



Release Notes

Release Notes

3-Heights™ and Classic PDF Tools

Version 4.12.26.12

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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 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 four products, the Command Line Suite, the Batch Stamp Tool, the Form Filling Tool 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

1.3 Operating Systems

Note: Version 4.12 will be the last supported release for platforms HP-UX, IBM AIX, Oracle Solaris and FreeBSD.

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

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 v141_xp
macOS 10.5 x86	gcc 4.0.1	glibc 1.0.0
Linux Intel	gcc 4.1.2	glibc 2.5
	gcc 4.7	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 v141_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 Features to Classic Products

- **New** support for AES-256 encryption according to PDF 2.0 (revision 6, replaces deprecated revision 5).
- **Improved** creation of web links

2.1 Classic PDF Batch Stamp Tool

Note: Version 4.12 will be the last supported release for the Classic PDF Batch Stamp Tool.

- **Improved** detection of input corruptions and error handling.

2.2 Classic PDF Prep Tool Suite

- **Improved** passing of byte array parameter for linearization in COM interface.

2.3 Classic Command Line Suite

No functional changes.

2.4 Classic Form Filling Tool

Note: Version 4.12 will be the last supported release for the Classic Form Filling Tool.

No functional changes.

3 New Features to 3-Heights™ 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.

3.1 3-Heights™ AFP to TIFF Conversion Utility

No functional changes.

3.2 3-Heights™ Certificate Store Utility for PKCS#11

No functional changes.

3.3 3-Heights™ Document Converter

- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license feature **Enterprise**.
- Digital Signatures
 - **New** support to sign OCSP requests, if required by the OCSP service.
 - **New** support for OCSP requests over HTTPS.
 - **Changed** acceptance criteria for OCSP responses that specify no validity interval (missing nextUpdate field, which is uncommon). Previously a validity interval of 24 hours has been used, now 5 minutes due to Adobe® Acrobat® compatibility.
- **Improved** email header template processing with new support for displaying importance and sensitivity information.
- **Improved** HTML optimization with regard to download of external images
- **Improved** HTML optimization to disable IE compatibility mode and permit use of HTML5 features
- **Improved** repair functionality for irregular HTML content in email bodies
- **Improved** logging (daily rotation, output buffering)
- **Improved** conversion and merging of PDF 2.0 documents
- **New** support for factur-x embedding
- **New** support for creating time stamp signatures
- **New** option **FlattenFormFields** to flatten PDF form fields on conversion
- **New** options **AlternateText** and **LanguageTag** for use with image to PDF conversions
- **Improved** worker start procedure (disconnect unrelated RDP sessions to overcome session limit)
- **Improved** documentation (Document Converter related Windows registry keys and policy settings)

3.3.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.

- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.5

- **Fixed** communication with HTTP servers that don't support keep-alive for OCSP, time-stamps and signature services.
- **Improved** repair of corrupt content streams.

Patch 4.12.26.6

- **Improved** code for verifying PDF/A conformance of converted documents
- **Improved** code for dealing with mail attachments having unknown type

Patch 4.12.26.7

- **Improved** preprocessing of DOCX files: safely remove external style references (fixes certain line spacing issues)

Patch 4.12.26.8

- **Fixed** automated installation using msixexec (configuration and License Manager)

Patch 4.12.26.9

- **Improved** stack usage reading large Type1C font programs.

3.4 3-Heights™ Font to PDF Utility

- **New** HTTP proxy setting in the GUI license manager.

3.4.1 Patches

Note that the version number of the initial "final release" is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.5 3-Heights™ Image Compare Utility

No functional changes.

3.6 3-Heights™ Image to PDF Converter

- **Improved** reading and recovery of corrupt TIFF images.
- **New** HTTP proxy setting in the GUI license manager.
- **New** OCR plugin "abbyy12" for the ABBYY FineReader 12 engine.

API Img2PdfAPI

Interface Img2Pdf

- **Changed** behavior, method `SetPageSize` disables `AdjustPage`.

