



**ABBYY Headquarters**

P.O. Box 54, Moscow  
129301, Russia  
Tel.: +7 (495) 783 3700  
Fax: +7 (495) 783 2663  
office@abby.com  
www.ABBYY.com

# **Recognition Server 4 Release 4**

## **Release Notes**

# Table of Contents

<b>INTRODUCTION</b> .....	<b>4</b>
<b>About This Document</b> .....	<b>4</b>
<b>About the Current Release</b> .....	<b>4</b>
<b>Technical Information</b> .....	<b>4</b>
<b>Key Enhancements</b> .....	<b>4</b>
<b>NEW FEATURES AND IMPROVEMENTS</b> .....	<b>4</b>
<b>1. Support of Microsoft SharePoint Online</b> .....	<b>4</b>
<b>2. Improvements to the SharePoint document libraries processing</b> .....	<b>5</b>
2.1. Input document removal in document libraries .....	5
2.2. Backup of input documents in SharePoint .....	6
2.3. Expanded output file creation options for SharePoint libraries .....	7
2.4. Keeping correspondence between input and output files .....	8
2.5. Export of document types to Microsoft SharePoint libraries .....	8
2.6. Document indexing in SharePoint libraries .....	9
<b>3. Processing improvements for digitally created documents</b> .....	<b>10</b>
3.1. Built-in OpenOffice module for processing office files .....	10
3.2. Processing Station roles .....	11
3.3. Detection of files that do not require processing .....	12
<b>4. E-mail message processing improvements</b> .....	<b>12</b>
4.1. E-mail body processing .....	12
4.2. Source files in attachments of notifications about failed jobs .....	13
4.3. Index fields in subjects and bodies of output e-mail messages .....	14
<b>5. Import</b> .....	<b>15</b>
5.1. Option to specify excluded file types .....	15
<b>6. Recognition</b> .....	<b>15</b>
6.1. Thorough barcode recognition .....	15
6.2. Improved Arabic OCR .....	15
6.3. OCR-A support .....	15
<b>7. Indexing</b> .....	<b>16</b>
7.1. Import of format constraints from SharePoint libraries .....	16
<b>8. Export</b> .....	<b>16</b>
8.1. New index field element for generating output file names and determining output paths .....	16
8.2. Image smoothing feature for MRC .....	17
8.3. Automatic rotation of PDF image layer when adding a text layer .....	18
8.4. Saving coordinates of retyped words into ALTO XML .....	18
8.5. Barcode types in output XML documents .....	18
8.6. Lossless JPEG2000 compression .....	19
<b>9. Licensing</b> .....	<b>19</b>
9.1. Gothic page counter in the Administration Console .....	19
<b>10. Installation and system requirements</b> .....	<b>20</b>
10.1. Windows 10 support .....	20
10.2. Patching procedure .....	20
<b>11. API</b> .....	<b>21</b>

11.1. Backward compatibility .....	21
<b>APPENDIX 1. FIXED BUGS .....</b>	<b>21</b>
<b>APPENDIX 2. HISTORY OF RELEASES.....</b>	<b>23</b>
Release 3 with Japanese UI and Help .....	23
Release 3 Patch 2 (for customer).....	23
Release 3 Patch 1 (for customer).....	23
Release 3 with Japanese UI.....	24
Release 3.....	24
Release 2 Patch 2 .....	24
Release 2 Patch 1 .....	24
Release 2.....	24
Release 1 Multilingual .....	24
Release 1.....	24

# Introduction

## About This Document

This document describes the features that have been implemented in ABBYY Recognition Server 4 Release 4.

## About the Current Release

ABBYY Recognition Server 4 Release 4 release provides improved integration with Microsoft SharePoint and digitally born document processing, as well as a number of bug fixes. This document describes the new features in the release.

## Technical Information

Part #: 1135/14, build # 4.0.5.5022, OCR Technologies build # 13.0.24.96, release date: February 02, 2016.

## Key Enhancements

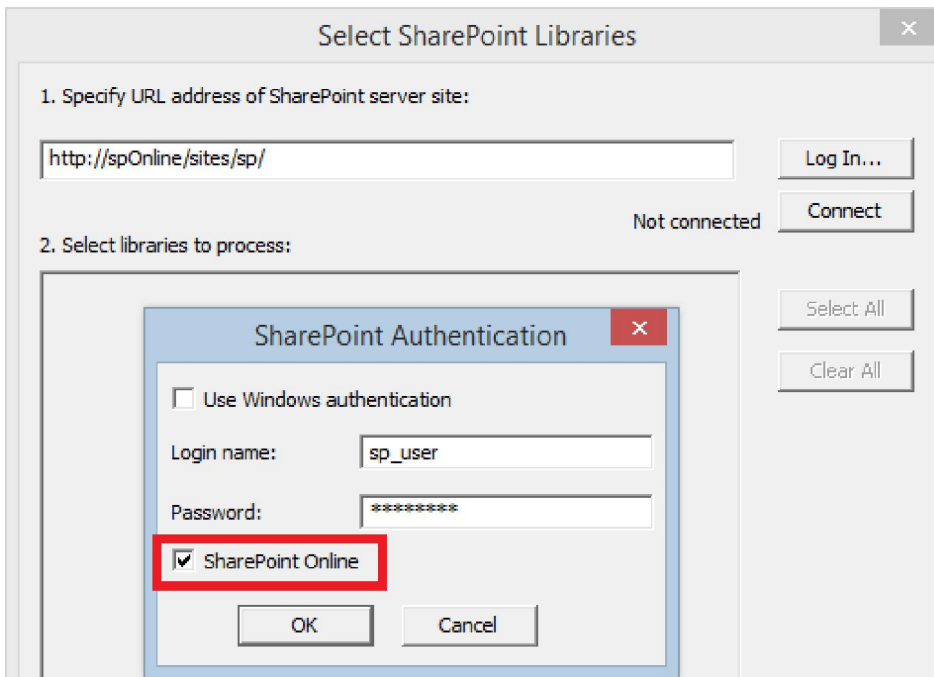
- Support of Microsoft SharePoint Online (Office 365)
- Improvements in working with SharePoint libraries
- Built-in technology for conversion of digitally created documents

## New Features and Improvements

### 1. Support of Microsoft SharePoint Online

Microsoft SharePoint Online (available separately or as part of Office 365) is now fully supported. This means you can integrate Recognition Server 4 with SharePoint online in the same way as with server-based versions: import and export files from SharePoint Online libraries, process files hosted on the SharePoint Online intranet portal and child sites, and implement many other scenarios that are possible with server-based versions of SharePoint.

To enable integration with SharePoint Online, click the **Log In...** button when setting up connections to SharePoint libraries in workflow properties and enable the **SharePoint Online** option in the SharePoint authentication settings dialog box.



## 2. Improvements to the SharePoint document libraries processing

Previous releases added features for processing documents that are stored in document libraries:

- Crawling selected sites and document libraries
- Detecting files that require processing
- Saving the recognized data to the source folder

These features had a number of limitations. Release 4 aims to remove these limitations by introducing the following functionality:

1. Input files can now be [deleted](#) and replaced by processed documents
2. Documents that were imported from Microsoft SharePoint can be moved to [backup](#) folders in order to ensure that no data is lost when input files are replaced by processed ones (this only applies to SharePoint workflows)
3. New [document saving options](#) for handling files with identical names and [associating input and output files](#)
4. Tools for [editing the metadata](#) of documents in SharePoint (this only applies to SharePoint workflows)
5. [Export of document types](#) from Recognition Server to Microsoft SharePoint libraries as SharePoint content types

With these new features, ABBYY Recognition Server can be used to create uniform document archives. Various types of files stored in multiple SharePoint libraries can be converted into searchable documents suitable for long-term archiving (such as PDF/A) while the original files are deleted, resulting in well-organized archives that only contain the desired types of files.

These improvements are described in detail below.

### 2.1. Input document removal in document libraries

The screenshot shows the 'Workflow Properties' dialog box for a Document Library workflow. The '1. Input' tab is active. Under 'Source', the 'Type' is 'Shared Folder' and the 'Path' is '\\server\DocLib'. The 'Crawl the library for new files every:' checkbox is checked, with a value of '1 hour'. The 'Select files to process' section has 'Process files:' set to '\*.tif, \*.tiff, \*.pdf, \*.jpeg, \*.' and 'Other files:' set to 'No action'. The 'Create job' section has 'For each file' selected. The 'Delete source files:' checkbox is checked and highlighted with a red box.

A new option for deleting input documents has been added to the Document Library workflow. This will help turn cluttered folders containing various types of files into homogenous and searchable document libraries.






To enable this feature, select the **Delete source files** option on the **1. Input** tab of the workflow properties. This feature is available for all input sources of the Document Library workflow: Shared Folder, SharePoint and FTP. The source files will be deleted only if the processed documents are published successfully.

**Note:** to ensure that no data is lost, we recommend moving the original files to backup folders when testing the configuration prior to production. It may be a good idea to keep backing up original files even after testing.

