

## ABBYY FLEXICAPTURE ENGINE 11 TECHNICAL RELEASE NOTES

### R1 GM -

This is the first release of ABBYY FlexiCapture Engine 11 product. New features and improvements are:

- Arabic OCR support
- Improvements in searchable PDF export
- Opening PDF files from memory

### PART NUMBER, BUILD NUMBER

Part#	1298/2
Build#	11.0.2.112

### UPGRADING FROM PREVIOUS VERSION

#### BINARY INCOMPATIBILITY

It is necessary to recompile host application regardless a version of Engine previously used.

#### API CHANGES

Please check 'ABBYY FlexiCapture Engine 11 and 10 Compatibility' article in the product documentation.

The main changes are:

- **Long** data type has been replaced with **int** data type in all properties and methods that used it.
- The **InitializeEngine** function now takes only one input parameter — the Project ID number. The reserved parameters have been removed. Project ID is a serial number of a Master Developer License, which is assigned as the major license for a set of Developer and Runtime licenses of one business project. If only one Developer License is used for development, Project ID is equal to the serial number of this license.
- The **SaveToMemory** method provided by many objects returns the handle to the memory buffer as the Handle object.
- The **LoadFromMemory** method provided by many objects receives the pointer to the memory buffer as `__int64`.

These changes are due to preparing FCE 11 API for 64-bit architecture support in the future.

All other minor changes are for making API consistent with its functionality: some methods were obsolete and names were wrong in FCE 10.x.

#### CHANGES IN BEHAVIOR

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## NEW DEFAULT INSTALLATION FOLDERS

Comparing to the previous version the release has different installation folders.

<b>Folder</b>	<b>Description</b>
"%ProgramFiles%\ABBYY SDK\11\FlexiCapture Engine"	<b>Default</b> value for a folder storing binaries, the Help file and the guides, and USB dongle driver redistribution. Also Read Me file takes place there. User can change the destination upon installation process.
"%ProgramData%\ABBYY\SDK\11\Licenses"	This is permanent place for protection subsystem files.
"%ProgramData%\ABBYY\SDK\11\FlexiCapture Engine"	This is permanent place for auxiliary Engine files like include files and samples.

## NEW FEATURES AND IMPROVEMENTS

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### DATA CAPTURE OF ARABIC DOCUMENTS AND FORMS

ABBYY FlexiCapture Engine 11 includes an improved version of Arabic OCR technology. Now pre-recognition of Arabic text is enabled in the version therefore FlexiCapture Engine 11 supports data capture of Arabic documents and forms.

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### IMPROVEMENTS IN SEARCHABLE PDF EXPORT

During export to Searchable PDF results of full-text OCR are merged with data extracted from a document and these recognized field values are substituted for corresponding results of full-text OCR. Since these fields' values are obtained using specific recognition settings and could be verified by rules and by a human, they are more accurate than those from the full-text OCR result.

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### PROTECTION REDUNDANCY

While working in a network, the failure of the license server stops the processing on all workstations in the network. To prevent this situation, a fail proof redundant license server configuration has been introduced in this release. Now it is possible to set up a backup license server which will take over the license management if the main license server breaks down.

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### OPENING PDF FROM MEMORY

FlexiCapture Engine 11 adds PDF format to a set of image formats supported for opening from memory.

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### SUPPORT OF WIBU CMSTICK

Now FlexiCapture Engine 11 supports using of Wibu CmStick along with iKey. One Wibu CmStick may store multiple product licenses obtained from the same or different software manufacturers.

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## KNOWN ISSUES AND WORKAROUNDS

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## LONG INSTALLATION PATH

You may into the problem when unpacking the distributive. Will be resolved in the next release.

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## INTREGATED FINEREADER ENGINE HAS NO VISUAL COMPONENTS

ABBYY FineReader Engine 11 product (API) included into ABBYY FlexiCapture Engine 11 distributive lacks of FRE Visual Components (FRE VCs). ABBYY has no plans to include FRE VCs into any subsequent releases of FCE 11.

