

White Paper

soft Xpansion PDF SDK 6

Guide to PDF Xpansion SDK

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ADOBE® PORTABLE DOCUMENT FORMAT (PDF)

PDF is a file format for representing documents in a manner independent of the application software, hardware, and operating system used to create them and of the output device on which they are to be displayed or printed. A PDF document consists of a collection of objects that together describe the appearance of one or more pages, possibly accompanied by additional interactive elements and higher-level application data. A PDF file contains the objects making up a PDF document along with associated structural information, all represented as a single self-contained sequence of bytes.

A document's pages (and other visual elements) can contain any combination of text, graphics, and images. A page's appearance is described by a PDF content stream, which contains a sequence of graphics objects to be painted on the page. This appearance is fully specified; all layout and formatting decisions have already been made by the application generating the content stream.

In addition to describing the static appearance of pages, a PDF document can contain interactive elements that are possible only in an electronic representation. PDF supports annotations of many kinds for such things as text notes, hypertext links, markup, file attachments, sounds, and movies. A document can define its own user interface; keyboard and mouse input can trigger actions that are specified by PDF objects. The document can contain interactive form fields to be filled in by the user, and can export the values of these fields to or import them from other applications.

Finally, a PDF document can contain higher-level information that is useful for interchange of content among applications. In addition to specifying appearance, a document's content can include identification and logical structure information that allows it to be searched, edited, or extracted for reuse elsewhere. PDF is particularly well suited for representing a document as it moves through successive stages of a prepress production workflow.

[Adobe® PDF Reference](#)

WHY PDF? A COUPLE OF ARGUMENTS FOR PDF

As digital documents spread and replace traditional paper ones, the quantity of different digital formats grows, their range of functionalities and advantages also expands.

Every organization, institution or company while starting to convert their paperwork fully or partially to the digital basis, at the first place needs to make a decision which of the available formats to choose.

We recommend you to think about PDF format. What kind of advantages does it have?

10 years ago we would start, first of all, with a format openness and with a good documented specification, i.e. its standardization. Secondly, we would mention forethought and flexibility of technical requirements and abilities of the format (we will touch this topic later on). Today, the situation has been changed - as an evidence of it we can see that the documents in PDF format have become more popular and widely used. But this popularity of using PDF format today is a serious aspect to the advantage of PDF. It is pretty difficult to imagine such computer with any operating system on it where would not be any software that supports documents in PDF format, at least to be able read or print them. With time, the number of such software will only increase. And this aspect is a solution guarantee of digital document's main problem - transferability, i.e. accessibility to its content without any special software, on any computer and long after its creation.

Technical side of PDF format organization gives much attention to the format's transferability:

- wide choice of fonts that are supported by the format;
- fonts embedding ability in PDF document;
- wide choice of data compression methods, including specialized image compression methods (for example, JPEG with controllable quality loss, or JBIG2 for monochrome image compression)
- support of different color spaces (for example, RGB, CMYK, etc.)

The ability to include other files in any formats in the PDF document simplifies the process of building different workflow schemas on PDF file basis. This because it is much easier to work with or store one file for each document rather than to do so with the group of connected files. The functionality of using meta data in XML format inside the PDF document and also the ability to bind this data to different objects inside the document provides additional ways to widen abilities of a digital

document in PDF format in order to store non-visual data in PDF document.

Serious attention in PDF format was placed on document content safety and also on the proper ways of its using. Cryptographic algorithm can be chosen by document's author and by software developers that are working with PDF documents. As an alternative to RSA algorithm which has been used for a long time, the modern AES cryptographic algorithm is offered.

PDF format allows choosing hashing or signing methods that are used in the PDF document. Also it allows storing digital signatures directly inside the PDF file. Without deepen in details of advantages to use digital signatures, it is worthwhile to say that the impossibility of authentication of digital documents is, perhaps, the last factor that keeps digital document's growth and converting to it all traditional paperwork.

PDF FORMAT - FILE ANATOMY

The first version of PDF format specification was published in 1993 by Adobe® Company. Since that time PDF format constantly extends and updates; 7 versions of format specification have been published. PDF 1.7 is the actual version for this moment. It has been released to the format users from October 2006.

The new standard, ISO 32000-1, Document management – Portable document format – Part 1: PDF 1.7, is based on the PDF version 1.7 developed by Adobe. This International Standard supplies the essential information needed by developers of software that create PDF files (conforming writers), software that reads existing PDF files and interprets their contents for display and interaction (conforming readers), and PDF products that read and/or write PDF files for a variety of other purposes (conforming products).

ISO Secretary-General Alan Bryden comments: "As an ISO standard, we can ensure that this useful and widely popular format is easily available to all interested stakeholders. The standard will benefit both software developers and users by encouraging the propagation and dissemination of a common technology that cuts across systems and is designed for long term survival."

PDF file stores the data in binary form. One file always contains only one document, still it allows embedding any quantity of binary files in any format, including PDF files.

