

# Kofax Import Connector

## Administrator's Guide

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# Preface

## Introduction

This guide contains essential information about configuring and operating Kofax Import Connector.

This guide assumes that you have a thorough understanding of Windows standards, applications, and interfaces. It also assumes that you have a thorough understanding of the Internet, your network configuration, and Kofax Capture.

This guide is for system administrators who are configuring and operating Kofax Import Connector, or who need a description of the configuration procedures and operation.

## Related Documentation

The full documentation set for Kofax Import Connector is available at the following location

[https://docshield.kofax.com/Portal/Products/en\\_US/KIC/2.7.0-wxv16nxbqj/KIC.htm](https://docshield.kofax.com/Portal/Products/en_US/KIC/2.7.0-wxv16nxbqj/KIC.htm)

In addition to this guide, the documentation set includes the following items:

- Kofax Import Connector Installation Guide
- Kofax Import Connector Developer's Guide
- Message Connector Help
- KC Plug-In Help
- Release notes

## Help

The online Help systems included in Kofax Import Connector provide online assistance for system administrators and operators alike. You can access online Help from any application window by clicking Help.

## Release Notes

Late-breaking product information is available from release notes. You should read the release notes carefully, as they contain information that may not be included in other Kofax Import Connector documentation.

## Training

Kofax offers both classroom and computer-based training that will help you make the most of your Kofax Capture solution. Visit the Kofax website at [www.kofax.com](http://www.kofax.com) for complete details about the available training options and schedules.

## Get help for Kofax products

Kofax regularly updates the Kofax Support site with the latest information about Kofax products.

To access some resources, you must have a valid Support Agreement with an authorized Kofax Reseller/ Partner or with Kofax directly.

Use the tools that Kofax provides for researching and identifying issues. For example, use the Kofax Support site to search for answers about messages, keywords, and product issues. To access the Kofax Support page, go to [www.kofax.com](http://www.kofax.com).

The Kofax Support page provides:

- Product information and release news  
Click a product family, select a product, and select a version number.
- Downloadable product documentation  
Click a product family, select a product, and click **Documentation**.
- Access to product knowledge bases  
Click **Knowledge Base**.
- Access to the Kofax Customer Portal (for eligible customers)  
Click **Account Management** and log in.

To optimize your use of the portal, go to the Kofax Customer Portal login page and click the link to open the *Guide to the Kofax Support Portal*. This guide describes how to access the support site, what to do before contacting the support team, how to open a new case or view an open case, and what information to collect before opening a case.

- Access to support tools  
Click **Tools** and select the tool to use.
- Information about the support commitment for Kofax products  
Click **Support Details** and select **Kofax Support Commitment**.

Use these tools to find answers to questions that you have, to learn about new functionality, and to research possible solutions to current issues.

## Chapter 1

# Overview

Kofax Import Connector is an add-on to Kofax Capture responsible for importing messages and files in many electronic formats.

It has two main components:

- Message Connector is usually installed on a standalone computer. It retrieves documents from various sources, converts them to Kofax Capture compatible format and saves them in its internal storage.
- KC Plug-In is installed at the Kofax Capture computer. It connects to one or more Message Connectors and imports documents to Kofax Capture for further processing.

Kofax Import Connector can import messages and files from many sources:

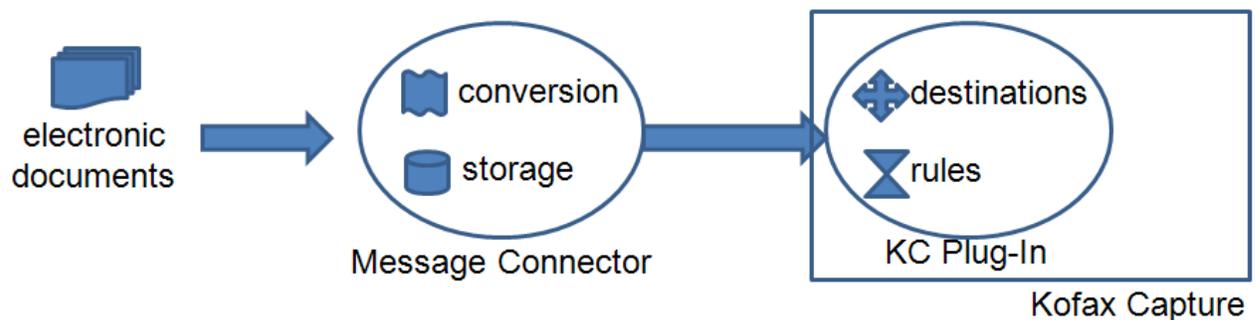
- email messages including attachments using various email protocols (SMTP, POP3, IMAP, EWS)
- fax messages (via internal fax over IP server or external fax servers: Kofax Communication Server, RightFax, Biscom)
- files from a local or network folder
- files via web services

This guide provides important information about configuring and operating Kofax Import Connector, including:

- Instructions for configuring Kofax Import Connector
- Instructions for integrating with third party environment, such as fax servers or email servers
- Instructions for operating and monitoring Kofax Import Connector

## Concepts

Kofax Import Connector uses a unified workflow for documents from all sources. Older import connectors have used various approaches for importing documents to Kofax Capture. This section describes the concepts that you need to understand before configuring Kofax Import Connector.



### **Storage**

Before importing to Kofax Capture, documents from all sources are saved to the internal storage of Message Connector. KC Plug-In periodically polls all connected Message Connectors and imports the documents to Kofax Capture. Processed documents in the storage are automatically deleted when the space is required for new documents. Administrators can access the documents in the storage; refer to [View messages in the storage](#) and [Manage failed messages manually](#).

### **Conversion**

Message Connector can convert the documents from the storage before importing them to Kofax Capture. The conversion tools have to be installed on the same computer as Message Connector. Refer to *Kofax Import Connector Installation Guide*.

### **Destination**

Destinations tell Kofax Capture how it should handle documents received from Kofax Import Connector. In a destination, you select things like the desired document conversion, what part of document do you want to import (e.g. only attachments in case of emails), what batch class to use, and much more. You can also map metadata of imported documents to Kofax Capture batch / folder / document fields. Refer to [Configure destinations for imported documents](#).

### **Connection between Message Connector and Kofax Capture**

The KC Plug-In component of Kofax Import Connector is directly integrated with Kofax Capture. The Message Connector is usually installed on another computer. However, these two components must communicate. Therefore, a connection to Message Connector must be defined in KC Plug-In. Refer to [Connect KC Plug-In to Message Connector](#).

You can also define how often should KC Plug-In poll for new documents and you can restrict the operating time of this connection. Even when the connection is inactive, documents delivered via SMTP email, fax over IP, and web service are accumulated in Message Connector storage.

When you define a connection, you must select the default destination. All documents are handled accordingly... unless you specify different rule.

### **Rule**

Formerly called destination mappings in Kofax Capture Import Connector - Advanced Email and Fax, rules allow you to filter documents and assign them to destinations. Rules override the default destination of a connection. For example, you can decide that all email messages go to destination 1. All faxes from number starting with 123 use destination 2. Refer to [Configure rules](#).

## Chapter 2

# Configuration

This chapter lists the most common tasks necessary to configure Kofax Import Connector.

The tasks below do not mention all parameters; you can configure much more than what's listed here. The Message Connector configuration utility shows a brief description of all parameters inline. The KC Plug-In offers tooltips. All parameters are described in the online help.

A general procedure for configuring Kofax Import Connector is here:

1. Add at least one batch class to Kofax Capture and publish it. Refer to Kofax Capture documentation for information about batch classes. If you want to use sample batch classes, refer to [Import batch classes](#).
2. Optionally, if you want to differentiate between XML documents and handle them differently, you can define XML types. Kofax Import Connector can identify XML documents with a particular namespace and root element. Refer to [Configure XML types](#).
3. Create a destination using a batch class and, optionally, an XML type. Refer to [Configure destinations for imported documents](#).
4. Connect KC Plug-In to Message Connector. Refer to [Connect KC Plug-In to Message Connector](#).
5. Select and configure one or more sources to import documents from:
  - Import via fax over IP. Refer to [Configuring Message Connector as FoIP Server](#).
  - Import via SMTP. Refer to [Configure Message Connector as SMTP Server](#).
  - Import via web services. Refer to [Configure Message Connector for web service input](#).
  - Import from an IMAP, POP3, or EWS mailbox. Refer to [Access mailboxes \(IMAP, POP3, EWS\)](#).
  - Import from a folder. Refer to [Access folders](#).
  - Import from a fax server. Refer to [Access fax servers](#).
6. Optionally, if you want to differentiate how to handle specific messages, add rules that change the default destination. Refer to [Configure rules](#).
7. Set up the tools for document conversion. Refer to [Configure document conversion](#).
8. Select what to do in case of failures. Refer to [Manage failed messages manually](#).
9. Start the KC Plug-In service. Refer to [Start and Stop the KC Plug-In Service](#).

## Configure incoming documents

Use this chapter to configure:

- From where should Kofax Import Connector import documents (e.g., email, fax, folder)
- What tools should be used for converting documents

## Configuring Message Connector as FoIP Server

Message Connector can act as a fax over IP device and accept incoming faxes. To receive faxes, fax over IP infrastructure must be available and configured properly.

1. On the KC Plug-In computer, create or edit a connection between KC Plug-In and Message Connector. Click **Add** and select **FoIP Import** to add fax over IP to the list of import connectors. Refer to [Connect KC Plug-In to Message Connector](#).
2. Contact the administrator of your fax over IP network. On the FoIP gateway, the IP address of Message Connector must be assigned an extension. In the ideal case, no further configuration is necessary and faxes sent to that extension will automatically end up in Message Connector storage. If not, proceed with the next steps.
3. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
4. Optionally, on the **General** tab, enter the **Own Fax Number**. This number is displayed on the fax device that sends a fax to you as your fax number.
5. Click **Advanced** to display additional configuration options.
6. On the **Security Options** tab, verify that **Disable FoIP** is not selected.
7. On the **List of Call Peers** tab, specify the protocol supported by your FoIP gateway (H.323 or SIP, with or without registration), its IP address and port, and other parameters as required by the gateway.

**Note** By default, H.323 protocol is not enabled.

8. Review the settings in the tabs **VoIP/FoIP Network**, **Voice Codecs**, **Fax**, **H.323 Signaling**, and **SIP Signaling**.
9. Click **Save**. Click **Exit and restart service**.

## Connect KC Plug-In to Message Connector

A single instance of KC Plug-In can connect to multiple Message Connectors.

At least one destination must exist before connecting to Message Connector. Refer to [Configure destinations for imported documents](#).

1. Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
2. On the **Connection Tasks** menu, click **Add Connection**.
3. Enter a descriptive **Connection name**.
4. Change the **Message Connector URL** to your installed Message Connector host name.
5. If a password for the Process user is configured in Message Connector, enter it into the **Password** field (blank by default).
6. Click **Test Connection** to verify that KC Plug-In can connect to Message Connector.
7. Select a **Default Destination**.

**Note** The default destination must not have an XML type specified.

8. Enable one or more import connectors to tell Kofax Import Connector what kind of documents should it import:
  - a. Click **Add** and select **SMTP Import** to enable import via SMTP email. Refer to [Configure Message Connector as SMTP Server](#).
  - b. Click **Add** and select **Web Service Import** to enable import via web service interface. Refer to [Configure Message Connector for web service input](#).
  - c. Click **Add** and select **FoIP Import** to enable import via fax over IP. Refer to [Configuring Message Connector as FoIP Server](#).
  - d. Click **Add** and select **Mailbox Import** to enable importing of POP3, IMAP, and EWS email. Refer to [Access mailboxes \(IMAP, POP3, EWS\)](#).
  - e. Click **Add** and select **Fax Server Import** to enable importing of fax messages from compatible fax servers. Refer to [Access fax servers](#).
  - f. Click **Add** and select **Folder Import** to enable importing of documents from a local or network folder. Refer to [Access folders](#).

You can add and operate multiple import connectors in parallel (up to 100). However, you can select FoIP, SMTP, or web service import only once.
9. Click **OK**. Restart the KC Plug-In service.

**Note** Connecting multiple KC Plug-Ins to a single Message Connector is not supported.

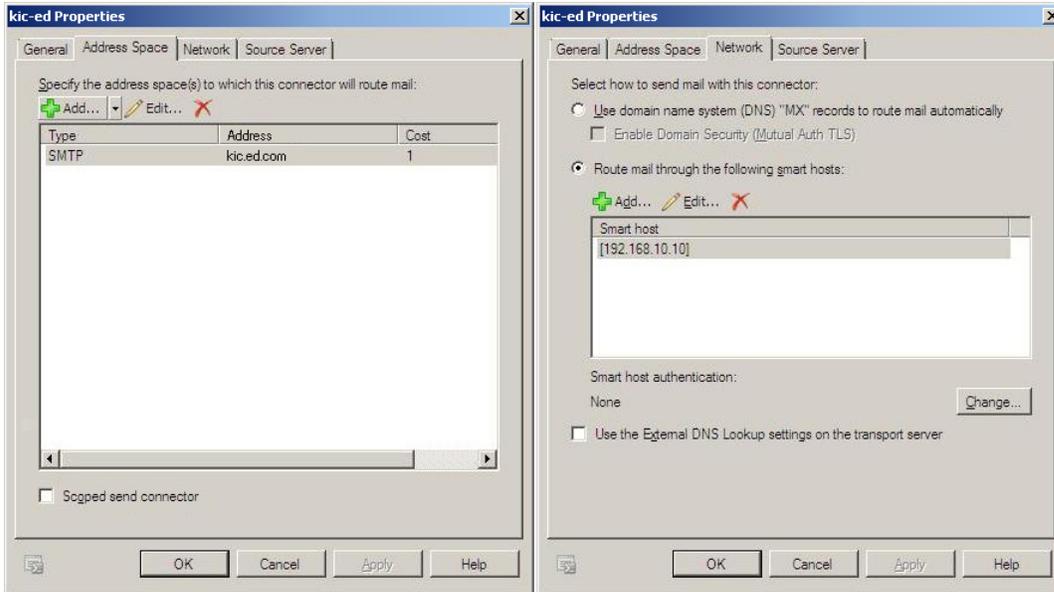
## Configure Message Connector as SMTP Server

Message Connector can act as an SMTP gateway and accept incoming SMTP emails.

1. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
2. Go to the **General** tab and enter the **Own Computer Name** (might be necessary for SSL).
3. Optionally, on the **Email Inbound via SMTP** tab, specify the **Local IP Address** (IP address of the used network adapter; required e.g. in clustered environment) and port. You can also enable SSL.
4. Verify that SMTP input is not disabled:
  - a. Click **Advanced**.
  - b. Go to the **Security Options** tab.
  - c. Make sure that **Disable SMTP Server** is not selected.
5. Click **Save**. Click **Exit and restart service**.
6. On the KC Plug-In computer, create or edit a connection between KC Plug-In and Message Connector. Click **Add** and select **SMTP Import** to add SMTP email to the list of import connectors. Refer to [Connect KC Plug-In to Message Connector](#).
7. Next, you need to configure your email server (e.g. Microsoft Exchange) to forward messages to Message Connector via SMTP. Contact your mail server administrator.

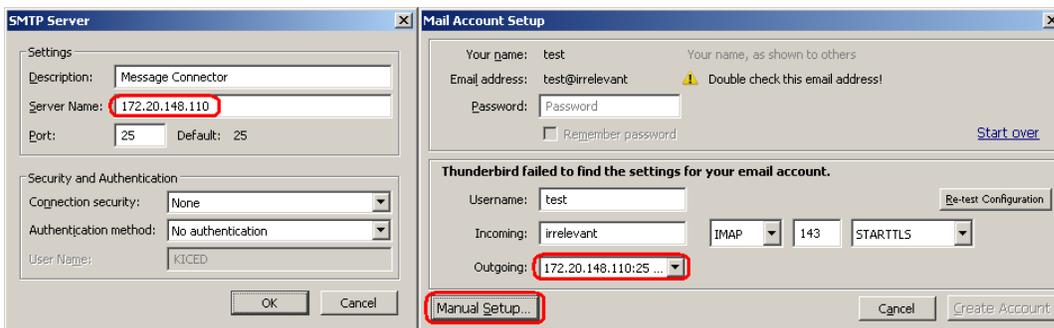
E.g., with Microsoft Exchange 2010, use a new logical domain (e.g. user1@kic.ed.com) and create a send connector for this domain. The address space of the send connector must contain the domain (e.g.

kic.ed.com). Then configure the Message Connector (e.g. 192.168.10.10) as smart host for the new send connector. Exchange users can now send to all addresses in the domain kic.ed.com.

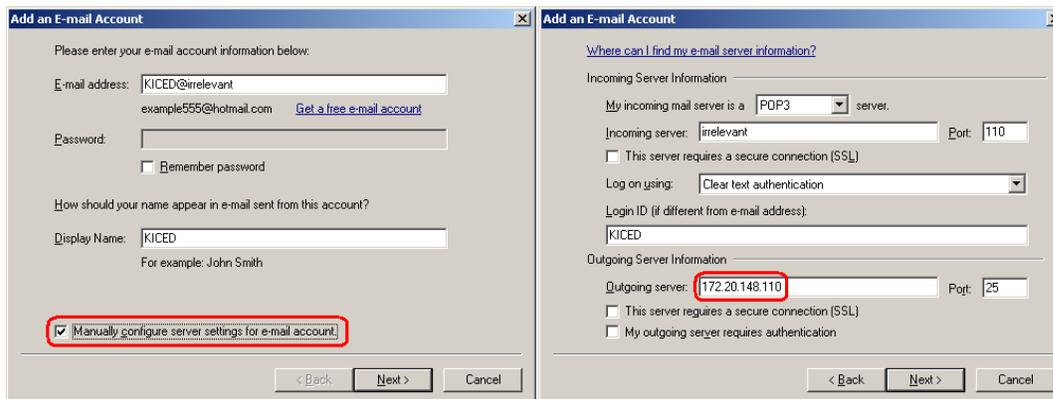


For testing, you can configure Message Connector's IP address as the outgoing SMTP server in your mail client software. As a mail client, you can use e.g. Mozilla Thunderbird or Windows Live Mail. In the examples below, 172.20.148.110 is the IP address of Message Connector.

In Thunderbird, set up a new outgoing SMTP server, then create a new account and choose the new SMTP server.



In Live Mail, select to manually configure server settings and specify the outgoing server address.



An even simpler test email can be sent via the Message Connector monitor tool. Refer to [Send a test email](#).

## Configure Message Connector for web service input

Message Connector can accept documents via web services.

1. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
2. Go to the **General** tab and enter the **Own Computer Name** (might be necessary for SSL).
3. Go to the **Web Service Input** tab.
  - a. Specify **Local IP Address** (IP address of the used network adapter; required e.g. in clustered environment).
  - b. Make sure that either HTTP or HTTPS port has a non-zero value.
  - c. Optionally, if you want to use the web service calls `GetContentTypeList` and `GetContentTypeDescription` to retrieve information from Kofax Capture, specify **KC Plug-In URL, e.g. `http://localhost:8001/KIC-Electronic-Documents`**. The URL must include the same port number as the one configured in KC Plug-In. Refer to [Configure KC Plug-In web service interface](#).
4. If you are using network load balancing and you want to track the status of documents send via web service, different instances of Message Connector need to communicate together. You need to configure additional parameters on each computer:
  - a. Select **MC Cluster Enabled** to enable the communication between Message Connectors in order to track documents.
  - b. In the **Local MC Cluster IP Address** field, enter the local IP address. This address must be reachable from other Message Connector computers.
  - c. In the **MC Cluster Port** field, enter the port for internal communication between Message Connectors.
  - d. In the **MC Cluster Members** field, list the IP addresses and ports of other Message Connectors, e.g. "10.10.10.1:25099, 10.10.10.2:25099".
5. Verify that web service input is not disabled:
  - a. Click **Advanced**.