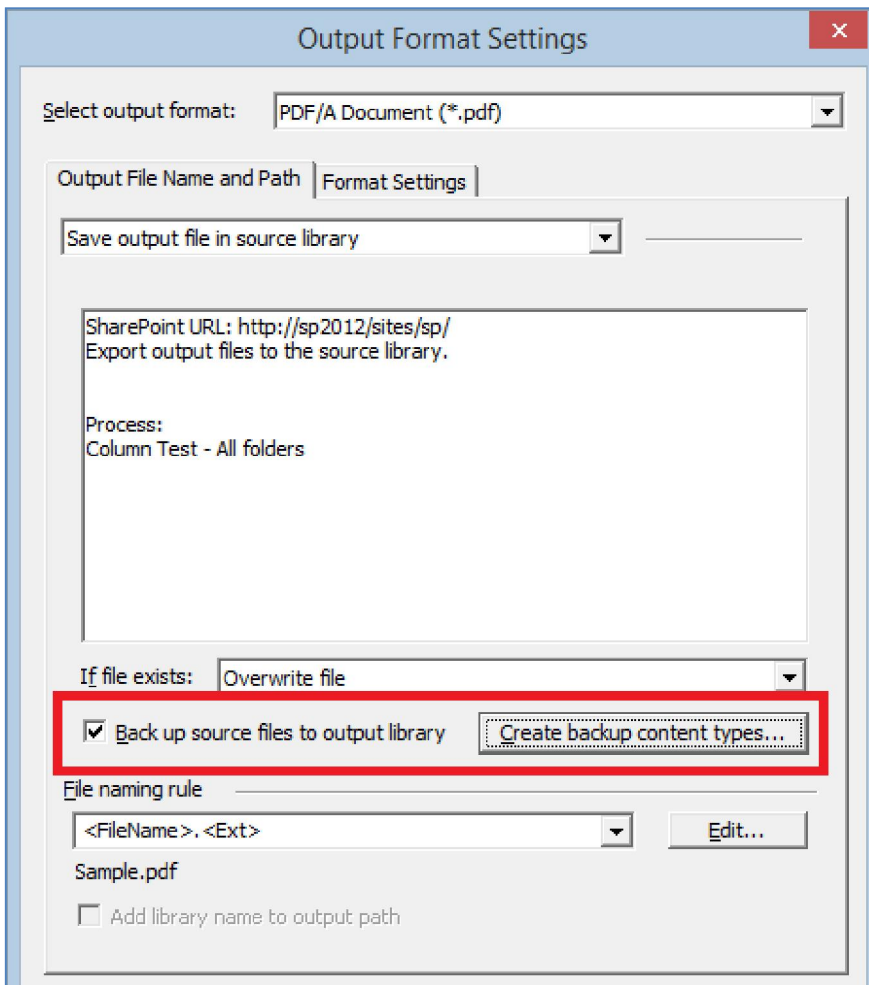
## 2.2. Backup of input documents in SharePoint

ABBYY Recognition Server 4 now allows moving input files to backup folders in their SharePoint library. This preserves the input files so that they can be restored and modified if needed, which is especially useful in setups where Recognition Server 4 crawls SharePoint libraries, replacing any new files with processed documents.

When this feature is enabled, input files are copied to the **\_Backup** folder of the library where they were stored prior to processing. Quick access to these files is provided by links in the **Source Files** column.

Type	Name	Source Files	<input type="checkbox"/> Modified By	Modified	Content Type
	<b>_Backup</b>		<input type="checkbox"/> fcuser	12/17/2015 3:10 AM	Folder
	Contract	<a href="#">Contract.pdf</a>	<input type="checkbox"/> fcuser	12/17/2015 3:11 AM	Document
	Contract0000 <small>NEW</small>	<a href="#">Contract.tif</a>	<input type="checkbox"/> fcuser	12/17/2015 3:11 AM	Document
	Contract0001 <small>NEW</small>	<a href="#">Contract.docx</a>	<input type="checkbox"/> fcuser	12/17/2015 3:11 AM	Document
	Letter1	<a href="#">Letter1.pdf</a>	<input type="checkbox"/> fcuser	12/17/2015 3:11 AM	Document

To enable this feature, select the **Back up source files to output library** option in the **Output Format Settings** dialog box.



The backup feature requires creating the **RS Source File** content type in the root site (or library) of the SharePoint portal. This content type is added to any library where files are to be processed by Recognition Server and is assigned to the source documents that are copied to the **\_Backup** folder.

The **RS Source File** content type can be created by a processing station when exporting documents (provided that it has the necessary permissions) or by a user when setting up the workflow (click the **Create backup content types...** button).

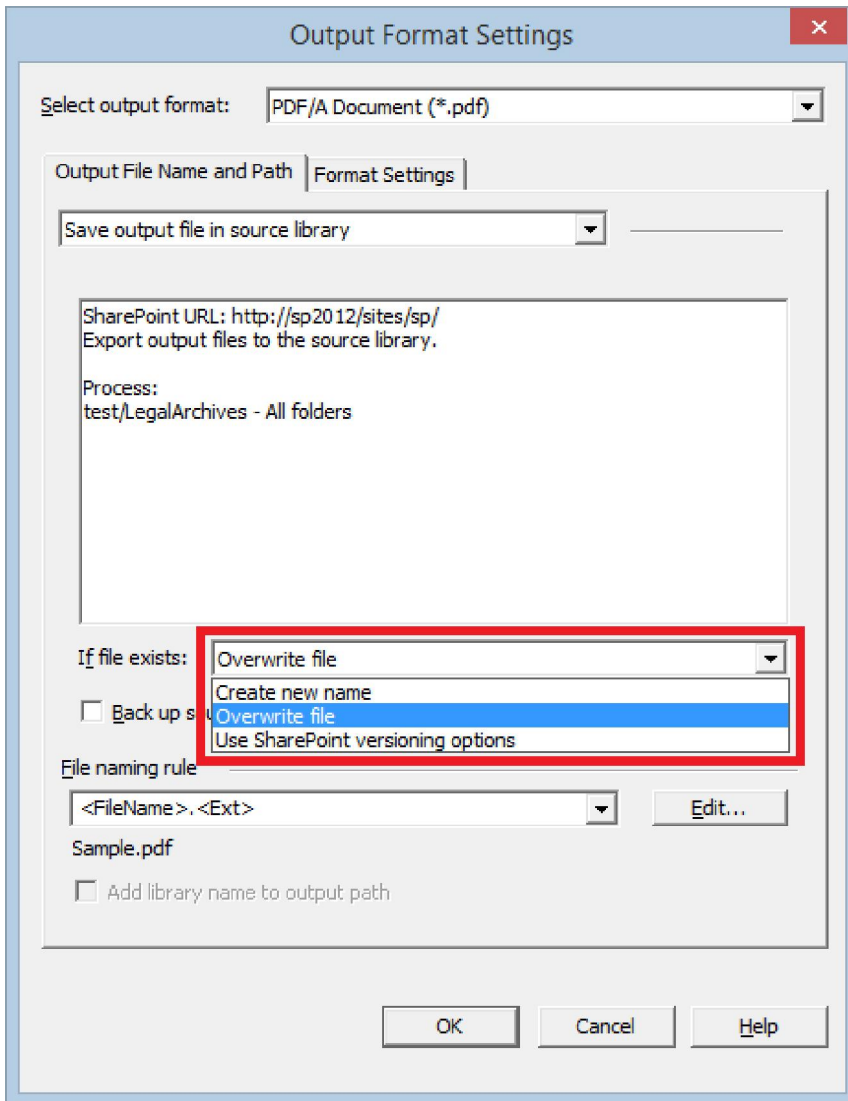
If you already know which libraries you want to process when setting up the workflow, we recommend creating the new content type using the **Create backup content types...** button, because in this case the necessary changes to the SharePoint site configuration are made once during the setup and you will not need to grant higher permissions to processing stations.

**Note:** to create the **RS Source File** content type when exporting documents, processing stations must have the necessary SharePoint permissions: **Full**, **Edit** and **Design**.

### 2.3. Expanded output file creation options for SharePoint libraries

Release 4 adds several options for controlling how files are created and named. These options were introduced in order to avoid cluttering up SharePoint libraries with outwardly similar files in cases where a library serves as both the input source and the output destination.

In previous releases, Recognition Server's default behavior led to situations where outwardly similar files with nearly identical names would be created in such SharePoint libraries. For example, converting an image-only PDF file from a library to a searchable PDF file (i.e. supplying it with a text layer) and exporting it to the same library resulted in two outwardly similar PDF files in the same location.



**Note:** these options were already available for workflows where a SharePoint library is only used as an export destination and files were input from other locations, as well as for regular file system folders.

