

# PDF Xpansion SDK 10

## User Guide

# TABLE OF CONTENTS

PORTABLE DOCUMENT FORMAT (PDF).....	2
PDF XPANSION SDK .....	3
Overview .....	3
Experience .....	3
New Generation.....	3
Try it? .....	4
Buy it! .....	5
SDK Features.....	5
PDF File / Document .....	5
XPS File / Package / Document .....	7
Viewer.....	8
Global Settings and Object Factory .....	8
SDK Licensing Model – Pay Only Once!.....	8
License Conditions.....	9
License Types .....	10
License Agreement.....	10
Prices.....	11
INTEGRATION WITH TEXT RECOGNITION FUNCTIONALITY (OCR).....	16
CONTACT US.....	17

# PORTABLE DOCUMENT FORMAT (PDF)

A PDF document is a file saved in the Portable Document Format (PDF). The resulting file has the extension “pdf”. Adobe Systems Inc. proposed this format in 1993 as an open standard for document exchange. It presents documents independently of the hardware or software used to create or view them. Each PDF file encapsulates one document with a complete description of the page content according to a fixed layout, including the text, fonts, graphics and other information needed to display it.

From 1993 to 2006 Adobe Systems actively developed the PDF format and has released 7 new versions, up to version 1.7. The PDF format has spread widely through very different areas of electronic document management around the world. PDF format is now the de facto standard in various application areas.

At the start of 2007, Adobe Systems submitted an application to the International Organization for Standardization (ISO) to register the PDF format as an ISO standard. ISO published the approved ISO 32000-1 standard based upon PDF version 1.7 in July 2008. PDF thus became the de jure standard as well.

A PDF file contains document data in a binary format. A special program is required to read a PDF file – a PDF reader. You also need a special program to save a PDF file – a PDF creator (writer). To process a PDF file, you need a PDF editor program. The PDF Xpansion SDK is a good platform for creating any of these applications or an all-in-one solution. PDF Xpansion’s features grant you the power and flexibility to handle any task involving PDF files.

The structure of a PDF document contains of a lot of interrelated objects: pages, annotations, images, fonts, etc. If you use the PDF Xpansion SDK to process PDF documents, you don’t need to know or consider the peculiarities of a PDF document: the PDF Xpansion SDK ensures its internal integrity and correctness. At the same time, professional developers gain a wide range of powerful possibilities for processing PDF documents.

# PDF XPANSION SDK

## Overview

The PDF Xpansion SDK provides a set of APIs that you can use to create high-performance PDF/XPS-enabled applications and/or software solutions.

The PDF Xpansion technology grants you wide-ranging possibilities to create and edit PDF or XPS documents, display and print them, convert between these two formats, export and/or import to/from other file formats and much more.

You'll find a detailed feature list in the [SDK Features](#) chapter.

You'll find a description of the PDF Xpansion SDK API and all the required information about programming facilities in the [PDF Xpansion SDK Reference](#) included in the SDK delivery package.

## Experience

Soft Xpansion has been developing its PDF Xpansion technology for more than ten years. It draws upon our twenty years of software development experience and our deep knowledge of the PDF document format and document management techniques.

Our clients have integrated the six previous generations of the PDF Xpansion SDK into hundreds of applications, products and solutions. Using the SDK as a base, we have developed and provide:

- A wide range of consumer products (Perfect PDF, Perfect Print, etc.);
- A high-performance server solution (PDF Render Center) and
- Many customized DMS solutions.

Please consult our [Competence Center](#) for more info.

## New Generation

The new generation of PDF Xpansion technology is **PDF Xpansion SDK 10**.

### Development Platforms

This generation of SDK provides four sets of APIs with similar structures and functionality:

- C++ compatible API for Windows Desktop Applications and Server Solutions
  - .NET compatible API, including our PDF viewer, as WinForms and WPF controls
  - Windows RT compatible API for Windows Store Applications, including our PDF viewer
  - Windows Phone 8 compatible API for Windows Phone Applications, including our PDF viewer
-

For Delphi and/or C++ Builder developers we provide the wrapper library with COM interface. This wrapper allows to use most of functions of PDF Xpansion SDK in the applications written in any programming language which supports COM calls and interfaces. Please contact us if you need this wrapper.