Shell `img2pdf`

- **Changed** behavior, option set page dimension `-sp` disables option adjust page `-a`.

Service `Img2PdfSvr`

- **Changed** behavior, option set page dimension `-sp` disables option adjust page `-a`.

3.6.1 Patches

Note that the version number of the initial "final release" is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (`licmgr`): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.7 3-Heights™ OCR Enterprise Add-on

- **New** OCR plugin "abbyy12" for the ABBYY FineReader 12 engine.

Plugin service

- **New** HTTP proxy setting in the GUI license manager.

Client configuration file `ocrserver.ini`

- **Changed** default value of key `NonBlockingTimeout` from `1` to `5`.

Plugin abbyy12

New OCR plugin to support the ABBYY FineReader 12 engine.

No functional changes.

Plugin abbyy11

No functional changes.

Plugin abbyy10

No functional changes.

3.7.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.8 3-Heights™ PDF Analysis & Repair

- **New** HTTP proxy setting in the GUI license manager.

API PdfRepairAPI

No functional changes.

Shell pdfrepair

No functional changes.

Service PdfRepairSvr

No functional changes.

3.8.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.

- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.9 3-Heights™ PDF Compare Utility

No functional changes.

3.10 3-Heights™ PDF Document Assembler

Note: Version 4.12 will be the last supported release for the 3-Heights™ PDF Document Assembler.

- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license feature **Optimization**

3.10.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.11

- **Fixed** a crash when attempting to open the PDF Quick Merge tool and display an error message instead.

3.11 3-Heights™ PDF Extract

- **New** HTTP proxy setting in the GUI license manager.

API PdfExtractAPI

- **Improved** performance when extracting resources for certain documents.

Shell pdfextract

- **Improved** extraction performance when listing resources with -r for certain documents.

3.11.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.12 3-Heights™ PDF Merge Split

- **New** support for AES-256 encryption according to PDF 2.0 (revision 6, replaces deprecated revision 5).
- **New** HTTP proxy setting in the GUI license manager.

API PdfSplMrgeAPI

No functional changes.

Shell pdfsplmrg

- **New** option -owa to automatically choose whether to linearize the output document or not.
- **New** options -o, -u, -p for encrypting output PDFs with a user password and/or an owner password and specifying permission flags.

Shell pdfsplpage

No functional changes.

3.12.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.13 3-Heights™ PDF OCR

- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license features **Service**, **Ocr**, and **Barcode**.

- **Improved** image ocr mode to cache OCR text of images. Images that occur on multiple pages must be OCR processed once only.
- **New** specialized OCR plugin "barcodes" to recognize barcodes and QR codes without an additional OCR engine.
- **New** OCR plugin "abbyy12" for the ABBYY FineReader 12 engine.
- **Improved** memory consumption of product.
- **New** detection of OCR text that is under images.
- **Improved** ocr result processing, notably the accuracy of associating OCR text to existing text on page.

API PdfOcrAPI

- **New** PageOcrMode `AddResults`.

Shell pdfocr

- **New** parameter `addResults` for page ocr mode `-opm`.

3.14 3-Heights™ PDF Optimizer

- **New** support for AES-256 encryption according to PDF 2.0 (revision 6, replaces deprecated revision 5).
- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license features `Optimize` and `Color`.
- **Improved** MRC functionality supports images with differing resolution in horizontal and vertical direction.
- **Improved** file size reduction by using object streams for annotations and form fields by default.
- **Improved** runtime for certain document types.

API PdfOptimizeAPI

- [.NET, C, COM, Java, PHP] **New** property `AutoLinearize` to automatically choose whether to linearize the output document or not.
- [.NET, C, COM, Java, PHP] **Changed** property `Profile`: In the `TPDFOptimizationProfile.eOptimizationProfileWeb` optimization profile, linearization (`Linearize` property) is substituted by auto linearization (`AutoLinearize` property).
- **Changed** values of the error codes `PDF_E_RICHTEXT` and `PDF_W_RICHTEXT`.