<b>Create new name</b>	<p>If a file with the same name as the output file already exists in the output folder, a 4-digit number will be appended to the file name.</p> <p><i>This option is best for scenarios where the original files are not deleted and remain in the same folder.</i></p>
<b>Overwrite file</b>	<p>If a file with the same name as the output file already exists in the output folder, it will be replaced with the output file.</p> <p><i>This option is best for scenarios where you need to replace scanned PDFs with output files.</i></p> <p><b>Note:</b> for more information, see section 2.4.</p>
<b>Use SharePoint versioning options</b>	<p>If a file with the same name as the output file already exists in the output SharePoint library and the library supports versioning, the output file will be saved as a new version of the existing file.</p> <p><i>This is useful if you want to preserve source PDF documents as earlier versions of processed documents.</i></p>

**Note:** The default setting is **Create new name**. However, if you upgrade to Release 4 from Recognition Server 4 Release 3 Patch 1 while the file overwrite option is enabled in the **Configuration.xml** file (`RewriteIfExists="TRUE"`), the **If file exists** option will be set to **Overwrite file**.

## 2.4. Keeping correspondence between input and output files

Data that associates input and output documents from Document Library workflows, including their names and links to output files, is now stored in an internal database. This helps to:

1. Avoid overwriting documents with identical names that were created from different input files. This prevents data loss when the **Overwrite file** option is selected.

For example, let's say the document library contains the files *Contract.docx*, *Contract.pdf* and *Contract.tif*, which have to be converted to searchable PDF documents. Converting every file on its own would yield a document with the name *Contract.pdf*, but since they are in the same library and have different content, there will be three output files: *Contract0000.pdf*, *Contract.pdf*, and *Contract0001.pdf*.

2. Overwrite an output file if its source file was edited and processed again. This applies to workflows that convert office files, e.g. when a DOCX file that has already been processed is modified by a user and then processed by ABBYY Recognition Server again.

The data that associates input and output files is created when a workflow is started. When a workflow is restarted, this data will be erased and files that have been processed previously will be processed again.



This can be done manually using the **Restart** command on the toolbar on Administration console.

The workflow can also be restarted when its settings are changed and the changes need to be applied to all documents in input locations (in this case it is recommended to use **Overwrite file** option). When saving the workflow, the user receives a prompt asking whether to restart the workflow.

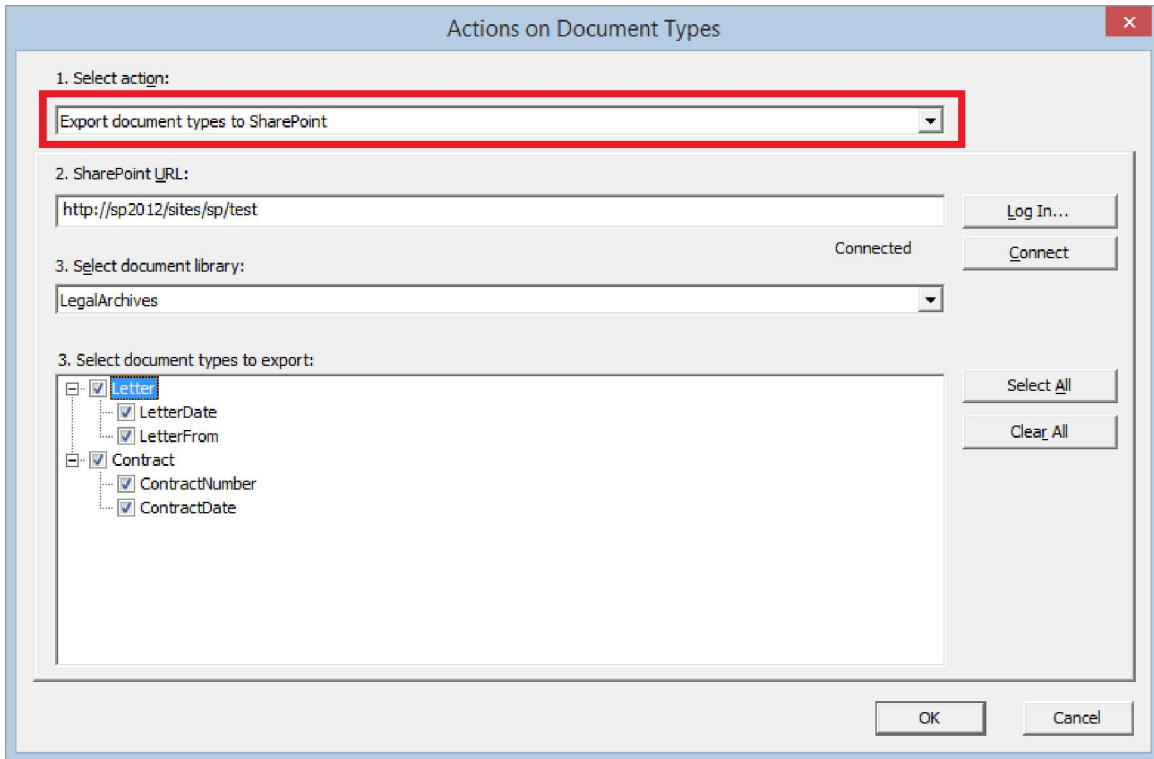
## 2.5. Export of document types to Microsoft SharePoint libraries

ABBYY Recognition Server 4 Release 4 allows exporting document types from Recognition Server to Microsoft SharePoint libraries as SharePoint content types.

This makes it easier to create an archive in SharePoint from Recognition Server's output (e.g. by processing scans), because the archive's structure will be inherited by the SharePoint library from the workflow settings.

To export document types:

- a. Specify the desired document types and index fields on the **5. Indexing** tab of the workflow properties dialog box.
- b. Click the **Actions...** button and select **Export document types to SharePoint** from the **Select action** drop-down list.
- c. Specify the connection settings to the SharePoint library where you want to store processed documents, select the document types and fields to export, and click **OK**.



The selected content types and columns will be created in the SharePoint site and added to the selected library.

## 2.6. Document indexing in SharePoint libraries

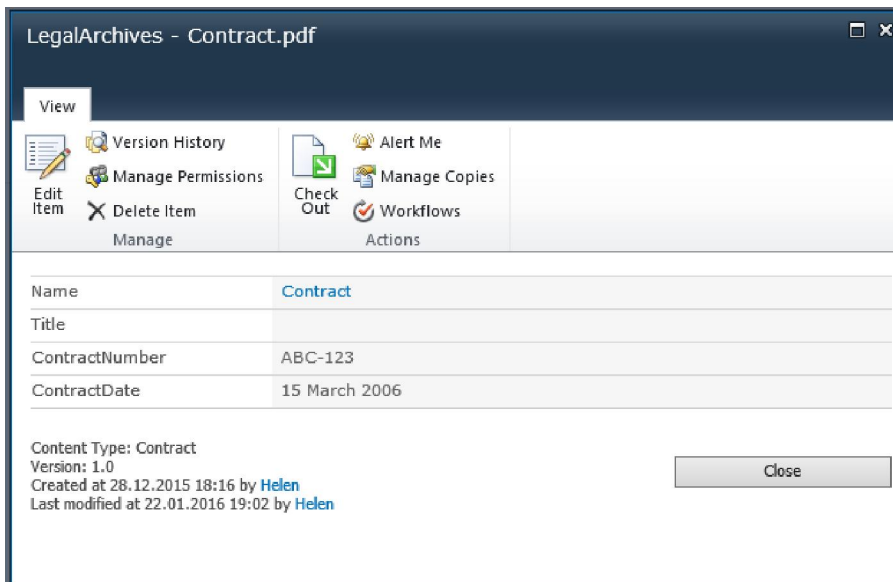
Documents that are processed within a Microsoft SharePoint portal and saved into their source library can now have index fields (attributes) even when documents from multiple libraries are being processed at the same time. In previous versions of ABBYY Recognition Server, only documents that were exported to the same SharePoint library could have index fields.

In addition to this, the existing attributes can now be viewed and modified during indexing in Recognition Server.

**Note.** If the indexing stage is not enabled, the attributes of input files are automatically inherited by output documents.

After documents are processed and provided with index field values, they are published to the source libraries and assigned with the appropriate content types.

<input type="checkbox"/>	Type	Name	Modified	ContractDate	ContractNumber
<input type="checkbox"/>	Contract		22.01.2016 19:02	15 March 2006	ABC-123
<input type="checkbox"/>	Contract	Contract_Cray	22.01.2016 19:07	12/03/07	ABC-157890
<input type="checkbox"/>	Contract	Contract0000 <span style="color: green;">NEW</span>	22.01.2016 19:02	09/19/06	BCD-169678
<input type="checkbox"/>	Letter	Letter1	22.01.2016 19:07		



This feature requires the document types of the Recognition Server workflow to be matched with the SharePoint content types.

This can be done by:

- a) Importing the content types from a SharePoint document library using the **Import document types from SharePoint** command (**Actions...** button on the **5. Indexing** tab of the workflow properties dialog box)

or

- b) Exporting the document types from Recognition Server to the SharePoint document library using the **Export document types to SharePoint** command (**Actions...** button on the **5. Indexing** tab of workflow properties).

