Release Notes
3-Heights™ PDF Tools

Version 1.50

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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, server tools and end-user products. The tools allow for a wide variety of manipulation of PDF files including viewing, printing, exporting information, conversion, 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 NT
- Windows XP
- Windows 2000
- Windows 2003
- Windows 9x / ME

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

Please refer to the ordering information on the individual product pages to determine which platform each tool is available for.

5 New Products

The following products have been introduced with this release:

- 3-Heights™ PDF Producer
- 3-Heights™ TIFF Producer
- 3-Heights™ PDF Validator.

5.1 3-Heights™ PDF Producer

The 3-Heights™ PDF Producer integrates into virtually any Windows application to create PDF files extremely fast through a GDI printer driver. It offers direct synchronous and parallel PDF generation, works both client and server-sided, and contains an API for integrating into applications. An additional special feature is the possibility to create PDF documents that are 100% PDF/A compliant. The 3-Heights™ PDF Producer includes the 3-Heights™ PDF Port Monitor that allows for storing files in predefined folders without the need to use “save as” dialog boxes. Furthermore, an installer DLL and executable help to integrate the installation of the drivers in OEM applications.

5.2 3-Heights™ TIFF Producer

The 3-Heights™ TIFF Producer uses the same architecture as the 3-Heights™ PDF Producer but produces directly multi-page TIFF files. Various settings can be used to control the format of the generated output file such as the page size (A4, letter, etc.), color space (bilevel, gray, RGB, CMYK), compression algorithm (none, LZW, ZIP, CCITT) and the resolution (DPI), orientation, bits per pixel and bit fill order.

The 3-Heights™ TIFF Producer is delivered in the same kit as the 3-Heights™ PDF Producer.

5.3 3-Heights™ PDF Validator

The 3-Heights™ Validator determines if a PDF document or an entire PDF archive conforms to the PDF Reference or to the international standard for long-term archiving: PDF/A. When converting a TIFF archive into PDF/A, the Validator provides the optimal quality assurance check that can be built directly into the conversion process. Individual company requirements beyond the PDF/A standard can also be verified during the validation process.

6 New Features to all Products

6.1 Enhancements to all 3-Heights™ products

- PDF/A compliance: A number of tools support the ISO standard for PDF/A - Part 1, conformance level B, such as the PDF Producer, Image to PDF Converter, the PDF Validator, the PDF Viewer and the PDF Printer.
- XMP metadata: The metadata can now be written in the XMP format which is required for PDF/A compliance.
- Revision 4 encryption: The kernel now supports the strong AES encryption algorithm including crypt filters for streams and strings
- Text extraction: The following improvements have been added to the extraction of text:
    - Symbolic fonts: Text of symbolic TrueType fonts now return Unicodes in the private use area (PUA).
    - Non-breaking spaces: Unicode (0x00A0) is now treated equally to a space character in the word breaking algorithm
    - Ligatures: Multi-word Unicodes that represent often used ligatures such as fi, fl, ffi, ffl, etc. are converted to equivalent single-word Unicodes.
    - Character encoding: The retrieval of encoding information out of embedded font programs (intrinsic encoding) has further been improved. In particular, the non-standard encoding of GostScript-like creators is now supported.
    - ToUnicode maps: The parsing of the PostScript ToUnicode maps has been improved in order to support a wider range of possible formats.
- Copying input to output: While copying input to output (optimizer, repair tool, etc.) only the resources that are used in a content stream are copied.
- Specify word separators for text search operations
- TrueType font collections: The output generating tools have now been enabled to embed files from TrueType font collections (.ttc).
- Colors: The special colorants “All” and “None” are simulated using the CMYK device color space.
- Improvements to watched folder services:
    - Multiple folders per thread
    - Generation of a job name prefix
    - Controlling of the polling interval
    - Deferred delete of job files in the succeeded folder (keep time)
    - Improved error logging (log path)

- Improved memory and runtime performance:
  - The MRU cache has been replaced by a simpler cache algorithm
  - The stack space requirement for the LZW filter has been reduced significantly
  - The execution of functions has been extended from single samples to blocks of samples
- Improved error checking and handling:
  - The list of error codes has been significantly extended
  - Recorded errors are pooled per page before being transferred to the application program
  - While parsing graphics operators, a state is maintained in order to check for invalid operator sequences
- JBIG2 Library update from v1.02 to v1.04

6.2 Enhancements to 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:

- New graphics rendering options: The following rendering options have been added:
  - eOptionDisablePS: Disable PostScript injection.
  - eOptionDisablePatterns: Disable patterns; use light gray instead.
  - eOptionUseFastImages: Use fast mode image rendering even in accurate mode.
- Shading: The rendering engine can now interpret shading type 1 and type 3 shading patterns.
- Coordinate accuracy: The accuracy of coordinate computations has been increased from single to double precision. Furthermore, the world transform and window to viewport mapping have been summarized into a single matrix instead of using the less accurate GDI or GDI+ coordinate transformation facilities.
- Graphics resources management: The management of graphics resources such as pens, brushes and fonts have been organized into pools in order to reduce memory requirements and increase speed.
- Glyph selection: The reading of embedded TrueType font programs has been improved to support some seldom used encoding tables (cmap).

