Release Notes
3-Heights™ and Classic PDF Tools

Version 4.7
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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).


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

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 5.10
- HP-UX 11i incl. IA64
- Sun Solaris / 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++:

<table>
<thead>
<tr>
<th>Platform</th>
<th>C/C++</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>MSVC 12.0</td>
</tr>
<tr>
<td>MAC OS/X 10.5 x86</td>
<td>gcc 4.0.1</td>
</tr>
<tr>
<td>Intel/x86 Linux</td>
<td>gcc 4.1.2</td>
</tr>
<tr>
<td>Intel/x64 Linux RedHat</td>
<td>gcc 3.4.6</td>
</tr>
<tr>
<td>Intel/x64 Linux SUSE</td>
<td>gcc 4.5.0</td>
</tr>
<tr>
<td>FreeBSD</td>
<td>gcc 4.1.2</td>
</tr>
<tr>
<td>Sun Solaris 5.10/SPARC</td>
<td>gcc 3.4.6</td>
</tr>
<tr>
<td>Sun Solaris 5.10/Intel</td>
<td>gcc 3.4.3</td>
</tr>
<tr>
<td>IBM AIX 5.1</td>
<td>gcc 4.2.4</td>
</tr>
<tr>
<td>HP UX 11.i (11.23)</td>
<td>gcc 4.1.2</td>
</tr>
<tr>
<td>HP UX 11.23 IA64</td>
<td>gcc 4.6.0</td>
</tr>
<tr>
<td>Raspian 7/Linux 3.18 ARMv7</td>
<td>gcc 4.6.3</td>
</tr>
</tbody>
</table>
1.5 Runtime Environment

The Windows variants of the components have been compiled with Visual Studio 2013. 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 v120_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 components such as the 3-Heights™ Document Converter, the 3-Heights™ Document Assembler and the 3-Heights™ PDF Viewer, are compiled with version 2.0 of the .NET Framework. Although the code has been developed using C# some of these components may require a C++ redistributable package as they are combined with native C++ code.

For Java, version 1.6 is required as minimum runtime version.
2 New and Enhanced Products

2.1 3-Heights™ Document Converter

The Enterprise Edition of the 3-Heights™ Document Converter has been complemented with a new configuration tool which simplifies the installation and configuration significantly. The configuration tool is an extension of the tool that has been introduced with the Small and Medium Enterprise Edition in an earlier release.

2.2 3-Heights™ PDF Printer Web Service

The set of printing components such as the 3-Heights™ PDF Printer and the 3-Heights™ PDF Printer API has been extended with a new component providing a web service to print documents.

The 3-Heights™ PDF Printer Web Service is an ASP.NET web service running in a Microsoft Internet Information Services (IIS) webserver. The product offers the following features:

- SOAP 1.1 and SOAP 1.2 interface
- Print PDF documents
- Print job configuration, monitoring and control
- Printer device abstraction
  - The web service client uses an abstract printer
  - The web service itself maps the abstract printer to a real device
- Powerful printer configuration
  - Duplex / simples
  - Bin selection
  - Color / monochrome
  - etc.

2.3 Changes of interfaces and default values

For many years we have incorporated numerous extensions and enhancements in our products. While doing this we have tried to avoid interface changes in order to provide backwards compatibility. With this release we have modified some interfaces and default values of properties for the sake of a more intuitive and easier usage of our products. The changes have been reduced to a minimum so that only few adjustments of the application programs or command line invocations are required. The all changes are fully documented in these release notes.
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**

- Most of the command line tools now support wide characters (WCHAR) for their options and parameters.
- The error reporting of most of the components has been improved.
- The file names of temporary font files are now globally unique. This is to avoid name clashes in distributed computing and multi process environments.
- Update open source libraries:
  - FreeType version 2.6.3 (www.freetype.org)
  - Little CMS version 2.7 (www.littlecms.com)
  - Libxml2 version 2.9.3 (www.xmlsoft.org)

3.2  **Enhancements to all Classic Products**

- AES V2 and AES V3 encryption support.
- Improve text extraction when ToUnicode map is incomplete.
- For further details see PDF Prep Tool Suite and PDF Command Line Suite.
New Features to Specific Products

3.3 3-Heights™ AFP to TIFF Conversion Utility
- No functional changes.