**Note.** It is not recommended to use the Indexing stage if the entire SharePoint site or multiple document libraries with various content types are used as input sources in Recognition Server. This may lead to inconsistencies between Recognition Server document types and SharePoint content types and result in failed jobs.

To index documents from multiple libraries, all of the libraries must share the same set of content types.

### ***3. Processing improvements for digitally created documents***

#### **3.1. Built-in OpenOffice module for processing office files**

It is now possible to process digitally created files without installing Microsoft Office or LibreOffice on the server. Release 4 also features integration with Apache OpenOffice.

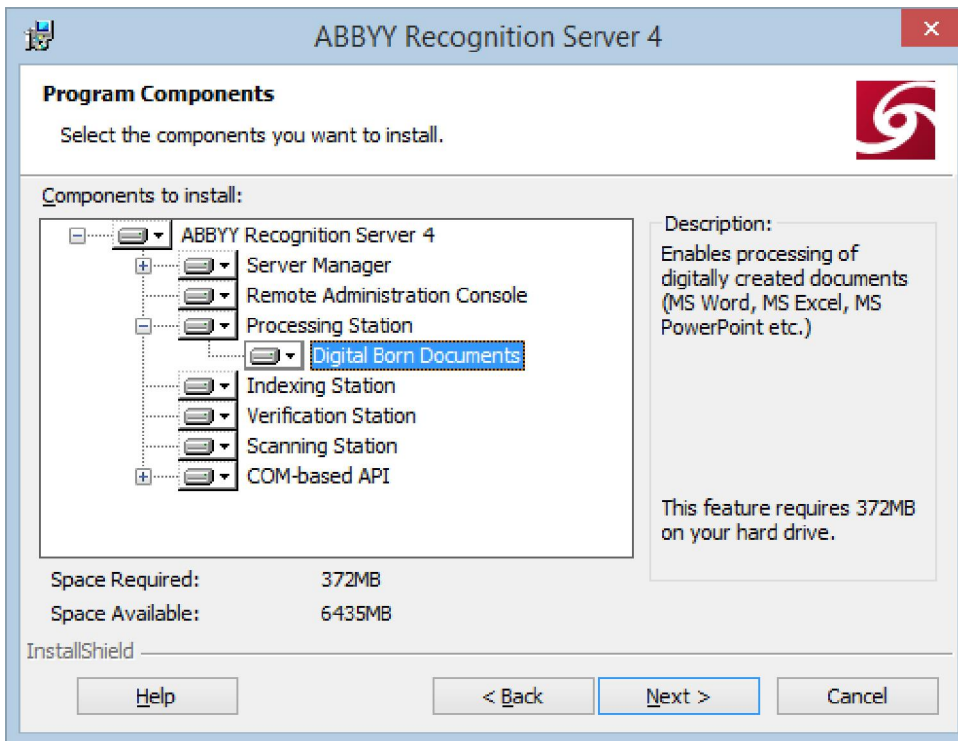
The advantages of using this functionality as compared to conversion via Microsoft Office suit:

- doesn't require Microsoft Office licenses
- allows processing digitally created files in a server environment where installation of desktop applications is prohibited

The disadvantage may be in the lower quality of certain converted documents. Sometimes, Apache OpenOffice cannot correctly render complex-formatted documents created in Microsoft Office (such as charts), which results in the loss of some formatting.

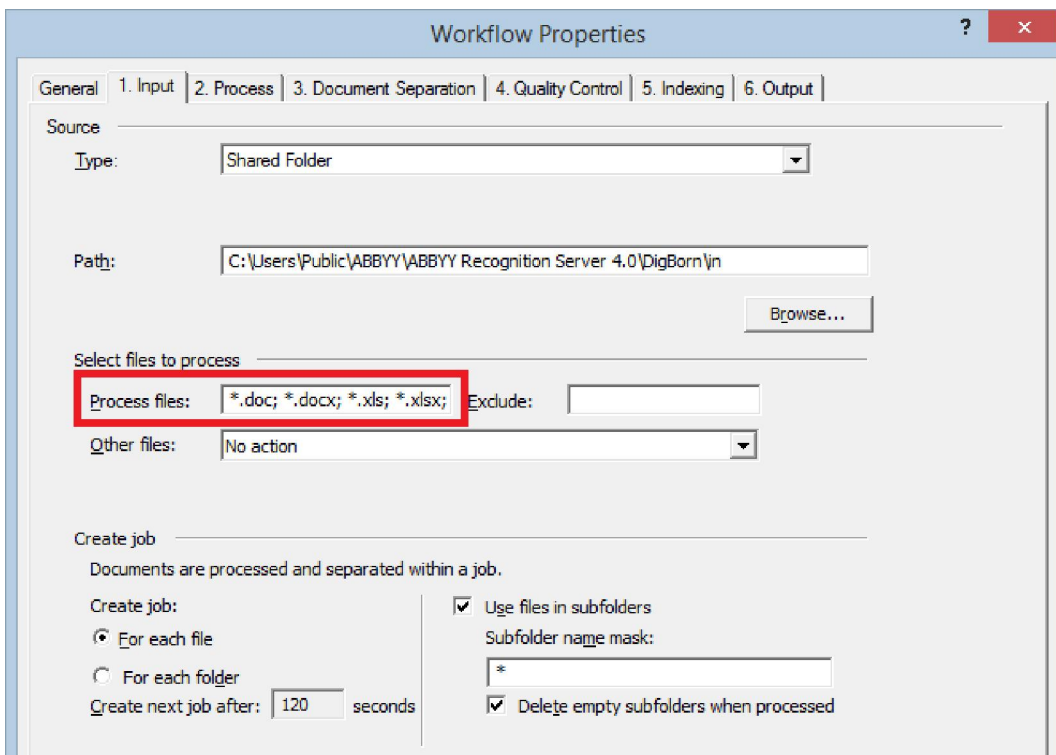
The use of the Microsoft Office native converter is recommended for the best formatting results. You can change the converter used for processing digitally created documents from OpenOffice to an alternative one by configuring input handlers (click the **Handlers...** button and select the **1.Input** tab).

To install office document converters, select the **Digital Born Documents** module when installing Processing Stations.



If the **Digital Born Documents** module is installed and the input format filter (the **Process files:** setting) allows office files to be processed, digitally created files will be processed.

The following formats are supported: **DOC, DOCX, ODT, HTML, HTM, TXT, RTF; XLS, XLSX, ODS, CSV; PPT, PPTX and ODP.**

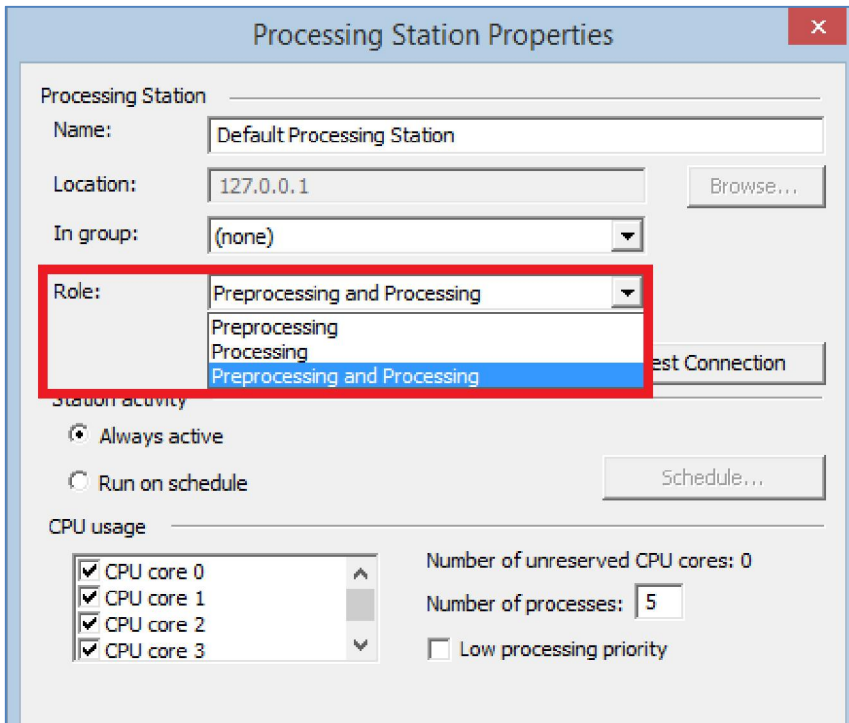


### 3.2. Processing Station roles

Processing Stations can now have one of three roles:

- **Preprocessing,**
- **Processing,**
- **Preprocessing and Processing.**

You can change the role of a Processing Station in the **Processing Station Properties** window.



By default, a newly added station handles both preprocessing and processing tasks (**Preprocessing and Processing** role is selected).