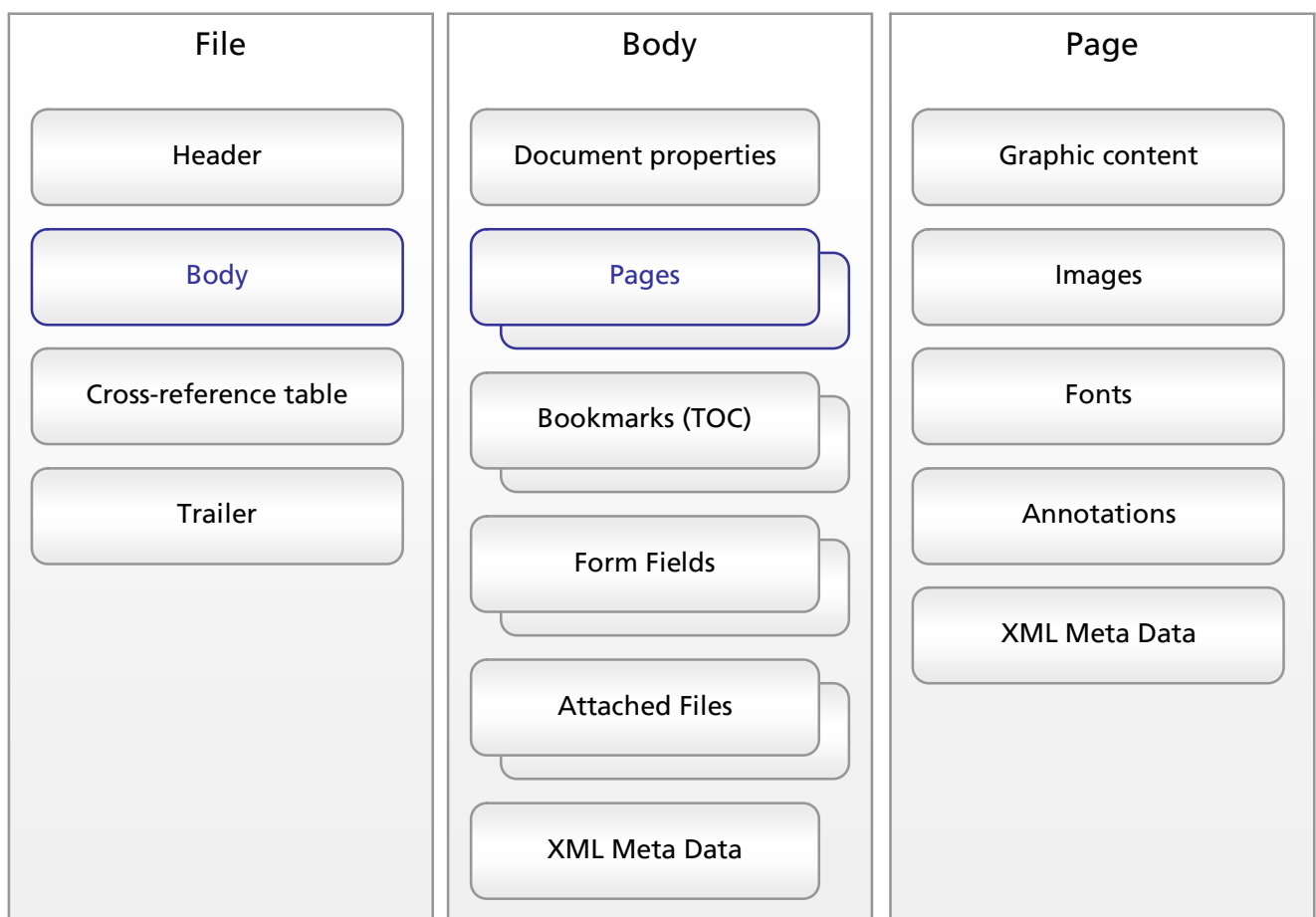
Simplified PDF structure is shown below.

Header - identifies the version of the PDF specification to which the file conforms.

Body - the data of objects that make up the document contained in the file.

Cross-reference table - contains information about the location of all objects in the file.

Trailer - defines the location of the cross-reference table and of certain special objects within the body of the file.



PDF document (in our structure is "Body") contains a lot of objects with different types. These objects form a complicated hierarchic structure – document itself. In order to optimize the size of the PDF file, PDF format specification allows not only compressing object's data, but also it allows making complicated connections between them. Because of that, one object that is repeated many times in the logical structure of the document can store its data in the single instance.

PDF XPANSION - FIFTH GENERATION OF TECHNOLOGY

PDF software development, that became a basis for "PDF Xpansion" technology, was started in 2002. PDF library was a core of the technology; this allowed making PDF files out of EMF files which can be received during printing on a virtual printing device. The library would create PDF documents corresponding to the actual (at that time) PDF specification 1.4. In 2002 on the basis of the first generation of the PDF Xpansion technology the "PDFs leicht gemacht" product appeared on the German-speaking market. After that this product under different names came out in the USA, Netherlands, Italy and other countries.

The work on improving PDF Xpansion technology was continued in the second version of PDF library. Now, it was made on the basis Adobe® PDF specification 1.5, which was published in the beginning 2004. The second version of the library allowed not only the ability to create and save new PDF files but also to open for viewing and editing existing PDF files, which were created by other programs. On the basis of this technology generation DATA BECKER published "PDF Professionall 2" that later on was published in other countries.