Shell pdfoptimize

- **New** option `-owa` to automatically choose whether to linearize the output document or not.
- **Changed** option `-pr`: In the web optimization profile, linearization (`-ow`) is substituted by auto linearization (`-owa`).

Service PdfOptimizeSvr

- **New** option `-owa` to automatically choose whether to linearize the output document or not.
- **Changed** option `-pr`: In the web optimization profile, linearization (`-ow`) is substituted by auto linearization (`-owa`).

3.14.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** removal of structure information for corrupt documents.
- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.5

- **Fixed** an image re-compression issue for certain images with an indexed color space with DeviceCMYK base color space.
- **Improved** repair of corrupt content streams.

Patch 4.12.26.8

- **Fixed** a problem that can occur with color complexity reduction of image's soft masks.
- [PHP] **Fixed** internal representation of enum type `TPDFComprAttempt`.

Patch 4.12.26.9

- **Fixed** graphic distortion for certain types of XObjects.
- **Improved** stack usage reading large Type1C font programs.

3.15 3-Heights™ PDF Printer

- **Improved** reading and recovery of corrupt TIFF images.
- **New** HTTP proxy setting in the GUI license manager.
- **Improved** the performance when printing image masks in accurate mode.

API PrinterOCX

No functional changes.

Shell pdprint

No functional changes.

Service PdfPrintSvr

No functional changes.

3.15.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.5

- **Fixed** an issue with text of duplicate embedded font programs if the option `eOptionUseUnicodes` is used.
- **Fixed** an issue with PostScript limitations on dash patterns.

Patch 4.12.26.7

- **Improved** PostScript injection to not generate paths that are not visible because of clipping.

Patch 4.12.26.9

- **Improved** stack usage reading large Type1C font programs.

3.16 3-Heights™ PDF Producer

Note: Version 4.12 will be the last supported release for the 3-Heights™ PDF Producer.

- **New** support for AES-256 encryption according to PDF 2.0 (revision 6, replaces deprecated revision 5).
- **New** HTTP proxy setting in the GUI license manager.

3.16.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.17 3-Heights™ PDF Security

- **New** support for AES-256 encryption according to PDF 2.0 (revision 6, replaces deprecated revision 5).
- **Improved** reading and recovery of corrupt TIFF images.
- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license features **Signature** and **Stamping**.
- Digital Signatures
 - **New** support to sign OCSP requests, if required by the OCSP service.
 - **New** support for OCSP requests over HTTPS.
 - **Changed** acceptance criteria for OCSP responses that specify no validity interval (missing nextUpdate field, which is uncommon). Previously a validity interval of 24 hours has been used, now 5 minutes due to Adobe® Acrobat® compatibility.

API PdfSecureAPI

- [.NET, C, COM, Java, PHP] **New** property **AutoLinearize** to automatically choose whether to linearize the output document or not.

Shell pdfsecure

- **New** option -owa to automatically choose whether to linearize the output document or not.

Service PdfSecureSvr

- **New** option -owa to automatically choose whether to linearize the output document or not.

3.17.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.5

- **Improved** creation of DocMDP signatures. Now corrupt annotations of the input document are repaired, so that Acrobat can verify the signature.
- **Improved** generation and validation of signature form field names to prevent conflict with other field types.
- **Fixed** communication with HTTP servers that don't support keep-alive for OCSP, time-stamps and signature services.

3.18 3-Heights™ PDF Studio Utility

- **New** feature: The content of pages and forms/groups can be listed as content elements with their parameters.

3.19 3-Heights™ PDF to EMF Converter

Note: Version 4.12 will be the last supported release for the 3-Heights™ PDF to EMF Converter.

- **New** HTTP proxy setting in the GUI license manager.

3.19.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.20 3-Heights™ PDF to Image Converter

- **New** HTTP proxy setting in the GUI license manager.
- **Improved** the rendering quality of small text using Type3 fonts (bitmap fonts).
- **Improved** the quality of low-pass filtered images, if the default Gauss algorithm is used. Note that for creating bitonal output images, the option -ofb is recommended.
- **Improved** the rendering speed for documents that have resources with circular references.