Processing Stations with the **Preprocessing** role preprocess digitally created documents using the built-in office file converter or third-party converters (such as Microsoft Office) specified in event handlers. This role allows creating dedicated Processing Stations for preprocessing digitally created documents, which can be useful when only select Processing Stations have the third-party converters installed. In this case, the remaining stations have to be assigned with the **Processing** role, so that they can perform recognition, export, indexing and other processing tasks.

**Note.** At least one station has to have the **Preprocessing** or **Processing and Preprocessing** role in order to process documents in office formats. If this is not the case, the workflow will display the **No preprocessing stations** warning when started, and documents in office formats will not be processed.

### 3.3. Detection of files that do not require processing

ABBYY Recognition Server can now skip files whose format matches the output format in setups where documents from sources containing files in various formats are converted into editable formats (e.g. DOCX or XLSX). This helps avoid unnecessary workload from processing files that are already in the desired format.

**Note.** If the input and output formats are the same but the workflow settings require additional analysis of the entire document, such as modes **Extract text from pictures** and **Special processing for technical drawings**, the original office file will be converted to PDF and reprocessed with OCR.

## 4. E-mail message processing improvements

### 4.1. E-mail body processing

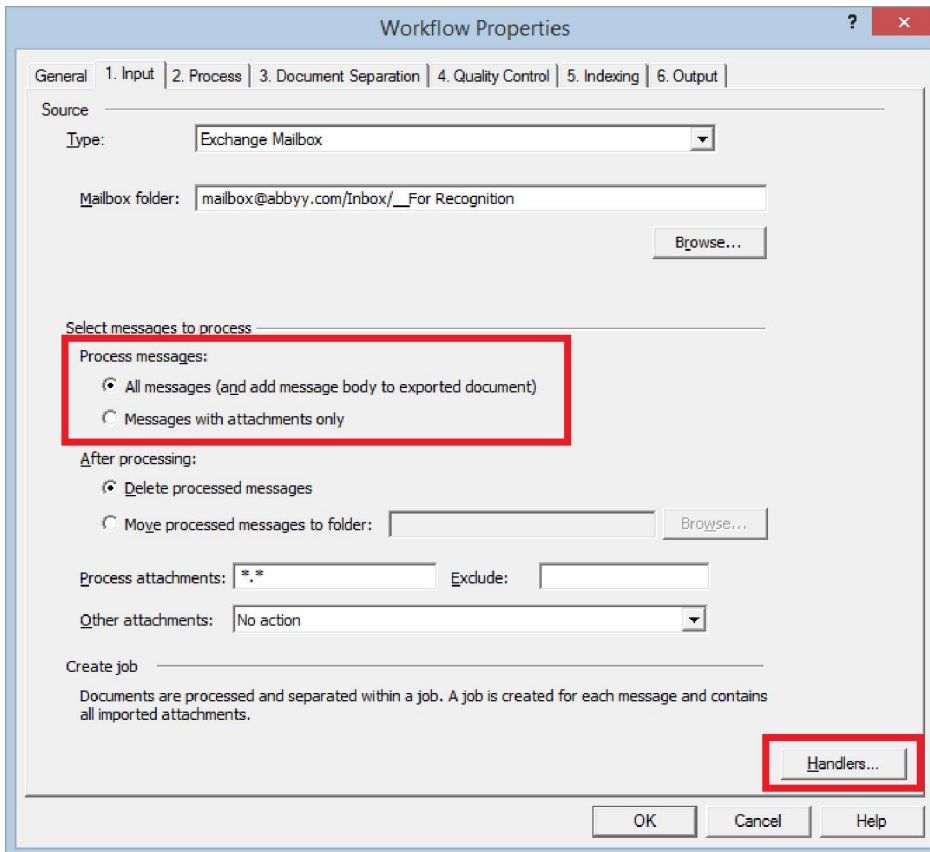
When processing documents imported from Microsoft Exchange or POP3 mailboxes, ABBYY Recognition Server can now add the body text of the e-mail to the imported attachments. This will help process applications, claims,

invoices and other documents that are sometimes placed in the body text of e-mail messages: the e-mail body will be converted in PDF and processed in the same way as other input files.

**Note.** There is a known issue where the e-mail header (From, To, Subject and Date) is not saved into the output e-mail body file.

To process e-mail message bodies, open the workflow properties, select the **1.Input** tab and enable the **All messages (and add message body to exported document)** option.

If Microsoft Office is to be used for conversion, set up an input event handler (**Handlers...** button) and specify the settings for opening files (**When Office File is Received** event).



The e-mail body and the imported attachments will be processed as separate documents and assembled into output files as specified in the document separation settings.

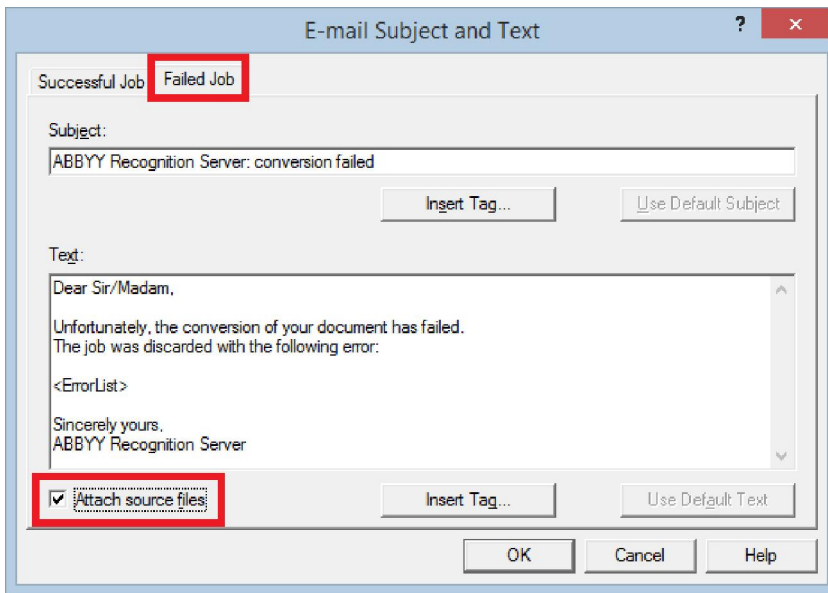
If the imported e-mail contains attachments, the output file will contain pages with the e-mail body followed by pages from the attachments.

If the imported e-mail does not contain an attachment, the output document will only contain the e-mail body.

## 4.2. Source files in attachments of notifications about failed jobs

ABBYY Recognition Server now allows attaching the input files of a failed job to the notification message about the failure. This will help inform users about processing problems and preserve the source files in situations where they are not otherwise backed up.

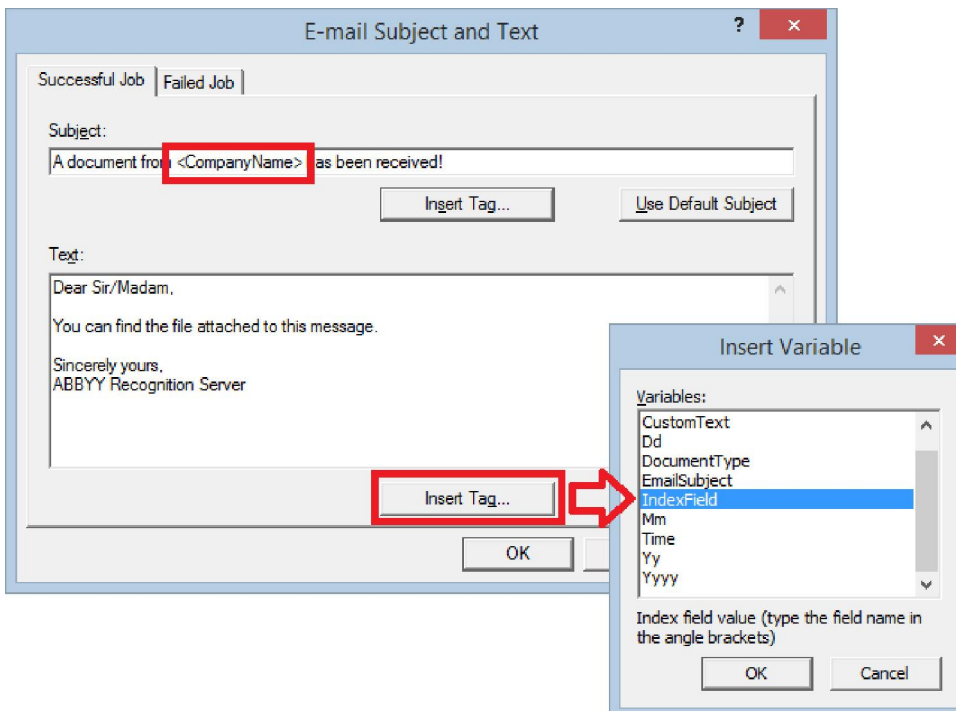
To enable this feature, open the properties dialog box of a workflow, select the **6. Output** tab, click the **Edit...** button to open the **Output Format Settings** dialog box, click the **E-mail Subject and Text...** button to open the **E-mail Subject and Text** dialog box and enable the **Attach source files** option on the **Failed Job** tab.



