



Release Notes

3-Heights™ PDF Tools

Version 1.70

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1 Overview

The 3-Heights™ PDF tools represent the newest 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, exporting information, conversion, validation, repair, and optimization.

2 Technical Support

Please report problems by contacting our support department by mail:

pdfsupport@pdf-tools.com

3 How to Download

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 limit).

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

4 System Requirements

All of the 3-Heights™ PDF tools are available for:

- Windows Vista
- Windows XP
- Windows 2008, Windows 2003
- Windows 2000

Some of the tools are also available for:

- IBM AIX
- Sun Solaris (2.7 and later)
- HP-UX 11.0
- Mac OS X
- Linux
- Free BSD

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

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5 New Products

5.1 *Direct .NET interoperability for all API products*

5.1.1 Introduction

The 3-Heights™ family of products is based on a common kernel which is written in the C++ programming language for performance and portability reasons. All services, shell tools and APIs are built on top of this kernel. For maximum interoperability with various runtime environments and programming languages each API provides a set of interface technologies. These are native C and Java JNI on all platforms and COM on the Windows platforms. Interoperability with .NET applications written in Visual Basic .NET or C# were supported until now through a mechanism called COM interoperability.

5.1.2 What's new?

Since version 1.7.1.1 the 3-Heights™ family of API products now support direct .NET interoperability providing an interface wrapper which can directly be used by .NET managed applications. This new technology offers some advantages over the former COM interoperability:

- You can use this technology with all .NET languages (C#, Visual Basic .NET, and Managed Extensions for C++).
- Significantly better performance
- DLLs must not be registered anymore (which is still required by COM applications)
- You can now install different versions of the same API product on a single computer.

5.1.3 How does it work?

The new .NET interoperability is based on the platform invocation services (also known as P/Invoke), provided by the .NET Framework CLR, which enables managed code to call C-style functions in the existing unmanaged DLLs. P/Invoke is also used for calling Win32 API functions by the .NET Framework and is a technology which is therefore expected to be supported by Microsoft in the long term.

5.1.4 Deliverables

Each 3-Heights™ API product consists of a software developer kit (SDK) which contains all necessary files to develop and deploy applications and a runtime kit (RTK) which only contains the necessary files to deploy applications. The RTK now

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contains two additional .NET DLLs containing the managed code wrappers. With the SDK, all files have been added which are required by Microsoft Visual Studio .NET (wrappers, XML based help files, etc.).

5.2 3-Heights™ Java Document Viewer

The 3-Heights™ Java Document Viewer is a powerful and flexible component that enables applications, such as DMS or ECM systems, to view, print and rasterize various document formats such as PDF, TIFF, JPEG, BMP, JB2, JP2, JPX, PNG, GIF, and ASCII text (Additional formats, such as XPS, will be added in a later version).

Multi-page TIFF and many PDF features as described in the new ISO 32000 standard (PDF 1.7) including Chinese, Japanese, Korean (CJK) fonts, patterns, shading, and transparency are supported.

The new viewer renders a page of a document into a Graphics2D object, giving the application programmer the utmost flexibility in designing the user interface. An extensive GUI implementation for the Java Swing framework comes with the component in source code.

Accelerator libraries (DLLs, shared objects) for various platforms such as Windows, Linux, Sun Solaris, AIX, HP-UX, etc. provide a viewing performance normally associated only with native implementations.

5.3 3-Heights™ Document Converter Service

The 3-Heights™ Document Converter Service facilitates the automated conversion of various office document formats to PDF and PDF/A. The Converter Service has an automated core that controls Microsoft Office applications like Word, PowerPoint, Outlook, or Visio to convert any supported document format to PDF without the need of manually opening the source documents in the Microsoft Office applications. The converter service also handles all image document types supported by the 3-Heights™ product family, i.e. JPEG, TIFF, GIF, PNG, BMP, and JBIG2.

The converter service can also extract documents from ZIP files or E-Mail attachments and assemble them into single PDF documents that are ready to be archived. The service can be accessed in various ways, including from the command line, by scripting, with hot folders, or through application program interfaces for COM, C/C++, Java and Microsoft.NET.

The converter service is extensible to support virtually any input document format via a plug-in interface (for C/C++). The installation also ships with a Microsoft ScriptControl based plug-in that interfaces to Visual Basic for Applications (VBA) scripts, permitting easy integration of third-party components via COM. The sample script illustrates the integration of AutoCAD 2008.