3.4 3-Heights™ Certificate Store Utility for PKCS#11
- Improved error reporting.

3.5 3-Heights™ Document Assembler
- No functional changes.

3.6 3-Heights™ Document Converter
- Removed option PDFA.WARNOCSP
  - Conversion will fail and return error SIG_CREA_E_OCSP, SIG_CREA_E_CRL or SIG_CREA_E_TSP.
- Removed option PDFA.WARNOCR
  - Conversion will fail and return an OCR error.
- New option PDFA.WARNDOWNGRADE
  - If multiple PDF/A Compliances are set (PDF.COMPLIANCE) and this option is set (TRUE), a PDF/A downgrade (e.g. from PDF/A-2A to PDF/A-2U) will indicated using the O2P_W_DOWNGRADE warning.
- New warning O2P_W_DOWNGRADE
- Option OCR.REEMBEDIMAGE
  - Changed default value to false [previously true].
  - If true, the image is now re-embedded even if original was modified (converted from CMYK, converted to bitonal).
- New ERRSUMMARY job setting: collect error messages to return all at the end; useful when converting compound documents or using the web service.
- New ERRPAGE job setting: append page to converted PDF containing error summary text.
- Conversion errors are reported more verbosely.
- Changed logic of PDF to PDF/A converter: change of default settings; OCR error no longer produces output.
- Unicode support for error messages and error summary.
- New option PDFA.WARNVISDIFF: default: true, i.e. warning is raised if applicable.
- Changed default for OCR.REEMBEDIMAGE to false.
• New warning O2P_W_DOWNGRADE.
• New error O2P_E_HTTPSTATUS: HTTP error when converting via Internet Explorer.
• DOCM added to standard extensions for MSWord
• Support for EMZ added (compressed EMF)
• Compression defaults changed; now INDEXED:LZW, CONTINOUS: TIFFJPEG
• Custom 3-Heights PDF and TIFF Printer driver name and port monitor
• Standard printer settings support
  • [PdfPrinter] section: PaperSize=<number>, Resolution=<DPIvalue>, Quality=<JPEGComprQuality1-100>
  • [TIFFPrinterBW]: PaperSize, Compression=<intvalue>, ResolutionX, ResolutionY, Quality
  • [TIFFPrinterColor]: same as BW
• EML, MSG: new option PASSTHROUGH: causes E-Mail attachments to be NOT converted (useful for embedding as attachment instead).
• Excel:
  • generally improved page fitting
  • new option values PrintArea=keep and FitToPage=<mode>, mode values: false, 10..100 (%)
• Service (O2PSRV): event logging now with distinct Event IDs.
• Web service: improved error text when service not running.
• O2PConfigure: options made configurable using this tool: SIGRECT, SIGPAGE, PDFA.WARNFONTSUBST, PDFA.WARNVISDIFF.
• New MSI installer package
• New installation and configuration wizard

3.7 **3-Heights™ Font to PDF Utility**
• No functional changes.

3.8 **3-Heights™ Image Compare Utility**
• Improved error reporting.

3.9 **3-Heights™ Image to PDF Converter**
img2pdf, pdfocr, Img2PdfSvr
• New option -ocri: Reembed images from OCR engine
  • If this option is set, the image is now reembedded even if original was modified (converted from CMYK, converted to bitonal).
- **New** option `-occs`: Correct skew angle as reported from OCR engine
- **Removed** option `-oci`: Do not deskew original images
  - The functionality is now active by default.
- **Removed** option `-ocs`: Do not reembed deskewed images
  - The functionality is now active by default.
- Option `-q`: Compression quality
  - **Changed** default value to 80 [previously 75].