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## INVOICE PROJECTS ARE NOT SUPPORTED

FCE11 R1 does not support FlexiCapture for Invoices project. Though it is possible to run such projects w/o end-user interactive invoice definition training. To run the projects you need a special license.

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## LONG TIME CONVERSION OF PNG TO BMP

The following code takes long time (minutes) to complete:

```
ImageProcessingTools imageProcessingTools = engine.CreateImageProcessingTools();  
ImageFile imageFile = imageProcessingTools.OpenImageFile( @"D:\ABC.png" );  
imageFile.OpenImagePage(0).WriteToFile(" D:\ABC.bmp", ImageFileFormatEnum.IFF_Bmp, null,  
ImageCompressionTypeEnum.ICT_Uncompressed, null );
```

This is due to incorrect implementation of BMP file writing algorithm.

The fix will be in the next release.

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## UNCOMPRESSED DCX AND PCX FILES ARE NOT SUPPORTED

If a file of PCX or DCX format file contains uncompressed image FRE and FCE opens it as a blank image.

The fix will be in the next release.

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## ADOBE READER FULL-TEXT SEARCH IN

Adobe Reader provides no correct full-text search through FCEngine11UserGuide.pdf file. The search works in Foxit Reader.

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## IIMAGEDOCUMENT INTERFACE DOES LESS IN FCE THAN IN FRE

Objects with IImageDOcument interface obtained through FCE 11 API provide less functionality than objects with the same interface created by FRE 11 API.

Namely:

- 1) SaveModified does not work. It is not possible to change an image FCE 11 works with.
- 2) Properties: IsInternalFormat, IsModified, and IsReadOnly, - always return same value. This is due 'read-only' nature of ImageDocument objects created by FCE 11.

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## THE LOGGING HAS FCE SETTINGS AND NOT THE FRE SETTINGS

Will be resolved in the next release.

## R2 GM -

In this maintenance release, in addition to bug fixes, new features and improvements are:

- Windows 10 support.
- Full JNI wrapper.
- Improved installer.
- Compatibility with FC 11 R4.

## PART NUMBER, BUILD NUMBER

Part#: 1298/3

Build#: 11.0.3.136

## UPGRADING FROM PREVIOUS VERSION

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### BINARY INCOMPATIBILITY

It is necessary to recompile host application regardless a version of Engine previously used.

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### API CHANGES

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#### REMOVED: BARCODETYPEENUM.BT\_PDF417\_CODEPAGE\_IN\_BYTEMODE

The barcode type value **BT\_PDF417\_CodePage\_in\_ByteMode** was removed from the API since it has no reflection in the OBR technology. Instead, **BT\_PDF417** value should be used.

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### CHANGES IN BEHAVIOR

There are no changes in behavior in this release.

## LIST OF CHANGES

### NEW FEATURES AND IMPROVEMENTS

#### WINDOWS 10 SUPPORT

QA tested this release on the latest Microsoft Windows version and found no issues. Thus FCE 11 R2 officially supports MS Windows 10.

#### FULL JNI WRAPPER

In FlexiCapture Engine 10 Java wrapper had some limitations: lack of callback (event) and byte array support. Now FlexiCapture Engine 11 includes the complete version of Java wrapper implementing full FlexiCapture Engine 11 API, which means that entire SDK functionality is available through it.

Supporting of callback allows our customers:

- Display the progress while processing.
- Support IImageSource Interface (an interface for a custom image source). By default, the FlexiCapture Engine processor works with images in the internal processing queue. Images are added into this queue as references to the corresponding files (push model). However, you can implement your own external image queue, which will either return references to files on demand (pull model) or, instead of references to files, provide the source images as a stream in memory (working with memory). Therefore, implementing your own image source is useful if you need the ability to request the next image and wait for it, or if you want to use your own image storage and processing queue. This interface also allows you to perform some preprocessing on images before passing them to recognition.