**Note**

- You can configure the level for polling of nested sub folders. To configure the level of sub folder for polling, modify the parameter `MaxFolderIdViewNum` in the file `Create_Config.xslt` available at `C:\Program Files (x86)\Kofax\KIC-ED\MC\xcd` (for default installation path on a 64-bit operating system.) For example, if you set `MaxFolderIdViewNum` parameter to 25, subfolders till 25 level deep are polled.
- Polling nested sub folders can result in lower performance.
- The path delimiter in a mailbox folder path may vary with the protocol selected and the mail server in use. Please use the path delimiter which is applicable to your environment. For example, Gmail and Exchange servers use slash "/" as a folder delimiter (Inbox/Subfolder1/Subfolder2) and Lotus Notes uses backslash "\" as a folder delimiter (Inbox \Subfolder1\Subfolder2).

9. For IMAP and EWS, you can additionally configure how processed messages should be handled. If you select to **Keep messages on server**, you must specify a **Processed folder name**. Processed messages will not be deleted from the server, instead, they will be moved to the specified folder. For IMAP, processed messages can be moved to an existing sub folder as well.
10. To enable impersonation, select **Enable Impersonation**, and configure the user credentials in one of the following formats:
  - `domain\user\mailbox`
  - `\user@domain.com\mailbox@domain.com`
  - `domain\user@domain.com\mailbox@domain.com`

Where, `domain` is the domain name, `user` is the user having impersonation rights, and `mailbox` is the name of the mailbox to access. The mailbox can be a user's mailbox or a service account's mailbox.

11. For IMAP and EWS, select the **Mode** which determines whether the same inbox can be polled by multiple Message Connectors simultaneously.
  - Select **Single Instance** if you know that you will poll this mailbox with only one Message Connector. Using this value and running multiple connections in parallel might cause that the same message is imported to Kofax Capture multiple times.
  - Select **Multiple Instance** to allow multiple connections to a single mailbox, without risking duplicate imports. However, not all IMAP servers support this option (rename inbox function). The **Test Mailbox** button verifies if this option is available on your IMAP server.
12. Enter the credentials in **User name** and **Password**.

**Note** Do not use angular bracket (<, >) characters in your Exchange Server password as it may cause a connection failure with the mailbox.

13. Click **Test Mailbox** to verify the connection. Click **OK** to close the folder settings window.
14. Click **OK** to close the connection configuration window. Restart the KC Plug-In service.

Mailbox settings

Mailbox settings

Display name: MailBox1

Poll cycle in seconds: 60

URL: https://172.26.25.56/wews/exchange.asmx

Protocol: EWS

Poll mail box: Inbox/Important

Poll sub folders:

Keep messages on server:

Enable Impersonation:

Processed folder name: Test

Mode: Single Instance

SSL: Never

Port:

User name: kichyd\admin

Password: .....

Test Mailbox

OK Cancel Help

Additional parameters related to POP3/IMAP/EWS import are available in the Message Connector configuration, in the Security Options tab.

- Disable POP3/IMAP - If you need to disable the polling of POP3/IMAP completely.
- Disable EWS - If you need to disable the polling of EWS completely.

**Note** Message Connector

Message Connector receives a message via POP3, it always tells the POP3 server to delete the message. However, POP3 servers can be configured to perform a different action when a delete is requested, e.g. they move the message to a different folder. This behavior is mail server specific and cannot be controlled by Kofax Import Connector.

Also, it is not recommended to poll a single POP3 mailbox from multiple Message Connectors. While a strict implementation of the POP3 protocol should allow a reliable locking mechanism needed to prevent reception of duplicates, many common POP3 email providers lack these.

## Access folders

1. Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
2. Connect KC Plug-In to a Message Connector or edit one of the existing connections. Refer to [Connect KC Plug-In to Message Connector](#).
3. In the **Connection configuration** window, click **Add** and select **Folder Import**.
4. Enter a descriptive **Display name**.
5. In the **"Poll cycle in seconds"** field, specify how often should the folder be checked for new documents. The maximum value is 86400 seconds, i.e. 24 hours.
6. Enter the **Watched folder**, either by typing the path or via the **Browse...** button. Use UNC syntax for network paths.
7. In the **User** and **Password** fields, enter the Windows credentials needed for accessing the watched folder. The user accessing the watched folder needs Modify or Full Control rights.

**Note** From one computer, only a single Windows user may access a network folder simultaneously. If you have another connection active (e.g., a Windows Explorer window displaying the folder) with a different user, Message Connector might have trouble accessing the folder (especially if the active user does not have sufficient rights).

8. Click **Test folder import** to verify that Kofax Import Connector can connect to the specified folder. (If you are testing a network folder, having a Windows Explorer window open displaying the content of the folder might occasionally prevent the test button to connect.)
9. Optionally, go to the **Advanced** tab to configure additional parameters. If not, continue with step 15.
10. Select **Process subfolders** to monitor the immediate subfolders of the watched folder. Select **Include watched folder** to monitor the watched folder itself. In **Maximum subfolder level**, configure the level of nested subfolders to process. If **0** is selected in this field, no subfolders are processed.

**Note** In Windows operating system, the maximum valid path length is 260 characters. If the number of characters in the path exceeds this limit, the path is considered invalid and the files are not imported.

11. To delete the empty subfolders after importing the files, select **Delete empty folder structures**.
12. In the **File mask** field, enter a comma separated list of files that should be imported from the folder. You can use wildcards: The asterisk character ("\*") substitutes for any zero or more characters, and the question mark ("?") substitutes for any one character. If you are using trigger files, this field is disabled (see below).
13. Select the **File Detection Mode**. Use this setting to make sure that files are completely copied to the watched folder before importing. Select **one** of the options:
  - Select **File not modified since** to force Kofax Import Connector to wait for the specified number of seconds after the file was last accessed.
  - Select **Use trigger** if you want first copy a document (or a folder containing documents) to the watched folder and then create a trigger file that tells Kofax Import Connector that the document (or folder) is ready for importing.

**14.** If you selected to use trigger files:

- a.** In the **Trigger file mask** field enter a trigger file, e.g. "\*.trg" (or a comma separated list of trigger files). You can use wildcards: The asterisk character ("\*") substitutes for any zero or more characters, and the question mark ("?") substitutes for any one character.
- b.** Decide whether the trigger refers to documents or folders:
  - Select **Files in the same directory with the same base name**. Kofax Import Connector cuts the extension from the trigger file name and searches for documents with the same base name in the same folder. For example, with trigger file mask "\*.trg" and trigger file "001.trg", all documents matching "001.\*" (except the trg file) are imported.
  - Select **All files in the same directory** to import all documents from the same folder (except the trigger file). For example, when the trigger file ready-to-be-imported.trg appears in a watched folder, all other documents in the folder are imported to Kofax Import Connector.
  - Select **All files in the subfolder with the same base name**. Kofax Import Connector cuts the extension from the trigger file name and searches for a subfolder with the same name. All documents from the subfolder are imported.

**Note** The trigger file must have an extension.

- Select **Import all files in a folder matching file mask**. Kofax Import Connector looks for a folder with name that matches the trigger file mask. All documents from the folder are imported.
- c.** Decide what to do with the trigger files after import:
    - Select **Delete** to delete it.
    - Select **Rename extension to** and specify an extension to rename it.
  - d.** Select **Import trigger file** if you want import the content of the trigger file. When cleared, the content of the trigger file is not relevant and it is deleted/renamed after the other documents are imported.
- 15.** Select the **File Import Mode**. Use this setting to determine how XML documents should be handled.
- Select **Automatic** to tell Kofax Import Connector to parse the XML documents. If an XML document is identified as one of the configured XML types, it will be handled accordingly. If the document structure does not match any of the configured XML types, it is seen as a binary document.
  - Select **Custom** to restrict what type of XML is accepted. E.g., if you select only "Kofax Capture XML", all incoming XML are treated as XML Import Connector compatible files.
- 16.** Click **OK** to close the connection configuration window. Restart the KC Plug-In service.

Additional configuration options related to folder import are available in the Message Connector configuration, in the Security Options tab.

- **Disable Folder Import** - If you need to disable the feature completely.
- **Folder Input Base Directory** - If you want to restrict which folder can be configured as the watched folder.

**Note** Kofax Import Connector cannot import documents if the combined number of characters in file path and file name exceeds 211. Also, the documents cannot have the read-only attribute enabled.

When you import EML and MSG files via folder import, Kofax Import Connector keeps the metadata of the email message, not the metadata of the file on disk.

## Access fax servers

Before you connect to the fax servers, make sure that you have the necessary environment available.

- For Kofax Communication Server, refer to [Connect to Kofax Communication Server](#).
  - For RightFax server, refer to [Connect to RightFax fax server](#).
  - For Biscom server, refer to [Connect to Biscom fax server](#)
1. Start KC Plug-In configuration. Do **one** of the following
    - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
    - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
  2. Connect KC Plug-In to a Message Connector or edit one of the existing connections. Refer to [Connect KC Plug-In to Message Connector](#).
  3. Click **Add** and select **Fax Server Import**.
  4. In the **Type** field, select the fax server you want to connect to.
  5. Enter a descriptive **Display name**.
  6. Specify how often should Message Connector poll the fax server for new messages. The maximum value is 86400 seconds, i.e. 24 hours.
  7. Enter the host name of the fax server.
  8. Enter the fax server login credentials.
  9. For Biscom server, enter also the Windows credentials for accessing the file share.
  10. Click **Add** to specify a user and/or extension. Fax messages to that user/extension will be imported to Kofax Capture. Alternatively, select a user and click **Remove** to stop polling the user/extension.
  11. Click **Test fax server connection** to verify that Kofax Import Connector can connect to the specified fax server.
  12. Click **OK** to close the fax server import settings window.
  13. Click **OK** to close the connection configuration window. Restart the KC Plug-In service.
  14. For connections to Biscom server when the Message Connector is installed on Windows XP and Windows Server 2003 operating systems, the Message Connector service must be running under the Windows account with local administration rights and write access on the Biscom server's network share.
    - a. Run services.msc on the Message Connector computer.
    - b. In Log On tab of the properties of the Message Connector service, specify the Windows account.
    - c. Click **OK** to confirm the changes.
    - d. Restart the Message Connector service.
  15. Make sure that support for RightFax or Biscom servers is not disabled in the Message Connector configuration. Start the configuration, click **Advanced**. In the **Security Options** tab, verify that the support for your fax server is not disabled.

**Note** RightFax does not support access rights to users/extensions based on group membership via the ComAPI (which is used by Kofax Import Connector). This works only for the client access. So either RightFax Administrator login credentials have to be specified (which is not recommended) or enter as login user the owner of the extension.

Rarely, messages from the RightFax cannot be imported to Kofax Capture, with the error "Compressed data error" or "End of image encountered". As a workaround, enable image normalization, e.g. "Convert to: TIF" and "Conversion Mode: Convert all content" and "Image format: 200 x 200 dpi". (SPR00092052)

## Configure document conversion

Kofax Import Connector can convert text, HTML, OpenOffice.org and Microsoft Office documents to a format readable by Kofax Capture. It can also convert images. Supported formats depend on the available convertor tools. Refer to *Kofax Import Connector Installation Guide* for details.

1. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
2. Expand the **Document Conversion** tab.
3. Select **Enable Decompression** if you want extract documents from compressed files. The following formats/extensions are supported: zip, rar, 7z, tar, gzip. Extraction happens before regular document conversion, i.e., a Word document extracted from a zip file can be further converted into PDF. Extraction is repeated if the extracted file is another compressed file (e.g., zip within zip), until all compressed files are extracted. Zip file containing multiple files with same name is also extracted. The following restrictions apply:
  - Password-protected compressed files are not extracted.
  - Archives split to multiple volumes are not supported.
  - EML documents from compressed files are not subject to further extraction/document conversion.
  - If the extraction ends without error, the compressed file is discarded. When archiving to folder is enabled, the extracted files are archived, not the compressed ones.
4. Select the tool for converting Microsoft Office documents.
5. Select the tool for converting HTML documents.
6. If you selected OpenOffice.org in step 3, make sure that you have installed the necessary extension. Refer to the Installation Guide.
7. If you selected Microsoft Office in either step 3 or step 4, and you are using the operating system Windows Server 2008, Windows Vista, or later, you need to select the Windows user account to be used for Microsoft Office DCOM automation. For initial tests and troubleshooting, you may use the interactive user. For production use, you must specify an administrator user.
8. Click **Advanced**. In the **Security Options** tab, verify that document conversion is not disabled.
9. Click **Save**. Click **Exit and restart service**.

These steps set up the general document conversion capabilities of a Message Connector. Use destinations and rules to configure what document conversion should be performed for a particular document. Refer to [Configure destinations for imported documents](#) and [Configure rules](#).

## Change maximum number of passive inputs

1. Close all KC Plug-In windows.

2. Open the file KIC-ED-KCPlugin.xml from C:\ProgramData\Kofax\KIC-ED\KCPlugin\config\ in a text editor.
3. Change the value of the parameter MaxPassiveInputs. The default value is 100. The maximum number of passive inputs is 400.
4. Save the changes.  
When you start KC Plug-In configuration again, you can now configure up to the specified number of passive inputs.

## Configure processing in Kofax Capture

Use this section if you want to configure how to import messages into Kofax Capture and which batch classes should be used.

### Import batch classes

Two sample batch classes are installed with KC Plug-In. You can use the sample batch classes, or you can create your own. The benefit of the sample batch classes is that they already have the message metadata provided by with Kofax Import Connector mapped to Kofax Capture fields. Either way, a batch class is necessary for successfully running Kofax Import Connector.

**Note** If you are using Kofax Capture Network Server, you can only to perform batch class configuration on the central site.

1. Start Kofax Capture Administration module from the Kofax Capture group in the Windows Start menu.
2. On the menu, select **File > Import**.
3. Browse to <programs>\Kofax\KIC-ED\KCPlugIn\BatchClass.
4. Open ElectronicDocumentsBatchClass.cab. Wait until the batch classes are unpacked. Click **OK**.
5. Click **Add All**, then click **Import**. Wait until importing is completed. Click **OK**.
6. Publish the new batch classes.

### Configure XML types

Kofax Import Connector can be configured to identify XML documents with a particular namespace and root element. The combination of a namespace and root element is referred as an XML type. Importing of each XML type can be handled differently.

To define an XML type, you need to provide the XML schema definition file and a sample XML document. XML types can be used in the following situations:

- The values of XML elements can be mapped to the batch / folder / document index fields of your batch class. Refer to [Use XSL transformation to map metadata and XML data](#).
- The values of XML elements can be rendered as a TIFF or PDF. Refer to [Render XML documents](#).
- Additionally, XML types are used as filters in rules. Refer to [Configure rules](#).

**Note** There is a built-in XML type called ImportSession. The purpose of this XML type is to support the standard Kofax Capture XML Import Connector compatible XML format. You do not need to import this XML type, it is available automatically.

1. Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
2. Go to the **XML Types** tab.
3. On the **XML Type Tasks** menu, click **Add XML Type**.
4. Browse to your XML schema definition file (.xsd).
5. Browse to a sample XML file that uses the specified schema.

Now you can create a destination that uses this XML type. Refer to [Configure destinations for imported documents](#).

Additional information about custom XML types can be found in the *Kofax Import Connector Developers Guide*.

Kofax Import Connector does not change the logical structure of the XML documents, but the text presentation is often modified:

- The XML code page is changed to UTF-8.
- Insignificant whitespace can be removed or changed.
- Character quotes or CDATA sections can be removed or changed.

## Validating XML Types in Message Connector

Message Connector can be configured to reject received XML documents that cannot be validated against an XML schema. This feature is primarily useful for web service input, where the invalid document is immediately rejected and the web service sender is informed about the reasons (failed validation). However, it applies to documents from all connectors - non-valid XML will not be imported to Kofax Capture.

1. Copy the folder C:\ProgramData\Kofax\KIC-ED\KCPlugIn\XMLTypes from the KC Plug-In computer to the Message Connector installation folder (by default <programs>\Kofax\KIC-ED\MC\). You need to repeat this step whenever you change the configured XML types in KC Plug-In.

**Note** The built-in XML type called ImportSession (standard Kofax Capture XML Import Connector compatible format) is available on Message Connector automatically, i.e. if you are not using custom XML types, you can skip this step.

2. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
3. Go to the **Structured (XML) Input Handling** tab.
4. In the **Types** field, enter a comma or blank separated list of MIME types or file extensions that should be treated as XML documents for the purpose of automatic schema validation. This setting applies to import from email and folder (binary and XML file import mode only).

5. In the **Schema Validation** field, select one of the options:
  - Select **Disabled** if you don't want Message Connector to validate XML documents. All incoming XML documents will be handled according to the configuration in KC Plug-In.
  - Select **Optional** if you want validate those XML documents for which an XML type has been defined. Documents that have a defined XML type but are not valid are handled according to the setting of the **"If Validation Fails"** parameter.
  - Select **Required** if you want to validate all XML documents (a matching XML type must exist). Documents that don't have a matching XML type as well as documents that fail validation are handled according to the setting of the **"If Validation Fails"** parameter.
6. In the **"If Validation Fails"** field, select what to do when an XML document is not valid:
  - Select **Do not apply XML handling** to treat the document as a non-XML document. It is also marked with a document conversion error.
  - Select **Reject the message** to mark the document as invalid. Such documents are not imported to Kofax Capture. In case of web service input, the sender is immediately informed about the reason of rejection. Even invalid documents are temporarily stored in Message Connector for troubleshooting.
7. Click **Save**. Click **Exit and restart service**.

## Configure EDI types

Kofax Import Connector can be configured to understand EDI documents (EDIFACT and X.12).

To define an EDI type, you need to provide an XML schema definition file and a sample XML document. Kofax Import Connector is shipped with several predefined EDI types. Additional EDI types are available for download. You can also use custom EDI types.

1. Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
2. Go to the **EDI Types** tab.
3. On the **EDI Type Tasks** menu, click **Add EDI Type**.
4. Browse to your XML schema definition file (.xsd). Do one of the following:
  - Select one of the EDI types supported out of the box from  
<installdir>\EDI\SampleConfigFiles\.
  - Select one of the EDI types that you have downloaded from [www.kofax.com](http://www.kofax.com).
  - Select your custom EDI format.
5. Browse to a sample XML file that uses the specified schema.

Now you can create a destination that uses this EDI format. See [Configure destinations for imported documents](#).

For additional information and configuration steps about EDI import, see [Import EDI files](#).

## Configure destinations for imported documents

Destinations tell Kofax Capture how it should handle documents received by Kofax Import Connector.

1. Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
2. On the **Destination Tasks** menu, click **Add Destination**.
3. On the **Import settings** tab, enter a **Name** of this destination. Optionally, add a description.
4. Optionally, select an **XML or EDI Type** if you want to restrict the destination to that particular XML/EDI type (i.e., only XML documents with matching namespace and root element are accepted by this destination).

**Note** The default destination cannot have an XML/EDI type.

5. Select the **Import content** of this destination, i.e. what parts of a document should be imported, and their order. Optionally, you can select to import the original content or the complete message as EML.
6. Configure the **Import Mode**.
  - Select what content do you want to convert (images versus non-image content), into which format (TIFF, PDF), and select the scaling, resolution, and color of the converted image.

**Note** If you don't want to convert your documents, clear both TIFF and PDF, and select one or more of the following options: **Include original content**, **Include complete message as EML file**, **Include complete message as MSG file**. Then set **Originals import mode** either to **Save to disk** or to **Import into Kofax Capture**.

- Select **Message Rendering** if you want to convert XML documents or metadata as images. Refer to [Render XML documents](#).
  - Enable VRS to preprocess incoming documents. This option is recommended for improving the quality of scanned images. Refer to [Configure VRS](#). You can also process PDF documents in VRS.
7. On the **Import mappings** tab, select the batch class and document class. Optionally, select a folder class and form type.

**Note** The selected batch class can be overwritten if you are importing XML documents that contain batch class information. If the batch class from the XML document does not exist in Kofax Capture, the following error message is displayed in the Message Connector storage: `Batch class required for XmlAutoImport or generic Xml mapping does not exist.`

8. Optionally, you can map metadata of the imported document to Kofax Capture batch / folder / document fields. Do one of the following:
  - Set **XML mapping** to **None** and use the table below to map metadata. For each batch / folder / document field defined in the batch class, you can select a value. Refer to [Message fields](#).
  - Select **XML mapping** if you want to map metadata for XML documents using XML types. Refer to [Use XSL transformation to map metadata and XML data](#).
9. Optionally, on the **Additional settings** tab you can configure custom scripts and error handling.

10. Optionally, on the **Advanced Conversion and Import** tab you can configure advanced PDF settings.
11. In **Output PDF format**, select the output format for normalized PDF files. (Default: PDF/A-1b)

**Note**

- In "Import settings" tab, make sure that at least one option is selected for the "Convert to" field.
- If "Normalize PDF documents to PDF/A" option is not selected, the incoming PDF files are not normalized to any of the selected format.
- If the input PDF file format is not compatible to be converted to the required output format, the actual output format may be downgraded. For example, if the input file version is PDF 1.5 and if the "Output PDF format" field is set to "PDF/A-1a", "PDF/A-2a" or "PDF/A-3a", the output PDF format may be PDF/A-1b, PDF/A-2u or PDF/A-3u respectively. Following are some of the scenarios wherein the PDF/A compliance level may be downgraded:
  - If the input file contains text that is not extractable such as missing ToUnicode information, the output file compliance level is downgraded. For example, PDF/A-2u is downgraded to PDF/A-2b.
  - If logical structure (tagging) information is missing in the input file, the compliance level is downgraded to level B or U. For example, PDF/A-1a is downgraded to PDF/A-1b.

12. Optionally, on the **Email Notification and Archiving** tab you can configure sending notifications to message originators and archiving of documents in a particular folder.
13. Click **OK** to create the destination. Restart the KC Plug-In service.

**Note** If you modify a batch class or form type used in an existing destination, the mappings might be lost. You have to remap the fields.

## Sending Email Notifications

Kofax Import Connector can send notifications about incoming documents to a fixed email address. These notifications are available for all import connectors.

Additional notifications can be sent to the originator of email messages. This function is only available for incoming email import (where the email address of the originator is known).

1. Create or edit a destination. Go to the **Email Notifications and Archiving** tab.
2. Decide what notifications do you need and select the appropriate option:
  - Click **Successfully imported** for successfully created batches.
  - Click **Partially imported** for batches created with problems (e.g. errors during document conversion, faxes with reception error, documents failed during XML schema validation when the option "Do not apply XML handling" is selected).
  - Click **Not imported** when no batch has been created (e.g. invalid batch name, fax message without image pages, invalid XML documents when "Reject Message" is selected, etc.).
3. Select **Send email to originator** if you want to send notifications about emails to the email sender.
4. Select **Send message to** and type the email address (you can add more than one email address) if you want to send notifications about documents. Email addresses must be delimited by space.
5. Select **Attach original message** if you want to attach the original message (in eml format) to the notification mail.

6. Enter the subject (**Subject**) and the body (**Message text**) of the notification message. You can use metadata from the original message when populating these fields. Doubleclick a line from the **Fields** table to insert it into message text or subject.
7. Repeat steps 2 to 5 for other types of notification as needed.
8. Click **OK**.

Kofax Import Connector tries to deliver the notification email messages via SMTP. If all retry attempts fail, there is no further notification. Active and processed notifications can be viewed with the Message Connector Monitor (processed notifications are deleted when storage space is required for new documents).

**Note** To send messages, Kofax Import Connector must know your outgoing SMTP server. Go to the Message Connector configuration, Email Outbound tab. Work with your email server administrator to set these options.

## Archiving Documents

Kofax Import Connector can save processed documents to a folder for archiving.

1. Create or edit a destination. Go to the **Email Notifications and Archiving** tab.
2. Decide what documents do you want to archive and select the appropriate option:
  - Use **Successfully imported** for successfully created batches.
  - Use **Partially imported** for batches created with problems, e.g. during document conversion.
  - Use **Not imported** when no batch has been created (e.g. batch name is invalid).
3. Select **Save to folder**.
4. In the "**Folder location**" field, enter the fixed part of the path, e.g. C:\archive\ok\.
5. In the "**Subfolder and file prefix**" field, enter subfolder(s) and file prefix, e.g. {Import-Date-Long}\{Batch-Id} \_{Batchclass}\prefix\_ {Batch-Id} must be always included in this field.
6. Select one of your configured connections to Message Connector and click **Test** to verify that the destination folder is reachable.
7. Select at least one format that should be used for archived documents.
  - File - archive the message body and all attachments in separate files
  - EML - archive message body and the attachments as a single EML file
  - XML - archive the message metadata as a single Kofax-specific XML file (an XML schema is available on request)
8. Repeat steps 2 to 7 to set up archiving for different set of documents.
9. Click **OK**.
10. Additionally, in the Message Connector configuration, **Security Options** tab, it is possible to disable archiving completely, restrict archiving to a specific folder, and to configure Windows user name and password. These credentials are used to access the archiving folder. If these credentials are not set, the archiving folder must be accessible for the Network Service user.

## Use XSL transformation to map metadata and XML data

Kofax Import Connector can parse incoming XML documents and/or the metadata of incoming messages and use the information from them to populate message fields. XML documents can also include links to other documents to be imported. There are three types of mapping:

- **XML Import Connector compatible** is a specific variant of the generic mapping. It is compatible with the Kofax Capture XML Import Connector. It is only available if you select ImportSession as the XML type for the destination. It maps the input XML data in the same way as XML Import Connector would do.
- **Simple mapping** maps metadata and/or XML document data to the particular fields of the batch/folder/document classes that are configured for the destination where the mapping occurs. It is not possible to control the batch/folder/document class names through the input XML data.
- **Generic mapping** takes into account that the information on batch/folder/document classes may come in along within the customer's XML document (and the class names configured for the destination are only used as fallback if the particular class name is missing). The XML format in generic mapping is not restricted and it can be configured for virtually any customer XML data structures.

The mapping itself (for both simple and generic methods as well) is performed by the means of an XSL transformation. The transformation file can be written manually by an XSLT expert or it can be generated by any XML mapping visual tool (for example, Altova MapForce). These tools offer a user-friendly GUI, can perform even complex XML mappings and the XSL transformation can be generated automatically.

**Important:** In this document, Altova MapForce tool is used to describe all XSL transformation. You can use any other tool. This tool can be installed on any computer. Kofax Import Connector does not need this at run time.

**Prerequisite:** You can write the XSL transformation file manually or can generate it using any XML mapping visual tool, for example, Altova MapForce. Still, XSLT expertise is required to perform XML mapping.

1. Before setting up XML mapping, at least one XML type must be defined; unless you are using the XML Import Connector schema <ImportSession> - that is available automatically. Refer to [Configure XML types](#).

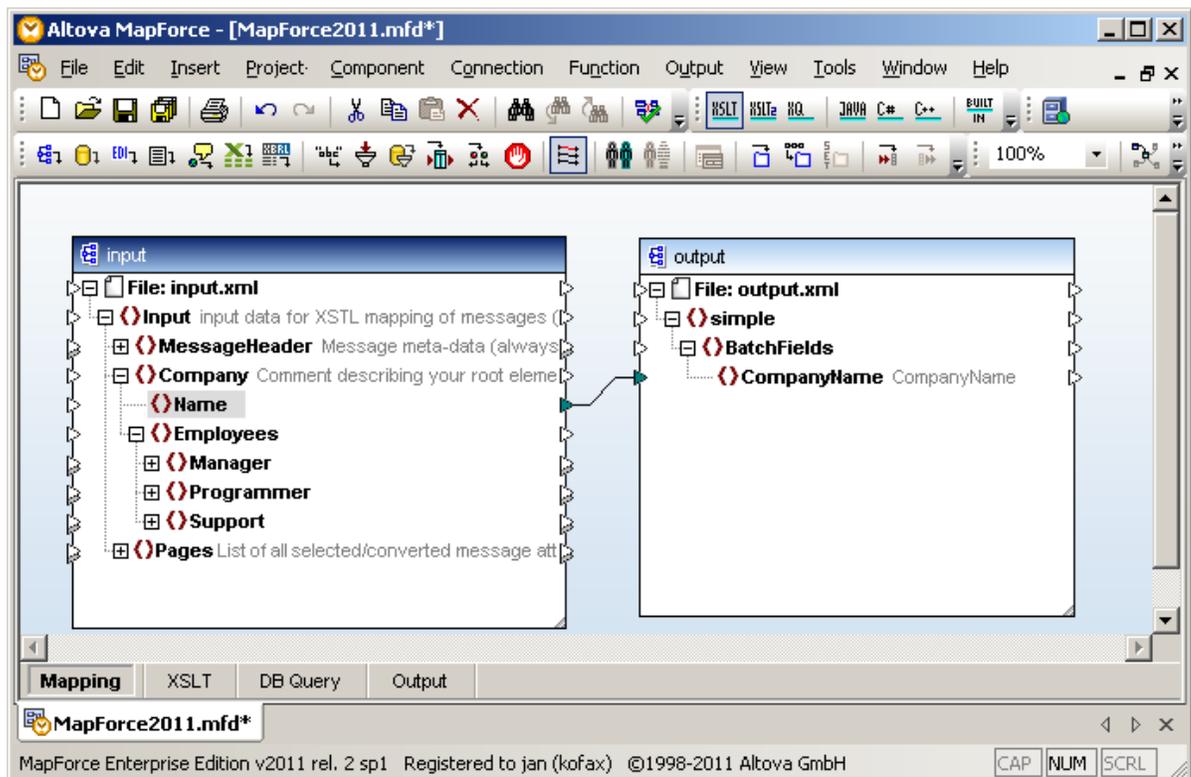
**Note** You don't need to specify an XML type if you only want to map document metadata.

2. Edit a destination. Refer to [Configure destinations for imported documents](#)
3. On the **Import settings** tab, select an **XML Type** (not necessary if you only want to map document metadata).
4. On the **Import mappings** tab, configure **XML mapping**:
  - Select **XML Import Connector compatible** for XML documents compatible with Kofax Capture XML Import Connector. **Continue with step 12.**
  - Select **Simple** to map XML data and message metadata to the batch/folder/document fields assigned to the destination that you are currently editing.
  - Select **Generic** if the information about batch/folder/document classes is included in the XML document. The information from the XML overrides the destination settings. If the class names are not specified in the XML, the settings of the destination are used. Generic is also necessary in the following use cases:
    - Kofax Tables should be filled with the content of the input XML

- The content of any index field should be evaluated by an expression
  - Other features possibly supported by the Kofax XML Import Connector format
5. Click **Show files for Visual Designer** to display the folder where Kofax Import Connector stores the files required for mapping.

**Note** It is the same folder that contains the files for XML rendering.

6. If Altova MapForce is not installed locally, copy the entire folder to the Altova MapForce computer.
7. Open the .mfd project file in Altova MapForce.
8. Map XML data and metadata to Kofax Capture batch / folder / document fields.



9. Save the project file. On the **File** menu, click **Save**.
10. Save the result to an XSLT file. On the **File** menu, expand **Generate code in** and select **XSLT 1.0**. You must save the file to the same directory where the .mfd file is located. Change the file name to XmlMapping.xslt.
11. If Altova MapForce is not installed locally, copy the entire folder back to KC Plug-In computer (to the original location).
12. Close the destination configuration window and restart KC Plug-In.

You can use other tools to generate the necessary XSL transformation file that governs metadata mapping. Simple transformations can also be written using a text editor. Alternatively, you can also contact Kofax to create the mapping for you. For additional information, refer to *Kofax Import Connector Developers Guide*.

**Note** When using the XML type "ImportSession", you do not need to create any XSL transformation. The mapping is available automatically.

There is a significant difference in importing of document's body and attachments (including XML document itself) between simple and generic mapping:

- With simple mapping all parts of a document are automatically handled according to the destination's configuration and then imported as pages in the same folder/document class (or loose pages) of the batch. If you convert your content to TIF or PDF and select Include original content, the XML document is imported as original XML and also rendered to TIF or PDF. Further, if you do not convert the content and select Include original content, the original XML document is imported.
- With the XML Import Connector compatible generic mapping, the attachments are only imported if they are explicitly linked in the XML file. The controlling XML file is never imported.
- When using the generic mapping, attachments (and the XML document itself) are only imported if explicitly instructed in the XSL transformation. For additional information, refer to *Kofax Import Connector Developer's Guide*.

Altova MapForce is a third-party software that requires a license. This software is not included with Kofax Import Connector. Also, the licenses for Kofax Import Connector will not help you operating Altova MapForce.

## Render XML documents

Kofax Import Connector can be configured to render structured XML data as PDF and/or TIFF. Two basic use cases are foreseen:

- Render incoming XML documents.
- Render only the metadata of any document as some kind of cover sheet.

The rendering itself is performed via an XSL transformation that has to be generated by the visual tool called Altova StyleVision.

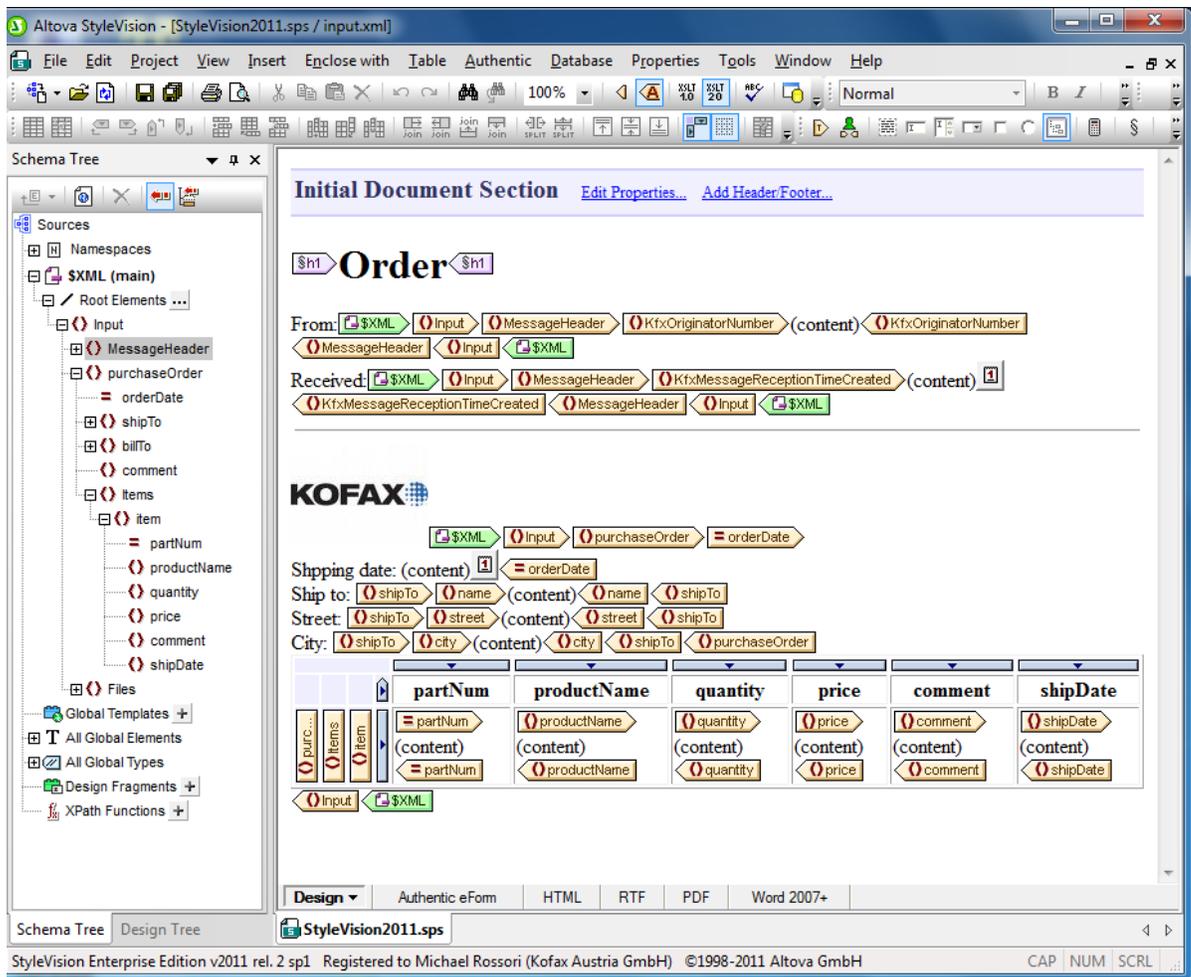
**Important:** In this document, Altova StyleVision tool is used to describe all XML rendering. You can use any other tool. This tool can be installed on any computer. Kofax Import Connector does not need this at run time.

1. Edit a destination. Refer to [Configure destinations for imported documents](#).
2. Go to the **Import settings** tab.
3. If you want to render XML documents, select **XML Type**. (If you only want to create cover sheets from document metadata, this is not required.)
4. Select **Message rendering**.
5. Select the preferred image type (TIFF or PDF), resolution and color.
6. Click **Show Files for Visual Designer** to display the folder where Kofax Import Connector stores the files required for XML rendering.

**Note** It is the same folder that contains the files for XML mapping.

7. If Altova StyleVision is not installed locally, copy the entire folder to the Altova StyleVision computer.
8. Open the .sps project file in Altova StyleVision.

- Use the XML elements from the Schema Tree to create an XSLT style sheet that defines how information should be organized in PDF/TIFF format.



**Note** If Altova StyleVision is not installed locally and you add graphics (images) to the style sheet, copy them to the folder where the project file (\*.sps) is located. When importing the graphics, make sure that you are using relative paths (clear the Absolute Path checkbox).

