

# Kofax MarkView

## Integration Guide for Content Management Systems

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The KOFAX logo is displayed in a bold, blue, sans-serif font. The letters are thick and closely spaced, with a consistent weight throughout the word.

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# Table of Contents

Preface.....	6
Who should read this guide.....	6
Related Documentation.....	6
Getting help with Kofax products.....	8
<b>Chapter 1: Integration overview.....</b>	<b>9</b>
<b>Chapter 2: EMC Documentum Content Server.....</b>	<b>10</b>
About the integration.....	10
Process flow.....	10
Integration requirements.....	12
EMC software.....	12
System requirements.....	12
Pre-installation tasks.....	12
Post-installation tasks.....	13
Close open volumes.....	13
Add volumes.....	14
Populate DTM preferences.....	15
WebLogic post-installation tasks.....	15
WildFly and JBoss EAP post-installation tasks.....	16
Test the integration.....	17
<b>Chapter 3: FileNet Content Manager.....</b>	<b>19</b>
About the integration.....	19
Process flow.....	20
Integration requirements.....	22
Software.....	22
System Requirements.....	22
Pre-installation tasks.....	22
Post-installation tasks.....	22
Populate DTM preferences.....	22
WebLogic post-installation tasks.....	24
WildFly or JBoss EAP post-installation tasks.....	26
Test the integration.....	28
<b>Chapter 4: IBM Content Manager.....</b>	<b>30</b>
About the integration.....	30
Process flow.....	31

Related IBM Content Manager information.....	32
Library Server.....	32
Resource Manager.....	33
Integration requirements.....	33
IBM software.....	33
System requirements.....	33
Pre-installation tasks.....	33
Post-installation tasks.....	33
Populate DTM preferences.....	34
WebLogic post-installation tasks.....	35
WildFly or JBoss EAP post-installation tasks.....	35
Test the integration.....	37
<b>Chapter 5: Oracle WebCenter Content.....</b>	<b>38</b>
About the integration.....	38
Process flow.....	38
Integration requirements.....	39
Software.....	39
System requirements.....	39
Post-installation tasks.....	40
Populate DTM preferences.....	40
Install Oracle RIDC.....	41
WebLogic post-installation tasks.....	41
WildFly or JBoss EAP post-installation tasks.....	41
Test the integration.....	42
Set up Oracle WebCenter Content with the previously captured documents.....	43
Populate DTM preferences.....	43
<b>Chapter 6: External content management systems integration via ArchiveLink.....</b>	<b>45</b>
About the integration.....	45
Process flow.....	45
Integration requirements.....	46
Post-installation tasks.....	46
Populate DTM preferences.....	47
<b>Appendix A: Troubleshooting.....</b>	<b>48</b>
Multipage TIFF support.....	48
Log file locations.....	48
Troubleshooting common integration issues.....	48
Access to images is rejected (External ECM System integration via ArchiveLink).....	48
Documents written to MarkView Document Server.....	49

Class files not found.....	49
Documentum DFC libraries are not in classpath (EMC Documentum integration).....	50
Logger class not found (Oracle WebCenter Content integration).....	50
<b>Appendix B: Third-party license agreement.....</b>	<b>51</b>

# Preface

This guide includes system information, such as the protocols required for communication between servers, hardware and software prerequisites, and minimum requirements for integrating MarkView with the following content management systems:

- EMC Documentum
- IBM Content Manager
- IBM FileNet
- Oracle WebCenter Content

Use this guide in conjunction with the *Kofax MarkView Technical Specifications* document on the [Kofax MarkView Product Documentation site](#) to learn about the prerequisites for implementing Kofax products and preparing a site for product installation.

Other recommended products to review:

- Kofax Capture
- Kofax Import Connector - Electronic Documents or Kofax Capture Import Connector - Advanced Email and Fax
- Kofax Transformation Modules

## Who should read this guide

The audience for this document includes:

- Oracle Database Administrators who are experienced with Oracle RDBMS, can edit and run PL/SQL scripts, and are familiar with their ERP system.
- Application Server Administrators who have J2EE technology knowledge.
- Windows Server Administrators who have Microsoft Windows experience and who can install and configure Windows applications and hardware.
- Customers who are planning a new installation or a migration from a previous release of any MarkView product.
- Administrators who are responsible for setting up and integrating MarkView with content management systems.