Starting from the third generation PDF Xpansion technology became available for the usage by different software developers (consumer software developers or corporate workflow systems developers) as an independent product (PDF SDK). Detailed information about the evolution of the functional abilities of the PDF Xpansion technology you can find in the "[What's new? History of Technology Evolution](#)" section.

Actual version of the PDF Xpansion technology corresponds to Adobe® PDF specification 1.7 and allows resolving almost any task related to PDF documents, including converting to and from PDF files any other formats. Full list of functionalities included in PDF SDK is shown in the "[PDF SDK 6 Feature List](#)" section.

Quick, compact, potent. Simple effective

These are not only positive conceptions, in reality it is qualities of the PDF Xpansion technology. PDF SDK is planned and developed in such way that its characteristics would be well balanced. It is possible to write a program that would save very small files, but it would perform it very slow; and the file would not be displayed correctly. Or a program that would show pages during scrolling very fast, but would take all the available memory during the process.

You can estimate the quality and the size of created PDF files by downloading and using a free program "[soft Xpansion PDF Quick Master](#)", which uses actual PDF library. For viewing PDF documents, for estimating quality and speed of displaying documents pages, you can use a free program "[soft Xpansion PDF Quick Reader](#)".

We would like to focus on the qualities of PDF SDK from the point of view of developers and integrators. Programming interface is well structured and maximum simplified that makes it observable and plane. API structure corresponds to the inner PDF document's organization; however it hides complicated connections and small inessential details. Simple - does not mean primitive; you can get an evidence of it by looking at the full list of functionalities included in PDF SDK.

PDF Xpansion technology develops constantly being learning and working on different projects and products that are based on PDF SDK. Such experience allows programming interface to be adapted quickly to the comfortable integration into an application. Our partners and clients take a big role in this process - their experience in working with PDF SDK, their questions and suggestions play a key factor in the future development of the PDF Xpansion technology. We are always opened for constrictive discussions with potential partners.

Application platform

PDF SDK can be used on platform of any modern version of the Windows: Windows 2000, Windows XP, Windows 2003, Windows Vista, Windows 2008. 32-bit and 64-bit versions are also supported.

PDF library is completely independent, and it does not require any specific system components or any software that is not included in the operating system. The library uses the following system services: graphic subsystems GDI and GDI+, cryptographic subsystem CryptoAPI (signature validation and signing), WinINet API (timestamping). HTML import procedure requires installed Internet Explorer 6.0 or later. In Windows 2000 GDI+ library was included starting from SP4; versions without SP require including this library in the redistribution list.

It is worth of mentioning that PDF library does not require having installed version of Adobe® Reader or any other Adobe® products or software components in order to work.

In such way, software developers that are using PDF Xpansion technology delivered from technical conflicts between the PDF library and any other software; and the companies that integrate PDF SDK in their products – from the necessity of buying additional components.

By this cause, it is pretty difficult to imagine a situation where the PDF library would abstract work of any other software.

For its work, PDF SDK does not require any rights that go beyond the rights of a standard Restricted User; so, it can be used without restrictions in the applications that were launched by users with restricted rights.

Developer platform

It will not be an overstatement to say that PDF SDK will satisfy the needs of almost every developer regardless of the development framework that they use. The core of the technology is written on C++, thus, PDF SDK provides C++ API.

Developers that use .NET-platform (C# or VB.NET languages), PDF SDK provides with the assemble-module. API which is exported by this module fully corresponds to C++ API, except syntax differences.

Developers that have chosen COM-platform and COM-languages, including scripting VB or JScript, get to themselves COM API that also corresponds to the ones mentioned before.

And finally, software developers that program on C or Delphi can use C-compatible API, which is similar to the basic Windows API. By the information content this PDF SDK interface is a little bit smaller then that which is accessible in other development platforms, but the most popular functionality is still provided by it.

Also PDF SDK includes ActiveX and .NET Control that satisfies all standard requirements to such elements and allows integrating "PDF Quick Viewer" into any application "in one click".

Finally, if a developer needs to integrate the functionality of viewing PDF documents into Internet Explorer or the functionality of filling forms, moreover, without previous installation – this implemented as a special CAB-file, which contents ActiveX. [Test variant](#) of such integration is accessible on the Internet.

All libraries and methods of documents collection (document creating and removing) are safe for multithreaded operations. And contrariwise document or viewer instance members can not be considered as thread-safe. In practice, this means that you can't access one document object from some threads without additional synchronization. All COM-objects are completely safe for multithreaded operations.

The PDF SDK is fully Unicode-enabled and provides data types for Unicode-only programming. Correctly supports Asian fonts and Asian language text.

PDF library does not contain text resources or messages that require localization; it also does not display dialogs or message boxes during working or in consequence of any errors.

Scope of delivery

All necessary files contain in a single downloadable ZIP-Archive. PDF SDK archive contains three folders; two of them are only for developers: "DevRes" and "Docs".