#### IMPROVED INSTALLER

From now on, the distributive includes the sample code folder as a ZIP archive 'Samples.zip'.

This prevents the installer from working with too long file (path) names during installation from a deep subfolder.

#### COMPATIBILITY WITH FC 11 R4

FCE 11 R2 works with projects created in FC 11 Professional R4, build 11.0.3.1765, or earlier. Projects saved in the FCE 11 R2 can be used in FC 11 Professional R4, build 11.0.3.1765, or later.

### FIXED BUGS

This section contains a list of bugs reported by customers that have been fixed.

Four-point scale will help you to evaluate the severity of each issue, enabling you to make informed decision on how important updates are for your system.

<b>Critical</b>	A bug that causes crashes or hangings of software. Critical bugs can include access violations, internal program errors, stack overflow, out of memory or other exceptions that can lead to program failure.
<b>Major</b>	A bug that does not cause program failure but affects major functionality of a feature or impairs the system's performance. Major bugs can include disparity of the feature functionality to the internal specifications, memory leaks or data corruption.
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<b>Trivial</b>	A cosmetic issue that does not affect the functionality of the product but can cause inconveniences. Trivial bugs can include Help file errors, log errors, incomplete information in error messages, etc.

The following table contains bugs fixed in this release sorted in descending order of severity. If the bugs have workarounds, root causes or side effects, they will be mentioned in the Description section.

Severity	Description	Technology Subsystem	HD #	Office
<b>Critical</b>	<p>The error 'd:\flexicapture_11.0_technology\0\textlayout\text\pagestructure.cpp, 224' in the following scenario:</p> <ul style="list-style-type: none"> <li>- Process an image in the FlexiCaptureProcessor</li> <li>- Save an ImageDocument into a file/memory</li> <li>- Open the saved ImageDocument into FRE</li> <li>- Add the ImageDocument into a FRDocument</li> </ul> <p><b>Root cause:</b> incomplete ImageDocument initialization upon loading.</p>	API	506081	US
<b>Major</b>	<p>The VC sample crashes at the next user action after an opened page is deleted.</p> <p><b>Root cause:</b> an ImageDocument object is not freed explicitly and stays in memory causing instability of the application.</p> <p><b>Workaround:</b> correct PageImageControl.cs the following way</p> <pre>public void Initialize(FCEngine.IPage page) {     _page = page;     IImageDocument imageDocument = page.Image;     IImage colorImage = imageDocument.ColorImage;     Image img = getImage( colorImage );     Marshal.ReleaseComObject( colorImage );     Marshal.ReleaseComObject( imageDocument );</pre>	VC	518189	3A
<b>Minor</b>	The interop libraries (.Net wrappers) are missing in the distributive.	Distributive	519990	EU