### 4.3. Index fields in subjects and bodies of output e-mail messages

It is now possible to include the values of index fields in the subjects and bodies of output e-mail messages.

To do this, click the **Insert Tag...** button in the **E-mail Subject and Text** dialog box (see section 4.2 above) and select the **IndexField** tag.

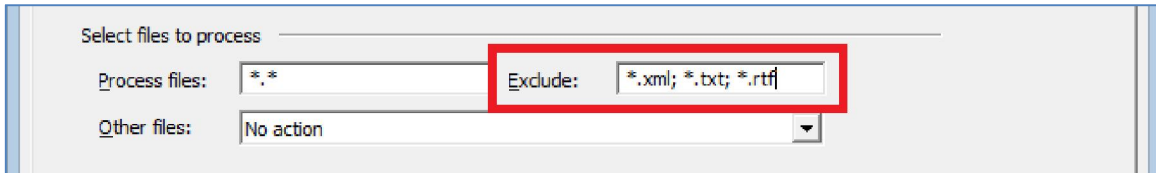


## 5. Import

### 5.1. Option to specify excluded file types

ABBYY Recognition Server now lets you specify which types of files should NOT be imported, which is helpful in situations where it is easier to exclude certain file formats rather than list all of the formats that need to be processed.

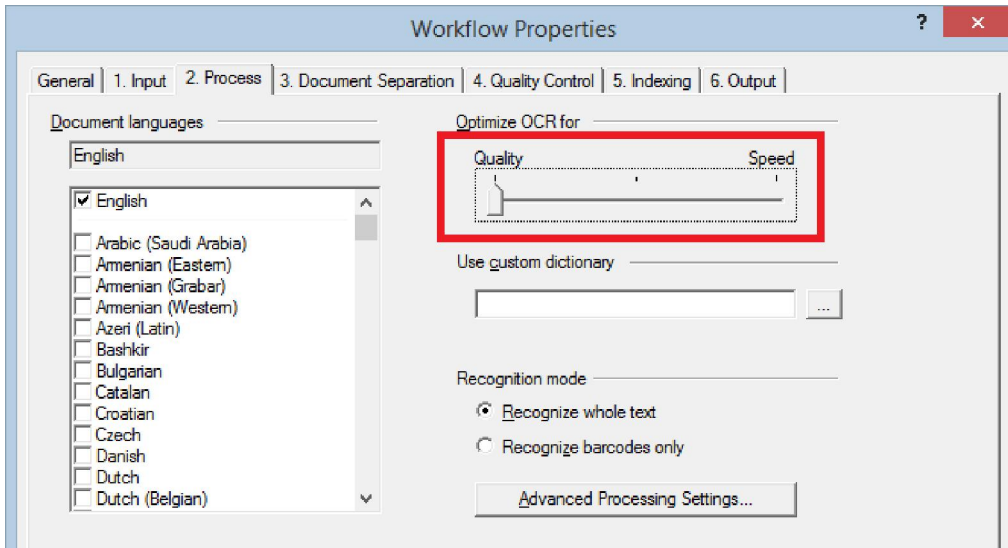
To do this, specify the extensions of the file formats you do not want to process in the **Exclude:** box on the **1.Input** tab of a workflow's properties dialog box. Multiple values must be separated by semicolons.



## 6. Recognition

### 6.1. Thorough barcode recognition

Release 4 adds the thorough barcode recognition mode, which can raise recognition accuracy for barcodes of small size or poor image quality. This mode is enabled when the **Optimize OCR for** slider on the **2.Process** tab of a workflow's properties is set to **Quality**.



### 6.2. Improved Arabic OCR

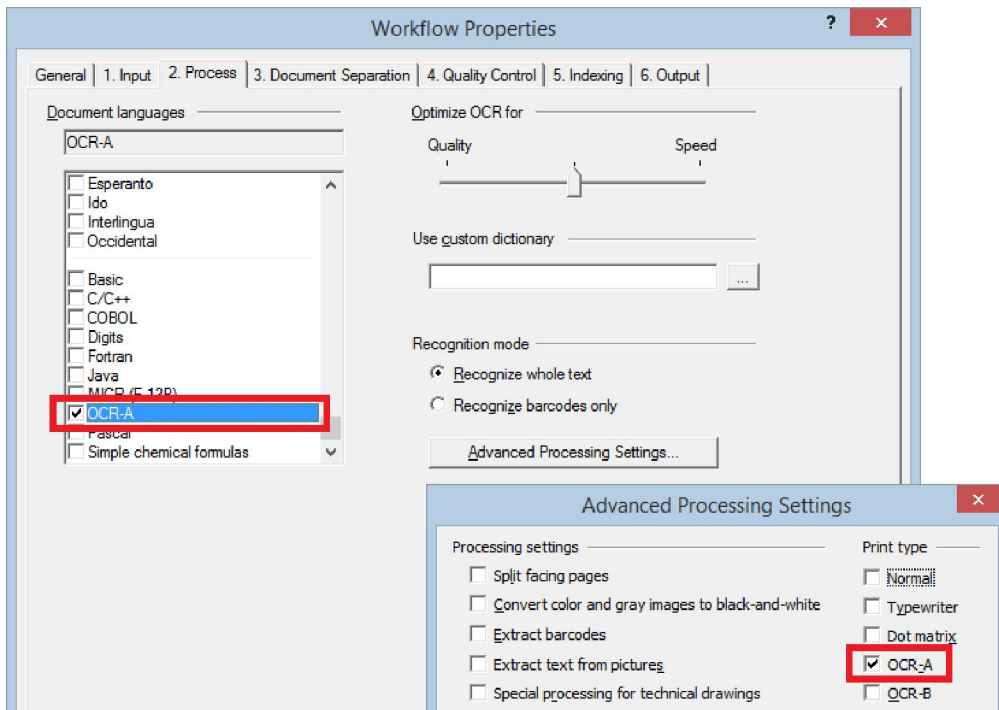
Recognition Server 4 Release 4 uses a newer version of ABBYY's OCR technologies which yields better accuracy when recognizing Arabic text. The total number of errors per document is 10-13 % less than in the previous release.

This update brings Arabic OCR accuracy to the level achieved in the FineReader Engine SDK.

### 6.3. OCR-A support

ABBYY Recognition Server can now process text in the OCR-A font. This font contains three special characters (Ѓ Ѡ ѡ) that are widely used in banking cheques.

To enable the recognition of text in the OCR-A font, open the properties dialog box of your workflow, enable the **OCR-A** language on the **2.Process** tab, click the **Advanced Processing Settings...** button to open the **Advanced Processing Settings** dialog box and select the **OCR-A** option in the **Print type** group.



## 7. Indexing

### 7.1. Import of format constraints from SharePoint libraries

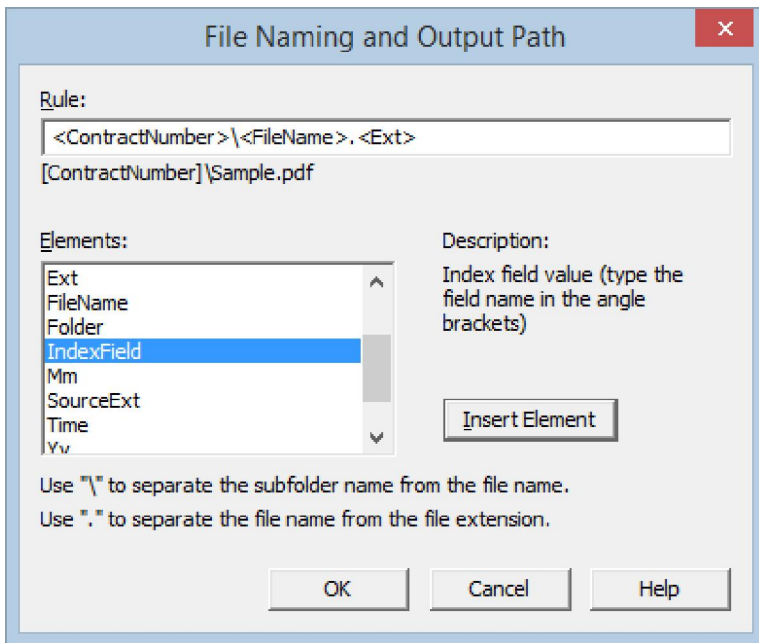
When content types are imported from a SharePoint library into ABBYY Recognition Server as document types, column formatting constraints will be inherited in Recognition Server index fields. To import content types, open the properties dialog box of the workflow, select the **5. Indexing** tab, click the **Actions...** button and select **Import document types from SharePoint** from the **Select action:** drop-down list.

These formatting constraints will be used for validating the values of index fields specified by Indexing Station operators. This will help prevent the export of invalid index field values, which may cause failures when publishing documents to SharePoint.

