

Real-Time Transformation Interface

Release Notes

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About this release

The software and documentation is available from the Kofax Fulfillment Site: <https://delivery.kofax.com/>. A representative from your company registers on this site to download the software and documentation.

Documentation for this product is available [online](#).

If you are already a Kofax customer, contact your Kofax Professional Services Regional Manager to discuss and plan your upgrade.

If you are an existing customer, follow the instructions below to access the product for this release:

1. Log in to the Kofax Fulfillment Site (<https://delivery.kofax.com/>).
2. From the Your Software list, locate and select the product you want to download.
3. Follow the instructions on the Fulfillment Site to complete your download.

The available packages include the software, documentation, and license keys for the release.

New customers will receive an email from Kofax after their product's purchase. The email will contain a serial number to use when registering on the Kofax Fulfillment Site. Registration provides customers with the credentials needed to download their product.

What's New in This Release

Real-Time Transformation Interface 2.1 contains the following new features and enhancements:

Image Cropping

The Real-Time Transformation Interface image processor contains the following image cropping additions/changes:

- Improved image cropping algorithms
- Text-Based Pre-Cropping Feature added
- MRZ Cropping Feature changes

These are both enabled as described below.

Improved image cropping algorithms

New algorithms have been integrated into Real-Time Transformation Interface to improve image cropping generally for images captured from mobile devices. These algorithms are enabled by default and can be disabled by using the `_UseLegacyProcessor_` image processing token.

Text-Based Pre-Cropping Feature Added

Use the following new image processing operation string keywords (within the `imageperfectionsettings` item of your image processing profile) to access text-based cropping:

Text-Based Pre-Cropping

Keyword: `_DoTextBasedPreCrop_`

Detect the text area of the input image and use that area for final image processing. This can be added to an existing image processing operation string.

Text-Based Pre-Cropping Region of Interest Percent

Keyword: `_TextBasedPreCropTextROIPercent_n`

Use with text-based pre-cropping to specify the area of the input image in which detected text items must be located in order to be considered. This is specified as a percentage of the image width and height. The valid range is 0 to 25. For example, the default value of 2 specifies that any detected text items that overlap with the outermost 2 percent of the input image will not be considered in determining the text area. Specify `_TextBasedPreCropTextROIPercent_0` to consider all detected text items in determining the text area. Larger values cause fewer detected text items to be considered.

Note Has no effect if `_DoTextBasedPreCrop_` is not included in the operation string.

Text-Based Pre-Cropping Clip Expansion Percent

Keyword: `_TextBasedPreCropExpansionPercent_n`

Use with text-based pre-cropping to specify the size of the clipping area as a percentage of the text area. The valid range is 50 to 150. For example, the default value of 125 specifies that the clipping area is to be 125% the size of the text area. In other words, the clipping area is produced by widening the text area by 12.5% on all four sides, but not beyond the original image frame. Larger values of Clip Expansion Percent result in a larger clipping area to be used.

Note Has no effect if `_DoTextBasedPreCrop_` is not included in the operation string.

Text-Based Pre-Cropping Minimum Clip Size

Keyword: `_TextBasedPreCropMinimumClipSize_n`

Use with text-based pre-cropping to specify the smallest acceptable clipping area size. This parameter is specified in pixels. The valid range is 0 to 9999. For example, the default value of 240 tells the image processor to reject the determined clipping area if either the width or height of the clipping area would be less than 240 pixels. If the clipping area is rejected, the entire input image is used for final processing.

Note Has no effect if `_DoTextBasedPreCrop_` is not included in the operation string.

Text-Based Pre-Cropping Outside Crop Limit

Keyword: `_TextBasedPreCropRejectCropCornerOutsideLimit_n`

Use with text-based pre-cropping to specify how aggressively to reject the final image cropping due to detected corner points being too far outside the clipping area. This parameter is specified in units of 0.01%. The valid range is 0 to 1500. For example, the default value of 1300 tells the image processor to reject the final crop if any of the detected corner points are more than 13.00% outside the clipping area horizontally or vertically.

Note Has no effect if `_DoTextBasedPreCrop_` is not included in the operation string.

Text-Based Pre-Cropping Inside Crop Limit

Keyword: `_TextBasedPreCropRejectCropCornerInsideLimit_n`

Use with text-based pre-cropping to specify how aggressively to reject the final image cropping due to detected corner points being too far inside the clipping area. This parameter is specified in units of 0.01%. The valid range is 0 to 4000. For example, the default value of 2300 tells the image processor to reject the final crop if any of the detected corner points are more than 23.00% inside the clipping area horizontally or vertically.

Note Has no effect if `_DoTextBasedPreCrop_` is not included in the operation string.