- Save the project file. On the **File** menu, click **Save**.
- Save the result to an XSLT file. On the **File** menu, expand **Save Generated Files** and select **Save Generated XSLT RTF File**. You must save the file to the same directory where the .sps file is located. Change the file name to Render.xslt.
- If Altova StyleVision is not installed locally, copy the entire folder back to the KC Plug-In computer (to the original location).
- Optionally, click **Preview** to view how a rendered XML document (or metadata) will look like.
- Close the Destination configuration window and restart KC Plug-In.

Altova StyleVision is a third-party software that requires a license. This software is not included with Kofax Import Connector. Also, the licenses for Kofax Import Connector will not help you operating Altova StyleVision.

## Configure VRS

VRS is used to improve the quality of incoming images in order to make it easier for Kofax Capture to understand them. In Kofax Import Connector, each destination can have its own VRS settings.

However, you can use the image conversion of import connector to modify the resolution/color of an image and then use VRS for further processing.

1. Edit a destination. Refer to [Configure destinations for imported documents](#).
2. Go to the **Import settings** tab.
3. Optionally, configure color conversion or image scaling that should occur before VRS.
4. Select one of the VRS options:
  - Select **VRS only original images content** if want to apply VRS processing to documents that reached the import connector in image format (but not to documents that were converted to image format by import connector).
  - Select **VRS all images** if you want to apply VRS settings to all images. This means that also those documents that were converted to image format by import connector are processed by VRS. Usually, this is not recommended for Word or Excel documents. Also, use this option if you want to apply VRS to PDF documents.
  - Select **None** to disable VRS for all content.
5. Select **Use VRS engine for PDF to TIFF conversion** if you want to convert PDF documents to TIFF format using VRS.

**Note** You must select **PDF** as your **Convert to** format to use this feature. Otherwise the PDF is converted to TIFF before reaching VRS.

This option allows you to process larger PDF documents.

6. Click **VRS Settings**. The **VRS Settings** window is displayed.  
The window is divided into 4 main parts:
  - The top left part shows a sample image.
  - The top right part shows the sample image after VRS processing.
  - The bottom left part shows the menu.
  - The bottom right part lists the various VRS parameters.
7. Configure the VRS parameters and test them:
  - a. Click **Open File for Testing** and select an image.
  - b. Modify the VRS parameters.
  - c. Click **Test Current Settings** to see the results of VRS processing.
  - d. Use the commands from the View menu to modify the zoom and switch pages (for multipage TIF documents).
  - e. Repeat steps b to d until you are satisfied with the results.
8. Click **Save VRS Parameters** to apply the changes for this destination.

- Optionally, click **Save VRS Parameters to Profile** if you want to reuse the same settings in other destinations; or for backup.

**Note** All VRS profiles are stored in the file KCIC ElectronicDocuments KC Plug-In VRSPfiles.xml in the folder %ALLUSERSPROFILE%\Kofax\KCIC - Electronic Documents\KC Plug-In \Config\. Take this file if you need to transfer your profiles to another computer.

- Click **Exit** to conclude VRS configuration.

## Enabling VRS Multithreading

If you are using VRS exclusively for processing TIF files, you can enable VRS to work with multiple connections.

- Open the file KIC-ED-KCPlugin.xml from the folder C:\ProgramData\Kofax\KIC-ED\KCPlugIn\config in the text editor.
- Change the value of the parameter VRSMultiThreadingSupport from false to true.

Option	Description
<b>False (default)</b>	If you are using a single connection, you can use VRS for both TIF and PDF. If you are using multiple connections, VRS fails for both TIF and PDF.
<b>True</b>	For TIF, VRS can now be used with multiple connections. However, for PDF, VRS always fails.

- Save the file and close it.

## Configure rules

Each configured Message Connector has a default destination. Rules are used to filter documents and assign them to different destinations. For example, email messages from a particular recipient can be handled differently than documents imported from a folder.

- Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
- On the **Connection Tasks** menu, click **Add Rule**. Alternatively, select one of the existing rules and click **Edit Rule**.
- In the **Service filter** field, select one of the services if you want to filter documents depending on how they reach Message Connector; e.g., via email or fax.
- In the **Recipient list** field, enter the original recipient (as specified by the message sender). You can use the asterisk wildcard \* to specify all addresses. You can add multiple recipients, separated by comma.
  - For emails, specify an email address from the To or Cc list, such as john@kofax.com. This also applies to MSG and EML files imported via folder import.

- For faxes, specify the extension number on the fax server, such as 555\*, 444\*, 3333.
  - For other import connectors, this filter is not available.
5. In the **Address** field, type the address from which Message Connector received the document. You can use the asterisk wildcard \* to specify all addresses. The wildcard is supported at the beginning or at the end of the string.
- For POP3/IMAP mail, specify a mail box name, such as john@kofax.com.
  - For EWS email, specify a mail box name, such as lena@kofax.com or asia\rajesh.
  - For SMTP email, specify the final routed email address, such as \*@kofax.com.
  - For faxes, specify the user name on the fax server, such as biscom\_user1.
  - For FoIP, specify the extension number, such as \*555.
  - For folders, specify the path, such as C:\myFolder\\*. Note that using C:\myFolder will not match files in the myFolder directory, you have to specify an asterisk at the end.
  - For web service input, specify any string. This string must match the optional Address parameter of the Import web service call. Refer to *Kofax Import Connector Developer's Guide*.

**Tip** The difference between the filter options Recipient list and Address is subtle but potentially important. For example, Adam sends an email to Bob, CC Cindy. Cindy has email forwarding enabled, sending all mail to the SMTP server of Kofax Import Connector (for example, invoice@KIC.com). In this case, you can use Bob's (or Cindy's) address as Recipient list filter. However, only the address invoice@KIC.com can be used for the Address filter. Or another example: Deborah's POP3 mailbox (Deborah@example.com) has an additional address alias (DeborahBusiness@example.com). Deborah can use the Recipient list field to filter her private and business mail.

6. In the **Destination** field, select the destination that should be used for the documents matching the specified criteria.

**Note** If you select a destination with an XML/EDI type, the XML/EDI type becomes an additional filter criterion. I.e., if the document is not an XML file or the namespace/root element don't match, the rule does not apply.

7. In the **Subject** field, type the subject of the received message. You can use the asterisk wildcard \* to specify all subjects. The wildcard is supported at the beginning or at the end of the string.
8. In the **Originator** field, type the email address of the sender of the message. You can use the asterisk wildcard \* to specify all addresses. The wildcard is supported at the beginning or at the end of the string.
9. Click **OK** to save changes.
10. Optionally, select a rule and click **Move Rule Up** or **Move Rule Down** on the **Connection Tasks** menu to establish rules priority. The following applies to rules priority:
- Rules higher on the list take precedence over lower rules; first matching rule wins.
  - If none of the filter criteria match, the default destination is used.
11. Optionally, select a rule and click **Remove Rule** on the **Connection Tasks** menu to delete it.
12. Restart the KC Plug-In service to apply the configuration changes.

## Configure behavior when message import to Kofax Capture fails

1. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
2. Go to the **General** tab.
3. If you want to forward messages that could not be imported to Kofax Capture to an operator, enter the email address in the field **Operator Email**. In the **Email From** field, enter the email address that should be used as the originator of the forwarded messages.
4. Select **Keep Failed** if you want to prevent deletion of messages that neither have been imported into Kofax Capture nor forwarded to an operator. These messages will remain in Message Connector storage until you manage them manually. This setting can cause the storage to run out of disk space—at that point, all importing into Kofax Capture stops! Refer to [Manage failed messages manually](#) for recommended handling.
5. In the **Storage Size** field, enter the size of the Message Connector storage database. Decreasing the value below the default 100 MB is not recommended. Consider increasing the value, especially if you have not configured the **Operator Email** and you selected to **Keep Failed** messages. Maximum storage size is 64000 MB. Excessively large and full storage might require several minutes to initialize. The minimum recommended value is the total size of documents received within 30 minutes during peak hours; preferably more.
6. If you configured an **Operator Email**, you need to update the values in the **Email Outbound** tab. Your email server administrator should be able to provide the necessary information.
7. Click **Save**. Click **Exit and restart service**.

## Configure different notification addresses for different accounts - scenario

There are scenarios when notifications of messages sent from a specific email address are required to be sent to a particular email address. To achieve this functionality, perform the following configuration:

1. Create a new destination (this is a copy of the existing destination used for importing the emails).
2. Create a separate rule for this destination. Specify the sender's email address in **Originator** field. See [Configure rules](#).
3. Now, add the desired email addresses for sending the notification in the **Send message to** field of the Destination configuration window. [Sending Email Notifications](#).
4. Repeat steps 1 to 3 for adding additional notification email addresses for specific email accounts.

## Configure KC Plug-In web service interface

Use this window to specify details about KC Plug-In web services connection. This web services connection is used in two applications:

- Kofax Monitor uses it to monitor KC Plug-In. Refer to [Use Kofax Monitor](#).
- Message Connector may use it internally to retrieve information from Kofax Capture.

For details about the web service functions, refer to *Kofax Import Connector Developers Guide*.

1. Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
2. On the **Assistance Tasks** menu, click **Web Services Configuration**.
3. In the **Port Number** field, type the port number of the web services interface of KC Plug-In.
4. Select **Use SSL** if you want to use SSL for connecting to the web services interface of KC Plug-In.
5. In the **Thumbprint** field, copy the thumbprint of your SSL certificate. Refer to [Installing certificate](#).
6. Click **OK** to save changes.
7. Restart the KC Plug-In service to apply the configuration changes.
8. Optionally, if you want to use the web service functions `GetContentTypeList` and `GetContentTypeDescription` from external applications to retrieve batch class information from Kofax Capture, Message Connector must be properly configured. Refer to [Configure Message Connector for web service input](#).

## Installing certificate

1. Obtain a server certificate from a certification authority. The subject of this certificate must be the name of the computer hosting KC Plug-In. Use the real name of the server, do not use localhost.
2. You also need certificate issuer's root certificate.
3. Start Certificates MMC Snap-In for computer account:
  - a. Start MMC, e.g. by running `mmc.exe` from the Start menu.
  - b. On the File menu, select **Add/Remove Snap-In**.
  - c. Click **Add** and select **Certificates**. Click **Add** again.
  - d. Select "Computer account". Click **Next**.
  - e. Select "Local computer". Click **Finish**.
  - f. Click **Close**, then click **OK**.
4. Use the snap-in to install the root certificate of the certification authority as a trusted root certification authority:
  - a. Expand **Console Root > Certificates (Local Computer) > Trusted Root Certification Authorities > Certificates**.
  - b. Right-click **Certificates** and select **All Tasks > Import** from the context menu. The Certificate Import Wizard starts.
  - c. Import issuer's root certificate (only if it is not yet part of the list).
5. Use the snap-in to install the server certificate:
  - a. Expand **Console Root > Certificates (Local Computer) > Personal > Certificates**.
  - b. Right-click **Certificates** and select **All Tasks > Import** from the context menu. The Certificate Import Wizard starts.
  - c. Import the server certificate.

6. Double-click the server certificate.
7. Go to the Details tab.
8. Scroll down and select the Thumbprint field. You can now copy the thumbprint to the KC Plug-In web services configuration.

## Configure SSL connection

Kofax Import Connector can be configured to operate in a secure environment, using SSL connections.

1. Create a SSL certificate for each Kofax Import Connector component that you want to connect securely. You can use e.g. the following tools:
  - Microsoft Active Directory Certificate Services
  - OpenSSL
2. Configure each Kofax Import Connector component that you want to connect securely.
  - For Message Connector, you need to convert the certificate to .pem format so that you can copy the private key and the certificate to the configuration utility.
  - For KC Plug-In, you must install the certificate via MMC (local account) and copy the thumbprint to the configuration utility.
3. Install the certificates on all computers that connect to a secure server.

See also two example procedures in section [Certificates](#).

### Securing Connection Between Message Connector and KC Plug-In

1. In Message Connector configuration, click **Advanced** to display additional configuration options.
2. Open **HTTP** tab, select **SslActive** to enable SSL, or clear the check box to disable SSL.
3. If SSL is enabled: In Message Connector configuration, **SSL Certificate** tab, edit the fields as necessary. Message Connector comes with a test certificate; you might wish to update it for production use.
4. In KC Plug-In configuration, edit the connection to a Message Connector. In the **Server URL** field, use the prefix “http” for a non-secure connection or “https” for a secure connection.
5. Click **Test connection** to verify the connection.

### Securing Connection for Incoming SMTP Mail

1. In Message Connector configuration, **Email Inbound via SMTP** tab, **SSL Active** field, select **ONREQUEST** or **ALWAYS**.
2. In Message Connector configuration, **SSL Certificate** tab, edit the fields as necessary.

### Securing Connection for Outgoing SMTP Mail

In Message Connector configuration, **Outbound Email** tab, **SSL Active** field, select **ONDEMAND** or **ALWAYS**.

### Securing Connection for POP3/IMAP Mail

1. In KC Plug-In configuration, edit the connection to a Message Connector.

2. Select the POP3/IMAP mail box and then click **Edit**.
3. In the **SSL** field, select **Always** or **Negotiate**.

## Securing Connection for Exchange Web Services

1. In KC Plug-In configuration, edit the connection to a Message Connector.
2. Select the POP3/IMAP mail box and then click **Edit**.
3. The prefix of the EWS URL in the Host field determines whether the connection is secure. Use https for secure connections.

## Configure Kofax Capture integration

Use this window to specify details about how Kofax Capture and Kofax Import Connector interact.

1. Start KC Plug-In configuration. Do **one** of the following
  - On a Kofax Capture Network Server remote site, start KC Plug-In from the KIC - Electronic Documents group in the Windows Start menu.
  - On other Kofax Capture installations, start Kofax Capture Administration and select **Electronic Documents > Configuration**.
2. On the **Assistance Tasks** menu, click **General Settings**.
3. If you are using the User Profiles feature of Kofax Capture, specify the parameters **User ID** and **Password**. Click **Test credentials** to verify that you can correctly connect.
4. If you want to keep Kofax Import Connector connected to Kofax Capture and log off only on service shutdown, select **Cache import process instance**. Selecting this option improves performance. If not selected, Kofax Import Connector will log on to Kofax Capture each time a batch is imported, and it will log off afterwards.
5. The parameter "**Import pool size**" is deprecated. Use the default value (1). To improve performance, use the parameter "**Number of KIC process instances**" instead.
6. If you want to improve performance of KC Plug-In by running multiple instances of the process (vertical scaling), you can increase the value of the parameter "**Number of KIC process instances**". The extra instances may fail to start if not enough hardware resources are available.

**Note** With multiple processes running in parallel, your batch structure might change. E.g., if a customer always copies a group of 5 documents to the import folder, has a batch size of 5 configured, and expects to see the group in one batch, this will not work. The documents will be split among processes and each creates its own batch. In such cases where batch structure should be constant, trigger files should be used in conjunction with vertical scaling. This will ensure that only one KC Plug-In process can access the imported content at any given time.

7. If you want to use UTC time for all imported documents, select **Use UTC time**. When not selected, the local time of Kofax Capture is used.
8. KC Plug-In records all the events/actions in log files. If you want to use a custom location for creating log files, select a path in **Log files path**. If you do not specify any custom location, log files are created at the default location.
9. KC Plug-In provides two types of log levels: INFO and DEBUG. INFO level logs general information about each event/action. This level is best suited for production environment. DEBUG level logs

detailed information about each event/action. This level is used for debugging or identifying any issues. Select the desired logging preference in the **Log level** list. Default log level is INFO.

**Note** Use a local system path for saving log files. Network shared directories are not supported.

10. Click **OK** to save changes.
11. Restart the KC Plug-In service to apply the configuration changes.

## Configure Kofax Converter

Configure the advanced settings of the Kofax Converter (KfxConverter) by editing the KFXConverter.ini file in a text editor. This ini file is located in the same folder as the Kofax Converter executable. The default location is:

```
C:\Program Files (x86)\Kofax\KIC-ED\MC\bin\KFXConverter\.
```

Message Connector installs the file KFXConverter\_Default.ini to the same folder. If the KFXConverter.ini file does not exist when Message Connector starts, a copy of KFXConverter\_Default.ini is created. On upgrade, an existing KFXConverter.ini is not modified by setup.

The following parameters are available:

**Note** Fix the line breaks if you copy and paste the code from this guide.

Group	Parameter name	Default Value	Description
EML2PDF	EnableMargin	False	KfxConverter will consider the margin parameters and the parameter PgNmDistFromHeader only if this value is set to true.
	LeftMargin	3.175 cm	Left margin of page (in centimeters).
	RightMargin	3.175 cm	Right margin of page (in centimeters).
	TopMargin	2.54 cm	Top margin of page (in centimeters).
	BottomMargin	2.54 cm	Bottom margin of page (in centimeters).
	PgNmDistFromHeader	1.3 cm	Page number distance from header (in centimeters).
	EnableFontSize	False	KfxConverter will consider "FontSize" parameter only if this value is set to true.  <b>Note</b> If this parameter is set to true, all the text in the converted PDF file will be of same font size.
	FontSize	12	Font size in points.

Group	Parameter name	Default Value	Description
	DateFormat		<p>Defines the date format. If empty, the default date format is used. Examples:</p> <ul style="list-style-type: none"> <li>DateFormat="dd-MMM-yy"</li> <li>DateFormat="yyyy-MM-dd"</li> </ul> <p>For more information, see <a href="http://msdn.microsoft.com/en-us/library/8kb3ddd4(v=vs.110).aspx">http://msdn.microsoft.com/en-us/library/8kb3ddd4(v=vs.110).aspx</a></p> <p><b>Note</b> Depending on the regional settings of your operating system, certain separators are not available. For example, a forward slash configured in the ini file might be replaced with a hyphen as date separator.</p>
	FitTableWidthToPage	True	<p>Resize the table width in an output PDF file when converting EML files (including body with message header).</p> <p>If set to true, KFXConverter sets the table width based on the page size in output PDF files.</p>
	ResizeLargeImages	2	<p>Resize the images that are larger in size.</p> <p>The following options are available:</p> <p>0 - Image is not resized.</p> <p>1 - The image size is compared with the section size of the document. If the image size is larger than the section size, image is resized to fit the section.</p> <p>2 - Free space is calculated based on whether an image is inline or floating. The image resize ratio to fit the page size is calculated as per the longer side of the image, and then the image is resized.</p> <p><b>Note</b> When the input file contains large size images and if ResizeLargeImages is set to 0, file conversion may result in data loss.</p>
PDF2PDF	ALCWebServiceTimeout	1200 sec	Adobe Experience Manager web service timeout in seconds
TEXT2PDF	FontType	Arial Unicode MS	Specify the font type for the generated PDF. The font must be installed on the computer on which KFXConverter is used.
EXCEL2PDF	FitAllColumnsToOnePage	True	All the columns are set to one page if this value is set to true
	PaperOrientation	-1	Defines the paper orientation. Default is -1, for Landscape 0, for Portrait 1
	PaperSize	Default	If set to default, this will disable the papersize setting.