## 8. Export

### 8.1. New index field element for generating output file names and determining output paths

The **IndexField** element has been added to the list of rule elements in the **File Naming and Output Path** dialog box to make it clear that index fields can be used in output file naming rules.



When you select this element, angle brackets (<>) will be inserted into the name. Type the name of the index field inside the brackets.

**Note.** Only index field names are required, you do not need to specify the document type.

If the index field value has been left empty during indexing or doesn't exist for the current document type, this element will be omitted from the file name of the processed document.

You can specify several index fields in the output rule, including index fields from different document types. This can be useful for exporting output documents to different subfolders. To specify multiple index fields, insert several **IndexField** elements and specify the the desired index fields.

Example:

Document type 1: **Contract**; Index fields: **CompanyName**, **Date**

Document type 2: **Letter**; Index fields: **Sender**, **Date**

Rule: <DocumentType>\<CompanyName><Sender>\<Date>\<FileName>.<Ext>

## 8.2. Image smoothing feature for MRC

Release 4 adds a new image processing feature that smoothes out text on images in compressed PDF documents. When enabled, this feature will smooth sharp edges of characters on images, making them easier to read.

To enable image smoothing, open the *Configuration.xml* file and set the value of the **MRCMode** property to **Smoothing**: **MRCMode="Smoothing"**

By default, this value is set to **Normal**.

PDF file with smoothing:



PDF file with standard compression:



**Note:**

1. Smoothing increases the size of output files e.g. 16kb ->24kb, 296kb -> 335kb
2. It is not recommended to enable this mode at the same time as the **Special processing for technical drawings** option on documents that contain pictures of high density. This may lead to diffusing of pictures.

The **MRCMode** parameter can have the following values:

**MRCMode="Legacy"** // Provides compatibility with MRC settings of previous releases.

**MRCMode="Normal"** // Standard compression, the default value.

**MRCMode="Smoothing"** // Smoothing.

**MRCMode="TextMask"** // Compresses only text objects in order to avoid diffusing text objects that may have been detected as pictures. Try using this value when processing low-quality images where text is difficult to detect.

### 8.3. Automatic rotation of PDF image layer when adding a text layer

In earlier versions of ABBYY Recognition Server 4, enabling the **Modify text layer only** option in the format settings when exporting output files as PDF documents with a text layer prevented any changes to document images. Release 4 allows rotating document images to match the direction of the text layer.

By default, automatic page rotation is enabled in the *Configuration.xml* file:

**ForbidCorrectOrientationWhileReplacingTextLayer="FALSE"**.

To disable this feature, change the value of **ForbidCorrectOrientationWhileReplacingTextLayer** to **TRUE**.

### 8.4. Saving coordinates of retyped words into ALTO XML

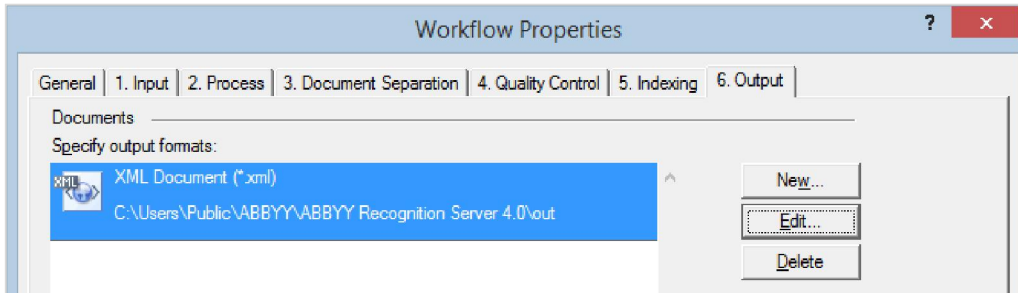
Release 4 adds a parameter to the ALTO XML output format for saving the coordinates of words that have been retyped completely. This can be very helpful in projects dealing with difficult languages such as Arabic, where recognition accuracy may be low and operators may end up deleting entire words in the recognized text and typing them by hand.

To enable this feature, open the *Configuration.xml* file and set the value of the **WriteRenderedImageCoordinates** element to **TRUE**: **WriteRenderedImageCoordinates="TRUE"**

**Note.** This feature is disabled by default (**WriteRenderedImageCoordinates="FALSE"**) because it may slow down processing.

### 8.5. Barcode types in output XML documents

When a document with barcodes is exported to XML, the barcode type will now be specified in the resulting document in addition to the barcode's value.



In the XML document, the barcode type is contained in the **barcodeInfo** child element of the **Block** element of the barcode.

```

- <block b="3324" r="749" t="3153" l="261" blockType="Barcode">
  - <region>
    <rect b="3324" r="749" t="3153" l="261"/>
  </region>
  <barcodeInfo type="EAN13"/>
  - <text>
    - <par>
      - <line b="0" r="0" t="0" l="0" baseline="0">
        <formatting lang="">6529141677079</formatting>
      </line>
    </par>
  </text>
</block>

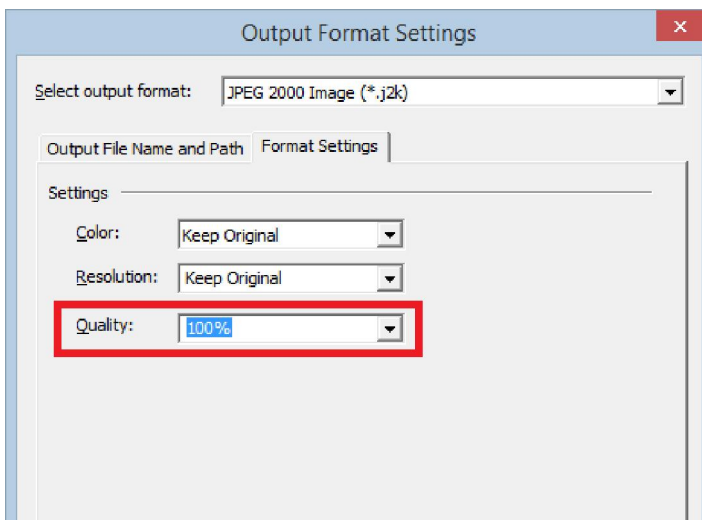
```

If the document contains more than one barcode (for separating documents or encoding data), information about their types can often be useful in selecting the right barcode value for further document processing and routing.

## 8.6. Lossless JPEG2000 compression

Release 4 adds the option to save document images in JPEG 2000 using lossless compression. It is useful when converting books, art works, magazines and newspapers with small font sizes.

To enable lossless compression, open the **Output Format Settings** dialog box, select the **Format Settings** tab and then select **100%** from the **Quality** drop-down list.

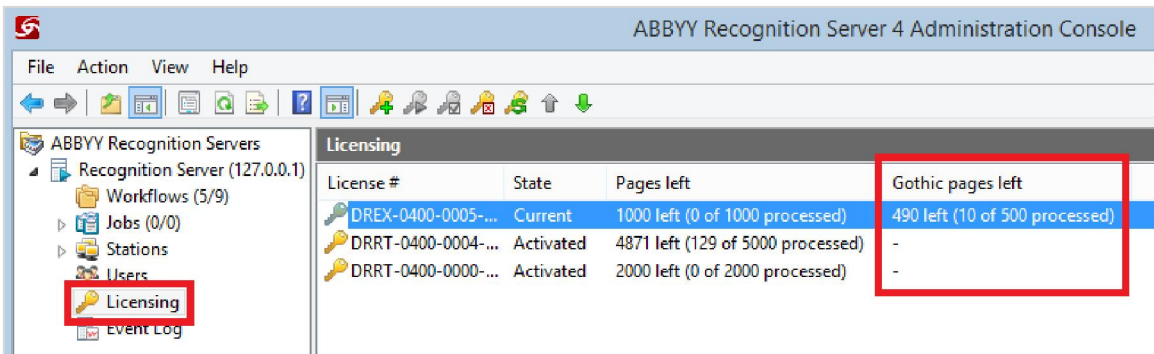


## 9. Licensing

### 9.1. Gothic page counter in the Administration Console

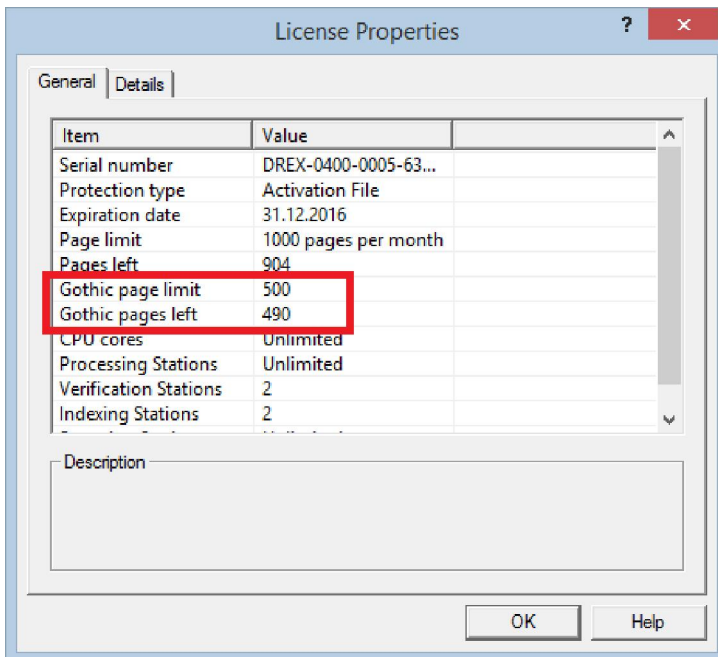
The total number of Gothic pages and the number of available Gothic pages have been added to the license information in the **Licensing** node of the Remote Administration Console. Now, if the license allows processing

both standard and gothic pages, the **Gothic pages left** column will be displayed in the details pane of the Licensing node. This applies to licenses of the **FineReader XIX** type.