"DevRes" folder contains the following files:

- **sx-pdf-lib.license.key** – this file contains a key that allows client application to activate the PDF SDK user license. Initially the file contains the trial-key, which activates the trial-license and serves for assembling of examples that are provided with PDF SDK. After purchasing PDF SDK every client will receive a personal license with a personal key. After that trial-key file will be replaced with the personal one. Client application certainly has to be re-compiled after changing the key file. Key-file should not be and cannot be redistributed with the application!
- **sx-pdf-lib.h** - header file that contains API for "PDF Direct & Quick View" and "PDF Converter" libraries. Can be used only in applications that were developed on C++.
- **sx-pdfqv-lib.h** - header file that contains API for "PDF Quick Viewer" library. Can be used only in applications that were developed on C++.
- **sx-pdfre-lib.h** - header file that contains API for "PDF Builder" and "PDF Rich Edit" libraries. Can be used only in applications that were developed on C++.
- **Samples** – a folder that contains typical examples for using PDF SDK on different programming languages. The "[Hello World! It's simple. A Couple of Samples](#)" section has more information about these examples.

"Docs" folder contains "sx-pdf-ref.chm" file with the detailed technical documentation "PDF Xpansion Reference".

How to redistribute PDF SDK ?

Files that need to be redistributed along with the client application that uses PDF SDK are placed in the "Redist" folder inside the SDK archive. Some files have to be always redistributed, other only in some specific cases - the below scheme describes these cases in details. It is important to remember that all redistributable files have to be placed in one

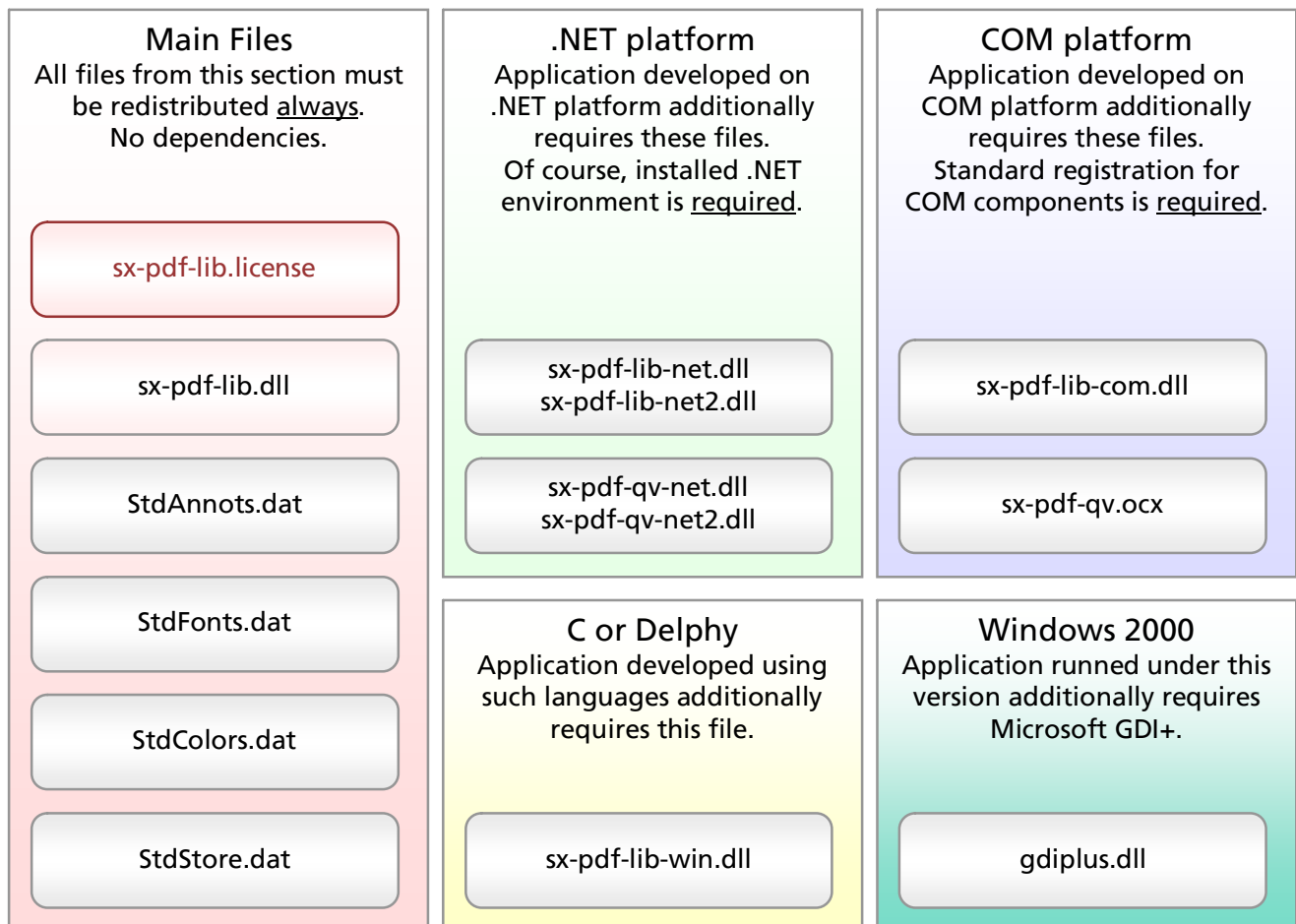
folder; usually they are placed in that folder where client application's .exe file is placed (it is not critical for SDK samples).