**img2img**

- **New** options `-w` and `-h`: Set the width and / or height of the output image.
- **New** compression type 9: TIFFJPEG.
- Option `-cb`: Bitonal compression
  - **Changed** default value to `eComprGroup4` [previously `eComprRaw`].
- Option `-ci`: Indexed compression
  - **Changed** default value to `eComprLZW` [previously `eComprRaw`].
- Option `-cc`: Continuous compression
  - **Changed** default value to `eComprTIFFJPEG` [previously `eComprRaw`].
- Option `-q`: Compression quality
  - **Changed** default value to 80 [previously 75].

**Img2PdfAPI**

- Property `Img2Pdf.OCREmbedOCRImage`
  - **Changed** default value to `false` [previously `true`].
  - If `true`, the image is now reembedded even if original was modified (converted from CMYK, converted to bitonal).
- Property `Img2Pdf.OCRDeskewImage`
  - **Changed** default value to `false` [previously `true`].
- [Java] **Deprecated** overloaded method `Img2Pdf.create()` without encryption.
- **New** Property `Img2Img.ErrorCode`.
- **New** Property `Img2Img.ErrorMessage`.
- Property `Img2Img.Quality`
  - **Changed** default value to 80 [previously 75].
- Property `Img2Img.ContinuousCompression`
  - **Changed** default value to `eComprTIFFJPEG` [previously `eComprRaw`].
- Property `Img2Img.IndexedCompression`
- **Changed** default value to eComprLZW [previously eComprRaw].
  - Property `Img2Img.BitonalCompression`
  - **Changed** default value to eComprGroup4 [previously eComprRaw].
  - Property `PdfOcr.OCREmbedOCRImage`
    - **Changed** default value to `false` [previously `true`].
    - If `true`, the image is now reembedded even if original was modified (converted from CMYK, converted to bitonal).
  - Property `PdfOcr.OCRDeskewImage`
    - **Changed** default value to `false` [previously `true`].

### 3.10 3-Heights™ JPM to PDF Converter
- No functional changes.

### 3.11 3-Heights™ OCR Enterprise Add-on

OcrSvr
- **New** option 'm': The server now can deliver an image mask which is derived from the original bitmap by the OCR engine. The mask is used in tiffocr and similar tools.
- The default OCR engine is now 'ABBYY11'.

### 3.12 3-Heights™ PDF Analysis & Repair

pdrrepair
- **Removed** option `-ri`: Recover Images.

PdfRepairAPI
- **New** property `ErrorMessage`
- Enum `TPDFRecoveryOption`
  - **Deprecated** enum value `eRecoverImages`.
- [Java] **Deprecated** class `ANALYSISOPTTIONS`
  - Use class `ANALYSISOPTTIONS`.
- [Java] **New** class `ANALYSISOPTTIONS`.

### 3.13 3-Heights™ PDF Annotation API
- No functional changes.

### 3.14 3-Heights™ PDF Compare Utility
- Added PDF object types (encryption, etc.).
• Support for linearized files.
• Improved output.
• Visual comparison of embedded PDF files.

3.15 3-Heights™ PDF Creator Library
• No functional changes.

3.16 3-Heights™ PDF Extract
pdtxt
• Improved output (CSV)
• **Removed** option -r: Account for page rotation is now implicitly activated.

pdfextract
• Extracted inline images are numbered.
• Output additional document properties: claimed PDF version and linearization flag.

PdfExtractAPI
• [Java] **Deprecated** constructor `Document(String, String)`.
• [Java] **Deprecated** constructor `Document(byte[], String)`.
• [Java] **Deprecated** constructor `Document(Stream, String)`.

3.17 3-Heights™ PDF Merge Split
• PDF Tools AG stamp data, as produced by the 3-Heights™ PDF Security tool is merged.

pdfsplmrg
• **New** option -s o: Split at outline destinations (top level)
• **New** option -pc o: Split at outline destinations (top level) in collate mode
• **New** option -fa: flatten annotations
• Option -ff: Flatten and strip form fields
  • Implies now option -sf (Strip interactive forms fields).
• Option -oad: Page mode
  • Coordinates of the destination are now interpreted relative to the CropBox on the rotated page [previously raw PDF coordinates].
  • Destination mode is now passed as string instead of as number.