Text-Based Pre-Cropping Use Original Image If Crop Rejected

Keyword: `_TextBasedPreCropUseOrigImageIfCropRejected_n`

Use with text-based pre-cropping to specify which image to use for final processing whenever the cropping is rejected. N: 0=use the clipped image (default), 1=use the original image.

Note Has no effect if `_DoTextBasedPreCrop_` is not included in the operation string.

MRZ Cropping Feature Changes

An improved MRZ-based document detection algorithm is used when enabled via the `usemrzpassportdetection` property of the image processing profile (within the `imageperfectionsettings` item of your image processing profile). The same algorithm is now available via the image processing operation string (within the `imageperfectionsettings` item of your image processing profile) as described below.

Note The behavior when MRZ detection fails is changed: If MRZ lines are not present on the image, the image processor reverts to regular document detection and no error is returned or logged.

Keyword: `_ProcessMrzDoc_`

Use MRZ lines in the image to better detect the document. This can be added to an existing image processing operation string. If no MRZ found, standard page detection is used.

Example:

```
_DeviceType_2_DoSkewCorrectionPage__DoCropCorrection__ProcessMrzDoc_
```

`_DeviceType_2` tells the image processor that the input image was captured by a phone camera. `_DoSkewCorrectionPage__DoCropCorrection_` causes the image processor to perform the actual cropping as opposed to drawing the boundary on the image. The results of MRZ recognition will be in the returned metadata as found text items.

Notes on setting of output image dimensions when using `_ProcessMrzDoc_`:

- TD1 size: 2.130" x 3.370"
3 MRZ lines of 30 characters. Top line begins with character A, C, or I.
- TD2 size: 2.910" x 4.130"
2 MRZ lines of 36 characters. Top line begins with character A, C, or I.
- TD3 size: 3.460" x 4.920"
2 MRZ lines of 44 characters. Top line begins with character P.
- MRV-A size: 3.150" x 4.720"
2 MRZ lines of 44 characters. Top line begins with character V.

- MRV-B size: 2.910" × 4.130"
2 MRZ lines of 36 characters. Top line begins with character V.

Image source auto-detection

Keyword: `_DeviceType_1_`

Use this keyword instead of any `_DeviceType_n_` keyword to have the Real-Time Transformation Interface automatically detect the image source. Based on the detected source, the most appropriate cropping algorithm will be selected.

The new source detection algorithm is also applied when `autoProfileDetect="On"` is used in the project mapping of Real-Time Transformation Interface `web.config`.

Raising the `Batch_Close Kofax Transformation Modules` script event

When this feature is enabled for a project, the Real-Time Transformation Interface will cause the `Batch_Close` script event for the Kofax Transformation Modules project class to be executed.

Version information

The Kofax Real-Time Transformation Interface release has the following build number: 2.1.0.0.149.

Installing and upgrading the Kofax Real-Time Transformation Interface

For details about system requirements and configuration, see the *Kofax Real-Time Transformation Interface Administrator's Guide*.

Note See the [Resolved Issues](#) section for additional configuration steps that you may need to complete.

Resolved issues

This section describes issues resolved in the following release.

Unable to extract images with black background

When scanned images with a black background were sent to RTTI for extraction the application may have crashed. (1101799)

Project not found if projectMapping contained a dot

The name of each project in `web.config` as specified by the `projectMapping` attribute must not contain the "." character. (887812)

Could not use diagnostic data in conjunction with Kofax Mobile ID Capture 2.x

When `diagnosticData=On` and `separateExtractionProcessPool="true"` were set in the RTTI project definition, the request failed. (799999)

AppStats sample plug-in support for Oracle not in Administrator's Guide

The sample plugin documented in the *Kofax Real-Time Transformation Interface Administrator's Guide* now supports connecting to an Oracle database. Added to Administrator's Guide. (673812)

Affected platforms and/or known devices:

- Real-Time Transformation Interface 1.7

Default profile used when non-existent IP profile specified

When sending request with a specific IP profile, which was not within the `<ipProfiles>` section of `web.config`, the request did not fail, but implicitly used the default IP profile instead. (671866)

Affected platforms and/or known devices:

- Real-Time Transformation Interface 1.7

PDF files failed when document separation was on

When document separation was turned on for any Smart Mobile Component project (bill pay, check deposit, mobile ID), PDF files failed. (642157)

PUT requests should return multiple results

PUT requests should have been able to return multiple results with a multi-page image when document separation is enabled on the Kofax Transformation Modules project. This meant that with a multi-page image, a POST and PUT request should have behaved the same way; so Real-Time Transformation Interface should have returned the same results whether a PUT or POST request is used. (583385)

Data logging files not deleted after cleanupTimeSpan has elapsed

The contents of the logging folders are not deleted even though the specified cleanup time span (set via `cleanupTimeSpan`) has elapsed. (324705)

This happens when `Idle Time-out` (found in the `DefaultAppPool`, `Advanced Settings`, `Process Model` of the application pool created for Real-Time Transformation Interface) is set to terminate worker processes before `cleanupTimeSpan` has elapsed. When the worker processes are terminated, the clean up task is never triggered.

