ABBYY

ABBYY FineReader Engine 12 for Mac

Release 5

Release Notes

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Technical information

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| **Release** | **Part#** | **Build#** | **OCRT build #** | **Release date** |
| **Release 5 Update 1 for macOS Intel** | **1377/15** | **12.5.12.26024** | **16.2.503.564845** | **2022.04.25** |
| **Release 5 Update 1 for macOS ARM** | **1377/16** | **12.5.12.26025** | **16.2.503.564844** | **2022.04.25** |

New features

Technologies

OCR technology update

* To implement the neural network approaches in OCR technologies, ABBYY FineReader Engine was  
  enhanced by the new features of processing the Latin symbols:
* New language model using both for a consistent choice of word variants generated by OCR  
  and for the substitution of new word variants.
* End-to-end recognition for Latin-based languages.

Machine learning barcode recognition technology

* Neural network architecture introduces a new barcode recognition model based on parsing image  
  pixels into two categories: barcode or non-barcode. Regions built around the connected components  
  are further considered as a barcode hypothesis. The recognition process is started using data from  
  each region containing the type of barcode that is highlighted as the most probable.
* New technology depends on image resolution and has no dependency on the number of barcode  
  types to detect. This leads to slower processing speed comparing to the legacy technology on images  
  of less than 300 dpi resolution and when a single or few barcode types are to be detected.

Improved table structure analysis

* With the improved mechanism of document conversion, ABBYY FineReader Engine can detect false  
  vertical separators and correctly process the tables with columns of numbers in the **‘Accounting’**format when a currency symbol ('$') is aligned to the left in all cells.

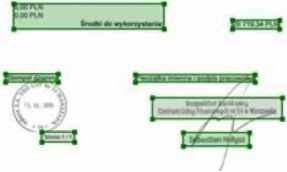
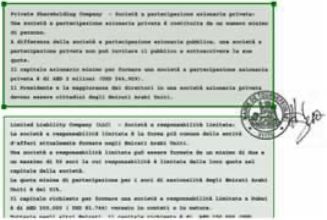
New ‘Accurate’ recognition mode

* The new **‘Accurate’** mode allows you to get the maximum quality of the output document, assuming  
  a reasonable slowdown in the recognition speed. To obtain the best results in processing, use this  
  mode on poor-quality documents and images:
* invoices and contracts (scans, small text, photographs)
* receipts (poor print quality of the original receipt, scan, or photo)
* ID documents (text is printed on a complex background with textures or illustrations,  
  holography on the text)

OCR improvements for text near stamps and signatures

- To improve the results of recognition for the agreements, a new neural network model for detecting  
stamps, logos, and signatures is now applied. This model allows to detect the additional elements in  
the footers and requisites area of the document, exclude them from the analysis, and highlight the  
text in the image, ignoring the details. The recognized blocks are superimposed on the image in such  
a way as if it were a similar document without extraneous marks and stamps.

Document objects detection (stamps, signatures, logos). **ABBYY**Examples (DA result with object detection)



* Correct text order, further natural language text analysis is possible
* All text is inside text blocks, can be recognized

Better PDF file processing

* ABBYY FineReader Engine can recognize various PDFs from image-only (scans) to digitally-born  
  (text and pictures) and tries to reuse all information from them. But there are occasions when PDF  
  files are a mix of image-only and digitally-born pages in one PDF file, thus making them difficult to  
  process. To cover such cases and let customers recognize such files in manual mode, ABBYY  
  FineReader Engine provides new options:
* Adaptive recognition to improve and speed up PDF processing (default PDF recognition  
  mode: **PulIXTextAndRecognizeRest).**
* Text layer quality classifier for preserving good one in the output format (the CheckTextLayer  
  method of the IFRDocument object)
* New content reuse mode for processing the PDF or Office documents with mixed content  
  **(CRM\_ContentAndPictures** in **SourceContentReuseModeEnum).**
* Additionally, ABBYY FineReader Engine was enhanced by the option detecting the presence of a  
  digital signature on a document page or inside the PDF (IFRDocument::SourceHasDigitalSignature,  
  IFRPage::SourceHasDigitalSignature).
* To ensure more flexible forming the PDF contents, ABBYY FineReader Engine offers the new options:
* Opening PDF Portfolios and processing their contents
* Adding custom images to the output PDF and managing their positions