"sx-pdf-lib.license" file contains the license that defines the rights of a client application on the usage of PDF SDK. Initially the file contains the trial-key that serves for testing of the examples that are provided within PDF SDK. After purchasing PDF SDK every client will receive a personal license. A client application has to be redistributed only with the client's personal license file. Usage of the trial key for this matter is prohibited!

Note for .NET developers

If your application developed for ".NET Framework Version 1.1", you should use library assembly "sx-pdf-lib-net.dll" (or NET-Control "sx-pdf-qv-net.dll"). Redistribution of these assemblies requires only installation of ".NET Framework Version 1.1".

If your application uses .NET Framework Version 2.0 or higher, you should use library assembly "sx-pdf-lib-net2.dll" (or NET-Control "sx-pdf-qv-net2.dll"). Redistribution of these assemblies requires installed ".NET Framework Version 2.0" and additionally **"Microsoft Visual C++ 2008 SP1 Redistributable Package"** (version 9.0.30729 or higher).



PDF SDK 6 - FEATURE LIST

Base functionality	
Creates PDF document objects	
Manages multiple PDF documents simultaneously and independently	
PDF Direct	
Adds empty pages to the document	
Adds new pages and fills it over "draw" technique, using memory device context or graphics (pseudo PDF device)	
Saves PDF document to the PDF file in 100% compatible PDF format	
Available compressing of object streams on save	
PDF Buider	
Adds empty pages to the document	
Adds new pages and fills it with the content objects (text, graphics and images) controlled over multiple attributes	
Saves PDF document to the PDF file in 100% compatible PDF	

format	
Available compressing of object streams on save	
PDF Quick View	
Loads PDF document from the PDF file	
Supports quick load of PDF document (maximum up to 2-3 sec)	
Displays or prints the page content to the screen or printers	
Additionally displays form fields and annotation appearances	optionally
PDF Rich Edit	
Allows to modify a page content (text and etc.) - it performs projection of content stream to hierarchic structure of modifiable objects	
PDF Converter	
Imports plain text or RTF files to PDF documents	
Imports HTML files or Web sites to PDF documents	
Imports images (TIFF, JPEG and etc.) to pages in the PDF document	
Exports text from the PDF document to plain text files	
Exports pages of PDF document to the images (TIFF, JPEG and etc.)	
PDF Quick Viewer	
Realizes ready to use viewer of PDF documents, which supports	
- different display modes (single page, two-up, album and etc.)	
- free zooming and fit modes (fit page width and etc.)	
- rotated view	
- link navigation	
- scrolling with keyboard, mouse wheel and window scrollers	
- different tool modes (text or image selection, dynamic zoom and etc.)	
- integrated history list (allows view-steps)	
- filling of form fields	
- text search manager	
- powerfull print manager (enhanced document printing)	
- full screen reading mode	
- custom processing of user activity and annotation events	
- effective (quick and qualitative) render engine with two-level cache	
- viewer customization (resolution, colors, borders, margins and etc.)	
Available as ActiveX Control	
Available as online PDF viewer (CAB for integration to Internet Explorer)	
Available as .NET Control	
PDF file compatibility	
Available as .NET Control	
Supports PDF format versions on load	1.0 - 1.7

Supports PDF format versions on save	1.3 - 1.7
Supports linearized PDF file organization (web-ready files)	
Supports incremental updating of PDF document	
Standard PDF/A (ISO 19005-1)	
Supports creating PDF documents in conformance with PDF/A-1a, PDF/A-1b	
Supports converting PDF documents in conformance with PDF/A-1a, PDF/A-1b	
PDF document properties	
General info (title, author, subject, creator, keywords)	
Standard viewer preferences (page, mode, layout and etc.)	
Available document specific actions	
Available JScript storage	
Available XFA storage (XML Forms Architecture)	
Available metadata storage (XML-based properties)	
PDF document security	
Supports non-secure and encoded documents	
Supports RC4 (PKCS#1) and AES encoding algorithms	
Supports owner and user passwords	
Supported standard set of access permissions	
PDF document operations	
Splits PDF document, extract pages	
Merges PDF documents, copy pages between documents	
Combines PDF documents, including bookmarks, form fields, optional content groups and page annotations	
Available incremental updates of document (some document revisions in one file)	
PDF page properties and operations	
Supports page merging	
Supports page labels and thumbnails	
Supports page size manipulation and orientation	
Supports user defined space units for pages	
Manages document pages (adding, removing, moving)	
Page content operations (move, scale, clip)	
Supports plain text extraction (for search or indexing of a document content)	
Available page specific actions	
Available page metadata storage (XML-based properties)	
PDF fonts	
Supports TrueType, Type 1 (PostScript) and Type 3 (PDF operators) font formats	
Supports OpenType and Compact Font Format (CFF) format extensions	