PdfSplMrgAPI
• **Deprecated** property InDoc.Rotate
• Property has no use anymore.
  • Deprecated property `OutDoc.CopyOutlines`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.CopyForms`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.CopyLogicalStructure`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.CopyAssociatedFiles`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.OptimizeResources`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.RemoveNamedDests`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.MergeOptionalContent`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.FlattenAnnotations`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.FlattenFormFields`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `OutDoc.FlattenSigAppearances`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated function `OutDoc.CopyOutlineItems()`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated function `OutDoc.CopyPages()`
    • Use functions `CopyOutlineItems2()` and `CopyPages2()`.
  • Deprecated property `RemoveNonSymbolicFonts`
  • Un-Deprecated function `CopyAttributes()`
    • Usage of this function is encouraged.
  • New function `CopyOutlineItems2()`
  • New function `CopyPages2()`
  • Function `AddOutlineItem()`
    • Coordinates of the destination are now interpreted relative to the CropBox on the rotated page [previously raw PDF coordinates].
• Function `AddOutlineItems2()`
  - Coordinates of the destination are now interpreted relative to the CropBox on the rotated page [previously raw PDF coordinates].

• Function `SetOpenAction()`
  - Coordinates of the destination are now interpreted relative to the CropBox on the rotated page [previously raw PDF coordinates].

• [Java] Function `setOpenAction()`
  - **New** return value `bool` [previously `void`].

### 3.18 3-Heights™ PDF Optimizer

- Signature annotations are removed and a warning `PDF_OPT_W_RMSIGANNOT` is issued if this happens.
- Images with DCTDecode filter are additionally compressed with FlateDecode filter.

**pdfoptimize**

- **New** option `-pr`: Profile
- **Removed** option `-ics`: Enable conservative image processing strategy
- Option `-dbr`: Resolution in DPI after resampling for bitonal images
  - **Changed** default value to 200 [previously 150].

**PdfOptimizeSvr**

- **New** option `-pr`: Profile
- **Removed** option `-ics`: Enable conservative image processing strategy
- Option `-dbr`: Resolution in DPI after resampling for bitonal images
  - **Changed** default value to 200 [previously 150].
- Option `-dbt`: Threshold in DPI for bitonal images
  - **Changed** default value to -1 [previously 225].
- Option `-dct`: Threshold in DPI for color images
  - **Changed** default value to -1 [previously 225].
- Option `-dmt`: Threshold in DPI for monochrome images
  - **Changed** default value to -1 [previously 225].
- Option `-fb`: Compression type for bitonal images
  - **Changed** default value to -1 [previously 6].
- Option `-fc`: Compression type for continuous images
  - **Changed** default value to -1 [previously 1].
- Option `-fi`: Compression type for indexed images
  - **Changed** default value to `-1` [previously `2`].
- Option `-ml`: Compression type for MRC layers
  - **Changed** default value to `8` [previously `1`].
- **New** option `-sfa`: Strip and flatten annotations except form fields and links
- **New** option `-sff`: Strip and flatten form fields
- **New** option `-sfl`: Strip and flatten link annotations

PdfOptimizeAPI

- **New** property `Profile`
- **New** enum `TPDFOptimizationProfile`
- **New** property `MrcRecognizePictures`
- Enum `TPDFStripType`
  - **New** enum value `eStripForms`.
  - **New** enum value `eStripLinks`.
  - **New** enum value `eStripAnnots`.
- **Deprecated** property `ImageStratConserv`  
- **Removed** function `SetReplaceFont()` [previously deprecated]
- **Removed** function `SetRemoveFontTypes()` [previously deprecated]
- [Java] **Deprecated** constructor `PdfOptimize(String, String)`
- [Java] **Deprecated** constructor `PdfOptimize(byte[], String)`
- Property `BitonalCompressions`
  - **Changed** default value to `eComprAttemptNone` [previously `eComprAttemptGroup4`].
- Property `BitonalResolutionDPI`
  - **Changed** default value to `200` [previously `150`].
- Property `BitonalThresholdDPI`
  - **Changed** default value to `-1` [previously `225`].
- Property `ColorThreshold`
  - **Changed** default value to `-1` [previously `225`].
- Property `ContinuousCompressions`
  - **Changed** default value to `eComprAttemptNone` [previously `eComprAttemptJPEG`].
- Property `IndexedCompressions`
3.19 3-Heights™ PDF Page Split Tool