Group	Parameter name	Default Value	Description
	ConvertSheets	All	<p>KFXConverter will convert the pages according to the values specified in field. Possible values are All, Active, 1, 2, 3 etc. Specify the values as comma separated values.</p> <p>For example:  <code>ConvertSheets=Active,1</code>  This is will convert the first page and the active page.  <code>ConvertSheets=All</code>  This is will convert all the pages.</p> <p><b>Note</b> If a blank page is selected for conversion and no printable area is selected in excel, this page will be ignored at the time of conversion. But, if a blank page with defined printable area is selected for conversion, KFXConverter will convert this page into pdf.</p>
	EnableMargin	False	KFXConverter will consider the margin parameters only if this value is set to true.
	LeftMargin	1	Left margin of page (in centimeters).
	RightMargin	1	Right margin of page (in centimeters).
	TopMargin	1	Top margin of page (in centimeters).
	BottomMargin	1	Bottom margin of page (in centimeters).
HTML2PDF	EnableMargin	False	KFXConverter will consider the margin parameters only if this value is set to true.
	LeftMargin	0.3528 cm	Left margin of page (in centimeters).
	RightMargin	0.3528 cm	Right margin of page (in centimeters).
	TopMargin	2.54 cm	Top margin of page (in centimeters).
	BottomMargin	2.54 cm	Bottom margin of page (in centimeters).
	ResizeLargelImages	2	<p>Resize the images that are larger in size.</p> <p>The following options are available:</p> <p>0 - Image is not resized.</p> <p>1 - The image size is compared with the section size of the document. If the image size is larger than the section size, image is resized to fit the section.</p> <p>2 - Free space is calculated based on whether an image is inline or floating. The image resize ratio to fit the page size is calculated as per the longer side of the image, and then the image is resized.</p> <p><b>Note</b> When the input file contains large size images and if ResizeLargelImages is set to 0, file conversion may result in data loss.</p>

Group	Parameter name	Default Value	Description
	FixedColumnWidths	False	Resizes the table column width in the output PDF file as per the content in the input HTML file tables.  <b>Note</b> When column width in an input file table is large, file conversion may result in data loss. To prevent data loss, set FixedColumnWidths to true.
MHT2PDF	EnableMargin	False	KFXConverter will consider the margin parameters only if this value is set to true.
	LeftMargin	3.175 cm	Left margin of page (in centimeters).
	RightMargin	3.175 cm	Right margin of page (in centimeters).
	TopMargin	2.54 cm	Top margin of page (in centimeters).
	BottomMargin	2.54 cm	Bottom margin of page (in centimeters).
EXTERNAL RESOURCE LOADING	LoadExternalResources	True	True or False. If set to False, when converting EML or MSG documents, KFXConverter does not download any externally linked resource. For example, if LoadExternalResources = false, KFXConverter will not download an image from an internet hyperlink.
GENERAL	OriginalDocumentFolder		If document conversion is failed and path is valid, original file is saved at this path.
	EnablePageHeader	True	If EnablePageHeader=false, it will disable the page number displayed on top of each page.
	EncodingType	UTF-8	If encoding type is defined in the input files, KFXConverter uses the same for converting the documents; otherwise, the default encoding type or the value specified for the EncodingType parameter is used.  The encoding type is only applicable for HTML, MHT and EML file formats.
	EnableAttachmentList	True	If set to False, KFXConverter removes the attachment list from the header of the converted file.

Group	Parameter name	Default Value	Description																						
PDF2PDF/A	AllowedErrors	0	<p>If <b>Standard</b> is selected in <b>PDF to PDF/A conversion engine</b> in Message Connector, then KFXConverter allows the document conversion with the specific conversion errors. To allow one or more conversion errors at the time of conversion, set the value of AllowedErrors to one error code or a combination of error codes. If <code>AllowedErrors=0</code>, no error is allowed at the time of document conversion. See <a href="#">Handle PDF/A normalization errors using AllowedErrors parameter</a>.</p> <p>All the error codes and all possible values generating from an OR operation of the following error codes can be used to ignore one or more document conversion errors.</p> <table border="1"> <thead> <tr> <th>Error code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Allows visual differences in output file</td> </tr> <tr> <td>8</td> <td>Allows resolving name collisions of colorants (PDF/A-2 and PDF/A-3 only)</td> </tr> <tr> <td>16</td> <td>Allows removing optional content groups (layers). For PDF/A-1 only.</td> </tr> <tr> <td>32</td> <td>Allows removing transparency. For PDF/A-1 only.</td> </tr> <tr> <td>64</td> <td>Allows removing embedded files</td> </tr> <tr> <td>128</td> <td>Allows removing non-convertible XMP metadata</td> </tr> <tr> <td>512</td> <td>Allows removing all signatures while normalizing the signed document. The conversion of a file to PDF/A invalidates all signatures of the input file.</td> </tr> <tr> <td>4096</td> <td>Allows normalizing corrupt input document</td> </tr> <tr> <td>16384</td> <td>Allows substituting similar font when the same font is not available for embedding.</td> </tr> <tr> <td>32768</td> <td>Allows removing interactive elements such as actions or annotations</td> </tr> </tbody> </table> <p>For example,</p> <ul style="list-style-type: none"> <li>If <code>AllowedErrors=4</code>, the visual differences in output file does not cause a document conversion error.</li> <li>If <code>AllowedErrors=132</code>, that is, combination of error code 4 and error code 128, the conversion is done even if there are visual differences in the output file or non-convertible XMP metadata is removed.</li> </ul>	Error code	Description	4	Allows visual differences in output file	8	Allows resolving name collisions of colorants (PDF/A-2 and PDF/A-3 only)	16	Allows removing optional content groups (layers). For PDF/A-1 only.	32	Allows removing transparency. For PDF/A-1 only.	64	Allows removing embedded files	128	Allows removing non-convertible XMP metadata	512	Allows removing all signatures while normalizing the signed document. The conversion of a file to PDF/A invalidates all signatures of the input file.	4096	Allows normalizing corrupt input document	16384	Allows substituting similar font when the same font is not available for embedding.	32768	Allows removing interactive elements such as actions or annotations
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Group	Parameter name	Default Value	Description
TryFlattenXFA	TryFlatteningXFAWith outALC	False	<p>If set to true, enables flattening of XFA forms when Adobe Experience Manager is not available. Make sure the <b>Legacy</b> option is selected in the <b>PDF to PDF/A conversion engine</b> field in Message Connector.</p> <div style="border: 1px solid gray; padding: 5px; background-color: #f0f0f0;"> <p><b>Note</b> Kofax recommends that you use Adobe Experience Manager for flattening of XFA forms; use of any other tool may result in an unpredictable output.</p> </div>

## Handle PDF/A normalization errors using AllowedErrors parameter

Certain actions may alter the visual appearance of the file or remove crucial data at the time of conversion. You must identify conversion errors that are tolerable and can be allowed, and the ones which are critical and should not be allowed.

To not include errors that are critical for your processing, set the value of `AllowedErrors` parameter appropriately.

You can do the following to minimize the document conversion errors:

- Convert input documents to PDF/A-2 instead of PDF/A-1. As PDF/A-2 allows some features of newer versions of the PDF reference such as transparency, optional content (layers), or embedded files.
- If fonts were substituted for earlier processing, install the missing fonts.
- For documents with non-convertible XMP Metadata, update the PDF creating software to generate valid XMP metadata.

## Enable SecurityBoost

SecurityBoost is a feature that improves the safety of the connection between the Kofax Capture server and workstation.

1. Enable SecurityBoost in Kofax Capture. Refer to Kofax Capture documentation for details.
2. Set a log on user account for the KC Plug-In service. This user must have read access to the following folders:
  - `\\%SERVER%\capturesv\config`
  - `\\%SERVER%\capturesv\BatchDb` (and subfolders)
  - `\\%SERVER%\capturesv\PubTypes` (and subfolders)
3. If the **Save to Disk** option in KC Plug-In configuration is selected, write access is also necessary to the following folder: `\\%SERVER%\capturesv\images`.
4. The user to be used with the SecurityBoost option requires the "Local Launch" and "Local Activation" COM permission. COM permissions can be modified with Control Panel > Administrative Tools > Component Services. Select COM Security tab in properties of Console Root\Component Services \Computers\My Computer. Click Edit Default under Launch and Activation Permissions. Select the user and modify the permissions.

5. The user requires Full Control access to the following registry key: HKEY\_LOCAL\_MACHINE \SOFTWARE\Kofax\KIC-ED\KCPlugIn
6. If you want to use KC Plug-In web service interface ([Configure KC Plug-In web service interface](#)), additional steps are necessary:
  - Reserve the namespace http://+:<port>/KIC-Electronic-Documents
  - Reserve the namespace https://+:<port>/KIC-Electronic-Documents and register the thumbprint of the certificate for the IP address:port (if you want to use SSL)

For example, on **Windows Server 2003**, use the command httpcfg:

- Namespace reservation syntax:

```
httpcfg set urlacl u/ URL /a ACL
```

The /u parameter takes a string containing a fully qualified URL that identifies the reservation. The /a parameter takes a string containing an Access Control List in the form of a Security Descriptor Definition Language (SDDL) string.

- Namespace reservation for port 8001

```
httpcfg set urlacl /u http://+:8001/KIC-Electronic-Documents /a D:(A;;GX;;;WD)
```

- Namespace reservation for port 8002 (SSL):

```
httpcfg set urlacl /u https://+:8002/KIC-Electronic-Documents /a D:(A;;GX;;;WD)
```

- SSL thumbprint registration syntax:

```
httpcfg set ssl /i Ip:Port /h SSL_Hash /g "{GUID}"
```

The /i parameter takes a string that specifies the IP Address:port combination. The /h parameter takes a string of hexadecimal digits specifying the thumbprint hash of the certificate being added. The /g parameter takes a string representing a Globally Unique Identifier (GUID) that identifies the application that added the certificate.

- SSL thumbprint registration:

```
httpcfg set ssl /i 0.0.0.0:8002 /h a9f05807bb757c41ba2e1c457ac2a78f00395a69 /g"{4f38c942-c7e7-421b-bcec-bd3290c3b921}"
```

The IP address 0.0.0.0 matches every IP address on the local computer.

On **Windows Server 2008** or **Windows 7**, use the command netsh:

- Namespace reservation syntax:

```
Netsh http add urlacl url=URL user= User
```

The url parameter specifies the fully qualified Uniform Resource Locator (URL). The user parameter specifies the user or user-group name.

- For port 8001:

```
netsh http add urlacl url=http://+:8001/KIC-Electronic-Documents/ user=\EVERYONE
```

- For port 8002 if SSL is enabled:

```
netsh http add urlacl url=https://+:8002/KIC-Electronic-Documents/ user=\EVERYONE
```

- SSL thumbprint registration syntax:

```
netsh http add sslcert ipport= IPAddress:port certhash=CertHash appid=GUID
```

The ipport parameter specifies the IP address and port for the binding. A colon character (:) is used as a delimiter between the IP address and the port number. The certhash parameter

specifies the SHA hash of the certificate. This hash is 20 bytes long and is specified as a hexadecimal string. The appid parameter specifies the GUID to identify the owning application.

- For port 8002:

```
netsh http add sslcert ipport=0.0.0.0:8002
  certhash=a9f05807bb757c41ba2e1c457ac2a78f00395a69 appid={4f38c942-c7e7-421b-
  bcec-bd3290c3b921}
```

If SecurityBoost is not enabled, the folder access permissions should be set according to the Kofax Capture documentation.

## Message fields

Message fields are metadata related to a document such as message subject. These values can be mapped to Kofax Capture batch/folder/document fields.

If a message field is mapped to a Kofax Capture field, it will be automatically populated with the proper value during importing to Kofax Capture.

The message fields mapping can be configured in KC Plug-In, for each destination. See [Configure destinations for imported documents](#).

Message field	Description
KfxMessageAttachmentList	The file names of the converted documents or attachments. For Folder import, this returns the file names of all the converted documents in the folder delimited by ';'. For email import, this returns the file names of the converted attachments of a message delimited by ';'.
KfxMessageCorrelation	The correlation information of the message (for internal use).
KfxMessageDeliveryPriority	The priority of the message. Reserved for future use. Currently static value 1.
KfxMessageDeliverySuspectedDupli	Reserved for future use. Currently static value 0.
KfxMessageDeliveryType	The type of delivery of the message. Reserved for future use. Currently static string TO.
KfxMessageFileName	The file name of the document. For fax server import, this returns the server internal file name of the fax message. This does not return anything for EMAIL and Folder import.
KfxMessageID	The unique ID of the message given by the Message Connector on message arrival.
KfxMessageOwnerReference	For email documents: mime-header/message-id For faxes: server-specific message ID
KfxMessagePages	The number of fax pages in the message.
KfxMessageReceptionCallerId	The number of the sending fax machine. (Optionally available for FoIP, Biscom, KCS)
KfxMessageReceptionErrorImporting	Contains the error message if the message is rejected by Kofax Import Connector.

Message field	Description
KfxMessageReceptionErrorInfo	Provides an additional description if KfxMessageReceptionErrorLevel is non-zero. For messages from KCS, this field contains the KCS error code.
KfxMessageReceptionErrorLevel	Describes the error level of the received document using the following values: 0 = OK, 1 = partially OK or incomplete, 2 = failed
KfxMessageReceptionTimeCreated	For emails, this is the time when the Message Connector retrieved the message. For faxes, this is the time when the message was received by the fax server.
KfxMessageSubject	The subject of the message. For faxes, this is "Fax from" + TSI.
KfxMessageTimePosted	Only available for email messages, this field contains the date and time when the message was sent.
KfxMessageNumberOfPagesImportedForBatch	The number of pages in the files imported from a folder. The number of pages is calculated using the following rules: <ul style="list-style-type: none"> <li>• Each image file is split into pages, and each individual page is counted as one page.</li> <li>• Each non-image document (including PDF files) imported as an eDocument file is counted as one page.</li> <li>• Each PDF file imported as a TIFF file is split into pages, and each individual page is counted as one page.</li> </ul>
KfxMessageNumberOfRemovedBlankPages	The number of blank pages removed from the documents at the time of VRS processing.
KfxOriginalRecipients	Contains a list of the original recipients as specified by the message originator. For KCS, it contains the original number before forwarding by event. For mailbox emails, it contains the To/Cc recipients.
KfxOriginatorName	The full name of the message originator. For faxes, this is the TSI. For SMTP/POP3/EWS, it's the originator display name (mime-header/from/mailbox/displayname).
KfxOriginatorNumber	The fax number of the originator (caller ID) or originator email (mime-header/from/mailbox/address) for POP3/SMTP/EWS mail.
KfxOriginatorService	The service name of the originator. In case of fax FAX and in case of email EMAIL.
KfxRecipientName	The full name of the message recipient. For POP3, this is the mailbox display name.
KfxRecipientNumber	The recipient fax number (called party number) or email address (for SMTP it's the first active email recipient, for POP3 the mailbox user name).
KfxRecipientsTo	Comma separated list of To recipients.
KfxRecipientsCc	Comma separated list of Cc recipients.
KfxRecipientsBcc	Comma separated list of Bcc recipients.

Message field	Description
KfxRecipientService	The service name of the recipient. In case of fax FAX and in case of email EMAIL.
KfxRoutingNumber	The meaning of this message field is different for various inputs <ul style="list-style-type: none"> <li>• FAX: Extension (called-party-number)</li> <li>• SMTP: active email recipient</li> <li>• POP3/IMAP/EWS: mailbox user name</li> <li>• FOLDER: full path of the imported file</li> <li>• WEBSERVICE: empty string</li> </ul>
KfxMessageReceptionTimeReceived	The reception time of fax.
KfxImportFolderName	Folder name of the sub folder from which messages are polled. Example, if the polling folder is "Inbox" and sub folder is "sub1", then the field will contain "Inbox/sub1".
KfxInputSourceName	The type of input source. For email, it is POP3, IMAP, SMTP, or EWS. For fax, it is BISCOP, RightFax or KCS. For file import, it is folder.

The message extension fields are reserved for future versions.

Document metadata are also available in Kofax Capture as custom storage strings (for documents and folders) with the prefix ED\_CSS\_. Custom storage strings can be read via the Kofax Capture API and could be used for example in an export connector or in custom scripts. Please refer to *Kofax Import Connector Developers Guide* for more information about custom storage strings.

## Set Windows permissions for Message Connector

This section describes the permissions in Windows that are required to run Message Connector.

Note the following:

- The user who performs the installation must be a member of the local Administrator's group
- The MS Office document conversion can be configured to run as:
  - The interactive user (a user must be logged on the computer)
  - A user specified in the Message Connector document conversion configuration

### DCOM Permission

1. Open Window's Component Services by using the following command in Command Prompt: `C:\WINDOWS\System32\comexp.msc`.
2. Expand **Component Service > Computers**.
3. Right click on **My Computer** and select **Properties**. From the **My Computer Properties** window, select the **COM Security** tab.
4. For **AccessPermissions**, click the **Edit Defaults** button and add a user with full permissions.
5. For **Launch and Activation Permissions**, click the **Edit Defaults** button and add a user with full permissions.

6. Click **OK**.

## Folder Permissions

The following table lists the necessary folder permissions to run Message Connector.

Folder	Permission
ProgramData\Kofax\KIC-ED\MC	Full Control
Installation folder <b>Note</b> Folder where Message Connector is installed.	Read
Temp folder (generally, Windows\Temp) <b>Note</b> You can modify this folder from Windows environment variables.	Full Control

## Registry Permissions

### For running Message Connector on Windows Server 2008 R2

The following table lists the necessary registry key permissions to run Message Connector.

Registry Key	Permission
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Kofax\KIC-ED\MC	Read
HKEY_CLASSES_ROOT\.png	Full Control
HKEY_USERS\.DEFAULT\Software\Microsoft\Windows NT\CurrentVersion\Windows	Full Control
HKEY_USERS\.DEFAULT\Software\Microsoft\Windows NT\CurrentVersion\Devices	Full Control

### For document conversion using MS Office on Windows Server 2008 R2

The following table lists the necessary registry key permissions for document conversion in Message Connector using MS Office on Windows Server 2008 R2.

Registry Key	Permission
HKEY_CLASSES_ROOT\AppID\{00020906-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\AppID\{00020812-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\AppID\{048EB43E-2059-422F-95E0-557DA96038AF}	Full Control
HKEY_CLASSES_ROOT\CLSID\{00020812-0000-0000-C000-000000000046}	Full Control

Registry Key	Permission
HKEY_CLASSES_ROOT\CLSID {91493441-5A91-11CF-8700-00AA0060263B}	Full Control
HKEY_CLASSES_ROOT\CLSID{00020906-0000-0000- C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes\Wow6432Node\CLSID {00020906-0000-0000-C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\CLSID {000209FE-0000-0000-C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\CLSID {000209FF-0000-0000-C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\CLSID {00020812-0000-0000-C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\CLSID {00024500-0000-0000-C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\CLSID {048EB43E-2059-422F-95E0-557DA96038AF}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\CLSID {91493441-5A91-11CF-8700-00AA0060263B}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\AppID {00020906-0000-0000-C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\AppID {00020812-0000-0000-C000-0000000000046}	Full Control
HKEY_LOCAL_MACHINE\SOFTWARE\Classes \Wow6432Node\AppID {048EB43E-2059-422F-95E0-557DA96038AF}	Full Control

### For running Message Connector on Windows 7 64-Bit

The following table lists the necessary registry key permissions for Windows 7 64-bit to run Message Connector.

Registry Key	Permission
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Kofax\KIC-ED\MC	Read
HKEY_USERS\.DEFAULT\Software\Microsoft\Windows NT\CurrentVersion \Windows	Full Control
HKEY_USERS\.DEFAULT\Software\Microsoft\Windows NT\CurrentVersion \Devices	Full Control

### For document conversion using MS Office on Windows7 64-Bit

The following table lists the necessary registry key permissions for document conversion in Message Connector using MS Office on Windows Server 7 64-bit.