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6 New Features to all Products

6.1 Enhancements to all 3-Heights™ Products

- The kernel now supports the registration of own digital signature handlers (used in PDF Security).
- The kernel now supports incremental updates (used in PDF Security and PDF to PDF/A Converter) in order to be able to add multiple digital signatures.
- The extraction of text from documents with incomplete encoding information (e.g. symbolic TrueType fonts or unknown glyph names) has further been enhanced using heuristics.
- Missing ToUnicode information can now be loaded from installed fonts in order to support better text extraction and search capabilities.
- ToUnicode entries with an Identity value are now supported.
- Support to extract page labels has been added (used in PDF Extract).
- The copy operation now sets the version of the output file to the same as the one of the input file unless it is overwritten by a newer version due to features such as encryption etc.
- The subsetting of fonts has been improved to produce smaller font programs (used in PDF Producer, PDF Optimizer, PDF to PDF/A Converter, etc.).
- The PDF writer (used in PDF Producer, PDF to PDF/A Converter, etc.) now adds a CIDSet entry for embedded and subsetted CID fonts.
- The installed font collection is allocated only once and reused in order to improve the performance (used in PDF Extract, PDF to PDF/A Converter, etc.).
- The image writer has been enhanced to handle original embedded JPEG streams without the need to re-compress them (used in PDF Extract).
- The image importer now can handle the known implementation limit of max. 14400 user units (used in Image to PDF Converter, etc.).
- Inline images are embedded as raw streams and no longer ASCII85 encoded by the PDF writer.
- The intrinsic color space of JPEG2000 images is now read if the ColorSpace entry in the image dictionary is missing.
- The conversion of Type1 to TrueType font outlines has been optimized to remove redundant on-curve points.
- In TrueType and OpenType font writer now supports the Mac platform in addition to the Windows platform (used in Java Document Viewer).
- The color management engine (CMS) can handle embedded LAB color profiles now.

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- The default RGB to CMYK color transform implementation now performs default functions for under color removal (UCR) and black generation (BG).
- The Neugebauer color transform has been enhanced by a corresponding reverse transform. In former implementations the default transform has been used instead.
- The performance to read objects from PDF files has been improved by caching the scanner and parser objects.
- The caching of objects has been improved in order to reduce memory consumption for large PDF files.
- The reallocation performance of the cross reference table has been improved (used in all creating and copying tools).
- Stream objects are now allocated in a separate heap in order to avoid reallocation problems in a highly fragmented default heap.
- The reading of lightly corrupted Type1 font programs has been improved in order to be able to process such fonts.
- The decompression of TIFFs with embedded JPEG streams has been further improved to support the reading of a wider range of image writers.
- The exception handling for lightly corrupted JPEG input streams has been improved. This affects embedded JPEG streams in PDF files and JPEG image inputs.
- The reading of page trees has been improved in order to be able to process documents with a lightly corrupted page structure.
- The LuraTech JBIG2 compression and decompression library has been updated to version 1.07.
- The LuraTech JPEG2000 compression and decompression library has been updated to version 2.1.00.07.
- The public domain library libtiff has been updated to version 3.8.2.
- The public domain library libpng has been updated to version 1.2.23.

6.2 Enhancements to the 3-Heights™ PDF Rendering Engine

Products such as the PDF Viewer, the PDF Printer and the PDF to Image Converter are based on the PDF Rendering Engine. The following improvements are common to these products:

- The font replacement strategy and the font matcher have been improved to allow for better replacement of non-embedded fonts with installed fonts.
- PDF file may contain corrupt embedded CFF fonts. Light corruptions are corrected now in order to prevent a blue screen on windows while trying to render such fonts with GDI.
- The automatic down sampling of large images has been disabled.

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- The rendering of rotated and / or skewed annotations has been improved.
- The drawing of dash patterns in the accurate mode has been improved.
- The rendering of transparent objects has been further improved.
- An error is reported if an unknown or unimplemented pattern is recognized.

7 New Features to Specific Products

7.1 3-Heights™ PDF to PDF/A Converter

- New switch ``-ar'`: In addition to the signature annotation rectangle with this switch the signature annotation page can be specified (default: last page).
- New method ``ConvertMem()'`: This method helps to convert files that are available and / or required as memory blocks.
- New property ``ErrorCode'`: Returns the error code of the last operation.
- New method ``SetMetadata'`: Overwrites the XMP metadata stream in the output document.
- The property ``FontDirectory'` has been replaced by the more general method ``AddFontDirectory'` which allows for adding multiple directories. For performance reasons the installed font collection is not tied to a converter object anymore.

7.2 3-Heights™ PDF Optimization Tool

- New switch ``-si'`: If set, alternate images are removed from the output file.
- New method ``SetVersion'`: Serves to overwrite the PDF version number
- The property ``CompressionQuality'` now is of type integer ranging from 1 (lowest) to 100 (highest).
- The linearization operation now stores the temporary files in the system's temporary directory. Watched folders should reside on the same volume in order to avoid performance degradations.

7.3 3-Heights™ PDF Extract Tool

- New switch ``-fd'` (pdtxt): Adds the files in a given directory to the installed-fonts collection. New switch ``-lt'` (pdtxt): Works in conjunction with the line height switch and allows to specifying a line height tolerance (points).
- New switch ``-s'` (pdtxt): Replaces unicodes in the range 0xF000 to 0xF0FF by the codes 0x00 to 0xFF interpreted as WinAnsi characters
- New switch ``-sl'` (pdtxt): Replaces ligatures ff, fi, fl, ffi, fl with individual characters ``f'`, ``i'` and ``l'`.
- New property ``IsMarkup'`: Returns true if an annotation is a markup annotation.