<b>Minor</b>	IProcessingError::ImageFile::GetFileReference does not return a file name opened using ReferenceManager.	API	514422	RU
<b>Minor</b>	The error 'Path too long' appears during an installation of the product. <b>Root cause:</b> the distributive situates too deep in subfolders so a path to sample folders becomes too long (>256 characters). <b>Workaround:</b> put the distributive closer to the root of a disk.	Installer	498380	US
<b>Minor</b>	The IEngine::EnableRecognitionVariants() call is not protected by 'Verification' licensing module.	Licensing	499745	US
<b>Minor</b>	EngineLoader.cs file includes - A reference to FreConfig class defined nowhere. - Incorrect signature of the GetEngineObject() method. <b>Workaround:</b> remove the reference to FceConfig, correct the signature to the corect one according to the documentation.	Samples	506074	US
<b>Minor</b>	Incorrect error message 'Internal program error: .\Src\XMLExporter.cpp, 604.' in case there is nothing to export into an XML file.	API	507918	US
<b>Minor</b>	The installer does not install required file 'TextClassifier.dll' in the quiet runtime mode.	Installer	516498	US
<b>Trivial</b>	The documentation does not indicate the 'Awl.dll' file as required for a distribution, whereas LicenseManager.exe does not work w/o this file.	Documentati on	517903	EU
<b>Trivial</b>	A dot is missing after 'FCEngine' in the string 'CreateObject("FCEngineInprocLoader")'.	Documentati on	521395	EU
<b>Trivial</b>	The documentation contains the description of the SuppressSecurityPaperBackground removed from the API.	Documentati on	507570	UA
<b>Trivial</b>	An incorrect description of IText::RecognizedWordsCount property availability.	Documentati on	499745	US
<b>Trivial</b>	The documentation does not mention that IText::RecognizedWordscount property requires 'Verification' licensing module.	Documentati on	499745	US
<b>Trivial</b>	All method calls in the log includes the prefix 'FCEngine' which is different from ones for FCE 10.	Logging	499878	US

## KNOWN ISSUES AND WORKAROUNDS

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Namely:

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- 2) Properties: IsInternalFormat, IsModified, and IsReadOnly, - always return same value. This is due 'read-only' nature of ImageDocument objects created by FCE 11.

## R3 GM -

In this maintenance release, in addition to bug fixes, new features and improvements are:

- Asynchronous scanning.
- Export to memory.
- Function for logging unreleased objects.
- An automatic uninstallation of Runtime FCE installation.
- Compatibility with FC11 R5 Patch2.

## PART NUMBER, BUILD NUMBER

Part#: 1298/6

Build#: 11.0.105.3

## UPGRADING FROM PREVIOUS VERSION

### BINARY INCOMPATIBILITY

It is necessary to recompile host application regardless a version of Engine previously used.

### API CHANGES

#### REPLACED: SCENSOURCESETTINGS::COMPRESSION

A new property **ScanSourceSettings::CompressionType** for compression type specification was implemented. It is used instead of the **ScanSourceSettings::Compression** property that did not have realization, was deprecated and removed.

#### REMOVED: SCANSOURCESETTINGS::ORIENTATION

This property was deprecated and removed because it did not have realization and did not work.

#### ADDED: API FOR ASYNCHRONOUS SCANNING

FCE 11 R3 has methods for asynchronous scanning.

Please find more information in 'Asynchronous scanning' article.

#### ADDED: METHOD FOR SAVING TO MEMORY

A new method **FlexiCaptureProcessor::ExportDocumentToMemory** exports recognized document to memory using specified export settings.

Please find more information in 'Export to memory' article.

#### ADDED: METHOD TO LOG UNRELEASED OBJECTS

A new method **Engine::LogUnreleasedObjects** writes to the log file a list of objects that are not currently deleted.

Please find more information in 'Function for logging unreleased objects' article.

### CHANGES IN BEHAVIOR

There are no changes in behavior in this release.

## LIST OF CHANGES

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## NEW FEATURES AND IMPROVEMENTS

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### ASYNCHRONOUS SCANNING

FCE 11 R3 has methods for asynchronous scanning. This means that one can scan i.e. without blocking the execution of the program.

FlexiCapture Engine also provides callback interface (IScanCallback) that could be used during the scanning.

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### EXPORT TO MEMORY

There is a possibility to save extracted data into a file (to a disk).

Sometimes it is convenient and/or required to store no files on a processing PC disk and put them directly to a secured DB or a file storage. To facilitate that, an ability to save an output file into memory is implemented.

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### FUNCTION FOR LOGGING UNRELEASED OBJECTS

A new method `Engine::LogUnreleasedObjects` writes to the log file a list of objects that are not currently deleted. The method can be called any time when necessary.

This method is available only with programming languages which do not have garbage collections (for example, C++).

Note: In current release one should call the `IDocumentDefinition::Check()` method to make created page definition valid. See [Known Issues and Workarounds](#).