## Related Documentation

For more information about Kofax MarkView products, see:

#### *Kofax MarkView Features Guide*

Use this guide to learn about the features included and options available with MarkView; to become familiar with MarkView products; and to decide which are important to the business challenges you face and best suit your site. This guide includes information about how features impact the workflow, the interaction between features, the touch points with the ERP system, and how features address business problems.

#### *Kofax MarkView Planning Guide*

Use this guide to learn about the prerequisites for implementing MarkView products. This guide includes system information, such as the protocols required for communication between servers, hardware and software prerequisites, and minimum RAM requirements.

Use this guide in conjunction with the *Kofax MarkView Technical Specifications* document on the [Kofax MarkView Product Documentation site](#) to prepare a site for product installation.

#### *Kofax MarkView Installation Worksheet*

Use this worksheet to collect and record the information you need to install or upgrade MarkView products.

#### *Kofax MarkView Installation Guide*

Use this guide in conjunction with the *Kofax MarkView Installation Worksheet* to install and configure MarkView products and to configure third-party products that integrate with MarkView.

#### *Kofax MarkView Upgrade Guide*

Use this guide in conjunction with the *Kofax MarkView Installation Worksheet* to upgrade and configure MarkView products.

#### *Kofax MarkView Reintegration Guide for Upgrades to Oracle E-Business Suite R12 or 12.2*

Use this guide to reintegrate MarkView after an upgrade to Oracle E-Business Suite R12 or 12.2.

#### *Kofax MarkView Administrator's Guide, Volume 1*

Use this guide to administer the MarkView system. This guide describes how to configure and maintain the applications, solutions, and users that make up the MarkView Suite. The guide also describes how MarkView influences the administration of other servers and software that interface with MarkView applications.

The MarkView Administrator should be well-versed in database administration, application server setup, tuning and maintenance, or should know where to get such information. The administrator's guide does not replicate this information, but conveys MarkView product-specific information.

#### *Kofax MarkView Administrator's Guide, Volume 2*

Use this guide to maintain MarkView components that are administered outside of the MarkView interface. This guide includes advanced administrative tasks and describes MarkView custom packages and join points.

#### *Kofax MarkView Release Notes*

Use this document to learn what is new with the latest MarkView release, identify outstanding defects and workaround solutions where applicable, and learn which defects the release fixes.

#### *Kofax MarkView Technical Specifications*

Use this document to learn about supported operating systems and other system requirements.

## Getting help with Kofax products

The [Kofax Knowledge Base](#) repository contains articles that are updated on a regular basis to keep you informed about Kofax products. We encourage you to use the Knowledge Base to obtain answers to your product questions.

To access the Kofax Knowledge Base, go to the Kofax [website](#) and select **Support** on the home page.

**Note** The Kofax Knowledge Base is optimized for use with Google Chrome, Mozilla Firefox or Microsoft Edge.

The Kofax Knowledge Base provides:

- Powerful search capabilities to help you quickly locate the information you need.  
Type your search terms or phrase into the **Search** box, and then click the search icon.
- Product information, configuration details and documentation, including release news.  
Scroll through the Kofax Knowledge Base home page to locate a product family. Then click a product family name to view a list of related articles. Please note that some product families require a valid Kofax Portal login to view related articles.
- Access to the Kofax Customer Portal (for eligible customers).  
Click the **Customer Support** link at the top of the page, and then click **Log in to the Customer Portal**.
- Access to the Kofax Partner Portal (for eligible partners).  
Click the **Partner Support** link at the top of the page, and then click **Log in to the Partner Portal**.
- Access to Kofax support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.  
Scroll to the **General Support** section, click **Support Details**, and then select the appropriate tab.

## Chapter 1

# Integration overview

MarkView supports the integration with the following content management systems:

- EMC Documentum Content Server
- FileNet Content Manager
- IBM Content Server
- Oracle WebCenter Content

Before you use these content management systems, install and configure MarkView for Accounts Payable, MarkView Expense Management, or MarkView Document Library. MarkView systems can integrate with content management repositories. For example, the employees can access documents entered through MarkView but stored in a content management system. MarkView transports images to and from the repositories. In certain content management systems, documents with multiple pages can be stored as a set of independent images or as a single document. The integration with MarkView also lets you store large volumes of captured images.