## OS Platforms

The PDF Xpansion SDK works under Windows 7, Windows 8 (or 8.1), Windows RT and Windows Phone 8 without any additional or third-party components.

The SDK can be used under previous versions of Windows (Vista, Windows XP), but without display and print capabilities because these features use the Direct2D API (not supported under Vista and earlier OS's).

You'll find more information about redistributing the SDK in the [Redistributing PDF Xpansion](#) chapter of the [PDF Xpansion SDK Reference](#).

## Hardware Platforms

The PDF Xpansion SDK contains a set of libraries for the x86 and x64 platforms as well as Windows RT and Windows Phone libraries for ARM processor architecture.

## Multithreading

The PDF Xpansion SDK libraries are safe for multithreaded operations with multiple document objects. You can process several documents in multiple threads without any synchronization. The interface of document object and child objects cannot be considered to be thread-safe. In practice, this means that you cannot access a document and/or child objects from two or more threads without additional synchronization.

## Unicode and Internationalization

The PDF Xpansion SDK libraries are fully Unicode-enabled and provide data types for Unicode-only programming. The libraries do not contain any localizable data or messages.

## Try it?

If you'd like to test the performance and functionality of the PDF Xpansion SDK, you can download the current version of the SDK with a trial license from our web site. This license allows you to use all the SDK features but applies a demo watermark to the document pages. Use the samples included in the SDK for a quick start or read the [Getting Started](#) chapter in the [PDF Xpansion SDK Reference](#).

You also find our applications based on the **PDF Xpansion SDK** in the [Windows Store](#) and in the [Windows Phone Store](#)!

## Buy it!

The licensing model is simple, flexible and ensures our clients a reasonable price. You'll find more information about the license model and prices in the [SDK Licensing Model](#) chapter.

## SDK Features

### PDF File / Document

#### Open

The SDK loads a document from any file or stream that conforms to the PDF specification (versions 1.0 - 1.7), to ISO 32000 standards (versions 1 and 2) or to any PDF subset (PDF/A, PDF/X., etc.).

#### Save

The SDK saves documents to files or streams conforming to ISO 32000 standards (versions 1 and 2).

#### Print

The SDK enables the printing of PDF documents – individual pages, content, comments, forms, etc.

#### View / Render Pages

The SDK provides a draw procedure for displaying pages or rendering pages as raster images. This procedure uses the Direct2D API.

#### Combine (Merge) Pages

The content of different pages can be combined into a new page.

#### Manage Document Pages

The pages in a document can be added, removed, moved within the document structure, resized and rotated without changing their content.

#### Search in Text, Export Text

The SDK can search within a document's text. It is also possible to export plain text.

#### Encryption (Document Security)

The SDK loads not only non-encrypted PDF files but also files encrypted using a password security handler and public-key security handler. The algorithms RC4 and AES are supported, as are different key lengths that are declared in ISO 32000. Additionally, the SDK supports the encryption algorithm specified in ISO 32000-2 and used in Adobe Acrobat X or higher.

The SDK allows you to encrypt documents using these two security handlers and any combination of supported algorithms and key lengths. You can specify user permissions for the encrypted documents.

Support for custom encryption algorithms or security models is available upon request.

## **Digital Signatures**

The SDK provides an API for signing documents and validating signatures according to all the signature and digest formats declared in the PDF specification. The SDK also supports timestamping signatures.

## **Form Fields**

The SDK provides access to data from form fields. It is possible read or write field values. The SDK also allows you to modify forms: add, remove or edit form fields.

## **Combine and Split Documents**

Using the SDK you can copy pages from one document to another and combine or split new documents. The combine function allows you to copy not only pages but also to correctly copy links, bookmarks, fields, layers and other elements of PDF documents to a new document.

## **Revisions (Incremental Updates)**

If a document contains several document versions (revisions), the SDK loads the document in the state of the last version. You can select any other revision before the first modification of the document. You can save any modifications to the currently loaded document as a new version (revision, incremental update).

## **Document Properties and Metadata**

The SDK provides an API for accessing different document properties and metadata.

## **Document Outline (Bookmarks)**

The SDK allows you to use and/or edit the table of contents within a document.