pdfsplitpage

- Options `-w -h`:
  - Given width and height are now compared with the width and height of the correctly rotated page.
  - Warning is issued if both width and height are exceeded for any page.

3.20 3-Heights™ PDF Printer

- The detection of PostScript printers has been improved. This helps to inject PostScript code into the print data stream.
- PostScript code injection for level 2 and level 3 has been separately optimized.

pdprint, PdfPrintSvr

- **Removed** option `-r`: Use rotate mode `eRotateAttribute`
  - This functionality is now active by default [previously `eRotateNone`].

PdfPrinterAPI

- Property `RotateMode`
  - **Changed** default value to `eRotateAttribute` [previously `eRotateNone`].
- **New** property `ErrorMessage`.
- **Deprecated** function `GetErrorText(ErrorCode)`.
  - Use property `ErrorMessage`.
- **[COM/C] Deprecated** function `GetPageDimensions(ref width, ref height)`
  - Use properties `PageWidth` and `PageHeight`.
- **[COM/C] New** property `PageHeight`.
- **[COM/C] New** function `OpenStream()`.
- [COM/C] **New** function `GetJobStatus()`.
- [Java] **Deprecated** function `int openMem(args)`
  - Use function `bool openMem(args)`.
- [Java] **New** function `bool openMem(args)`.
- [Java] **Deprecated** constructor `Printer(fileName)`
  - Use `printer()` and `openPrinter(fileName)`.

### 3.21 3-Heights™ PDF Producer

#### Installpdfproducer

- **New** command 'locked': list all modules that lock any driver DLL's.
- **New** command 'restart': restarts the spooler.

#### PdfPrnInstAPI

- **New** commands 'eCommandEnumProcesses' and 'eCommandRestartSpooler'
- Support for Windows 10 Apps (e.g. Microsoft Edge).
- **New** field 'DependentFiles' in PDFPRN_INSTALL_INFO.
- **New** field 'ModulePath' in PDFPRN_INSTALL_INFO.
- **New** function 'RestartSpooler': restart the spooler.
- **New** function 'SetPrinterSettings': set the default DEVMODE.
- Improved error reporting.

#### PdfProducerAPI

- No functional changes.

### 3.22 3-Heights™ PDF Scan Server

- Tiff.Ocr doesn't retry anymore on an OCR failure
- Improved logging

### 3.23 3-Heights™ PDF Security

- Stamp variable text such as the current date, time or the page count.
- Create files that are both linearized and AES encrypted.

#### pdsecure, PdfSecureSvr

- **New** option `-ax`: add XMP metadata from file
- Option `-ar`: Signature rectangle
  - **Changed** default value to `0 0 0 0 (invisible)` [previously `10 10 200 50`].
- Improved error reporting
PdfSecureAPI