NeoML (open-source ML C++ library) usage

* NeoML is an end-to-end machine learning framework that allows you to build, train, and deploy ML  
  models. This framework is used by ABBYY engineers for computer vision and natural language  
  processing tasks, including image preprocessing, classification, document layout analysis, OCR, and  
  data extraction from structured and unstructured documents.
* Key features:
* Neural networks with support for over 100 layer types
* Traditional machine learning: 20+ algorithms (classification, regression, clustering, etc.)
* CPU and GPU support, fast inference
* ONNX support
* Languages: C++, Java, Objective-C
* Cross-platform: the same code can be run on Windows, Linux, macOS, iOS, and Android

Embedded PDFium for processing PDFs

* PDFium is a cross-platform native library conforming to PDF standards and controlling all operations  
  related to PDF, including processing, parsing, rendering, and obtaining the output.

Bangla OCR: New supported language

* Bangla language has been added to ABBYY FineReader Engine as a technical preview and now can  
  be applied in scenarios with simple document layout preservation.

Arabic OCR

* ABBYY FineReader Engine got the new neural network technologies for significantly increasing the  
  Arabic recognition accuracy and correcting the misrecognition of European insertions into Arabic text,  
  losing text strings, and reducing the excessive calls.

Japanese OCR: support of single ,OC unicode character

* To improve the detection of the symbols in Japanese, the output document is corrected by the OCR  
  technologies, so the single '°C Unicode character goes out instead of the two separate characters ,o'.

PowerPoint export improvements

* ABBYY FineReader Engine now has a better conversion for the presentation formats including the  
  enhanced layout preservation and the generating of the correct appearance for the output:
* Frames preservation around text elements, paragraphs
* Separators preservation
* Logical grouping of text elements (e.g., text columns)
* Text fitting into a shape
* Preservation of indentation between paragraphs

Enhanced extraction of PDF attachments

* Now, you can obtain the list of attachments from PDF Portfolio in the order established when creating  
  a PDF file. Use the IFRDocument::PDFAttachments property to access the collection of the  
  documents extracted from the input PDF files.

Using grace periods for licenses

* With the new option, customers can use the ABBYY FineReader Engine license for some time after  
  the expiration date, thereby enlarging the license validity period.

System requirements

For supported systems

* macOS 10.15.x Catalina
* macOS 11 x Big Sur

Deprecated systems

* macOS 10.13.x High Sierra
* macOS 10.14.x Mojave

New features

New option for licenses with expiration date

- If a license is valid and the expiration date hasn’t reached yet, the **‘Expiration Date’** field in License  
Manager contains the exact date value (Expires on <your\_license\_expiration\_date>).

Q ABBYY SDK 12 License Manager

License Service Help

Licenses

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|  | Functionality Subset | Protection Type | Installation Type | Expiration Date |
| 1027 | Developer Trial | Software (File) | Standalone | Unlimited |
| 4832 | Runtime Professional | Software (File) | Standalone | Unlimited |
| 8606 | Developer Professional | Software (File) | Network | Unlimited |
| 7116 | Runtime Trial | Process Local | Standalone | Unlimited |
| 2336 | Runtime Professional | Process Local | Standalone | Expires on 31-03-22 03... |
| |4848 | Runtime Trial | Process Local | Standalone | Grace period expires on... | |

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Activate License... Update License... Refresh Close

Hide License Parameters <<

License Parameters

|  |  |
| --- | --- |
| Description | |
| Functionality Subset | Runtime Trial |
| Protection Type | Process Local |
| Serial Number | SWRO-1221-0001-0864-8526-4848 |
| Project ID | nw6ktWBxQS2bWIV5HVm3 |
| Expiration Date | Grace period expires on 19-02-22 03:00 |
| Grace Period | 2 |
| Productivity | |

- After passing the expiration date, the grace period starts, during which the license is still valid. The  
duration of this period depends on a particular license (it displays in the **‘Expiration Date’** field for  
license and in License Parameters). Upon the expiration of the grace period, the license becomes  
permanently invalid.