## **Layers (Optional Content)**

The SDK provides an API for using or managing document layers.

## **Embedded Files and Portfolio**

Insert and explore other files that are embedded in the PDF file. Support for portfolio functionality according to the PDF specification.

## **Annotations**

The SDK supports most common types of PDF annotations and design facilities: text markup,

---

forms, notes, textboxes, stamps, watermarks, pen, eraser, media annotations, embedded files as comments and reply in comments. It provides an API for managing annotation properties and allows you to generate appearances after changes in properties.

## **Convert to PDF/A**

The SDK converts PDF documents to make them compliant with the PDF/A-1, PDF/A-2 and PDF/A-3 formats. A, B and U levels of conformance are supported.

## **Import from XPS**

The SDK enables the quick, high-quality conversion of XPS documents to PDF documents.

## **XPS File / Package / Document**

### **Open**

The SDK loads packages from any file or stream that conforms to the XPS specification.

### **Save**

The SDK saves packages to files or streams conforming to the XPS specification.

### **Properties**

The SDK provides package properties for reading and editing.

### **Documents and Pages**

The SDK provides an API for managing documents within packages and pages within documents.

### **Print**

The SDK enables print a single document or all the documents in a package.

### **View / Render Pages**

The SDK provides a draw procedure for displaying pages or rendering pages as raster images. This procedure uses the Direct2D API.

### **Search in Text, Export Text**

The SDK provides search functionality for text search within a document or package. Exporting plain text is possible.

### **Outline, Links and Named Destination**

The SDK provides an API for navigating within documents/packages and for editing outline structures, links and named destinations.



## Export to PDF

The SDK enables the quick, high quality conversion of XPS documents to PDF documents.

## Viewer

The viewer is a window or control (according to the development platform) that displays PDF, XPS or other documents and processes for end user activity (touchscreen, mouse and keyboard input). The viewer supports different layouts of displayed document, free zooming and several fit modes.

## Navigation

The layout canvas can be scrolled by the program or by the end user. The viewer allows navigation to specific pages or exact places on the page. The viewer also supports links in PDF and XPS documents.

## Interactive Forms

The viewer provides the possibility to fill interactive form fields in PDF files.

## Read and Edit Document Notes

The viewer implements dynamic popups for markup annotations in PDF documents – the end-user can read and/or edit annotations and notes in the PDF file.

## Annotation Tools

The viewer implements multiple interactive tools. These tools provide the end user with the ability to make comments in PDF documents: text markup, textboxes and callouts, pen markup, sticky notes, stamps, etc.

## Customization

You can customize and extend the viewer functionality using the viewer API and the flexible event model.

## Global Settings and Object Factory

### Global SDK Settings

You can get or set several common SDK settings and properties: memory usage, file caching, local time offset, etc.

### Object Factory

You can create several SDK objects using the object factory interface.

## SDK Licensing Model – Pay Only Once!

This chapter describes the licensing model and is intended to help you select the optimal type of a license. It is not a license itself.

The licensing model is simple, flexible and ensures our clients a reasonable price. This model has a lot of **advantages** that distinguish it from other licenses for similar technologies.

### **Advantage 1: Royalty-free license.**

You only pay for it once. The price does not depend on the number of the customers the licensee has, on the number of products produced by the licensee using the PDF Xpansion SDK or on the number of products sold. The license does not require sales reports for products using the SDK libraries nor are there royalty payments. The license does not stipulate any annual payments during the whole period of using the purchased version of the PDF Xpansion SDK, except for optional maintenance payments.

### **Advantage 2: No developer licenses.**

The license doesn't stipulate that you to buy "developer licenses", which means that it doesn't restrict the number of workstations in a single company location where the library can to be integrated into the licensee's products.

### **Advantage 3: Pay for what you really need.**

You purchase only the functionality you need at the moment and do not have to pay for the whole SDK or for unnecessary components.

### **Advantage 4: Extend functionality – it's easy!**

The only thing you need to do is order the additional functionality. You pay for the additional components or features only. No processing fee.

## **License Conditions**

- The scope of licenses is limited to service functionality: using the PDF Xpansion SDK as a main functionality of a customer's products is not permitted. This means that the SDK cannot be used as the kernel or core of an application but can be used as a service or component of it.
- The final decision about an applicable license type will be made by the licensor, soft Xpansion.