- **New** property `Secure.PageCount`
- **New** function `Secure.RemoveSignatureField()`
- **New** function `Signature.GetContents()`
- Function `Secure.SaveAs()`
  - **New** return value `false` for network errors SIG_CREA_E_OCSP,
    SIG_CREA_E_CRL, SIG_CREA_E_TSP.
- Property `Signature.Rect`
  - **Changed** default value to `[0, 0, 0, 0] (invisible)
    [previously [10, 10, 210, 60]].
- [C] Handle `TPdfSignature`*
  - Created by `PdfSecureGetSignature()` must be destroyed using
    `PdfSignatureDestroyObject()` [previously optional].
- [.NET] **Deprecated** function `Secure.GetRevisionCount()`
  - Use property `Secure.RevisionCount`.
- [.NET] **New** property `Secure.RevisionCount`
- [.NET] **Deprecated** function `Signature.GetDocumentHasBeenModified()`
  - Use property `Secure.DocumentHasBeenModified`.
- [.NET] **New** property `Secure.DocumentHasBeenModified`
- [.NET] **Deprecated** function `Signature.GetHasSignature()`
  - Use property `Signature.HasSignature`.
- [.NET] **New** property `Signature.HasSignature`
- [Java] **Deprecated** constructor `Secure.Secure(String, String)`
  - Use constructor `Secure.Secure()` and function `Secure.open(String,
    String)`.
- [Java] **Deprecated** constructor `Secure(byte[], String)`
  - Use constructor `Secure.Secure()` and function `Secure.openMem(byte[],
    String)`.
- [Java] **Deprecated** constructor `Secure(Stream, String)`
  - Use constructor `Secure.Secure()` and function `Secure.openStream(Stream,
    String)`.
- [Java] **Deprecated** function `Signature.setFont1()`
  - Use function `Signature.setFont1Mem()`.
- [Java] **New** function `Signature.setFont1Mem()`
- [Java] **Deprecated** function `Signature.setFont2()`
- Use function Signature.setFont2Mem().
  - [Java] New function Signature.setFont2Mem()

### 3.24 3-Heights™ PDF Studio Utility

- No functional changes.

### 3.25 3-Heights™ PDF Thumbnail Utility

- No functional changes.

### 3.26 3-Heights™ PDF to EMF Converter

- The coordinates are not limited to the range -32768 .. +32767 anymore.

### 3.27 3-Heights™ PDF to Image Converter

pdf2img, Pdf2ImgSvr
- Option -q: Image quality
  - Changed default value to 80 [previously 75].
- Removed option -r: Rotate pages according to page rotate attribute
  - The functionality is now active by default.
- Deprecated option -j: Compression JPEG
  - Use option -c (Compression type of TIFF images).
- Deprecated option -j6: Compression TIFFJPEG
  - Use option -c (Compression type of TIFF images).
- Deprecated option -z: Compression ZIP
  - Use option -c (Compression type of TIFF images).
- Deprecated option -l: Compression LZW
  - Use option -c (Compression type of TIFF images).
- Deprecated option -g3: Compression CCITT Group 3
  - Use option -c (Compression type of TIFF images).
- Deprecated option -g4: Compression CCITT Group 4
  - Use option -c (Compression type of TIFF images).
- New option -c: Compression type of TIFF images
  - Changed default value to l (LZW) [previously raw].

pdf2img R2, Pdf2ImgSvr R2
- New option –ohs: Minimum hinting size.
- **Deprecated** option `-j`: Compression JPEG
  - Use option `-c` (Compression type of TIFF images).
- **Deprecated** option `-j6`: Compression TIFFJPEG
  - Use option `-c` (Compression type of TIFF images).
- **Deprecated** option `-z`: Compression ZIP
  - Use option `-c` (Compression type of TIFF images).
- **Deprecated** option `-l`: Compression LZW
  - Use option `-c` (Compression type of TIFF images).
- **Deprecated** option `-g3`: Compression CCITT Group 3
  - Use option `-c` (Compression type of TIFF images).
- **Deprecated** option `-g4`: Compression CCITT Group 4
  - Use option `-c` (Compression type of TIFF images).
- **New** option `-c`: Compression type of TIFF images
  - **Changed** default value to `l` (LZW) [previously `raw`].