API Pdf2ImgR2API

No functional changes.

Service Pdf2ImgSvrR2

No functional changes.

3.20.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.

- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.9

- **Improved** stack usage reading large Type1C font programs.

3.21 3-Heights™ PDF to PDF/A Converter

- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license feature **Signature**.
- Digital Signatures
 - **New** support to sign OCSP requests, if required by the OCSP service.
 - **New** support for OCSP requests over HTTPS.
 - **Changed** acceptance criteria for OCSP responses that specify no validity interval (missing nextUpdate field, which is uncommon). Previously a validity interval of 24 hours has been used, now 5 minutes due to Adobe® Acrobat® compatibility.
- **New** support for Factur-X / ZUGFeRD 2.0 hybrid electronic invoices.
- **New** OCR plugin "abbyy12" for the ABBYY FineReader 12 engine.
- **Changed** behavior when adding additional font directories: The default directories are now always considered.
- **Improved** detection of corrupt embedded fonts, DCT streams and CMap encodings.

API Pdf2PdfAPI

Interface Pdf2Pdf

- **New** property **ForceEmbeddingOfCMaps** to force the embedding of predefined CMaps.
- **Changed** property **TryConvertEmbPDF** to only process files whose MIME Type is PDF.
- [PHP] **New** method **convertMem**.

Shell pdf2pdf

- **Changed** option -cef to only process files whose MIME Type is PDF.

Service Pdf2PdfSvr

No functional changes.

3.21.1 Patches

Note that the version number of the initial "final release" is 4.12.26.3.

Patch 4.12.26.4

- **Improved** removal of digital signatures to reliably remove all.
- **Improved** error messages for failed HTTP connections in various situations (including license manager).

- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.5

- **Fixed** communication with HTTP servers that don't support keep-alive for OCSP, time-stamps and signature services.
- **Improved** repair of corrupt content streams.

Patch 4.12.26.6

- **Fixed** rare problem with restore of text rendering mode after conversion adjustments.
- **Improved** conversion of special color spaces of inline images.
- **Fixed** `ModDate` parameter in Methods `AddAssociatedFile` and `AddAssociatedFileMem`.

Patch 4.12.26.9

- **Improved** stack usage reading large Type1C font programs.

Patch 4.12.26.10

- **Fixed** a crash that could occur when converting a document with embedded files on platforms other than Windows.

3.22 3-Heights™ PDF Toolbox API

- **New** support for AES-256 encryption according to PDF 2.0 (revision 6, replaces deprecated revision 5).
- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license features `Assembly`, `Creation`, `Extraction`, `Annotation`, and `Modification`.
- [.NET] **Corrected** enum `CopyOption`: Removed wrongly introduced element `CopyOptionalContent-groups` and changed values of all subsequent elements.
- [.NET] **New** enum elements `CopyAssociatedFiles`, `MergeOCGs`, and `SeparateAcroForms` in enum `CopyOption`.
- [Java] **New** enum elements `COPY_ASSOCIATED_FILES`, `MERGE_OCGS`, and `SEPERATE_ACROFORMS` in enum `CopyOption`.
- [.NET, Java] **Changed** behavior of property getters to signal errors instead of just returning default values.
- [.NET, C, Java] **New** interface `ImageMask` for images that are used as stencil masks.
- [.NET, C, Java] **Deprecated** interface `Form` (superseded by `Group`).
- [.NET, C, Java] **New** interface `Group` for transparency group resources.
- [.NET, C, Java] **New** struct `TransparencyParams` that groups transparency related parameters.
- [.NET, C, Java] **New** enum `ColorSpaceType` that denotes the type of a color space.
- [.NET, C, Java] **New** struct `FillParams` that groups together fill parameters for paths and text.
- **New** feature: Page content extraction and modification through the following new interface elements:
 - [.NET, C, Java] **New** interface `ContentExtractor`.
 - [.NET, C, Java] **New** enum `UngroupingSet`.
 - [.NET, C, Java] **New** interface `TextFragment`.
 - [.NET, C, Java] **New** interface `ContentElement`.