## **Maintenance**

You can purchase technical support service and assistance with the integration of the SDK into client products, as well as maintenance, as an add-on. This is a paid service. Purchasing the service entitles you to:

- Free SDK updates – after the release of a new SDK version you will receive a license with the

permissions included in the previous one

- Professional tech support via email or by phone
- Quick, priority bug fixing with short response times
- Small improvements to the current SDK version at the client's request, following coordination with the developers and based on the technical resources required.

## License Types

There are three license types for the PDF Xpansion SDK: Office, Business and Corporate.

### Office License

The license permits the use of the PDF Xpansion SDK only within the company at a single company location with less than 100 employees (Windows PC workplaces). Commercial use (i.e., including it in your own products) is prohibited.

### Business License

The license permits using the PDF Xpansion SDK

- For a distribution of the products created by Licensee as **standard applications**. All products should be released by a single copyright owner. With an unlimited number of products and sales (royalty free) in up to five countries worldwide.
- In your own software for use within your own company, with an unlimited number of employees (workplaces) and for multiple company locations in up to 5 countries worldwide.

The business license cannot be used in the following cases:

- Using the SDK in several individual projects (non standard apps) outside your company
- Using the SDK in the server solutions of high productivity (processing of 5000 docs per day)
- Using the SDK as part of another SDK or development tools
- Using the SDK as part of an Intranet-based or Internet web service
- Global use in more than 5 countries (inc. development, internal use, distribution)

### Corporate License

The special corporate license permits the use of the PDF Xpansion SDK in cases that are not covered by the Office and Business Licenses. Contact us for the Corporate License prices and conditions.

## License Agreement

You'll find more information about various licenses and maintenance services in the License

---

Agreement. [You can request the agreement template via email.](#)

## Prices

The price for the PDF Xpansion SDK is different for each license type and is made up of three components:

- Required functionality – only the features you need (one royalty-free fee)
- Additional properties and services - supported platforms, languages, etc. (additional one-time royalty-free fee)
- Maintenance – optional service, annual fee

Below you will find the current price list for the individual features, properties and services. Only the prices for the Business license are listed. They are intended to serve as an orientation and may vary depending on the actual requirements of the licensee. The prices for the Office license are usually 2-3 times lower. The prices for the Corporate license depend on how the PDF Xpansion SDK will be used in the licensee's tasks and projects and are calculated individually. Please [contact us](#) for to request an offer based on your needs.

Functionality	Price (€)
PDF Functionality	
Open file/stream	1000
Save file/stream	1000
Open/save encrypted documents (open/save permission are required)	200
Save changes in PDF as revision (save permission is required)	300
Split/combine documents (open and save permissions are required)	500
Compose pages (merge content of pages, copy pages within document)	500
Page management (add, move, remove, resize, etc.)	100
Search text (and export plain text)	500
Print document	500
Render and/or display pages	2000
Signatures - verify and sign, timestamps	500
Form fields – fill and read values, create and edit properties	500
FDF, XFDF (import / export / submit), HTML (submit)	500
Links , Bookmarks (TOC, Outline), Named destinations	300
Annotations – processing using SDK API	
Text markup	300
Notes, stamps, watermarks	300
Textbox & callout	300
Pen, eraser	300
Shapes (line, rectangle, circle, etc.)	500
Media & 3D annotations	500
Attachment annotations	200
Replies & Statuses for comments	500
Layers	300
Embedded files	300
Associated files (relationships of embedded files)	200
Metadata	200
Logical document structure and marked content (tagged PDF)	1000
Custom crypto filter	1500
Articles	300
Document parts	300
Portfolio	500
Create / Processing	
Explore PDF content (Rich Content Editor)	2000