**Pdf2ImgAPI**
- Property `Pdf2Img.RotateMode`
  - **Changed** default value to `eRotateAttribute` [previously `eRotateNone`].
- Property `Pdf2Img.ImageQuality`
  - **Changed** default value to `80` [previously `75`].
- Property `Pdf2Img.Compression`
  - **Changed** default value to `eComprLZW` [previously `eComprRaw`].
- [Java] **Deprecated** constructor `Pdf2Img(String, String)`.
- [Java] **Deprecated** constructor `Pdf2Img(byte[], String)`.
- Property `Pdf2PdfImg.RotateMode`
  - **Changed** default value to `eRotateAttribute` [previously `eRotateNone`].
- Property `Pdf2PdfImg.Compression`
  - **Changed** default value to `eComprFlate` [previously `eComprRaw`].
- [Java] **Deprecated** constructor `Pdf2PdfImg(String, String)`.
- [Java] **Deprecated** constructor `Pdf2PdfImg(byte[], String)`.

**Pdf2ImgAPI R2**
- **New** property `Pdf2Img.MinHintingSize`
- **New** property `Pdf2Img.ErrorMessage`
- **Deprecated** property `Pdf2Img.Options`
• Use property `Pdf2Img.Options2`.

• **Property Pdf2Img.Compression**
  • **Changed** default value to `eComprLZW` [previously `eComprRaw`].
  • [Java] **Deprecated** constructor `Pdf2Img(String, String)`.
  • [Java] **Deprecated** constructor `Pdf2Img(byte[], String)`.
  • [Java] **Deprecated** function `Pdf2Pdf.setCenter(int)`
  • Use function `Pdf2Pdf.setCenter(boolean)`.

### 3.28 3-Heights™ PDF to PDF/A Converter

• Greatly improved algorithm to find apt font for embedding.

• Improved conversion log.

• OCR mode: The OCR mode now also detects OCR text that is below the corresponding image.

• Improved repair of corrupt input documents.

**pdf2pdf**

• **New** option `-ad`: Allow automatic downgrades of the conformance level, e.g. from PDF/A-2a to PDF/A-2u.

• **New** option `-au`: Allow automatic upgrades from PDF/A-1 to PDF/A-2.

• **New** option `-ocri`: Reembed images from OCR engine
  • If this option is set, the image is now reembedded even if original was modified (converted from CMYK, converted to bitonal).

• **New** option `-occs`: Correct skew angle as reported from OCR engine

• **Removed** option `-mp`: Post analysis
  • The functionality is now active by default.

• **Removed** option `-ocs`: Do not reembed deskewed images
  • The functionality is now active by default.

• **Removed** option `-oci`: Do not deskew original images
  • The functionality is now active by default.

• **Option -cem**: Conversion error mask
  • **Removed** error flag 1 (upgrade). Use option `-au`, in order to restore previous default behavior.
  • **Removed** error flag 2 (downgrade). Use option `-ad`, in order to restore previous default behavior.
  • **Removed** error flag 256 (linearization). Conversion is aborted with an error if linearization fails.
- **Removed** error flag 1024 *(signature creation)*. Conversion is aborted with an error if signature creation fails.
- **Removed** error flag 2048 *(network)*. Conversion is aborted with an error if a network error occurs.
- **Removed** error flag 8192 *(OCR)*. Conversion is aborted with an error if an OCR error occurs.

Option **-ar**: Signature rectangle
- **Changed** default value to 0 0 0 0 *(invisible)* [previously 10 10 200 50].

Option **-q**: Compression quality
- **Changed** default value to 80 [previously 75].

**Pdf2PdfAPI**
- **New** property 'AllowDowngrade': see option **–ad**.
- **New** property 'AllowUpgrade': see option **–au**.

Property **Pdf2Pdf.PostAnalyze**
- **Changed** default value to true [previously false].

**Enum** **Pdf2Pdf.TPDFConversionError**
- **Removed** **ePDFConversionErrorUpgrade**. Use **AllowUpgrade**, set to true in order to restore previous default behavior.
- **Removed** **ePDFConversionErrorDowngrade**. Use **AllowDowngrade**, set to true in order to restore previous default behavior.
- **Removed** **ePDFConversionErrorLinearization**. Function **Pdf2Pdf.Convert()** returns false if linearization fails.
- **Removed** **ePDFConversionErrorSigCrea**. Function **Pdf2Pdf.Convert()** returns false if signature creation fails.
- **Removed** **ePDFConversionErrorNetwork**. Function **Pdf2Pdf.Convert()** returns false if a network error occurs.
- **Removed** **ePDFConversionErrorOCR**. Function **Pdf2Pdf.Convert()** returns false if an OCR error occurs.