- [.NET, C, Java] **New** interface `TextElement`.
- [.NET, C, Java] **New** interface `GroupElement`.
- [.NET, C, Java] **New** interface `PathElement`.
- [.NET, C, Java] **New** interface `ImageElement`.
- [.NET, C, Java] **New** interface `ImageMaskElement`.
- [.NET, C, Java] **New** interface `ShadingElement`.

Interface Document

- [.NET, C, Java] **Deprecated** method `CreateForm` (superseded by `CreateGroup`).
- [.NET, C, Java] **New** method `CreateGroup` to create a new transparency group resource.
- [.NET, C, Java] **New** method `CreateImageMask` to create a new stencil mask resource.
- [.NET, C, Java] **Deprecated** method `CopyPageAsForm` (superseded by `CopyPageAsGroup`).
- [.NET, C, Java] **New** method `CopyPageAsGroup` to create a transparency group resource from an input page.
- [.NET, C, Java] **New** method `CopyContentElement` to copy an input content element to an output document.

Interface ColorSpace

- [.NET, C, Java] **New** property `Type`.

Interface Transformation

- [.NET, C, Java] **New** copy constructor.
- [.NET, C, Java] **New** method `Invert`.
- [.NET, C, Java] **New** method `TransformPoint`.

Interface ContentGenerator

- [.NET, C, Java] **Deprecated** method `PaintForm` (superseded by `PaintGroup`).
- [.NET, C, Java] **New** method `PaintGroup` to place a transparency group resource onto the output content.
- [.NET, C, Java] **Changed** method `PaintImageMask`: The type of the image to be painted as image mask is changed from `Image` to `ImageMask`.
- [.NET, C, Java] **New** method `AppendContentElement` to place a copied input content element onto the output content.

Interface Paint

- [.NET, C, Java] **New** property `ColorSpace`.
- [.NET, C, Java] **New** property `Color`.
- [.NET, C, Java] **New** property `Transparency`.

Interface Image

- [.NET, C, Java] **Deprecated** property `IsMask` (superseded by separate `ImageMask` interface).

Interface Text

- [.NET, C, Java] **New** iterator interface for extracting `TextFragments`.

3.22.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.7

- **Fixed** extracted position of empty text elements.

Patch 4.12.26.8

- **Improved** PDF viewer compatibility for certain generated fonts.

3.23 3-Heights™ PDF Uncompress Utility

3.23.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.24 3-Heights™ PDF Validator

- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license feature **Custom**.
- Custom Validation Profiles

- **New** key `MaxPageSize` in section `Pages` to disallow pages exceeding the specified size in any dimension.
- **New** key `RequirePageResources` in section `Pages` to test if pages contain an explicitly associated resource dictionary.
- **New** key `Embedding`, `EmbeddingExcFonts`, and `EmbeddingExcFont<i>` in section `Fonts` to test the embedding of fonts.
- **Changed** validation of certain numbers: Use lax validation according to the PDF Association's TechNote 0010 for certain numbers that have no effect on the visual appearance of the document.
- **Improved** validation performance, e.g. when reporting many errors or analyzing ICC profiles.
- **Improved** detection of corrupt DCT streams that might cause interoperability issues.

API PdfValidatorAPI

Interface PDFValidator

- [.NET, C, Java] **New** method `WriteFontValidationXML`: Write font validation information in XML format to a stream.

Shell pdfvalidator

No functional changes.

3.24.1 Patches

Note that the version number of the initial "final release" is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.6

- **Removed** overly strict validation of DCT encoded streams that could not be read by older versions of Adobe Acrobat.
- **Improved** stability validating simple fonts with invalid entries.

Patch 4.12.26.9

- **Improved** stack usage reading large Type1C font programs.

Patch 4.12.26.10

- **Improved** stability validating certain JBIG2 compressed streams.

Patch 4.12.26.11

- **Removed** overly strict validation of JBIG2 encoded streams.
- **Improved** validation of glyph names of non-symbolic fonts containing symbolic glyphs from the ZapfDingbats font.
- **Improved** validation of corrupt DCT stream data.

