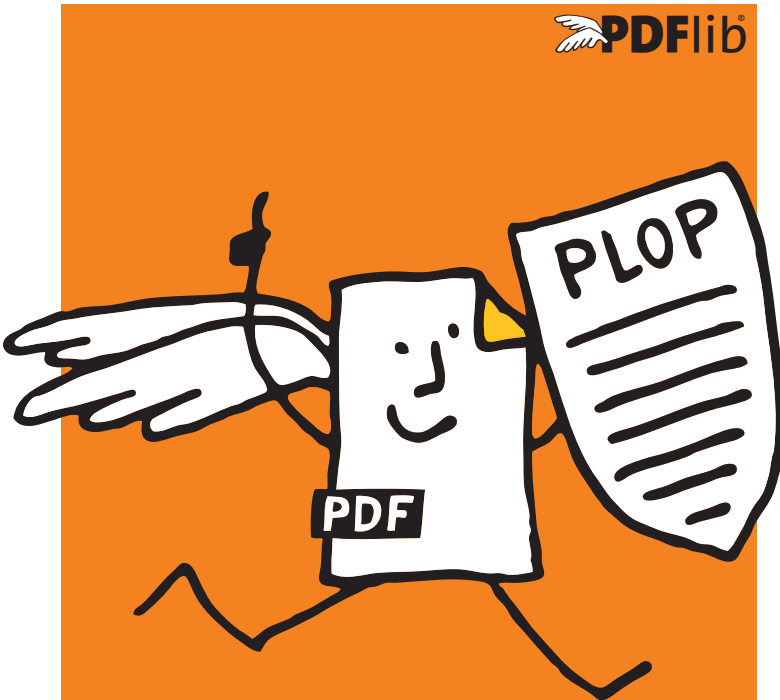# PDFlib PLOP 5.4

PDF Linearization, Optimization, Protection

What is PDFlib PLOP?

PDFlib PLOP is a versatile tool for linearizing, optimizing, repairing, analyzing, encrypting and decrypting PDF documents. PLOP linearization and optimization features create efficient and small PDF documents for fast Web delivery. PLOP protection features encrypt or decrypt PDF documents and apply or remove permission settings, such as »printing not allowed« or »content extraction not allowed«. PLOP's repair mode automatically detects damaged PDF documents and fixes the problems if possible. PLOP analysis features can be used to query arbitrary properties of a PDF document. Document info entries and XMP metadata can be retrieved and set in a PDF/A and PDF/X conforming manner.

PDFlib PLOP Features

Linearization

With PDFlib PLOP you can linearize a PDF document for fast delivery over the Web (byteserving). Byteserving increases the perceived download speed since the first page is already visible while the remainder of the document is downloaded in the background.

Optimization

PLOP can reduce the file size of a PDF document without affecting quality. It achieves this by removing unnecessary or redundant identical objects, such as repeatedly embedded fonts, images, identical ICC color profiles, etc.

Password Security with symmetric Encryption

PLOP can apply user and master passwords, and set permission restrictions to prevent the document from being printed with Acrobat, disallow text extraction or modification, etc.

PLOP supports strong AES-256 encryption and Unicode passwords. With PLOP you can:

- ▶ encrypt a PDF document with user or master password;
- ▶ remove PDF encryption (if you know the master password);
- ▶ add or remove permission restrictions, e.g. »text extraction not allowed« (if you know the master password).

Certificate Security with Public Key Encryption

PLOP supports certificate security which works similar to e-mail encryption. PDF documents can be encrypted for a group of recipients, where each recipient is identified with a certificate (public key). Only legitimate recipients can open the document with the corresponding digital ID (private key). Since certificate security is an integral part of the PDF specification it works in Acrobat and Adobe Reader without the need for any plugin or other custom software.

Certificate security offers several advantages over password security:

- ▶ no passwords must be distributed to the document recipients;
- ▶ individual permission restrictions can be specified for each recipient or groups of recipients;
- ▶ recipients cannot pass on document passwords to unauthorized third parties.

With PLOP you can encrypt PDF documents with certificates, apply permission restrictions, and decrypt documents which are protected with certificate security (provided you have a suitable digital ID).

The advantages of certificate security can be leveraged e.g. for securely distributing transaction documents or commercial content.

Repair Mode

PLOP detects various structural PDF problems and automatically repairs the document. PLOP also fixes certain XMP problems and optionally removes damaged XMP metadata.

PDF Analysis with pCOS

PLOP includes the pCOS programming interface and the pCOS command-line tool for querying details about a PDF document, e.g.

- ▶ extract document info entries and XMP metadata
- ▶ list fonts and other resources
- ▶ query page sizes
- ▶ query security status, encryption scheme, permission settings
- ▶ many more PDF properties (see separate pCOS datasheet).