Supports CID-keyed fonts (Type 0 and Type 2) and subsetting	
Supported standard and embedded unicode encoding maps (CMap), including CJK fonts	
Supports a set of 14 standard fonts (Courier, Helvetica, Times, Symbol and etc.)	
Supports embedding non-embedded fonts in PDF document	
Available collection of used fonts in PDF document	
PDF image compression	
ASCII hexadecimal and ASCII base-85	decode only
LZW (Lempel-Ziv-Welch)	decode only
ZIP (DEFLATE)	
RLE	
JPEG	
JPEG2000 (Part 2)	decode only
Group 3 or Group 4 CCITT facsimile (fax)	decode only
JBIG2 facsimile (fax)	decode only
Uncompressed	
PDF images	
Available collection of used images in PDF document	
Available image bitmaps	
Manages page pictures (adding, removing, transformation)	
PDF color spaces	
Supports RGB, CMYK, Grayscale color spaces	
Supports CIE-based, indexed and pattern color spaces	partially
PDF bookmarks (TOC)	
Manages bookmarks (adding, removing, hierarchy)	
Supports internal and external links, annotation actions	
PDF form fields	
Manages fields (adding, removing, hierarchy)	
Supports all types of interactive controls	
Supports form data operations (get and set direction)	
Supports import from / export to FDF format	
Supports composing form data to string, for submit to server	
PDF document signing and certifying	
Supports signature validation and document signing	
Supports document certifying, status of certification and standard set of certified permissions	
Supports PKCS#1, PKCS#7 and PKCS#7 detached signatures	
Supports MD5 and SHA1 hash algorithms	
Supports RSA (PKCS#1) and ECC (PKCS#13) cryptographic algorithms	
Supports trust validation of signer certificates and signer's identity	
Supports timestamp verification and online timestamping of	

signatures	
Signs with certificates from Windows crypto storage, from PFX or PVK files, directly from smart cards or eTokens.	
Automatically displays status of signatures as overlay on the page	
PDF optional content (layers)	
Manages layer groups (list of groups, layers visibility)	
PDF page annotations	
Manages page annotation collection (adding, removing, modifying)	
Supports all annotation types specified in PDF	
Supports common annotation properties (page area, text note and etc.)	
Supports markup annotation properties (author, icon type and etc.)	
Supports link annotations - internal and external	
Supports comment annotation properties	
Supports stamp annotation properties	
Supports watermark annotation properties	
Supports sound, movie and attachment annotation properties	
Supports interactive control annotation properties - all types specified in PDF	
Available annotation specific actions	
Available custom defined annotations	

WHAT'S NEW? HISTORY OF TECHNOLOGY EVOLUTION

Version 6 (1. September 2009)

Following features are new in this version:

- XPS library
 - Convert XPS to PDF, PDF to XPS
 - Display XPS files in PDF Quick Viewer
 - Create or modify XPS documents with Rich Edit library
- Full support JScript in PDF (Adobe compatible object model)
 - Document object model
 - Global objects: „app“, „global“, „console“
 - Processing JScript-actions in PDF Quick Viewer
- New functionality in PDF library
 - Possibility to load huge PDF files (> 1 GB)
 - Possibility to display PDF documents directly from file (compact using of memory)
 - Import page content from „GDI+“ metafiles
 - Possibility to use dynamic non-rectangle regions on the pages (text selection, transformed image areas)

- Support for non-rectangle links (optimized)
- Portable Collections: multiple embedded PDF documents are located within a single PDF file
- Improved import / export of FDF files
- Added export of form fields in XFDF and HTML format
- Possibility to add or replace content of layers
- New functionality in PDF Quick Viewer
 - Added processing PDF events and actions
 - Added possibility to define callbacks for relayout and scroll events in viewer
 - Dynamic marker in viewer - possibility to use dynamic non-rectangle regions filled by any color

Version 5 (01 Apr, 2008)

The following features are new in this version:

- Added support for 64-bit version of Windows
- Added library PDF Builder - ability to create PDF pages from content objects (text, vector graphics and raster images)
- Added library PDF Rich Edit - ability to edit content of PDF pages
- Improved combine ability for documents - merging bookmark collections (TOC) and document forms
- Added ability to merge some pages in one page
- Added import of HTML-files and Web-sites
- Added import of GDI+ metafiles
- Added document certifying, certified permissions are available
- Added timestamping of document and timestamp validation
- Added trust validation of signatures
- Added support for ECC digital signatures (PKCS#13) - validation and signing
- Added support for all annotations declared in PDF specification
- Added import/export for sound annotations from/to WAV-files
- Improved PDF Direct performances - quick and effective import of raster images
- Improved text and image selection in Quick Viewer
- Added double-side printing in Quick Viewer

Version 4 (01 Sep, 2007)

The following features are new in this version:

- Added support of version 1.7 of PDF specification (Acrobat Reader 8.0)
- Added support of object stream on save. The purpose of object streams is to allow all PDF objects in file to be compressed, thereby substantially reducing the size of PDF files (10-40% smaller)