- Font matching: The matching of non-embedded fonts with pre-installed fonts uses now the PostScript names of the fonts as well as Unicode subset information to find a suitable replacement font. In most cases there is no longer a need to manually configure font replacements.
- PostScript injection: Images, image masks, masked images and soft masks are rendered more directly using PostScript pass through calls. This is to avoid known problems with GDI and the PostScript driver.
- Bitmap interpolation and filtering: The filtering algorithms for bitmaps have been improved in order to reduce artifacts at the borders. This is especially important in situations where images are rendered in stripes. Furthermore, the bitmaps are now filtered even if interpolation is turned off.
- Transparent bitmap printing: Bitmaps with soft masks (alpha channels) can now be printed on a wide range of PostScript and HP PCL printers efficiently without the need of backdrop buffers.
- Bitmap mirroring: Before transferring bitmaps to a printer device, the bitmaps will now be mirrored such that all coordinates represent positive width and height values. This is to avoid mirroring problems with some printer devices.
- Bitmap banding: Large bitmaps are rendered in so called bands (or stripes) in order to circumvent GDI implementation limits. This banding is now restricted to skewed bitmaps resulting in a much higher performance for non-skewed bitmaps.
- Bitmap color remapping: Image masks are rendered using the GDI+ color remapping feature. This remapping can now be disabled for printer devices in order to reduce the spool file size.
- Line visibility: So called “hairlines” such as empty fill rectangles or fills of simple lines etc. will now be detected and converted into lines that are one pixel wide. This is to avoid them disappearing at small zoom factors.
- Devices with a color palette: Some older devices such as terminal servers and color printers provide surfaces storing indexes into a color palette. The rendering engine now fully supports such devices.
- Caching of Type3 glyphs: The appearance of the glyphs of Type3 fonts are now cached in order to reduce the size of spool files and to increase the rendering performance.
- Temporary font files: Embedded fonts are converted to fonts that can be temporarily installed in the Windows operating system before being used. The cleanup of unused temporary font files has significantly been improved.
- Improved redrawing speed: In order to increase the speed of a redrawing operation in the PDF Viewer, the graphics operators are now pre-rendered in a macro stream that is re-played upon a redraw request.

7 New Features to Specific Products

7.1 3-Heights™ Image to PDF Converters

- PDF/A compliance: The output file can be formatted according to the ISO standard for PDF/A-1 conformance level B.
- Orientation: The orientation field of TIFF files can now be used to rotate and flip the image. Furthermore, the orientation can be set manually disregarding the image's field.
- CMYK colors: TIFF images with CMYK colors can now be directly imported without the colors being converted to RGB. Furthermore, CMYK images are now converted to RGB before outputting them to BMP files.
- DIB format: The native windows format DIB is now supported as a file format.
- New options:
    - Compliance level: PDF 1.4, PDF 1.5, PDF/A-1b.
    - Output intent: Name of a color profile.
    - Image orientation: Top left, bottom right, etc.

7.2 3-Heights™ PDF Extract Tool

- Text extraction: see 6.1
- New options:
    - verbose (shell)
    - line height for text extraction (shell)
- New properties:
    - RenderingIntent (API)
    - StrokeOverprintFlag (API)
    - FillOverprintFlag (API)
    - FlatnessTolerance (API)
    - SmoothnessTolerance (API)
    - StrokeAdjustment (API)
    - BlendMode (API)
    - SoftMask (API)
    - StrokeAlphaConstant (API)
    - FillAlphaConstant (API)

- AlphaIsShape (API)
- SpaceFactor (API)
- Subj (API)
- Dest (API)
- URI (API)
- GetDestination() (API)
- IsLinearized (API)

7.3 3-Heights™ PDF Optimization Tool

- Improved copying of resources: see 6.1
- New properties:
  - OptimizeResources (shell and API)
  - Linearize only (shell only)
  - SubsetFonts (API)
  - ErrorCode (API)

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

- Improvements to the rendering engine: see 6.2
- New values:
  - PaperSize property:–2 (select nearest paper)
- New properties and methods:
  - name of standard output (shell)
  - name of standard error (shell)
  - DC (API)
  - HANDLE (API)
  - AbortDocument() (API)
  - DeleteWatermarks() (API)
- New rendering options:
  - eUseFastImages
  - eDisablePS
  - eDisablePatterns

7.5 3-Heights™ PDF Renderer API

- Improvements to the rendering engine: see 6.2

7.6 3-Heights™ PDF Repair Tool

- Improved copying of resources: see 6.1
- Support for encrypted files (default password)
- New tool pdfuncompress (shell)
- New recovery options:
  - Rebuild fonts
  - Rebuild streams
- New interface Error (API)
- New methods and properties:
  - GetFirstError (API)
  - GetNextError (API)
  - ErrorCode (API)
  - ReportingLevel (API)

7.7 3-Heights™ PDF Security Tool

- Support for AES encryption: see 6.1
- New switches / parameters:
  - Stream filter
  - String filter

7.8 3-Heights™ PDF to Image Converter

- New color space option (Gray, RGB, CMYK, Indexed)
- New property to set the color profile paths (API)
- New rendering options:
  - eUseFastImages
  - eDisablePS
  - eDisablePatterns

7.9 3-Heights™ PDF Viewer and Viewer Pro

- New properties and methods:
  - BorderWidth (API)
  - XDPI, YDPI (API)
  - ConvertPt() (API)
- New events:
  - OnGoto (API)
  - OnGotoR (API)
  - OnURI (API)
  - OnMarkRectangle (API)
- New viewer options:
  - DisableURI
  - DisableGoTo
  - DisableGoToR
  - DisableMouseWheel
- Boolean return value added for
  - EndDocument
  - MarkRectangle
  - Close

8 About PDF Tools AG

PDF Tools AG (www.pdf-tools.com) is the 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.