XMP Metadata

Metadata is an important topic in many areas of application software. XMP (Extensible Metadata Platform) is an ISO-standardized XML-based framework with many predefined metadata properties. XMP is integrated in Acrobat/PDF, and much more powerful than simple document info entries. XMP is required for PDF/A and other ISO standards. Many industry groups have published XMP-based recommendations for vertical applications.

With PLOP you can insert XMP metadata in PDF documents and extract XMP from PDF. Inserted XMP is validated to ensure correct and standard-conforming output. If the input document conforms to PDF/A or PDF/X, PLOP ensures the XMP rules set forth in the respective standard.

XMP insertion with PLOP can be used in the following and other situations:

► Add XMP metadata to PDF/A documents, including support for XMP extension schemas according to the PDF/A standard.
► Add XMP metadata describing the scanning process for digitized legacy documents, also according to PDF/A.
► Add XMP metadata according to the Ghent Workgroup (GWG) Ad Ticket scheme.
► Add company-specific XMP metadata.

Document Info Entries

With PLOP you can add new document information entries or replace the values of existing info entries. Both predefined and custom entries can be set. If the input document contains XMP document metadata, all predefined info entries are synchronized to the XMP metadata in order to keep the metadata consistent (this is a requirement of PDF/A).

PDF Versions and Standards

PLOP supports all relevant PDF versions and standards:

► PLOP processes all PDF versions up to PDF 1.7 (ISO 32000-1) including extension level 8 and PDF 2.0 (ISO 32000-2).
► PLOP is aware of the PDF/A-1/2/3 (ISO 19005) archiving standards: if the input document conforms to PDF/A, the output document is guaranteed to conform as well. PLOP fully supports XMP extension schemas as required by PDF/A.
► Similarly, PLOP is aware of the PDF/X-3/4/5 (ISO 15930) print production standards, PDF/VT-1 (ISO 16612-2) for variable and transactional printing and PDF/UA-1 (ISO 14289) for accessible PDF.

Deployment

PLOP Library or Command-Line Tool?

PLOP is available as a programming library (component) for various development environments and as a command-line tool for batch operations. Library and command-line tool offer similar features, but are suitable for different deployment tasks.

The PLOP programming library is used...

...for integration in desktop or server applications. Programming examples for using the library with all supported language bindings are included in the PLOP package. Since the PLOP library accepts PDF input documents from a disk file or directly in memory it can easily be combined with other products.

The PLOP programming library also contains the pCOS interface for retrieving a variety of PDF document properties.

The PLOP command-line tool is suited...

...for batch processing PDF documents. It doesn't require any programming, but offers powerful command-line options which can be used to integrate it into complex workflows.

Supported Development Environments

PDFlib PLOP is everywhere – it runs on practically all computing platforms. We offer 32-bit and 64-bit packages for all common flavors of Windows, macOS, Linux and Unix, as well as for IBM zSeries mainframe systems. Versions for iOS and Android are also available.

The PLOP core is written in highly optimized C and C++ for maximum performance and small overhead. Via a simple API (Application Programming Interface) the PLOP functionality is accessible from a variety of development environments:

► C and C++
► Java
► .NET and .NET Core
► Objective-C (macOS and iOS) and Swift
► Perl
► PHP
► Python
► Ruby

PLOP DS for digitally signing PDF

The extended version PLOP DS supports all features of PLOP plus the ability to apply digital signatures to PDF documents. Please refer to the separate PLOP DS datasheet for more information.

Benefits of using PDFlib Software

Rock-solid Products

Tens of thousands of programmers worldwide successfully use our software. PDFlib products meet all quality and performance requirements for server deployment. All products are suitable for robust 24x7 server deployment and unattended batch processing.

Speed and Simplicity

PDFlib products are fast – up to thousands of pages per second. The programming interface is straightforward and easy to learn.

PDFlib Products all over the World

Our products support all international languages as well as Unicode. They are used by customers in all parts of the world.

Professional Support

If there's a problem, we will help. We offer commercial support to meet the requirements of your business-critical applications. By adding support you will have access to the latest versions and have guaranteed response times should any problems arise.

Licensing

We offer various licensing options for server licenses, integration and site licenses, and source code licenses.

About PDFlib GmbH

PDFlib GmbH is completely focused on PDF technology. Customers are using our products since 1997. In 2006 we were one of the founding members of the PDF Association (formerly PDF/A Competence Center). The company closely follows development and market trends such as ISO standards for PDF. PDFlib GmbH products are distributed all over the world with major markets in Europe, North America and Japan.

Contact

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