New library to work with PDFs

* Now, all processes connected to PDF processing go through the Google PDFium Library.

Export to XLS/XPS

* The API required for document export to XLS/XPS format **(XLSExportParams, XPSExportParams,  
  FileExportFormatEnum (FEF\_XLS, FEF\_XPS), IXLExportParams::XLFileFormat,  
  XLFileFormatEnum, XPSExportModeEnum)** is now fully available in Linux version.

API Changes

Changes in recognition mode

* **IRecognizerParams** object now has the new **‘Mode’** property instead of the **‘FastMode’** and  
  **‘BalancedMode’** properties. The **‘Mode’** property allows to specify the recognition mode to be applied  
  to the target documents - Fast, Normal, or Accurate mode, each of which provides its own accuracy  
  and recognition speed.
* **RecognitionModeEnum** denotes the recognition modes used during the document or image  
  processing.
* The profiles responsible for the speed results have been updated by the enhanced recognition mode.
* Recognition mode is no longer protected by the license modules, as it was in the previous releases.
* The CLI sample got the new *-rm* key for specifying the recognition mode in the command-line-based  
  applications.

Engine API

* New **‘IsPdfPortfolio’** and **‘IsPdfPortfolioFromStream’** methods to find out if an input PDF is a PDF  
  Portfolio.
* **‘FREngineDataFolder’** property of the **InitializeEngine** function and method now has new default  
  values. Now, the auxiliary engine data and license data are written into different folders that may be  
  re-defined by a user.
* **‘IsPdfWithTextualContent’** and **‘IsPdfWithTextualContentFromStream’** methods working with  
  input PDF text layer are now available in Mac version.

Barcode API

* **‘EnableBarcodesCheck’** option of the **BarcodeParams** object specifies whetherto use the classifier  
  of the presence of a barcode on an image. Use this property for all barcodes except the postal ones.
* **BarcodeTypeEnum** got the new **BT\_AutodetectWithoutPostal** constant for detecting the type of  
  barcode automatically excluding the postal ones.
* **BarcodeTypeEnum** got the new **BT\_JapanPost** constant which supports the Japanese Post 4-state  
  Customer Code type.

Document-related API

IFRDocument:

* **‘ConvertFromOldVersion’ -** this method loads the document saved only by the previously supported  
  versions of ABBYY FineReader Engine and **FREngineVersionEnum** denotes these previously  
  supported versions.
* **‘SourceHasDigitalSignature’ -** this property indicates the presence of the digital signature inside one  
  of the documents.
* **‘CheckTextLayer’ -** this method detects a text on the specified pages or checks the reliability of a  
  text, e.g., the absence of the broken encoding.
* **‘AllocatedSize’** - this property returns the size of the memory allocated for the document in bytes.
* **‘PDFAttachments’ -** this property accesses the collection of the documents extracted from the  
  input PDF files.
* New **‘AddlmageFileFromAttachments’** method of the **FRDocument** object to open an image file  
  from attachment and add it to a document.

IFRPaae:

* **‘SourceHasDigitalSignature’ -** this property indicates the presence of the digital signature on at least  
  one of the pages of the source document.
* **‘SourceFilePagelndex’ -** this property returns the page index in the source document.

Other changes:

* **PDFAttachment** object was enhanced by the new **‘FileFormat’** property to define the image format  
  after its opening in ABBYY FineReader Engine.
* **PDFAttachmentBindingEnum** now has the **PAB\_Portfolio** constant for PDF Portfolios.
* **FontEmbeddingModeEnum** got the new **FEM\_EmbedFullWhenNeeded** and

**FEM\_EmbedSubsetWhenNeeded** constants to choose whether the whole font will be embedded  
into the output PDF or only the subset of a font.

* **FNF\_PDF** constant of **FontNamesFilterEnum** is now available in Mac version.

