.NET, C, Java] **Changed** the error handling of method `Open`:
  - Opening a PDF collection (portfolio) will now result in an error of type `UnsupportedFeature`.
  - Opening a PDF with an unsupported PDF version will now result in an error of type `Conformance`.
- [.NET, C, Java] **New** method `CreateMetadata` to create new metadata objects.
- [.NET, C, Java] **Changed** the behavior of method `CopyPage` and `CopyPageAsForm`:
  - The outline structure in the output file now always matches the outline structure in the input file, regardless of the order in which pages are copied.
  - If the conformance of the output document is explicitly set to PDF/A level a and the copy option `CopyLogicalStructure` is not set, an error of type `Conformance` is signaled.
- [.NET, C, Java] **New** method `CreateBlendingPaint` to create a paint with a specific blend mode.

### Interface Page

- [.NET, C, Java] **New** property `Metadata` to access or modify the page metadata.
- [.NET, C, Java] **New** property `MediaBox` to access the page's media box.
- [.NET, C, Java] **New** property `BleedBox` to access the page's bleed box.
- [.NET, C, Java] **New** property `TrimBox` to access the page's trim box.
- [.NET, C, Java] **New** property `ArtBox` to access the page's art box.

### Interface Metadata

- [.NET, C, Java] **New** property `Xmp` to access the XMP metadata stream.

## 4.25 3-Heights™ PDF Uncompress Utility

No functional changes.

## 4.26 3-Heights™ PDF Validator

- Updated validation according to the PDF Association's TechNote 0010, which describes some peer-reviewed resolutions to a variety of ambiguities of corner cases of the PDF/A specifications.
- Stricter validation of font files of embedded fonts.
- Stricter validation of logical structure information (PDF/A level A).
- Digital Signatures
  - Improved signature validation.
    - More signature formats supported, most notably the new European PAdES norm. The Windows cryptographic provider now supports the same formats as the PKCS#11 provider.

- Support signature algorithm RSA with SSA-PSS (PKCS#1v2.1).

## API PdfValidatorAPI

No functional changes.

## Shell pdfvalidator

- **Changed** option `-v` to print validation result.

## 4.27 3-Heights™ PDF Viewer

### API PdfViewerOCX

No functional changes.

### API PdfViewerAPI

- [Java] **New** method to print documents: `printDocument()`.
- [Java] **New** method `drawSinglePage()` to draw single pages into a `BufferedImage`
- [Java] **New** annotations:
  - Rectangle
  - Circle
  - Underline

### API PdfViewerWPF

No functional changes.

## Desktop viewer

No functional changes.

## 4.28 3-Heights™ Scan to PDF Server

### Component `Tiff.Merge`

- **New** attribute `remove-blank-pages="true"` to remove pages without content.

## 4.29 3-Heights™ Signature Creation and Verification Service

- **New** support for the European PAdES Standard (ETSI EN 319 142), for which a new protocol version has been introduced. So for new clients, a new version of the service must be used. The new service can handle both clients using the old and the new version of the protocol.



## 4.30 3-Heights™ Text to PDF Converter

No functional changes.

## 4.31 3-Heights™ TIFF Toolbox Shell

- **Changed** Product name from "3-Heights™ TIFF Tool Suite" to "3-Heights™ TIFF Toolbox Shell".

## 4.32 3-Heights™ TIFF Toolbox API

No functional changes.

## 4.33 3-Heights™ XMP Generator

No functional changes.

## 4.34 Classic PDF Command Line Suite

No functional changes.

## 4.35 Classic PDF Batch Stamp Tool

- Verbose logging now including page count information.

## 4.36 Classic PDF Prep Tool Suite

No functional changes.

## 5 Licensing, Copyright, and Contact

PDF Tools AG 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.

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