**Note.** The column will not be displayed if there are no FineReader XIX licenses.

Information on the number of Gothic pages available in the license can also be viewed in the **License Properties** dialog box.



## 10. Installation and system requirements

### 10.1. Windows 10 support

Recognition Server 4 officially supports Microsoft Windows 10.

### 10.2. Patching procedure

ABBYY Recognition Server 4 Release 4 introduces support for patches. Unlike full-scale updates, patches update specific components without re-installing the entire program. Patches will be delivered in special circumstances in order to fix critical issues.

Patches can be applied to Release 4 and subsequent releases.

To install a patch, double-click the MSP patch file. If the patch does not work, you can roll back its changes by uninstalling it from the control panel.

## 11. API

### 11.1. Backward compatibility

ABBYY Recognition Server 4 Release 3 introduced Web API versioning in order to provide continuous support for code written for earlier versions of the API.

Release 4 does not make any changes to the Web API, so the API remains at version *Recognition4WS.v3*. Specify this version when creating a new application.

## Appendix 1. Fixed bugs

Case Number	Description
	Internal Program Error during processing a particular file (d:\4.0.trunk\technology\0\fineobjects\inc\rational.h, 186)
	Incorrect value of FormattingLang tag for arabic digits in output XML file
	"Not enough memory" errors occurs during processing a particular file
00206101	Sharepoint Online doesn't work (Office 365 was not supported)
	Recognition doesn't work if the Area Template is used
	Separation barcodes on the particular images are not detected or poorly recognized
	POP3 import doesn't work for some e-mail servers
	Wrong diagnostic message during POP3 connection with incorrect password
	Command WIBU_USER_CMD="No" doesn't work
	Sharing Violation error during Office document conversion
	Preprocessing settings don't work via WebAPI
	Internal Program Error .\Src\DataMatrixScheme.cpp, 249. when processing a particular image with barcodes.
	"Unknown error while opening ... file" error happens when opening a particular image
	Can't run verification stations on the same machine by several remote users simultaneously
	Some parameters are not described in the help file
	Error when exporting particular documents into PDF/A with "Modify text layer only" option
	PDF file is exported with not corrected page orientation

	Text layer is shifted when using "Modify text layer only" option
	Barcodes of small size are not detected.
	Text layer is shifted as if they were with incorrect orientation
00184756	Memory issues "Not enough storage is available to complete this operation" occur on large files.
00184756	File doesn't go to Exception after "Not enough memory" error
00206604	"Not enough memory" error during processing a particular file
00206604	"Access violation" and crash during export
00183486	Error during processing a particular file (IPE: .\Src\MultyColumnDocumentModelGenerator.cpp, 5875)
00183486	Suggestion: in XML-result file specify a number of page that causes the document processing failure
00183431	"Access violation" error and crash during processing particular images
00183431	Error "division by zero" during processing particular files
00201306	"Access violation" error during processing particular images
00182757	Incorrect number of uncertain characters showed in Verification Station
00207247	Files in Results folder are not deleted when processing SharePoint libraries
	Impossible to set J2K compression for PDF/A-2, PDF/A-3 formats
	File processing fails, if "Correct resolution of photos" option is not enabled
	Internal Program Error .\Src\WordExporter\WordWriter.cpp, 115. happens when exporting a particular file into DOCX format in "Editable copy" mode
	Add an information to Help file: Incorrect text orientation of Arabic text in DOCX file, if the MS language support is not enabled - Microsoft Office 2007 Language Settings(Microsoft Office - Microsoft Office Tools
	Internal Program Error FineObjects\Inc\Map.h, 353 happens when exporting a particular file into DOCX format in "Editable copy" mode

	Use API methods for objects creation instead of operator "New"
	COM API OutputDocuments empty for XmlResult.InputFiles.Item()
	Internal Program Error d:\build\13.0.trunk\0\ocr\recpage\context\contextvariant.h, 1019 during detection of orientation of document in Burmese language
	Thai characters are not displayed at Verification Station
	"Unknown error while opening ... file" error happens when opening a particular image
	Autorotation option doesn't work properly on particular images
00208263	BackgroundColorDetectionType="FillBlack" parameter is ignored if "No rotation" is set in the properties
00208263	"Deskew" option behavior depends on image format and software producer of this image
00208263	Deskew is not working for tiff files where vertical and horizontal dpi are different
00187932	Ocassional "Not enough memory" issues when processing a set of particular images
	Barcodes of small size are not detected.
	"Not enough memory" error on certain images with barcodes
	Incorrect sequence of commands when you connect via SMTP without authentication

## Appendix 2. History of Releases

### Release 3 with Japanese UI and Help

Part #: **1135/13**, build # **4.0.4.1447**, OCR Technologies build # **13.0.20.56**, release date: **October 9, 2015**.

- Translation of operator stations UI and Help to Japanese
- Bug fix for ABBYY USA Administration Console UI was translated into Japanese.

### Release 3 Patch 2 (for customer)

Part #: **1135/12**, build # **4.0.4.1438**, OCR Technologies build # **13.0.20.56**, release date: **September 22, 2015**.

- Bug fix. Processing Stations can now be connected to the Server, if TCP/IP protocol is used as a protocol for interaction between Recognition Server components. The "Access is denied" bug has been fixed.

### Release 3 Patch 1 (for customer)

Part #: **1135/11**, build # **4.0.4.1437**, OCR Technologies build # **13.0.20.56**, release date: **September 07, 2015**.

- Bug fix. Original file can now be overwritten with the newly generated file with the same file name and extension, when processing documents in Microsoft SharePoint library (e.g. to avoid the duplication of PDF files).

## Release 3 with Japanese UI

Part #: **1135/10**, build # **4.0.4.1434**, OCR Technologies build # **13.0.20.56**, release date: **July 17, 2015**.

- Administration Console UI was translated into Japanese.

## Release 3

Part #: **1135/9**, build # **4.0.4.1425**, OCR Technologies build # **13.0.20.54**, release date: **June 15, 2015**.

- Conversion of Office file formats
- Processing the entire SharePoint portal with child sites within one workflow
- Saving output files in input folders
- Writing original documents as attachments to PDF/A and PDF documents
- Improvements in export to ALTO XML
- Sending notifications to the Administrator via an SMTP server

## Release 2 Patch 2

Part #: **1135/8**, build # **4.0.3.1180**, OCR Technologies build # **13.0.15.138**, release date: **February 6, 2015**.

- Improved work with multiple workflows (more than 16) and indexing of documents that contain many index fields.

## Release 2 Patch 1

Part #: **1135/7**, build # **4.0.3.1175**, OCR Technologies build # **13.0.15.138**, release date: **January 16, 2015**.

- Possibility to specify the color of filling the document edges (“triangles”) after automatic deskew (see the feature [description](#))

## Release 2

Part #: **1135/6**, build # **4.0.3.1167**, OCR Technologies build # **13.0.15.131**, release date: **November 14, 2014**

- Improved MRC compression method (producing the compressed PDF files of the minimum size)
- Using IFilter for processing PDF files in MS SharePoint
- Processing the SharePoint document libraries:
  - Crawling of the whole site (including multiple libraries and folders)
  - Periodical re-crawling settings
- Export to specific column types in SharePoint (support of Date, Number, and some other formats)
- Export to PDF/A-3

## Release 1 Multilingual

Part #: **1135/5**, build # **4.0.2.952**, OCR Technologies build number **13.0.13.21**, release date: **14/08/2014**

- Translation of UI and help on the following languages:
  - French
  - German
  - Italian
  - Spanish
  - Chinese
  - Portuguese (Brazil)
  - Czech
  - Hungarian
  - Polish
- Bug fix for ABBYY USA

## Release 1

Part #: **1135/4**, build # **4.0.2.943**, OCR Technologies build number **13.0.13.15**, release date: **19/05/2014**

- Improved failure recovery

- Ability to limit the number of processed pages
- Verification and Indexing Station improvements
  - Selecting documents from a queue
  - Timeout settings
  - Saving changes on the stations
- Indexing Station improvements
  - Importing document types from an external source