Image-related API

* **ImageFileFormatEnum** got the new constants to define the image format when using the  
  **‘FileFormat’** of the **PDFAttachments** object: **IFF\_Bmp, IFF\_Dcx, IFF\_DjVu, IFF\_Gif, IFF\_Jpeg,  
  IFF\_Jpeg2k, IFF\_Pcx, IFF\_Png, IFF\_Tiff.**
* **‘IsInMemory’** property of the **ImageDocument** object is now available in Mac version. This property  
  specifies if the image document is stored in memory only or it is also represented as a folder on disk.

Text-related API

Paragraph object:

* **‘UserBookmark’ -** this property provides access to a user bookmark by its index in the internal  
  collection of the paragraph's bookmarks.
* **‘UserBookmarkCount’ -** this property returns the number of user bookmarks in a paragraph.

Other changes:

* Deafult value of the **‘Spacing’** property of the **CharParams** and **Fontstyle** objects is now 0.

BCR synthesis

* **BusinessCardSynthesisParams -** this interface is used for fine-tuning the business card synthesis.  
  This release, it allows you to specify the languages that will be used for processing the recognized  
  text. It is also used as the **‘BusinessCardSynthesisParams’** property in the  
  **SynthesisParamsForPage** object.
* **‘SynthesizeBusinessCardEx’ -** this method tries to detect the business card fields in the recognition  
  area using the specified synthesis parameters.

Parameter Objects

* **TextLayerlnjectionParams** object has got the new **‘AllowChangePDFAView’** property for changing  
  the appearance of the output PDF file when facing problems during its processing. It is FALSE by  
  default, so, whenever the document is invalid, an error will be returned, and the document processing  
  will be canceled. If it is set to TRUE, a warning about changing the appearance of the output will be  
  displayed.
* **SourceContentReuseModeEnum** got the new **CRM\_ContentAndPictures** constant which is  
  suitable for PDF files and Office documents with mixed content (text and pictures).
* **‘EnableExhaustiveAnalysisMode’** option of the **PageAnalysisParams** object has been marked  
  deprecated and scheduled for deletion in future versions.
* New versions of ALTO (4.0; 4.1; 4.2) are now supported (see **AltoExportParams** and  
  **AltoVersionEnum).**
* **‘DetectSpacing’** property of the **FontFormattingDetectionParams** is now FALSE by default.
* New methods for attaching the user-defined pictures to the output PDF:
* **PDFPicture** interface representing a picture itself and the methods to manipulate the picture  
  position.
* **PDFPictures** interface representing a collection of the **PDFPicture** interfaces.
* New **‘PDFPictures’** property of the **PDFExportParams** object to access the **PDFPictures**interface.

License-related API

* **‘VolumeRefreshingDate’** method of the **I License** object obtains the renewal date of a license with  
  limitations on the number of the pages processed.
* **VRP\_AbsoluteMonth** and **VRP\_AbsoluteYear** constants of **VolumeRefreshingPeriodEnum**support the refreshment of the counter on the specific date.

Deprecated and deleted functionality

* **‘Top’, ‘Bottom’, ‘Left’, ‘Right’** properties of the **BarcodeSymbol** object
* **‘EnableAdvancedExtractionMode’** and **‘MinRatioToTextHeight’** properties of the  
  **Barcode Params** object
* **‘FastMode’** and **‘BalancedMode’** properties of the **RecognizerParams** object
* **Fast Mode** and **Balanced Mode** license modules
* **‘SourceHasTextualContent’** property of the **FRDocument** object
* *-fm* and *-rbm* keys for Fast and Balanced modes in the CLI sample
* **‘GetEngineObject’** and **‘GetEngineObjectEx’** functions for loading the Engine
* **‘KeepOriginalCoordinatesInfo’** property of the **PreparelmageMode** object
* **BLTJJnknown** constant of the **BlockLayerTypeEnum**

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Chinese documentation

- ABBYY FineReader Engine online helps (help.abbyy.com and help.abbyy.cn) include a new guide  
with GuidedTour section translated to Chinese Simplified. On help.abbyy.com, switch to the articles  
in Chinese using the language tab.

Home page FineReader Engine 12 for Mac Developer's Guide -> Introduction

English (English)

Search in this product

Chinese Simplified (UM^^)

Unsupported PDF formats

- The **Supported Image Formats** article clarifies what PDF formats are not supported.