The content management system integration lets an Accounts Payable department capture and store invoice data. You can also use the content systems with other document storage solutions, such as MarkView Document Library and MarkView Expense Management. The integration between the Kofax Capture products, third-party content servers, and MarkView offers an account payable solution for processing PO and Non-PO invoices.

Employees can capture and process documents through Kofax Capture, Kofax Import Connector, Kofax Transformation Modules, etc. A document is converted into a file that contains a captured image of an invoice and associated data. After capturing the data are sent to MarkView and the image is stored in a content management system. MarkView then creates the invoice in Oracle E-Business Suite Financials and routes the invoice to the appropriate queue for processing.

## Chapter 2

# EMC Documentum Content Server

## About the integration

The MarkView integration with EMC Documentum uses the EMC product to manage MarkView documents. EMC Documentum Content Server (Documentum) provides content management services and a comprehensive infrastructure for MarkView documents. When coupled with the Content Server, EMC Documentum High-Volume Server provides a foundation that supports high-volume transaction and archive environments.

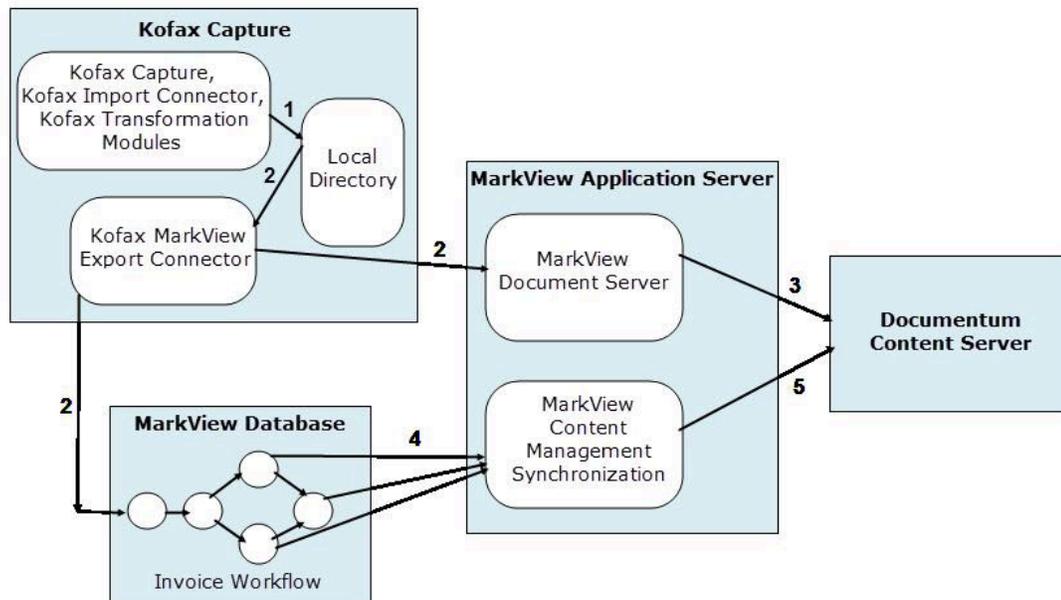
EMC Documentum Content Server integrates with MarkView Data Transport Module (DTM), a part of MarkView Document Server. MarkView Document Server stores captured images in Documentum repositories. In addition to storing the captured images, MarkView sends the Documentum object invoice metadata, such as:

- Supplier
- Invoice Number
- Invoice Total

MarkView maintains the accuracy of the Documentum data by synchronizing the data as the invoice moves through the invoice workflow.

## Process flow

The following diagram shows the process flow used in the MarkView and Documentum integration. The text following the diagram describes the process flow in more detail.



### Process Flow Diagram

1. In a local directory, Kofax Capture creates a TIFF file with a captured image of an invoice and an XML file with document metadata.
2. Kofax Capture sends the TIFF file to MarkView Document Server and the metadata file to the MarkView Workflow via Kofax MarkView Export Connector. After validation steps, the invoice gets to the Invoice Workflow in the MarkView Database.
3. MarkView Document Server sends the TIFF file to Documentum Content Server.
4. As an invoice is routed through the Invoice Workflow, MarkView sends the invoice metadata to MarkView Content Management Systems Synchronization. MarkView sends the invoice data to Documentum at various points in the invoice workflow:
  - a. Invoice attachment occurs when an ERP invoice is attached to a MarkView document.
  - b. Entry into any of the following queues (in the PO and Non-PO Invoice workflows):
    - Pending Payment
    - Completed
    - Archive
    - Cancelled