- Added quick load of PDF file. This possibility radically reduces loading time of document (max 2-3 sec) and provides the ability to load every page on request only
- Added ability to use non-rectangular regions for link annotations
- Added support of optional content - layers
- Added support of embedded files
- Added support of modern icons for comments, stamps, attachments and etc.
- Added access to XFA storage in PDF document
- Improved support of form fields

Version 3.5 (01 Jan, 2007)

The following features are new in this version:

- Added support of PDF/A format (create or convert existing documents, in according with conformances PDF/A-1a and PDF/A-1b)
- Added support of FDF format (export from PDF and import to PDF document)
- Added support of SmartCard certificates for document signing (z. B. Telekom, Deutsche Post or D-Trust cards)
- Added possibility to split and merge documents (copy pages between different documents)
- Added support of incremental updates, including cascade signing (one by one approving signing of document)
- Added support of AES algorithm for document encryption
- Added decoding and displaying images in format JBIG2 (monochrome image compression)
- Added export of plain text from the page (for search or indexing)
- Added managing of pictures located on page (add, replace, remove)
- Added support of metadata streams (metadata represented in XML)
- Added support for some annotation types (attachment, video, audio)
- Added support of actions (including specific for annotations, pages, document)
- Added possibility to compose form fields data to string for submit
- Added support of UserUnit (user defined space units within page, in multiples of 1/72 inch)
- Improved loading time of PDF documents (up to 2 times faster)

Version 3 (01 May, 2006)

The following features are new in this version:

- Added support of version 1.6 of PDF specification (including new features, such as embedding OpenType fonts, watermarks as annotations, etc.)
- Added support of signing of documents by digital certificate (including multiple signing)

- Added possibility to verify of digital signatures, including validation of document invariability and verifying the signer's identity
- Added support of interactive form fields and controls (displaying and filling, creating and modifying)
- Added decoding and displaying image in formats JPEG 2000, CCITT (monochrome fax images)
- Added support of watermark annotations (including text and images)
- New improved API structure (many changes were made in according with requests from user's of library version 2.0)
- Improved loading time of PDF documents (up to 5 times faster) and saving time (up to 2 times faster)

HELLO WORLD! IT'S SIMPLE. A COUPLE OF SAMPLES

PDF SDK includes plenty of samples where each of them resolves one of the most general tasks concerning PDF documents. For example, PDF document creation (PDFDirect, PDFCreate), loading PDF files and displaying them (PDFQView, PDFQViewer, PDFControl) or printing (PDFPrint).

Each of these samples is presented in different programming languages and is created for different developer's platforms. So, in order to perform your first experiment you just need to choose a sample, copy it and also copy the necessary files from "Redist" folder (refer to the "[How to redistribute PDF SDK ?](#)" section for more information) into the folder with the compiled application.

In the table bellow you can find the list of samples in SDK; also there are marked samples that can be found in different programming languages.

Samples	VS 2008 C++	VS 2005 C++	VS 2003 C++	VS 2008 C#	VS 2005 C#	VS 2008 VB.NET	VS 2005 VB.NET	Delphi 7
PDFDirect	✓	✓	✓	✓	✓	✓	✓	✓
PDFCreate	✓	✓	✓					
PDFQView	✓	✓	✓	✓	✓	✓	✓	✓
PDFQViewer	✓	✓	✓					
PDFPrint	✓	✓	✓	✓	✓	✓	✓	✓
PDFActiveX	✓	✓	✓	✓	✓	✓	✓	✓
PDFControl				✓	✓	✓	✓	
PDFImport	✓	✓	✓	✓	✓	✓	✓	
PDFExport	✓	✓	✓	✓	✓	✓	✓	
PDFFillForm	✓	✓	✓	✓	✓	✓	✓	
PDFMergeDocs	✓	✓	✓	✓	✓	✓	✓	
PDFMergePages	✓	✓	✓	✓	✓	✓	✓	
PDFPrinter	✓	✓						

Short comments to the samples:

- PDFDirect – PDF document creation; PDF pages are being "drawn" on pseudo-printer (device context or graphics)
- PDFCreate - PDF document creation; PDF pages are being filled with content objects (text blocks, images, graphic objects)
- PDFQView – loads PDF file and displays content of its pages in the window
- PDFQViewer – creates a window-viewer of PDF documents; viewer functionality contains majority of the traditional functions that are in any document viewer – different layout support, zoom, scrolling, etc.
- PDFPrint – loads PDF file and prints it on the printer
- PDFActiveX – similar to PDFQViewer sample but it is created as a standard ActiveX object
- PDFControl - similar to PDFQViewer sample but it is created as a standard .NET-control object
- PDFImport – uses functionalities of "PDF Converter" and converts text (txt, rtf, html) and image files into PDF files
- PDFExport - uses functionalities of "PDF Converter" and converts PDF files into images with different formats (BMP, TIFF, JPEG, EMF, etc)
- PDFFillForm – represents work with fields of an interactive form in PDF document
- PDFMergeDocs – combines pages from two documents into one
- PDFMergePages – merges 2 document pages into 1 in such way that every converted page would present a broach with two original pages
- PDFPrinter - demonstrates integration with virtual printer (technology "Print to Document"), creates PDF files from printed documents

LICENSING MODEL - PAY ONLY ONCE!