3.25 3-Heights™ PDF Viewer

Note: Version 4.12 will be the last supported release for the 3-Heights™ PDF Viewer.

- **New** HTTP proxy setting in the GUI license manager.

API PdfViewerOCX

No functional changes.

API PdfViewerAPI

No functional changes.

API PdfViewerWPF

No functional changes.

Desktop viewer

No functional changes.

3.25.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.26 3-Heights™ PDF Web Viewer

- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license feature **Editing**

- **New** UI available for the 3-Heights™ PDF Web Viewer. A new and heavily improved user experience for both desktop and mobile devices.
- **New** and intuitive context menus for both desktop and mobile devices allowing for comfortable work with annotations
- **New** feature: Touch allows now moving and resizing of annotations
- **New** feature: Fully functional rich text editor for freetext annotations
- **New** options: Out of the box the viewer is already customizable, such a default colors for annotations, enabling and disabling of functionalities such as open documents, save documents, thumbnails, outlines and more
- **New** and improved API
- **Fixed** Safari uses now the canvas directly instead of the unsupported ImageBitmap

3.26.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.27 3-Heights™ Scan to PDF Server

- **New** HTTP proxy setting in the GUI license manager.
- **Introduced** license features **TiffProcessing** and **PdfSignature**.

Component Tiff.ExtractOcrData

- **New** attribute **format-version** to produce a fixed version of the OCR XML format.

3.27.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

Patch 4.12.26.5

- **Fixed** communication with HTTP servers that don't support keep-alive for OCSP, time-stamps and signature services.

3.28 3-Heights™ Signature Creation and Verification Service

Note: Version 4.12 will be the last supported release for the 3-Heights™ Signature Creation and Verification Service.

- **New** HTTP proxy setting in the GUI license manager.

3.28.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.29 3-Heights™ TIFF Toolbox Shell

- **New** HTTP proxy setting in the GUI license manager.
- **New** shell tool `tiffscan` to scan images from a TWAIN or WIA scanner.

Shell `tiffocr`

- **New** key `BlankPageMargin` for the formation of the OCR parameter used in `-ocp`. The corresponding value denotes the relative margin. The margin is excluded from the analysis if a page is blank.

Shell `tiffextract`

- **New** option `-ocv` to produce a fixed version of the OCR XML format.
- **New** included description of `tiffextract` in `TiffToolboxShell.pdf`.

Shell `tiffscan`

- **New** option `-cl` to load capability file.
- **New** option `-cs` to save capability file.
- **New** option `-l` to list sources.
- **New** option `-s` to set a scanner.
- **New** option `-u` to show user interface in order to configure scan settings.

3.29.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.30 3-Heights™ TIFF Toolbox API

- **New** HTTP proxy setting in the GUI license manager.
- **New** Interface `Scanner` to scan images from a TWAIN or WIA scanner.

API Recognizer

- **New** key `BlankPageMargin` for the formation of the `OcrParameters` property in struct `RecognizerParameters`. The corresponding value denotes the relative margin. The margin is excluded from the analysis if a page is blank.

API Scanner

- **New** method `SetSource` to set TWAIN or WIA scanner to scan with.
- **New** method `ShowUI` to show user interface that allows to configure scan settings.
- **New** method `Scan` to scan into output stream.
- **New** property `Capabilities` to get and set capability stream.
- **New** property `Sources` to get list (see `StringList`) of available TWAIN/WIA sources.

3.30.1 Patches

Note that the version number of the initial “final release” is 4.12.26.3.

Patch 4.12.26.4

- **Improved** error messages for failed HTTP connections in various situations (including license manager).
- **Added** missing documentation and release note for the proxy setting in the GUI license manager.
- **Improved** license reactivation behavior of the commandline license manager (licmgr): The server is now only contacted if necessary.
- **Improved** behavior of license manager when dealing with licenses of unreleased products.

3.31 3-Heights™ XMP Generator

No functional changes.

4 Licensing, Copyright, and Contact

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