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### ANAUTOMATIC UNINSTALLATION OF RUNTIME FCE INSTALLATION

Uninstallation of FCE 11 runtime is more automatic from now on:

- It is possible to install several Runtime copies in different directories using License Server standalone.
- There is an opportunity to install FCE with parameter `DEINSTALLRUNTIME=yes` with setting install directory. In this case all the files will be deleted from the directory and licensing server will be deleted from the machine on necessity. It is controlled that such a kind of uninstallation does not damage the functionality of other products.
- Libraries is deactivated while uninstallation is processing, if it is necessary.

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### COMPATIBILITY WITH FC R5 PATCH2

FCE 11 R3 works with projects created in FC11 R5 Patch2, build 11.0.4.2059, or earlier. Projects saved in the FCE 11 R3 can be used in FC11 R5 Patch2, build 11.0.4.2059, or later.

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## FIXED BUGS

This section contains a list of bugs reported by customers that have been fixed.

Four-point scale will help you to evaluate the severity of each issue, enabling you to make informed decision on how important updates are for your system.

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The following table contains bugs fixed in this release sorted in descending order of severity. If the bugs have workarounds, root causes or side effects, they will be mentioned in the Description section.

Severity	Description	Technology Subsystem	HD #	Office
<b>Critical</b>	IPE occurred on processing of client's document. <b>Root cause:</b> an error in FlexiCapture controller.	FCEngine 11/Controller	534728, 529761	EU, UA
<b>Major</b>	FCE hung on in case of using FlexiCaptureProcessor::RecognizeNextDocument method on client's document.  Root cause: document was proceed for too long because of too big page's id size (about 3 * 10^5 charachters) and outdated data structures were used.	DAForms	534533	US
<b>Minor</b>	FCE decreased counter in case of processing ImageDocument that has already been processed by FRE.	API	556409	EU
<b>Minor</b>	In case of using IFlexiCaptureProcessor::SetUseFirstMatchedDocumentDefinition method, log file contains a wrong record of nonexistent method IFlexiCaptureProcessor::SetUseFirstMatchedTemplate.	API	576000	US
<b>Trivial</b>	After developer installation of FCE11 R2 link to the documentation "FlexiCapture Engine Help" led to FRE help file.	Install	534456	US

## KNOWN ISSUES AND WORKAROUNDS

Sames as R2.

In this maintenance release, in addition to bug fixes, new features and improvements are:

- Asynchronous scanning.
- Export to memory.
- Function for logging unreleased objects.
- An automatic uninstallation of Runtime FCE installation.
- Compatibility with FC11 R5 Patch2.

## PART NUMBER, BUILD NUMBER

Part#: 1298/8

Build#: 11.0.105.12

## UPGRADING FROM PREVIOUS VERSION

### BINARY INCOMPATIBILITY

It is necessary to recompile host application regardless a version of Engine previously used.

### API CHANGES

There are no changes in API.

## LIST OF CHANGES

### NEW FEATURES AND IMPROVEMENTS

There are no new features or improvements.

### FIXED BUGS

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The following table contains bugs fixed in this release sorted in descending order of severity. If the bugs have workarounds, root causes or side effects, they will be mentioned in the Description section.

Severity	Description	Technology Subsystem	HD #	Office
<b>Critical</b>	While working with runtime license, it was impossible to create ExportParams	API	592720	3A
<b>Major</b>	FCE was not able to open some specific PDF files  <b>Root cause:</b> installation tool did not copy all the necessary resource files of APDL	Install	588922	EU

## KNOWN ISSUES AND WORKAROUNDS

Sames as R2.

## R3 GM PATCH 2 -

This patch release contains a bug fix:

- Patch for product protection concerning Wibu keys. Please see Fixed bugs section for details.