Workaround: Set the `Idle Time-out` to zero (ensures the worker processes never terminate).

The execution of a locator method failed

Having a large number of connections to the host server at one time could have caused a `FaultException` error. (343760)

Post size exceeds allowed limits error returned when submitting image over 4 MB

After upgrading from Real-Time Transformation Interface 1.0 to 1.1, the system might return an error ("post size exceeds allowed limits") if you submit an image that is larger than 4 MB. If this occurs, complete the work-around solution that follows. Verify that your settings match those shown and change any settings that do not match. (315379)

Workaround:

1. Open the **web.config** file for editing.
2. For `system.web`, verify that your settings match the following `httpRuntime` values:
 - `targetFramework` to **4.5**
 - `maxRequestLength` to **102400**
 - `executionTimeout` to **300**

For example:

```
<system.web>
...
<httpRuntime targetFramework="4.5" maxRequestLength="102400"
  executionTimeout="300"/>
...
</system.web>
```

3. For `system.WebServer`, verify that the `requestLimits` `maxAllowedContentLength` is **102400000**. For example:

```
</system.web>
<system.webServer>
...
  <security>
    <requestFiltering>
      <requestLimits maxAllowedContentLength="102400000"/>
    </requestFiltering>
  </security>
...
</system.webServer>
```

Known issues

This section describes issues that you may encounter while using the Real-Time Transformation Interface. Work-around solutions are provided, as applicable.

Cropping fails on scanned images with black background

When the IPP string has `DeviceType_-1`, cropping always fails when sending IDs scanned on a black background for processing on the server side. (1104256)

Workaround: Set to `DeviceType_0`.

Potential Security Issue

An Acunetix scan for Real-Time Transformation Interface 2.0 detected a potential security risk. According to this scan, it is possible to detect short names of files and directories which have an 8.3 file naming scheme equivalent in Windows by using some vectors in several versions of Microsoft IIS. For instance, it is possible to detect all short-names of ".aspx" files as they have 4 letters in their extensions. This can be a major issue especially for .Net websites which are vulnerable to direct URL access, as an attacker can find important files and folders that are not normally visible. (900742)

Workaround: Disable NTFS short file name creation. For instructions refer to <https://technet.microsoft.com/en-us/library/cc959352.aspx>.

Preserve image processing profiles folder contents

Note that upgrading from 1.6.0.1 or 1.7 to 1.8 will remove the `[INSTALLDIR]\bin\Image Processing Profiles` folder, so its contents should be preserved if currently in use. (708031)

Some responses might be a security risk

RTTI has been enhanced so that, only for new installations, certain responses contain less detail than in previous versions. However, for existing installations, there may be instances where server-side information is provided to the user which may be a security risk. For example, after sending an invalid image, you can see that the resulting error message includes the path to the datalogging folder where all the images are stored on the server: (585722)

```
"exceptionMessage": "Invalid image C:\\ProgramData\\Kofax\\Real-  
Time Transformation Interface\\DataLogging\\InProgress\\20150226\\15\\  
\\e7e7adaf-6017-4aa4-af44-89e9c7ef4944\\image.tif\\r\\nParameter name:  
imageFiles"
```

Workaround: If you don't want this extra detail in you responses, you can disable it. To do so, modify the `web.config` file as follows to change this setting:

```
<system.web>  
  <customErrors mode="On"/>  
</system.web>
```

If you do want this extra detail in your responses, set mode to "Off".

Often a failed request does not move to the error folder

A failed request does not always move from the inProgress folder to the Error folder under DataLogging. The failed request remains in the inProgress folder while other failed requests move to the Error folder. (345703)

The failed request does generate an HTTP 500 error for the client.

Large loads can cause intermittent spikes in response time

Response times for some requests can increase as the number of users connected to the Real-Time Transformation Interface system increases. This issue occurs for Field Validation and other Kofax Transformation Modules projects. (344515)

Processing a multi-page TIF file creates only one .XDC file

After submitting a Web request to process a multi-page TIF file, a response appears for each page in the file as expected. However, the Real-Time Transformation Interface creates only one .XDC file for the last page of the multi-page file. The expected behavior is for Real-Time Transformation Interface to create an .XDC file for every page. (327551)

This has no affect the final results. However, you cannot diagnose a problem with separation results because you cannot look at the XDC to determine what happened.

Workaround: To diagnose separation issues, test the images in Project Builder.

Projects using RecoStar fail with Unknown Fox Exception

Projects using RecoStar fail with an Unknown Fox Exception. Looking at the xdc file after the error occurs shows that the representation was created but has no content. (306516)

Workaround: For the best results, use the local Administrator account when processing projects that use RecoStar.