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- New method 'GetPageLabel': Returns the label text associated to a specific page given its number.
- The missing graphics state properties have been added to the Java interface.
- The algorithm to compute the properties 'SkewX', 'SkewY' and 'Rotation' from a transform matrix have been improved.
- The date strings now always have an explicit time zone instead of using the local default.

7.4 3-Heights™ PDF Printer, Printer Pro and Printer Service

- The shell tool now supports switches that have an effect on the following file parameters such as the bin selection etc.
- New switch '-wd': Deletes watermarks that have been previously added.
- New property 'JobId': Returns the ID of the current print job after BeginDocument() has been called. This allows for managing the print job using Windows API functions.
- The 'PrinterOCX.dll' and 'PrinterProOCX.dll' has been renamed to 'PdfPrintAPI.dll' in order to allow for easier upgrades.

7.5 3-Heights™ PDF Producer (and TIFF Producer)

- The new MS Word Add-in offers a "Convert To PDF" function which not only makes it easier to use but also helps to send more information such as metadata to the printer driver.
- The configuration now accepts the name of an XML file which contains stamping instructions for the output file. The file describes the objects (text and images), the context (first page, ...) and the attributes (font, color, ...) to be stamped.
- The rendering of vertical writing fonts has been added.
- The rendering of dash patterns has been improved.
- The rendering of transparency simulation using pattern brushes has been improved (older MS Word and PowerPoint versions).
- The rendering of path objects has been improved if the back buffer is enabled (support for older MS PowerPoint versions).
- The default settings for the TIFF producer have been changed to A4, 150 DPI, Group 4.
- The port monitor can now be configured during the installation. For this purpose the CONFIGURE_PORT_INFO structure now is available in both their Unicode and WinAnsi form.
- The default spooler setting has been changed from 'Spool' to 'Print directly' in order to avoid problems in conjunction with Windows' EMF spool architecture.

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- The PCD data file is no longer a necessary component in the installation kit.

7.6 3-Heights™ Java Document Viewer

- A new method has been added to open documents from a file buffer.
- Images larger than 1024 x 1024 pixels are automatically down sampled in order to allow for better anti-aliasing of scanned documents.

7.7 3-Heights™ PDF Security Tool

- New interface 'Signature': This interface allows adding and enumerating the signatures in a document and for accessing their properties. The interface supports the following properties:
 - Name: The name of a certificate.
 - Reason: The reason text for the signature.
 - Location: The text for the location where the signature has been made.
 - Date: The date of signature.
 - PageNo: The page number where the signature appears.
 - FillColor: The background color of the signature's appearance.
 - StrokeColor: The border color of the signature's appearance.
 - LineWidth: The border's line width in points.
 - FontSize1: The font size of the title's text.
 - FontSize2: The font size of the text that follows the title.
 - FontName1 (Font1Mem): The name of an installed font or the font's file name (or memory stream) for the title's text.
 - FontName2 / Font2Mem: The name of an installed font or the font's file name (or memory stream) for the text that follows the title.
 - Text1: The title's text.
 - Text2: The text that follows the title.
 - ImageFileName: The name of a background image (scanned signature).
 - Rectangle: The dimensions of the signature annotation's appearance.
 - HasSignature: Returns true if the signature has an associated cryptographic signature value.
 - DocumentHasBeenModified: Returns true if the document has been modified after this signature has been made.
- New method 'GetSignatureCount': Returns the number of signatures in a document.

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- New method 'GetSignature': Allows to enumerating the signatures in a document and returns an interface to a signature given its index.
- New method 'AddSignature': A new signature field is added to the document including a cryptographic signature and an appearance.
- New method 'AddSignatureField': A new signature field is added to the document without a cryptographic signature (an unsigned field).
- New method 'AddPreparedSignature': A new signature field is added to the document without a cryptographic signature but including an appearance. See 'SignPreparedSignature' for further details.
- New method 'SignPreparedSignature': The cryptographic signature can be added after the document has been prepared using 'AddPreparedSignature' without incrementally updating the document. This pair of function is used in conjunction with the requirements of the German signature law.
- New method 'ValidateSignature': Returns true if the signature is cryptographically valid.
- New property 'ErrorCode': Returns the error code of the last operation.
- New method 'PdfRegisterSignatureHandler': An own signature handler can be registered to allow for creating and validating custom signature types.

7.8 3-Heights™ Image to PDF Converter

- New property 'Quality': Sets the quality for lossy compression methods.
- New switch 'rl': Sets the reporting level.

7.9 3-Heights™ PDF to Image Converter

- New switch '-pgs': This new switch now supports an arbitrary set of pages in addition to the former page range.
- The shell tool now preserves the case of the letters in the input file name when creating the output file name instead of converting them to lower case.
- New properties 'PageWidth' and 'PageHeight': These properties return the dimensions of the rendered page in user units (points).
- New properties 'BitmapWidth' and 'BitmapHeight': These properties return the dimensions of the resulting bitmap in pixels.

7.10 3-Heights™ PDF Repair Tool

- The Java Error interface has been renamed to PdfError for consistency reasons.

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8 About PDF Tools AG

PDF Tools AG (www.pdf-tools.com) is a world leader in PDF (Portable Document Format) programming technology, 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.