Create PDF content (Rich Content Editor)	2000
Edit PDF content = Explore + Create	
Convert to PDF/A-1 <sup>1</sup>	1500
Convert to PDF/A-2 <sup>1</sup>	1000
Convert to PDF/A-3 <sup>1</sup>	1000
Import from XPS (open XPS and save PDF permissions are required)	1500
Import from SVG as a page	1500
Import GDI metafiles (EMF) as a page	1000
Import GDI+ metafiles (EMF+) as a page	1500
Vectorize text	1000
Recognize content bounds	300
<b>XPS / OXPS Functionality</b>	
Open file/stream	750
Save file/stream	750
Split/combine documents / packages (open and save permissions are required)	500
Compose pages (merge content of pages, copy pages within document)	300
Page management (add, move, remove, transform)	200
Search text (and export plain text)	300
Print document	300
Draw/render pages	1500
Signatures (verify / sign)	500
<b>Processing</b>	
Explore XPS content (Rich Content Editor)	1000
Create XPS content (Rich Content Editor)	1000
Import from PDF (open PDF and save XPS permissions are required)	1500
<b>Viewer Functionality</b>	
Basic functionality ("open document" and "display pages" permissions are required)	1000
Form filling	500
Popups, thumbnail view, snapshots (viewer state)	300
Media player API	500
WPF-Control	300
<b>Interactive end user tools</b>	
Lens & snapshot (screenshot) tools	200
Tracker tool (supports creating of notes, stamps, watermarks)	200
Rectangle zones tool (supports creating/editing of form fields, links, etc.)	200
Text selection, text markup	300
Stylus	300

Management of PDF annotations (move, resize, delete, etc.)	300
PDF Textbox & callout	300
PDF Pen, eraser	300
PDF Shapes (line, rectangle, circle, etc.)	300
Dynamic notes	
Text Markup	500
Comments & Pen	500
Shapes	300
<b>Other Functionality</b>	
Rich Text Box	500
Image / Text documents	300
Fragment / Composite documents	500
Acquisition documents (Scanners & Web Cameras) <sup>2</sup>	300
JavaScript actions <sup>3</sup>	1500
Text recognition (OCR) <sup>4</sup>	--
<b>Developer Platform / Processor Architecture / Text Processing</b>	<b>X-Charge</b>
<a href="#">Windows Desktop / Service apps (C++)</a>	--
.NET apps (C# / Visual Basic)	10%
Windows Store apps (C++ / C# / Visual Basic)	20%
Windows Phone apps (C# / Visual Basic)	30%
COM API (for C++Builder, Delphi, etc.)	10%
<a href="#">x86 Architecture</a>	--
x64 Architecture	10%
ARM Architecture	20%
<a href="#">Support of West European languages (ISO 8859-1 encoding)</a>	--
Support of European languages (ISO 8859-2,3,4,5,7,9,10,13,14,15,16 encoding)	5%
Support of Asian languages	10%
Support of Arabic, Hebrew, other RTL languages	30%

<sup>1</sup>) If you buy two versions of PDF/A you get 500 EUR discount, for three versions of PDF/A you get 1000 EUR discount.

<sup>2</sup>) The feature uses WIA / WIA2 technologies in desktop versions of Windows.

<sup>3</sup>) The JavaScript interpreter of embedded PDF scripts. Available in desktop versions of Windows only. The document object model is restricted according to that available in Adobe Reader.

<sup>4</sup>) The feature uses Tesseract OCR engine. It is free and without support.





# INTEGRATION WITH TEXT RECOGNITION FUNCTIONALITY (OCR)

Text recognition (OCR) is included in the PDF Xpansion SDK and is implemented using the [Tesseract OCR engine](#) (HP, Google). This feature enables you to recognize text in images in your PDF files and to make your scanned PDF documents searchable. The recognized text can also be exported as plain text from scanned PDF pages or from images that contain text content. See the [PDF Xpansion SDK Reference](#) for more information. You do not need to use the Tesseract engine directly in order to use this feature.

Current version: 3.xx.

Number of supported languages: 60.

**This feature in the PDF Xpansion SDK is completely FREE!**

The Tesseract OCR engine has been released under [Apache License 2.0](#).

# CONTACT US

## **soft Xpansion GmbH & Co. KG**

Koenigsallee 45, 44789 Bochum, Germany

Phone: +49 234 2984171

Fax: +49 234 2984172

E-Mail: [pdf@soft-expansion.com](mailto:pdf@soft-expansion.com)

[www.soft-expansion.com](http://www.soft-expansion.com)