**Function** **Pdf2Pdf.Convert()**
- Returns false, if a conversion or a post analysis error occurs. Use the properties **ErrorCode** and **ErrorMessage** in order to get a more detailed description of the error.

**Property** **Pdf2Pdf.ErrorCode**
- More different error codes are returned, which allows a more fine-grained error handling and more detailed reporting.

- **New** property **Pdf2Pdf.ErrorMessage**
- **Removed** property `Pdf2Pdf.CertificateName`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.Issuer`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignatureSerialNumber`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.EmbedRevocationInfo`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.Provider`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.Store`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.StoreLocation`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.TimeStampURL`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.TimeStampCredentials`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignatureReason`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignerContactInfo`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignatureLocation`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignaturePageNo`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignatureRectangle`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignerFingerprint`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignerFingerprintStr`  
  - Replaced by new `Signature` interface and the `AddSignature()` function.
- **Removed** property `Pdf2Pdf.SignatureImageFileName`
- Replaced by new *Signature* interface and the *AddSignature()* function.
- **Removed** property *Pdf2Pdf.ProxyURL*
  - Replaced by provider session property *Proxy*.
- **Removed** property *Pdf2Pdf.ProxyCredentials*
  - Replaced by provider session property *Proxy*.
- Property *Pdf2Pdf.ImageQuality*
  - **Changed** default value to 80 [previously 75].
- Property *Pdf2Pdf.OCRReembedImage*
  - **Changed** default value to *false* [previously *true*].
  - If *true*, the image is now reembedded even if original was modified (converted from CMYK, converted to bitonal).
- Property *Pdf2Pdf.OCRDeskewImage*
  - **Changed** default value to *false* [previously *true*].
- Property *Signature.Rect*
  - **Changed** default value to [0, 0, 0, 0] *(invisible)* [previously [10, 10, 210, 60]].

### 3.29 3-Heights™ PDF Uncompress Utility
- No functional changes.

### 3.30 3-Heights™ PDF Validator
- New tests for custom validation profile: check for layers, transparency, embedded files and compression filter algorithms.
- Performance improvements.

`pdfvalidator`
- Option *-cl*: Conformance and level
  - **Changed** default value to *ccl* [previously *pdfa-2b*].

`PdfValidatorAPI`
- Function *Validate(*)
  - Returns *false* if the input file is not conformant.

### 3.31 3-Heights™ PDF Viewer
`PdfViewerOCX`, viewer
- Improved viewing of files with attachments. Cover pages are now only shown if appropriate.
- Opening file links no longer changes current directory.
PdfViewerOCX
- **Deprecated** property **DPI**
  - Use properties **XDPI** and **YDPI**

### 3.32 3-Heights™ Text to PDF Converter
- No functional changes.

### 3.33 3-Heights™ TIFF Tool Suite
tiffmerge
- **New** option `-rp`: Remove blank pages as recognized by a previous processing step through **tiffocr**.
- Support for wildcards (on Windows).
tiffocr
- Option `-ocr engine`: OCR engine
  - **Changed** default value to **null** [previously abbyy10].
tiffcompress
- **Remove** option `-sd`: MRC downsampling
  - Use option `-dm`.
- **New** option `-dm`: MRC downsampling

### TiffToolsAPI
- Recognizer Interface: OCR engine
  - **Changed** default value to **null** [previously abbyy10]

### 3.34 3-Heights™ XMP Generator
- No functional changes.

### 3.35 Classic PDF Command Line Suite
dstamp:
- Enable removal of stamps for PDF documents which have been updated by other applications.
dobj:
- Decompress object stream when saving to a file.

### 3.36 Classic PDF Prep Tool Suite
- **New** function: `PDocAddButtonLink`.
- **New** function: `PDocAddMp3Attachment`.

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