## PART NUMBER, BUILD NUMBER

Part#: 1298/9

Build#: 11.0.105.13

## UPGRADING FROM PREVIOUS VERSION

### BINARY INCOMPATIBILITY

It is necessary to recompile host application regardless a version of Engine previously used.

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## API CHANGES

There are no changes in API.

## LIST OF CHANGES

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## NEW FEATURES AND IMPROVEMENTS

There are no new features or improvements.

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## FIXED BUGS

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The following table contains bugs fixed in this release sorted in descending order of severity. If the bugs have workarounds, root causes or side effects, they will be mentioned in the Description section.

Severity	Description	Technology Subsystem	HD #	Office
<b>Major</b>	Problem with zero license counter in case of license written (activated) onto a Wibu key Update	Protection	590620	3A

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## KNOWN ISSUES AND WORKAROUNDS

Sames as R2.

## R3 GM PATCH 3 -

This patch release contains a bug fix:

- Patch for product protection concerning Wibu keys. Please see Fixed bugs section for details.

## PART NUMBER, BUILD NUMBER

Part#: 1298/10

Build#: 11.0.105.22

## UPGRADING FROM PREVIOUS VERSION

### BINARY INCOMPATIBILITY

It is necessary to recompile host application regardless a version of Engine previously used.

### API CHANGES

There are no changes in API.

### CHANGES IN BEHAVIOR

#### AN ABILITY TO SAVE LICENSE COUNTERS VALUE ON LICENSE

A new section 'ZeroLevel' was added into License Wizard for FCE 11. The only one available option in this section is ZeroLevel.

If this option is activated, a license counter value will be saved in ABBYY Registration Server during the license deactivation. On further activation counter will take value from ABBYY Registration Server.

## LIST OF CHANGES

### NEW FEATURES AND IMPROVEMENTS

There are no new features or improvements.

## FIXED BUGS

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Severity	Description	Technology Subsystem	HD #	Office
<b>Major</b>	Error occurs in case of saving or closing a document after changing any field's value without checking (CheckRules method).	API	579232	UA
<b>Minor</b>	Not implemented old methods in API generate errors	API	571179	UA
<b>Minor</b>	On transferring ImageDocument from FCE to FRE using OutprocLoader, license counter decreases again when ImageDocument is re-recognized in FRE.	FRE API	591463	RU
<b>Trivial</b>	Log message 'Unreleased objects list: FCEngine.Template' is hard to understand for customers.	API	585096	US
<b>Trivial</b>	Wrong description for ImageProcessingTools::RotatImage method in documentation.	Help	597595	US
<b>Trivial</b>	Wrong description of allowed compression types for export in documentation.	Help	602258	3A

## KNOWN ISSUES AND WORKAROUNDS

Sames as R2.

## R3 GM PATCH 4 -

This patch release contains bug fixes.

### PART NUMBER, BUILD NUMBER

Part#: 1298/11

Build#: 11.0.105.35

### UPGRADING FROM PREVIOUS VERSION

#### BINARY INCOMPATIBILITY

It is necessary to recompile host application regardless a version of Engine previously used.

#### API CHANGES

There are no changes in API.

#### CHANGES IN BEHAVIOR

There are no changes in behavior in this release.

### LIST OF CHANGES

#### NEW FEATURES AND IMPROVEMENTS

There are no new features or improvements.

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Severity	Description	Technology Subsystem	HD #	Office
Critical	'Division by zero' error occurs in case of geometry correction on specific customer's images.	Image	579232	US
Critical	Internal program error occurs in case of recognition of specific customer's document with package type "Счет-фактура_ОГ".	Barcodes	571179	RU
Major	In debug configuration on processing of specific user's image with document definition IPE occurs when CheckResult method is called.	DAForms	591463	3A
Trivial	Hello sample on JavaScript does not work if not full path to .fcdot file is set.	Samples	585096	EU

## KNOWN ISSUES AND WORKAROUNDS

Sames as R2.