Registry Key	Permission
HKEY_CLASSES_ROOT\AppID{00020906-0000-0000- C000-0000000000046}	Full Control

Registry Key	Permission
HKEY_CLASSES_ROOT\AppID\{00020812-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\AppID\{048EB43E-2059-422F-95E0-557DA96038AF}	Full Control
HKEY_CLASSES_ROOT\CLSID\{00020812-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\CLSID\{91493441-5A91-11CF-8700-00AA0060263B}	Full Control
HKEY_CLASSES_ROOT\CLSID\{00020906-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{00020906-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{000209FE-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{000209FF-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{00020812-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{00024500-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{048EB43E-2059-422F-95E0-557DA96038AF}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\CLSID\{91493441-5A91-11CF-8700-00AA0060263B}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\AppID\{00020906-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\AppID\{00020812-0000-0000-C000-000000000046}	Full Control
HKEY_CLASSES_ROOT\Wow6432Node\AppID\{048EB43E-2059-422F-95E0-557DA96038AF}	Full Control

## Set Windows permissions for KC Plugin

This section describes the permissions in Windows that are required to run KC Plugin.

### DCOM Permission (Standalone and Client/Server)

1. Open Window's Component Services by using the following command in Command Prompt: C : \WINDOWS\SysWOW64\comexp.msc.
2. Expand **Component Service > Computers > My Computer > DCOM Config**.
3. Right click on **{A6063718-7889-46E0-AC60-5A7C958710DC}** and select **Properties**. From the Properties window, select the **Security** tab.

4. For **Launch and Activation Permissions**, select the **Customize** option and click the **Edit...** button. Add a user with full permissions.
5. For **Access Permissions**, select the **Customize** option and click the **Edit...** button. Add a user with full permissions.
6. For **Configuration Permissions**, select the **Customize** option and click the **Edit...** button. Add a user with full permissions.
7. Click **OK**.

**Note** If "Shared Profiles" are enabled in Kofax Capture, assign full permissions to SharedProfileData in DCOM Config.

## Folder Permissions for Standalone KC Plugin

The following table lists the necessary folder permissions to run KC Plugin.

Folder	Permission
ProgramData\Kofax\Capture	Read and Execute
ProgramData\Kofax\Capture\Local\BatchDB	Full Control
ProgramData\Kofax\Capture\BatchDB	Full Control
ProgramData\Kofax\KIC-ED\KCPlugIn	Full Control
ProgramData\Kofax\Capture\Images	Full Control
Installation folder	Full Control
Temp folder (generally, Windows\Temp)	Full Control

## Folder Permissions for Client/Server Mode (Windows 2008 R2)

The following table lists the necessary folder permissions for Windows Server 2008 R2 to run KC Plugin in Client/Server installation.

Folder	Permission
ProgramData\Kofax\CaptureSV	Read and Execute
ProgramData\Kofax\CaptureSV\BatchDB	Full Control
ProgramData\Kofax\CaptureSV\Images	Full Control
ProgramData\Kofax\KIC-ED\KCPlugIn	Full Control
Installation folder	Full Control
Temp folder (generally, Windows\Temp)	Full Control

### Note the following:

User should have full access to the following folders which are configured in batch class setting.

- Image folder which is specified in batch class properties
- Default storage folder which is specified in export connector

## Registry Permissions

The following table lists the necessary registry key permissions to run both standalone and client/server installation of KC Plugin.

Folder	Permission
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Kofax\KIC-ED\KCPlugIn	Read
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Kofax Image Products	Read
All file type extensions in HKEY_CLASSES_ROOT For example, HKEY_CLASSES_ROOT\doc HKEY_CLASSES_ROOT\png	Read

## Chapter 3

# Features and integration examples

This section provides examples on how to integrate Kofax Import Connector with third party software and hardware and describes some advanced features of the product.

## Connect to Biscom fax server

In addition to configuring the connection to the Biscom fax server in KC Plug-In, Biscom client software must be installed and a user/extension should be identified on the fax server for use with Kofax Import Connector. Work with your fax server administrator to complete the following steps.

### Configure Biscom server

1. On the Biscom fax server, start the FAXCOM Administrator tool.
2. Create (or reserve) a user/extension for use with Kofax Import Connector.
3. Enable the network share connection to the Biscom server and note the service path.
4. Close the tool.

### Install FAXCOM Client

1. On the Message Connector computer(s), install the Biscom client software, the FAXCOM Client.
2. If the computer where the FAXCOM Client is installed belongs to a Windows domain, run this command (only necessary when the domain user lacks access rights to the Biscom share):

```
Net Use <Biscom_service_path> /USER:<Biscom_user> <password>
```

3. Start the FAXCOM Client from the FAXCOM group of the Windows Start menu.
4. Type the login information and click OK. You must be able to connect.  
On successful login, the FAXCOM Client window is displayed.



5. Close the client.

## Connect to RightFax fax server

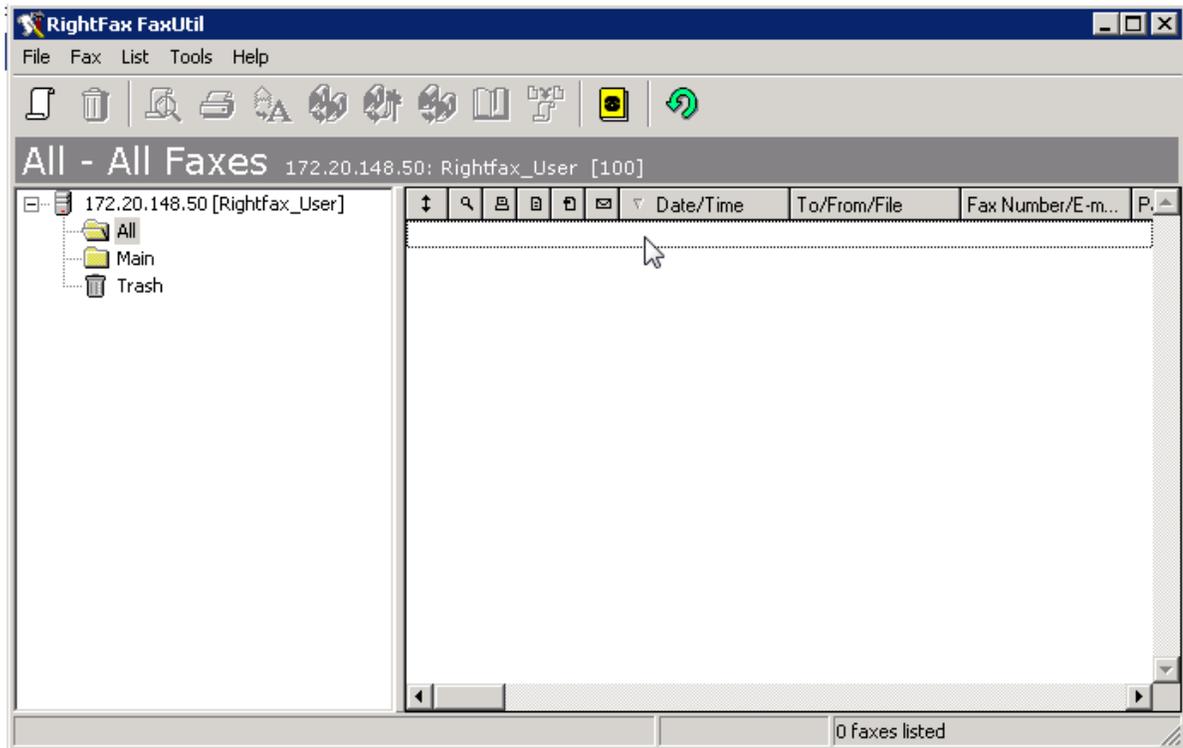
In addition to configuring the connection to the RightFax fax server in KC Plug-In, RightFax client software must be installed and a user/extension should be identified on the fax server for use with Kofax Import Connector. Work with your fax server administrator to complete the following steps.

### Configure RightFax server

1. On the RightFax fax server, start the Enterprise Fax Manager tool.
2. Create (or reserve) a user/extension for use with Kofax Import Connector.
3. Close the tool.

### Install RightFax client

1. On the Message Connector computer(s), start the RightFax Product Suite setup.
2. When prompted for setup type, select Typical Client.
3. In the RightFax Server Name field, type IP address or name of the fax server.
4. Click Install and finish the installation.
5. Start RightFax FaxUtil from the Windows Start menu.
6. Type the login information. Do not select **Remember password!** Click **OK**. You must be able to connect.  
On successful login, the RightFax FaxUtil window is displayed.



7. Close the client.

## Forwarding Faxes from Multiple Mailboxes to a Single Queue User

In KC Plug-In, you can only configure a single user for accessing RightFax. If you need to access multiple mailboxes, this would have to be the administrator user. As a workaround, if you don't want to use administrator user for security reasons, consider setting up fax forwarding to a dedicated user, and use the credentials of this dedicated user in KC Plug-In. Each fax user must configure fax forwarding using RightFax FaxUtil.

1. Start RightFax FaxUtil from the Windows Start menu and log in.
2. On the Tools menu, click Options.
3. On the Receiving tab, select Forward Received Faxes to User.
4. Select the dedicated user as the recipient of the forwarded faxes.
5. Confirm the changes and close FaxUtil.

## Keeping Messages on RightFax Server

By default, Kofax Import Connector deletes imported messages from the fax server. You can configure Message Connector to keep the messages on the fax server for later processing.

1. Open the file SolutionConfig.xml from the folder MC\config in an editor.
2. Add the following content between the lines `</SSL>` and `<CallPeerList>`:

```
<FaxServer>
  <RFaxKeepMsgs>2</RFaxKeepMsgs>
```

```
</FaxServer>
```

3. Save the file and close it.  
Message Connector configuration now contains a new tab **Fax Server** with a single parameter **"Keep messages on RightFax Server"** set to "[2] yes".
4. Start Message Connector configuration. Verify the value in the Fax Server tab.
5. Click **Save**, then click **Exit**.

Imported messages are no longer deleted from the RightFax server, instead, the text "KCFax:marked to delete" is added to the comment field and the flag FAXFLAG\_GENERIC2 is set.

## Connect to Kofax Communication Server

In addition to configuring the connection to the Kofax Communication Server in KC Plug-In, a user/extension should be identified on the fax server for use with Kofax Import Connector. Work with your fax server administrator to complete the following steps.

1. On the Kofax Communication Server, start the TCW Communication Server Client.
2. Create (or reserve) a user/extension for use with Kofax Import Connector.
3. Optionally, if you want to import faxes received by multiple KCS users, set up fax forwarding for each of the user; and forward the faxes to the user created in step 2.
4. Close the client.

## Handle of multipage TIF Files

Kofax Capture Import Connector - Folder has the function to split incoming multipage TIF files into pages before importing them to Kofax Capture. Kofax Import Connector uses a different approach and leverages existing Kofax Capture batch class options to achieve similar results.

**Note** If you are using Kofax Capture Network Server, you can only to perform batch class configuration on the central site.

1. Start Kofax Capture Administration from the Kofax Capture group in the Windows Start menu.
2. Select your batch class and edit its properties:
  - a. In the **Separation and Form Identification** tab, select **Kofax fixed pages**.
  - b. In the **Advanced** tab, edit the parameter **Process documents as independent batches**.
    - Clear it if you want to treat each page of a multipage TIF as a separate document.
    - Select it if you want to treat each page of a multipage TIF as a separate batch.
3. Select your form type and edit its properties:
  - a. Select **Fixed number of pages**.
  - b. Enter "1" in the field below.
4. Publish the batch class to make the changes effective.
5. In Kofax Capture Administration, on the menu, select **Electronic Documents > Configuration**.

6. Select your destination and click **Edit Destination**.

- a. Go to the **Import Mappings** tab.
- b. In the **Batch class** field, select the batch class configured in step 2.
- c. In the **Document class** field, select **Loose Pages**.

**Note** Kofax Import Connector checks only the form type option and no other internal form type settings. Therefore, if page separation and fixed number of pages options are set in the form type, these will be ignored. Kofax Import Connector only performs simple separation, that is:

- Create document per attachment
- Create document per message

7. Restart the KC Plug-In service to make the changes effective.

The behavior in Kofax Capture is almost identical to KCIC Folder behavior, only the batch names in Kofax Capture Batch Manager are can be different.



As Kofax Import Connector combines multiple previous import connectors, TIF splitting is now available to any input document. If you want to restrict this feature to documents imported from folder, create an exclusive destination and set up an appropriate rule. Refer to [Configure rules](#).

Split TIF files behave differently when archived. It is not possible to save each page to a separate folder. The original, unsplit TIF file is archived instead.

```
<processed>
<2011-9-19>
  <150-2011-09-19 04_44_19-BatchClass1>
    <SPLIT>
      file001.tif (first page)
  <151-2011-09-19 04_44_23-BatchClass1>
    <SPLIT>
      file001.tif (second page)
```

KCIC Folder

```
<processed>
<2011-9-19>
  <152-2011-09-19 04_56_54-BatchClass2>
    file001.tif
```

KIC - Electronic Documents

## Import EDI files

Electronic Data Interchange (EDI) is a standard for exchanging data via electronic means. Kofax Import Connector supports two prominent international EDI standards:

- UN/EDIFACT
- ANSI ASC X12

Basic workflow:

1. Customer copies the EDI files to a designated folder.
2. Kofax Import Connector ingests EDI documents via folder import.
3. Kofax Import Connector uses Rules to determine that raw EDI document belongs to a generic EDI destination.
4. Kofax Import Connector converts the EDI data stream to XML.
5. Kofax Import Connector uses Rules, XML namespace, and root element on the transformed EDI document to determine the proper destination (batch class).
6. Kofax Import Connector imports the XML into Kofax Capture. Depending on the destination setting, XML data is mapped to Kofax Capture fields and/or rendered as PDF or TIF.

**Note** You can import EDI files from a folder. Other sources, such as email import or web service import, are not supported.

Important configuration steps:

1. Create a generic destination for EDI. See [Configure destinations for imported documents](#).
  - On the **Import settings** tab, enter **Name**.
  - On the **Advanced Conversion and Import** tab, select **Enable EDI to XML conversion and routing at this destination**.

Most other destination settings are ignored. As soon as the raw EDI is converted to an XML document, the XML is rerouted to a different destination.

2. Create a rule that routes your EDI files from a certain folder to the generic EDI destination. See [Configure rules](#).
3. For each EDI type you want to use, you need to provide XML schema definition file and a sample XML file. See [Configure EDI types](#).
4. Create a destination for each EDI type. Use XML mapping and rendering functions:
  - [Use XSL transformation to map metadata and XML data](#)
  - [Render XML documents](#)

**Note** If you want to import EDI documents as EML or MSG, you have to configure it in the generic, routing destination. These settings are ignored for the EDI-specific destinations.

5. Create rules that route the XML documents to their Kofax Capture destinations. These specific rules must be in a higher position in the list than the generic rule created in step 2. Click **Move Rule Up** or **Move Rule Down** on the **Connection Tasks** menu to establish rules priority.

Internally, the change to a different destination in the EDI feature is done using the script `ReRoutingScript`. See the *Kofax Import Connector Developer's Guide*. The script tells KC Plug-In to assign the message to a different destination. The script modifies the message in a way that it can be processed by the new destination. KC Plug-In then processes the message with the new destination and uses the appropriate XSL transformation and mapping. When message rendering is enabled in the new destination, the conversion to TIFF and PDF configured for the original destination applies.

**Note** When you select to "Include original content", the EDI data stream is not available in the original format, only converted as XML.

## Use EDI samples

Four sample EDI formats are installed with KC Plug-In. They are available in the installation folder of KC Plug-In.

- `EDI\SampleConfigFiles\EDIFACT.D.2000A-INVOIC`
- `EDI\SampleConfigFiles\EDIFACT.D.2000A-ORDERS`
- `EDI\SampleConfigFiles\X12.5010-810`
- `EDI\SampleConfigFiles\X12.5010-850`

Each sample folder contains an XSD and XML file for configuring the EDI type, a Kofax Capture batch class, a XSL transformation file for generic mapping, and a sample input file.

1. Configure a new EDI type.
  - a. As your XML schema definition file (.xsd), select one of the following:
    - `INVOIC.xsd`
    - `ORDERS.xsd`
    - `810.xsd`
    - `850.xsd`
  - b. As your sample XML file, select `Sample.xml` from the same folder.
2. Import the sample batch class from the same folder to your Kofax Capture and publish it.
3. Create a new destination.
  - a. As **XML type**, select the one created in step 1.
  - b. As **Batch class**, select the one imported in step 2.
  - c. Select **Generic XML mapping**.
  - d. Click **Show Files for Visual Designer** to open the folder containing destination specific configuration files.
  - e. Copy the file `XMLMapping.xslt` from the sample folder to the destination folder.

You can now use folder import to import the sample input file ("Input file <type>.txt") to test the functionality.

**Note** The provided EDI samples function only with generic XML mapping.

## Image normalization

The following rules are used for handling the resolution and dimension. The first matching rule governs the conversion:

1. If the resolution of an incoming image matches the requested resolution, the image is not changed.
2. If the value of parameter MaxPrintSize is set to a non zero value, resampling is skipped for files with size more than MaxPrintSize. This parameter is available in the script file image2tif.bat in the folder C:\Program Files (x86)\Kofax\KICED\MC\Scripts. By default, MaxPrintSize is set to 0.
3. If the x and y resolutions differ, the image is resampled to the requested resolution (non-quadratic pixel case).
4. If the resolution value is wrong, it is set to the requested value without resampling the image. This will change the printing size of the image. Such images are not resampled in order to avoid quality loss. A resolution is wrong if one of the following conditions are true:
  - The resolution is below the MindxResolution which is set to 96 dpi. (if the MindxResolution is not set, ImageMagick returns 72 dpi)
  - The resolution exceeds 200 dpi and the width is less than 1500 pixel (19.5cm@200dpi).
  - The resolution exceeds 200 dpi and the height is less than 2000 pixel (25.4cm@200dpi).
5. If the resolution is higher than requested, the image is down-sampled to the requested resolution.
6. If none of the listed rules applies, the image conversion depends on the configuration in the script file image2tif.bat in the folder C:\Program Files (x86)\Kofax\KIC-ED\MC\Scripts. Open the file with a text editor and change the value in the line Set ResetResolution=0. The following values are supported:
  - 0: Resample image and change resolution. This is the default option, same behavior as in Kofax Import Connector 1.0.0 and 2.0.0 or Kofax Capture Import Connector - Folder. Image file size is increased without improving image quality. Resampling can be a time-consuming operation that often results in lower performance.
  - 1: Change the resolution without resampling. This reduces the print size of the image. This is the same behavior as in Kofax Import Connector 2.1.0.
  - 2: Image is not changed. Best performance.

## PDF normalization

When you select to convert your message content to PDF in the destination configuration, Kofax Import Connector actually converts all non-PDF parts of the message to an ISO-standardized version of PDF, the PDF/A. However, Kofax Import Connector can also convert PDF parts to PDF/A.