Important. This section contains information which is only explanatory and is designed to help you to choose an optimal type of licensing. It is not a license.

Licensing model of the PDF Xpansion technology (i.e. purchasing the rights on its using) constantly improves so as the technology itself. To our opinion, this model has a lot of advantages that distinguishes it from other licensing rules of similar technologies.

The first advantage - the license is royalty-free, you pay for it only once. Its price does not depend on the number of the licensee's clients; on the number of the client's products with using PDF SDK or on the

number of the sold products. The license doesn't require neither sales reports on the products with integrated PDF library nor royalty payments. Also the license doesn't stipulate any annual payments during the whole period of using the purchased version of PDF Xpansion. Of course, this doesn't affect the technical service support which is provided according to the client's desire and is paid on the annual basis.

The second advantage - the license doesn't stipulate buying "developer licenses", which means that it doesn't restrict the number of workplaces on a single company location where the library integrates into the license holder's product or products. So, the license costs the exact price which is shown in the pricelist.

The third advantage is that our client purchases only that functionality which he is needed to, and he pays only for it and not for the full set of functionalities of the technology. For example, if the client application is designed only for viewing existing PDF documents and not for editing or creating new ones, then you can buy a license with the permission only on loading and displaying PDF files. This can be possible because all PDF SDK functionalities are split on relative groups. Each group contains one or more functions and performs relatively independent task. In the above example – displaying pages of any PDF file.

The forth advantage naturally flows out of the third one. If during PDF SDK usage our customer will desire to extend the functionalities of his current license, he will have to make an additional payment only for the new functionality; after that he will receive a license with more wide range of the rights.

As it was said before, the license contains a set of permissions, where each of them unlocks a group of functions in the PDF library. While purchasing the license, our client chooses by himself a set of permissions that he is buying.

Some permissions have an essential value, they are called "Libraries"; other - only additional value, they are called "Extensions". The difference between them is that technically, "Library" can be used alone, but "Extension" can be used only with some "Library". Combined usage of different permissions usually does not have any limitations.

License conditions

It is not allowed to use PDF SDK as a main functionality of customer's products. The scope of licenses is limited to service functionality; it means that the PDF Xpansion SDK couldn't be used as a kernel part of applications but as a service part of it.

License types

Office License – allows using PDF SDK only for one company and only within the company. Commercial usage (including it in own product or products) is prohibited. The company has to have **less then 100 employees** (network clients) and be concentrated in one place.

Business License – allows using PDF Xpansion SDK also in commercial products. Price request: [refer to us!](#)

All types of the licenses give the right to the license's owner on receiving all builds for purchased version of PDF SDK (with error corrections and small improvements of library's functions).

As an addition to the license you can purchase a technical support service and assistance to PDF SDK integration into client's products. This service is paid. Purchasing such service gives rights on:

- free PDF SDK update – after releasing a new version receiving a license with all the rights that were for the previous one
- technical consultations via the internet or on the phone
- small improvements of the actual PDF SDK version on a client's request after coordination with the developers and with the technical ability

PRICE LIST (OFFICE LICENSE)

Libraries and components	License price, €
Libraries	
PDF Direct - create and save PDF files (using GDI-draw)	1450
PDF/A Direct (incl. PDF Direct)	2150
PDF/A Converter (incl. PDF Direct and PDF/A Direct)	2750
PDF Builder - create and save PDF files (using page content object model)	1450
PDF Rich Edit - create or modify PDF files (using page content object model)	2750
PDF Quick View - load PDF files, draw or print pages	1750
PDF Quick Viewer - complete PDF viewer (displays document in window)	2750
PDF Quick Converter (PDF > image, image > PDF, text > PDF, PDF > text)	1250
XPS (XPS > PDF, PDF > XPS, create, modify, display and print) - new!	2750
Extensions	
Bookmarks (TOC)	100
Comments	100
Stamps	100
Hyperlinks	100

Watermarks	100
Callouts and textboxes	100
Shapes (line, rectangle, circle, polygon, polyline, arrow)	100
Markup (highlight, underline, strikeout, caret mark)	100
3D-Artworks (without rendering)	100
Embedded files, attachments and multimedia	150
Export plain text, export and modify pictures	150
Form fields and digital signatures, FDF/XFDF import and export	500
Text bounds* and dynamic text markup - new!	500
Layers, merge pages	450
Combine documents (copy pages, bookmarks, fields, etc.)	450
ActiveX or .NET Control (PDF Quick Viewer)**	200
Import from HTML (files and web sites)***	500
JavaScript** - new!	750
Service	
64 bit platform	10%
Worldwide and non West European languages (excl. ISO 8859-1) extra charge	>= 10%
Maintenance	25%

All prices in EUR exclude VAT.

*) A possibility to receive the bounds of any character (position and size on a page), as well as a possibility to apply dynamic text markup on a page using text bounds.

**) Extension for "PDF Quick Converter" with additional requirements

***) Extension for "PDF Quick Viewer"

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