Note the following:

- If Microsoft Office is selected as conversion tool in MS Office Documents, conversion of excel documents will result in PDF documents rather than PDF/A documents.
- Conversion to PDF/A depends on the normalization capability of Aspose, the 3<sup>rd</sup> party product used in Kofax Import Connector for this purpose. Given that and the complexity of the PDF/A document

conversion in general, it cannot be guaranteed that compliance to PDF/A is achieved by 100 % for every converted document.

## Enabling Conversion to PDF/A for PDF Documents

1. Configure a destination. See [Configure destinations for imported documents](#) for the general procedure.
2. On the **Advanced Conversion and Import** tab, select **Normalize PDF documents to PDF/A**.
3. Click **OK** to save changes.
4. Click **Restart Service**.

## Multiple instances of converters

To convert several documents in parallel, when multiple instances of KC Plug-In are running, run multiple instances of converters simultaneously. These converters are KfxConverter, image2tiff.exe, convert.exe, tcimgio datalogics. Configure the number of instances for each converter in the Create\_Config.xslt file available at C:\Program Files (x86)\Kofax\KIC-ED\MC\xcd (assuming default installation path on a 64-bit operating system.)

To set the total number of parallel conversions for each type of converter, use MaxInstances and SyncObject properties. By default, the value of MaxInstances property is three for each converter.

**Note** Running more than three instances of a converter can impact the system performance.

## Prevent duplicate message import

To avoid duplicate message import, KC Plug-In provides a locking mechanism. In this, KC Plug-In create files named with a unique ID returned by Message Connector in the ReceiveMessage call. The file is created on a local or network folder as configured. This folder must be common for all the configured KC Plug-In applications which polls the same Message Connector.

By default, KC Plug-In will use the folder defined in the Kofax Capture's registry key "ServerPath" as root path and under the root path it will create a folder "KofaxImportConnector\LockFileStore".

Additionally, the path is also configurable at <LockStorePath> element of the Kofax Import Connector's configuration XML file. If <LockStorePath> is configured, Kofax Capture's "ServerPath" registry key is ignored. The registry key "ServerPath" is used only if the <LockStorePath> element is empty (default).

Initially, KC Plug-In verifies whether the file with the received ID already exists. If the file does not exist, it will create the lock file and continue processing the message. The message gets the status "Retrieved and queued". If the file already exists, KC Plug-In will check if the file is exclusively locked. If it is locked, this means that another KC Plug-In instance is processing the message, therefore KC Plug-In will do nothing with this message and continue fetching the next message.

Following is the list of codes and corresponding description of message status in the lock file.

Code	Description	Result
10	Retrieved and queued	Message has been retrieved from MC and is in KC Plug-In, in the message queue waiting to be processed into Capture.
20	Processing into Capture	The message is being imported into Capture. This status is set after the create batch operation when the message files are being imported.
30	Closing batch	All messages have been imported and the close batch operation is in progress
50	Import OK	Close batch has successfully completed
60	Retry confirm - Confirm failed and the Confirm call is scheduled for retry (for example, Message Connector is down when KC Plug-In tries to confirm the message)	Close batch succeeded, but Confirm message failed. KC Plug-In instance that imported the message schedules five more retries every five minutes.
70	Confirm Pending	Retry Confirm did not succeed for 5 times. The status is updated to Confirm Pending and any KC Plug-In instance that eventually receives a message with this ID will retry to confirm it.
100	OK	Close batch and Confirm message back to Message Connector have successfully completed.

By default, the locking mechanism is disabled. To enable it, do the following:

1. Start the KC Plug-In configuration, open any connection and click OK.
2. Close the KC Plug-In configuration.
3. Edit the file `C:\ProgramData\Kofax\KIC-ED\KCPlugIn\config\KIC-ED-KCPlugIn.xml` and search the element `<LockStoreEnabled>`. In `<LockStoreEnabled>false</LockStoreEnabled>` replace 'false' with 'true'.  
It should look similar to: `<LockStoreEnabled>true</LockStoreEnabled>`.
4. To avoid duplicates from Right fax, set the element `<LockStorePreferSourceTransferID>` value to true.  
It should look similar to: `<LockStorePreferSourceTransferID>true</LockStorePreferSourceTransferID>`.
5. Save the XML file.
6. Restart KC Plug-In.

**Note** The lock folder path length (excluding the filename length) must not exceed 200 characters. It assumes that the length of the RightFax Unique-ID (which is generally 15 characters) is less than 20 characters. In the unlikely case that the RightFax Unique-ID is longer, the maximum lock folder path length decreases accordingly.

By default, the Kofax Import Connector will use the file path defined in Capture's registry key "ServerPath". Under this path, it will create a folder "KofaxImportConnector\LockFileStore".

## Manage conversion time for large files

The default time specified for processing files may be less to process some large size files. In such scenarios, to avoid timeout, user can increase the default conversion time.

**Note** In case of multiple instances of KC Plug-In, longer conversion time may cause duplicate imports. To avoid duplicate import, refer [locking mechanism](#).

To increase the timeout value, do the following:

1. Open the Create\_Config.xslt file from C:\Program Files (x86)\Kofax\KIC-ED\MC\xcd (default installation path on a 64-bit operating system.)
2. Increase the value of the <MaxTimeout> parameter under the <ConversionOptions> element.
3. If the <MaxTimeout> or <ConversionOptions> parameter is not available in the file, add these parameters under the <TncDocConv> as shown in the following example.

```
<TncDocConv>
    ...
    <ConversionOptions>
        <MaxTimeout>1200000</MaxTimeout>
    </ConversionOptions>
    ...
</TncDocConv>
```

4. Save and close the Create\_Config.xslt file.
5. Restart Message Connector.

## Import XFA files

PDF documents with Adobe XML Forms Architecture (XFA forms) can be imported and converted using Kofax Import Connector.

Adobe Experience Manager is required. The following prerequisites apply:

**Note** If support for Adobe LiveCycle is available, you can also use Adobe LiveCycle for conversion of XFA Forms.

- Adobe Experience Manager server must be installed, configured, and accessible to Kofax Import Connector. The Output service must be running and its web service enabled and working properly.
- Adobe Experience Manager software must be on a different computer than Kofax Import Connector. However, we recommend to install it in the same network LAN segment (to decrease the probability of timeouts and retries).
- The minimum supported version for Adobe Experience Manager is 6.3. Please contact Kofax Support before upgrading to a new version. If you are using Adobe LiveCycle, the minimum supported version is ES3.
- You must acquire the Adobe Experience Manager product through an appropriate Adobe Sales Channel. Kofax does not ship, install, support or troubleshoot the Adobe Experience Manager. The customer using this feature is responsible any licensing requirements and maintenance contract and/or agreements required by Adobe and any of third party vendor that may be involved.

Configuration steps in Kofax Import Connector:

1. In Message Connector, enter the information about connecting to the Adobe Experience Manager on the **Adobe Experience Manager** tab.
2. In KC Plug-In, configure a destination: On the **Advanced Conversion and Import** tab, select **Convert XFA forms using Adobe Experience Manager**.

**Note** Enabling this feature can negatively impact the performance. Each PDF document is sent to document converter to determine if it is XFA form or standard PDF.

All limitations imposed by Adobe apply. For example, only XFA PDFs with no rights, signature, or certification can be converted to PDF or PDF/A. See your Adobe Experience Manager documentation.

When an exception occurs while using Adobe Experience Manager, Kofax Import Connector reports the same exception in its log file and the document is treated as a standard document conversion error.

## Import MSG and EML files from folder

When you import MSG and EML files from a folder, these email messages are treated as received emails. The metadata (such subject, to, from, date) are extracted directly from the email message. All content selection and conversion options apply to the MSG or EML file. For example, converting to TIFF, adding a message header, importing only body or attachments.

**Note** If you are not importing MSG and EML files from a folder directly, and using a controlling XML file which links these email documents, only the email body is converted and imported. The attachments are discarded, unless you select to include original content.

## Registry settings to enable TLS v1.1 and TLS v1.2 support for EWS

In Kofax Import Connector, for EWS to send TLS v1.1 and TLS v1.2 confirming requests and messages to Microsoft Exchange server, modify/add specific registry keys for both client (Message Connector) and Exchange Server.

Initially, you must install the required .NET Framework 3.5.1 updates to enable TLS v1.1 and TLS v1.2. Use the appropriate links from the following table to upgrade .NET Framework for the applicable Operating System in use.

Operating System (Server/Client)	Web link
Windows Vista SP2 and Windows Server 2008	<a href="#">3154517</a>
Windows 7 and Windows Server 2008 R2	<a href="#">3154518</a>
Windows Server 2012	<a href="#">3154519</a>
Windows 8.1 and Windows Server 2012 R2	<a href="#">3154520</a>
Windows 10, version 1511	<a href="#">3156421</a>

**Note** If the .NET Framework update is already installed or if the update is not required (in case a higher version of .NET Framework is already installed which support TLS v1.1 and TLS v1.2), following error is displayed **The update is not applicable to your computer.**

To enable TLS, do the following for:

- [Message Connector](#)
- [Exchange Server](#)

## Enable TLS v1.1 and TLS v1.2 for Message Connector

To enable TLS v1.1 on a computer where Message Connector is installed, add or modify the following registry sub keys.

Operating System Type	Registry Path	Sub key	Type	Description
64-bit	HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\.NETFramework\v2.0.50727	SystemDefaultTlsVersions	dword	Set this sub key value to 1
64-bit	HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\.NETFramework\v2.0.50727	SystemDefaultTlsVersions	dword	Set this sub key value to 1
32-bit	HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\.NETFramework\v2.0.50727	SystemDefaultTlsVersions	dword	Set this sub key value to 1
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.1\Client	DisabledByDefault	dword	Set this sub key value to 0.
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.1\Client	Enabled	dword	Set this sub key value to 1.

To enable TLS v1.2 on a computer where Message Connector is installed, add or modify the following registry sub keys.

Operating System Type	Registry Path	Sub key	Type	Description
64-bit	HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\.NETFramework\v2.0.50727	SystemDefaultTlsVersions	dword	Set this sub key value to 1
64-bit	HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\.NETFramework\v2.0.50727	SystemDefaultTlsVersions	dword	Set this sub key value to 1
32-bit	HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\.NETFramework\v2.0.50727	SystemDefaultTlsVersions	dword	Set this sub key value to 1
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.2\Client	DisabledByDefault	dword	Set this sub key value to 0.

Operating System Type	Registry Path	Sub key	Type	Description
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.2\Client	Enabled	dword	Set this sub key value to 1.

## Enable TLS v1.1 and TLS v1.2 for Exchange Server

To enable TLS v1.1 on a computer where Microsoft Exchange Server is running, add or modify the following registry sub keys.

Operating System Type	Registry Path	Sub key	Type	Description
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.1\Client	DisabledByDefault	dword	Set this sub key value to 0.
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.1\Client	Enabled	dword	Set this sub key value to 1.
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.1\Server	DisabledByDefault	dword	Set this sub key value to 0.
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.1\Server	Enabled	dword	Set this sub key value to 1.

To enable TLS v1.2 on a computer where Microsoft Exchange Server is running, add or modify the following registry sub keys.

Operating System Type	Registry Path	Sub key	Type	Description
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.2\Client	DisabledByDefault	dword	Set this sub key value to 0.
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.2\Client	Enabled	dword	Set this sub key value to 1.
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.2\Server	DisabledByDefault	dword	Set this sub key value to 0.
32-bit/64-bit	HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\Schannel\Protocols\TLS 1.2\Server	Enabled	dword	Set this sub key value to 1.

**Note** Note the following:

- Both server and client (Message Connector) sub keys must be enabled at Exchange Server. After enabling the keys, restart the computer.
- To support this feature on Exchange Server 2013, install all the latest updates available for Exchange Server 2013. Additionally, for Exchange Server 2013, install the [CU16](#) update. Also, it is recommended that latest updates for all exchange servers must be installed.

## Certificates

This section lists two sample procedures for generating certificates for use with Message Connector and KC Plug-In.

### Request a certificate for Message Connector using Microsoft Active Directory Certificate Services

In this example, we are using Microsoft Active Directory Certificate Services to generate a certificate for Message Connector and OpenSSL to extract the private key and certificate. Review the following requirements and tips.

- Microsoft Certification Services
    - Server must be configured for https binding ([https://\[CANAME\]/certsrv/](https://[CANAME]/certsrv/))
    - Server must be configured to archive the key
    - Create a template which allows to export the private key
  - OpenSSL is used for
    - Exporting a decrypted private key
    - Creating a PKCS#12 file
1. Use Microsoft Certification Services to request a certificate:
    - a. Use a web browser to connect to the CA Server (<https://CANAME/certsrv/>).
    - b. Click "Request a certificate".
    - c. Click "advanced certificate request".
    - d. Click "Create and submit a request to this CA".
    - e. Fill out the form, select the correct Certificate Template and select "Mark keys as exportable". Enter the correct Message Connector server name in the Name field (for Windows Failover Cluster configuration, use the name of the clustered MC service).
    - f. Click Submit. Wait until the certificate is issued.
    - g. Click "Install this certificate". Wait until the certificate is installed.
  2. Use Internet Explorer to export the certificate:
    - a. Go to Tools > Internet Options > Content > Certificates > Personal tab.
    - b. Select your certificate and click Export.

- c. Select to export the private key. Select PKCS #12 as the format.
  - d. Type a password to protect the key.
  - e. Specify the location and file name. Click Finish.
3. Use OpenSSL to extract the private key and the certificate to .pem format, e.g.:

```
openssl.exe pkcs12 -in "c:\certif.pfx" -out
"c:\certif.pem" -nodes
```

You will need to provide the password you used in step 2d.

4. Open the pem file in a text editor. In the file you will find the certificate and private key needed for configuring Message Connector. Refer to [Configure SSL connection](#).

## Request a certificate for KC Plug-In using OpenSSL

In this example, we are using OpenSSL to generate a certificate for KC Plug-In.

1. Use OpenSSL to request a certificate (assuming Windows binary distribution of OpenSSL):

- a. Generate an RSA private key.

```
C:\Openssl\bin\openssl.exe genrsa -out my_key.key 2048
```

This command generates a private key file with the file name my\_key.key and the key length of 2048 bits.

- b. Generate a Certificate Signing Request (CSR).

```
C:\Openssl\bin\openssl.exe req -new -key my_key.key -out my_request.csr -
config C:\Openssl\bin\openssl.cnf
```

This command uses the my\_key.key to create the CSR my\_request.csr.

- c. Generate a self-signed public certificate based on the request.

```
C:\Openssl\bin\openssl.exe x509 -req -days 3650 -in my_request.csr -signkey
my_key.key -out my_cert.crt
```

This command uses the private key and certificate signing request to create a self-signed public certificate (my\_cert.crt).

- d. Generate a PKCS#12 file.

```
C:\Openssl\bin\openssl.exe pkcs12 -keypbe PBE-SHA1-3DES -certpbe PBE-SHA1-3DES
-export -in my_cert.crt -inkey my_key.key -out my_pkcs12.pfx -name "my-name"
```

2. Start Certificates MMC Snap-In for computer account:

- a. Start MMC, e.g. by running mmc.exe from the Start menu.
- b. On the **File** menu, select **Add/Remove Snap-In**.
- c. Click Add and select Certificates. Click Add again.
- d. Select "Computer account". Click Next.
- e. Select "Local computer". Click Finish.
- f. Click Close, and click OK.

3. Install the certificate to the Personal\Certificates folder for computer account.

4. Display the details of the certificate and copy the value of its thumbprint into KC Plug-In configuration. Refer to [Configure KC Plug-In web service interface](#).

## 5. Restart KC Plug-In.

## Bcc field mapping

You can map the content of the Bcc field to Kofax Capture fields, however, there is a number of anomalies that makes the field special.

- The Bcc field is populated only if the polling mail address is Bcc.
- At least one mapping must exist for Bcc.
- The visibility of the Bcc field is subject to the settings of the sending mail server.
- According to the standard, even if the sender specifies multiple Bcc recipients, the Bcc recipients see only their own address.

### Restrictions / known issues

- For EML and MSG files imported using the option "Include complete message as EML/MSG", the file selected in Kofax Import Connector does not display Bcc field with some email clients.
- When performing the "Body with Message Header" conversion with KfxConverter:
  - If the Bcc address is the same as the polling address, Bcc value is displayed in the converted file.
  - If the Bcc address is different from the polling address, Bcc value is not displayed in the converted file.
- When performing the "Body with Message Header" conversion with TotalMailConverter, Bcc is never displayed.
- For email messages sent to identical To and Bcc recipients, the Bcc is not mapped.
- On some mail servers (for example gmail), when you send a message to the same To and Bcc recipients, the originator of the same message receives the message as well when using POP3. If you are using Kofax Import Connector to poll both sent and received mail, both messages are processed independently (two separate batches).

## Chapter 4

# Operation and maintenance

This chapter contains information about operating and maintaining of Kofax Import Connector.

## Start and Stop the KC Plug-In Service

The KC Plug-In service must be restarted after each configuration change to make the changes effective.

1. Start Kofax Capture Administration module from the Kofax Capture group in the Windows Start menu.
2. On the menu, select **Electronic Documents > Configuration**.
3. On the **Assistance Tasks** menu, click one of the commands:
  - **Restart Service**
  - **Start Service**
  - **Stop Service**

**Note** If no connection is marked active, the KC Plug-In service does not start.

## Convert PST files

Personal storage table (PST) files are used by Microsoft Outlook and other Microsoft products to store messages and other items. Use this procedure to extract all messages from a PST file to a folder. Kofax Import Connector can then import the extracted messages to Kofax Capture.

1. Start Windows Command Prompt in the Message Connector installation folder (by default `C:\Program Files (x86)\Kofax\KIC-ED\MC\bin\KFXConverter\`, assuming 64-bit operating system).
2. Run the command  

```
KFXConverter.exe -s <sourcepath>\<filename> -f <destinationpath>\ -type msg
```

As `<sourcepath>`, enter the folder where your PST file is located.  
As `<filename>`, enter the name of the PST file to be converted.  
As `<destinationpath>`, enter the folder where the MSG files should be extracted.
3. Wait until the extraction is complete.

You can now move the extracted files to a watched folder to import them to Kofax Capture. See [Access folders](#).

**Note** MSG files where attachments have been removed by any Microsoft Outlook archive tool cannot be imported.

**Tip** You can convert multiple PST files simultaneously. However, when running multiple KFXConverter instances in parallel, some information about the second and later instances might be missing from the log file. To ensure that your logs are complete, you can specify different log files for each instance using the command line switch `-logfile <logfilename>`.

## Message Connector Status Monitor

Message Connector provides a monitoring interface with the following main functions:

- Sending test messages
- Viewing documents in storage
- Managing failed documents
- Monitoring Message Connector status

### Send test messages

Use this section if you want to verify the functionality of the Message Connector by sending a test fax or email. Both tests work by sending a message in a loop (Message Connector -> Message Connector). KC Plug-In will then import the message to Kofax Capture.

#### Send a test fax

1. Start Message Connector Monitor utility from the Kofax Import Connector group in the Windows Start menu.
2. On the menu, click **Test Fax**.
3. In the **Number to Dial**, enter a number. For a test message this can be any number.
4. Click **Send Fax**.
5. Wait until the text "**Server returned ok**" is displayed.
6. On the menu, click **Outbound > Processed**. After some time you will find the sent fax. Optionally, you can click **Inbound > Pending** and view the message there, if the KC Plug-In service is not running. Otherwise, you will find the test fax in **Inbound > Processed**.

#### Send a test email

1. Start Message Connector Monitor utility from the Kofax Import Connector group in the Windows Start menu.
2. On the menu, click **Test Email**.
3. In the **To**, enter an email address. For a test message this can be any address.
4. Click **Send Email**.
5. Wait until the text "**Server returned ok**" is displayed.

## Message Connector storage

Message Connector stores all messages and files received from various sources to its internal storage before they are imported to Kofax Capture.

The storage is managed automatically. Files and messages that are correctly imported to Kofax Capture are marked for deletion and they are removed when the storage fills.

Files and messages that could not be correctly imported to Kofax Capture may fill the storage. Refer to [Manage failed messages manually](#).

The storage is divided into multiple folders:

- Click **Inbound Status > Active** to list active documents, i.e. documents that have been received by Message Connector but not yet delivered to Kofax Capture. When the archive to folder function is activated, documents remain in this folder until the archiving has been concluded.
- Click **Inbound Status > Active > Failures** to list documents that have been received by Message Connector but could not be delivered to Kofax Capture. Documents appear in this folder only if the configuration setting Keep Failed is selected. When the archive to folder function is activated, documents remain in this folder until the archiving has been concluded.

**Note** Documents remain in this folder until they are handled manually by an operator (reactivated or deleted). If not monitored, this can cause full storage and stop processing of documents.

- Click **Inbound Status > Processed** to list documents delivered to Kofax Capture. If Keep Failed is cleared, this folder also contains documents that permanently failed to import to Kofax Capture. Processed documents are deleted automatically from the storage when space for active messages is needed.
- Click **Inbound Status > Processed > Failed** to list documents that permanently failed to import to Kofax Capture (Keep Failed must be cleared). As all processed documents, they are deleted automatically from the storage when space for active documents is needed.
- Click **Outbound Status > Active** to list test fax messages which are queued for sending or are currently being sent.
- Click **Outbound Status > Processed** to list test fax messages sent out by Message Connector, as well as messages that could not be sent.
- Click **Outbound Status > Processed > Failed** to list test fax messages that could not be sent.

## View messages in the storage

1. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
2. On the menu, go to any of the storage folders (**Inbound** or **Outbound**).
3. Select the message and click **View/Save** .
4. Email messages are available as EML files and can be displayed with Outlook Express or Windows Live Mail or any other mail client that supports EML. Fax messages are available in multipage TIFF format (a special viewer might be required to view this format properly)

**Note** You can also view EML files in Microsoft Outlook. In Outlook 2007, please follow these instructions: <http://support.microsoft.com/kb/956693>. Outlook 2010 can open these files without any additional effort.

## Manage failed messages manually

Use this section if you want to manually manage messages that could not be delivered to Kofax Capture. Depending on the Keep Failed configuration, problematic messages can be found either in the storage folder **Inbound > Active > Failures** or **Inbound > Processed > Failures**.

### Reactivate messages

In particular, it is important to monitor the **Inbound > Active > Failures** folder, as messages in this folder can potentially fill in the entire storage. These messages can be reactivated and Kofax Import Connector will retry to import them to Kofax Capture.

1. Start Message Connector Monitor utility from the Kofax Import Connector group in the Windows Start menu.
2. On the menu, click **Inbound > Active > Failures**.
3. You can view the contents of a message to investigate the problem (click **View/Save** .
4. Then either reactivate the message  or to delete it . A reactivated message is moved back to the **Inbound > Active** folder. A deleted message is moved to folder **Inbound > Processed > Failures**.

### Rerun messages

Messages in the **Inbound > Processed > Failures** folder are already marked for deletion. When the storage gets too full, these messages are lost. However, as long as they are available, you can attempt to rerun them, i.e., create a copy of the message in the **Inbound > Active** folder (as if it had just arrived).

1. Start Message Connector Monitor utility from the Kofax Import Connector group in the Windows Start menu.
2. On the menu, click **Inbound > Processed > Failures**.
3. You can view the contents of a message to investigate the problem (click **View/Save** .
4. You cannot delete these messages; they are already deleted. However, you can try to rerun the message . A copy of this message is created in the **Inbound > Active** folder.

## Monitor Message Connector

1. Start Message Connector Monitor from the Kofax Import Connector group in the Windows Start menu.
2. On the menu, click **Status**.
3. In the right frame you can see the status of Message Connector and its internal components and connections.

## Filter source IP addresses for SMTP connections

To provide additional security by allowing SMTP connection requests from authentic IP addresses and avoiding/rejecting requests from unsolicited IP addresses, filters can be defined in Message Connector.

**Note** Filters are only applicable for requests from SMTP connections and requests from other connection types such as HTTP are not filtered.

Using the **Source IP Filter** field in **Email Inbound via SMTP** tab, Message Connector provides an option to define list of filters. Using these filters, SMTP connections to Message Connector are either allowed or denied. By default, no filter is defined and connections are allowed from all IP addresses.

Each line in the **Source IP Filter** field defines a filter and starts with an Allow or Deny keyword followed by the CIDR (Classless Inter-Domain Routing) notation of an IP range. These filters are compared with the source IP address of a request. If a source IP address falls in a category of a filter starting with Allow, the SMTP connection for that IP address is accepted.

For example, a filter **Allow 10.20.30.0/24** allows request from IP addresses from 10.20.30.0 to 10.20.30.255. That is, any request from and source with IP address between 10.20.30.0 to 10.20.30.255 is allowed.

Additionally, if filters are defined but no filter matches with the incoming source IP address request, the request is denied. Else, the first matching filter defines whether the request should be allowed or denied.

## Use Kofax Monitor

Kofax Monitor can be used to monitor the operation of Kofax Import Connector. Web service interface is used to provide information to Kofax Monitor.

The following counters are available for monitoring Message Connector.

Web Service	Parameters	Description
GetRunState		Shows the run state of Message Connector. <ul style="list-style-type: none"> <li>• 0 = not running,</li> <li>• 80 = storage full, no documents accepted into storage; import to Kofax Capture continues</li> <li>• 100 = running</li> </ul>
GetStorageVisible		Shows how full is the storage of Message Connector, in percent.
GetMessagesFailed		Shows the number of messages that could not be imported to Kofax Capture and need to be processed.

Web Service	Parameters	Description
GetMessagesWaiting	MediaType	Shows the number of messages waiting to be imported to Kofax Capture per media type. The text parameter MediaType may have to following values: <ul style="list-style-type: none"> <li>• ALL (default)</li> <li>• FAX</li> <li>• EMAIL</li> <li>• FOLDER</li> <li>• WEB-SERVICE</li> </ul>

The following counters are available for monitoring KC Plug-In. Full description of the counters is available in *Kofax Import Connector Developers Guide*.

Web Service	Parameters	Description
GetAllState		Shows the state of feature licenses and a list of connections.
GetConnection	ConnectionName	Shows if the specified connection is active and connected.
GetConnectionNames		Shows the names of all connections.
GetFeatureLicenseState		Shows the state of Kofax Import Connector feature licenses.

You can use the Web Service Wizard from the Kofax Monitor Admin Console to set up these counters.

1. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
2. On the **General** tab, enter the **Own Computer Name**.
3. Click **Advanced** and review the settings on the **HTTP** tab.
4. Click **Save**. Click **Exit and restart service**.
5. Start Kofax Capture Administration from the Kofax Capture group in the Windows Start menu.
6. On the menu, select **Electronic Documents > Configuration** and review the **Web Services Configuration**. Restart KC Plug-In service if you do any changes.
7. Start the Kofax Monitor Admin Console.
8. Click **Add Test Using Wizard** and select **Web Service Wizard**.
9. Use the wizard to configure the counter.
  - a. Enter the **Web Service WSDL**, e.g.: <https://messageconnector:25086/file/Monitor.wsdl> or <http://kcplugin:8001/KIC-Electronic-Documents?wsdl>. Use the information from steps 3 and 6.
  - b. Select one of the methods. Use **only** the web services listed in the table above.
  - c. Configure the details of the test. E.g., you can create a "Connectivity" test, using the GetRunState method, with "100" as the expected response.
  - d. Click **Add Test** and conclude the wizard.

## Log files

Kofax Import Connector provides log files that can help with troubleshooting. Log files are stored in the application / program data folder of all users. The exact path (*<path>*) depends on the operating system:

- C:\Documents and Settings\All Users\Application Data\Kofax\KIC-ED (Windows Server 2003 and Windows XP)
- C:\ProgramData\Kofax\KIC-ED (Windows Server 2008, Windows Vista and later)

### Manage logs in Message Connector

1. Start Message Connector Configuration utility from the Kofax Import Connector group in the Windows Start menu.
2. Click **Advanced** to display additional configuration options.
3. Edit the settings on the **Advanced** tab.
  - The default values (TraceLevel 10 and MessageTraceSize 1) provide basic trace information (that is often sufficient) without negatively impacting performance.
  - Troubleshooting values (TraceLevel 40 and MessageTraceSize 100000) provide lot of information; these are more suitable when duplicating error situations in controlled environment.

Refer to Message Connector Help for more information about the parameters.

4. Find log files in *<path>\MC\log*
5. Click **Save**, then click **Exit and restart service**.

### Manage logs in KC Plug-In

1. Go to the folder *<path>\KC Plug-In\logconfig*.
2. Open the file *log4net.config* in a text editor.
3. Edit the line starting with "*<level value=>*". Use INFO for normal operation; use DEBUG for troubleshooting.
4. Find log files in *<path>\KC Plug-In\log*.
5. Restart the KC Plug-In service to make the changes effective.

### Manage logs in KFXConverter

The default name of the log file is *KFXConverter.log*. The default location is *C:\ProgramData\Kofax\KFXConverter*. The maximum log file size is 5 MB. The file is overwritten when the maximum size is reached. You can specify another log file using the command line option *-logFile <path>\<filename>*, for example *-logFile C:\temp\mylog.log*.

For PDF/A normalization using **Standard** option in **PDF to PDF/A conversion engine** in Message Connector, conversion results are logged in *StandardPDFEngine.log*.

## Timeout Parameters

Kofax Import Connector provides many timeout parameters that can be modified and used when importing and converting documents, such as very large size documents.

### Note

- By default, all these timeout parameters are configured for optimum performance and consider most user scenarios. Therefore, it is suggested to modify these parameters only in exceptional cases.
- Do not modify the other timeout parameters which are not mentioned in the below table.

Timeout parameters	File name	Default path	Default Value	Description
ImportTimeout	Create_Config.xslt	C:\Program Files (x86)\Kofax\KIC-ED\MC\xcd	3600s	Time calculated from when the message is touched and until message is confirmed. The message is locked during this time.
Kofax_DocConversion_Timeout_Seconds	Kofax.Kcs.Kclmpo rt.exe.config	C:\Program Files (x86)\Kofax\KIC-ED\KCPlugIn\Bin	12000s	Time calculated from when the message is retrieved from storage, converted and transferred to KC Plug-in. This timeout is applicable only when the document conversion is enabled in the KC Plug-in configuration.
Kofax_No_Conversion_Timeout_Seconds	Kofax.Kcs.Kclmpo rt.exe.config	C:\Program Files (x86)\Kofax\KIC-ED\KCPlugIn\Bin	1200s	This parameter includes time all actions from when the message is retrieved from storage, and transferred to KC Plug-in. This timeout is applicable only when the document conversion is disabled in the KC Plug-in configuration.
MaxTimeout	Create_Config.xslt	C:\Program Files (x86)\Kofax\KIC-ED\MC\xcd	90000ms	Maximum time allowed only for document conversion.

## Chapter 5

# Troubleshooting

This section lists some of the error messages that you can encounter while using Kofax Import Connector.

Error message	Description
Could not create batch	<p>Configured batch class does not exist in the Kofax Capture. For example, this error occurs if a batch class is renamed or removed while Kofax Import Connector is running and Kofax Import Connector tries to send message to the destination which is configured to use this particular batch class.</p> <p>Note: Kofax Import Connector acknowledges the changes in the batch only when they are published in Kofax Capture.</p> <p>Any other eventual exceptions thrown by the KC import API. Check log files for exception details.</p>
Could not create document	<p>Configured document class does not exist in the batch. For example, this error occurs if a document class is renamed or removed while Kofax Import Connector is running and Kofax Import Connector tries to send message to the destination which is configured to use this particular batch.</p> <p>Note: Kofax Import Connector acknowledges the changes in the batch only when they are published in Kofax Capture.</p> <p>Any other eventual exceptions thrown by the KC import API. Check log files for exception details.</p>
Could not create folder	<p>Configured folder class does not exist in the batch. For example, this error occurs if a folder is renamed or removed while Kofax Import Connector is running and Kofax Import Connector tries to send message to the destination which is configured to use this particular batch.</p> <p>Note: Kofax Import Connector acknowledges the changes in the batch only when they are published in Kofax Capture.</p> <p>Any other eventual exceptions thrown by the KC import API. Check log files for exception details.</p>
Configured batch class does not exist Configured document class does not exist Configured folder class does not exist	<p>Kofax Import Connector checks for the existence of all the batch, document, and folder classes when the service starts. If it doesn't find the configured batch, document, or folder classes, it displays the error message. Note: This error is displayed in KC Plug-In main window (in the bottom pane).</p>
Could not login to Kofax Capture	<p>Incorrect user ID or password. Please refer to General settings window of Kofax Import Connector.</p> <p>Any other eventual exceptions thrown by the KC import API, for example, insufficient permissions.</p>

Error message	Description
Out of Kofax Capture scan licenses	When the number of pages to import exceeds the license limit supported by Kofax Capture, Kofax Import Connector throws this error.
Kofax capture could not close the batch	Any condition that would prevent the KC import API to close the batch, for example when the message is empty (when all pages were blank and VRS removed them) and there is nothing to import into Kofax Capture.
Delayed due to shut down	When Kofax Import Connector service is stopped while there are messages in the queue, Kofax Import Connector shows this status message.
Empty folder can't be created	Folder with the folder class does not contain any documents.
Could not import image Could not import images	When Kofax Capture rejects importing of an image, for example, if the image is not in supported format.
Custom script execution failed	When there is an exception thrown other than ScriptException and ScriptIgnoreMessageException while executing a custom script.
Xml input contains more than 1 batches	When AutoXML is configured and the incoming XML contains more than one batch tag. Note: The current Kofax Import Connector limitation is one batch per imported XML file.
Xml mapping Xslt transformation failed	When there is an error in performing XSLT transformation for XML mapping, for example, XmlMapping.xslt provided for the transformation file is not correct.
Xslt stylesheet missing (deactivate Xml mapping or create the mapping stylesheet)	XmlMapping.xslt is missing in schemas/destination folder.
Stylesheet files for Xml mapping missing	For each configured destination, a folder with the respective files is created with the destination name at the location C : \ProgramData\Kofax\KIC-ED\KCPlugIn\config\Schemas. When any of these destination folders are deleted and Kofax Import Connector tries to access the location, this error is thrown.
Xml import failed	XML import failed due to any unexpected issue. Check log files for exception details.
Could not populate batch fields Could not populate folder fields Could not create table row Could not populate document table field Could not populate expected total field	An unexpected error occurred when filling the data to the respective field in the batch. For example, the mapping field is of different data type and is not compatible with the field that is configured in the batch
Batch / folder / table row / table / expected total / document field mapping failed. Mismatched configuration	If Kofax Import Connector tries to import a specific field and if the respective field doesn't exist in Kofax Capture, it throws errors related to the missing fields.  For example, table does not exist in Kofax Capture. Auto import XML tries to import a table but the definition does not exist in the batch class in Kofax Capture.
Received <ImportSession> element corrupted (no batch element available)	The AutoXML is invalid. The batch element is missing in the XML document.

Error message	Description
<p>Could not create batch with XmlAutoImport or generic Xml mapping</p> <p>Batch class required for XmlAutoImport or generic Xml mapping does not exist</p> <p>FormType required for XmlAutoImport or generic Xml mapping does not exist</p> <p>Folder class required for XmlAutoImport or generic Xml mapping does not exist</p>	<p>BatchClassName or folderclass or FormType which is specified in XML file (for autoXML or generic XML) is not defined in the batch class in KC.</p> <p>Any other eventual exceptions thrown by the KC import API. Check log files for exception details.</p>
<p>Attachment is missing. The message could not be imported into Kofax Capture due to message reception error code.</p>	<p>When Kofax Import Connector is configured for Auto Import XML, KC Plug-In tries to check the file list in XML to the files that are imported from Message Connector.</p> <p>If it finds any file is missing, it throws this error.</p>
<p>Could not create duplicate batch</p>	<p>Kofax Import Connector rejects messages when a batch with same name already exists in Kofax Capture. The following settings must be configured so that Kofax Import Connector rejects messages in this case:</p> <ul style="list-style-type: none"> <li>• Set DuplicateBatchRenameOff in the Kofax Capture registry (HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Kofax Image Products\Ascent Capture\3.0) to 1.</li> <li>• Set Kofax_RejectOnDuplicateBatchName in Kofax.Kcs.KclImport.exe.config to True.</li> </ul>
<p>Cannot create batch. File name is too long</p>	<p>If the file name is too long (more than 260 characters), Kofax Import Connector tries to rename the file to "Renamed.ext". If the file name length still exceeds 260 characters, the operating system cannot create the file.</p> <p>Note: The file name here refers to absolute folder path + file name. Workaround: Try to reduce the temp folder path.</p>
<p>The message could not be imported into Kofax Capture due to a document conversion error. The error is: Root Xml document could not be converted as Xml rendering is disabled.</p>	<p>Message rendering option should be enabled for importing XML file as PDF/TIFF. For example, if you configure XML Import Connector compatible mapping, include original content, and conversion to PDF/TIFF, message rendering option should be enabled. If not, Kofax Import Connector throws this error.</p>
<p>The message could not be imported into Kofax Capture due to message reception error code.</p>	<p>When Kofax Import Connector is configured for AutoImport XML, KC Plug-In tries to check the file list in XML to the files that are imported from Message Connector. If it finds any file is missing, it throws this error.</p> <p>This error can be thrown also in other cases of reception error, for example incomplete fax received.</p>
<p>The message could not be imported into Kofax Capture due to message reception error level 2</p>	<p>Message was not received completely and ended with an error. For example, if the received fax does not even contain a single page. Check log files for exception details.</p>
<p>Reception error level 1 of message {0}</p>	<p>Message was partially received and ended with an error. For example if reception of a fax ended with an error, at least 1 page has been stored, but further pages may be missing. Check log files for exception details.</p>

<b>Error message</b>	<b>Description</b>
The message has no content	Empty message
The message has no RootXml attachment	The message has no RootXml attachment, but the destination expects it.
The message has no body and no attachments	Kofax Import Connector receives the message without any content. It could also be a configuration issue, for example, Kofax Import Connector is configured to process only attachments and to ignore the body, but the message contained only a body and no attachments.
The message could not be imported into Kofax Capture due to a document conversion error	This error is shown when document conversion fails and if Kofax Import Connector is configured to Reject message if document conversion fails. Document conversion can fail due to the following reasons: <ul style="list-style-type: none"><li>• Respective conversion tool/software is not installed.</li><li>• The conversion tool itself is unable to convert the document.</li><li>• VRS fails processing a document.</li></ul>