5. MarkView Content Management Systems Synchronization sends the following invoice metadata to Documentum Content Server:
  - Organization Name
  - Invoice Number
  - Vendor Name
  - Invoice Date
  - PO Number
  - Invoice Currency Amount
  - Base Currency Code
  - Line Descriptions

## Integration requirements

### EMC software

To integrate with EMC Documentum, install the following:

- EMC Documentum Content Server
- EMC Documentum DAR installer
- EMC Documentum Foundation Classes (DFC) installed on the application server that will host MarkView Document Server

See the EMC documentation for information about installing EMC software.

### System requirements

The integration requires a TCP/IP network connection between MarkView Document Transport Module on the application server and EMC Documentum Content Server. This connectivity requires use of a single TCP/IP port configured on EMC Documentum Content Server.

## Pre-installation tasks

Complete the following tasks before installing MarkView:

1. On the application server that hosts MarkView Document Server, locate the `$DOCUMENTUM_SHARED/config` directory and create the file `documentum-content-server.properties`. For example:

```
vi $DOCUMENTUM_SHARED/config/documentum-content-server.properties
```

2. Use a text editor to open the file and add an entry for the `DCSCacheSize`:

```
DCSCacheSize=100
```

This property specifies how many documents MarkView keeps in a memory cache after retrieving them from Documentum. The memory cache allows subsequent document access (for example,

getting the next page) to be read directly from memory and does not require a re-retrieval from Documentum.

**Note** Higher values for DCSCacheSize result in faster document access and greater memory requirements for MarkView. If you increase the cache size, you may also have to increase the Java heap size on your application server.

3. For each repository to which MarkView will write documents:

- a. See your Documentum administrator for these values:
  - NAME: The name of the repository
  - USER: The Documentum user who will create and own the documents written to the repository
  - PASSWORD: The Documentum user password
  - SECURITY-MODE: The security mode to use to access the repository

b. Run the following command to generate an encrypted password:

```
java com.documentum.fc.tools.RegistryPasswordUtils PASSWORD
```

This outputs an encrypted password similar to: zYFsNuxXwt477074tlozsw==

c. Add the name, user, encrypted-password, and security mode to the properties using the following syntax:

```
<name>.DCSUser=<user>
<name>.DCSPassword=<encrypted-password>
<name>.DCSSecurityMode=<SECURITY-MODE>
```

For example, if the repository name is dm1, the user is dmowner, the encrypted password is zYFsNuxXwt477074tlozsw==, and the security mode is **native**. You would add the following to the \$DOCUMENTUM\_SHARED/config/documentum-content-server.properties file:

```
DCSCacheSize=100
dm1.DCSUser=dmowner
dm1.DCSPassword=zYFsNuxXwt477074tlozsw==
dm1.DCSSecurityMode=native
```

- d. Use the Documentum DAR installer to deploy the MarkViewProject.dar that is distributed with MarkView. See the EMC documentation for instructions about using the Documentum DAR installer. MarkViewProject.dar is located in the MarkView installer distribution under the directory modules/document-server-dist-x.x.x/documentum-dar (where x.x.x is the current product version number).

## Post-installation tasks

After installing MarkView, perform the tasks in this section to enable Documentum integration.

### Close open volumes

1. Navigate to MarkView Home (for example, [http://r4ebsr12.kofax.com:26000/markview/mvt\\_mv\\_home.home](http://r4ebsr12.kofax.com:26000/markview/mvt_mv_home.home)).
2. Select **Administration > MarkView Admin**.

3. Select the **Volumes** tab.
4. For each volume with a Status of OPEN:
  - a. Click **Details**.
  - b. Change **Status** to **CLOSED**.
  - c. Click **Save**.

## Add volumes

Add a volume for each repository where MarkView will store documents.

1. Navigate to MarkView Home (for example, [http://r4ebsr12.kofax.com:26000/markview/mvt\\_mv\\_home.home](http://r4ebsr12.kofax.com:26000/markview/mvt_mv_home.home)).
2. Select **Administration > MarkView Admin**.
3. Select the **Volumes** tab, click **Add**, and complete the form as follows:
  - a. Enter **Volume Name** (use a unique name for each volume, for example, DOCUMENTUM).
  - b. Leave **Filename Scheme** set to **STANDARD**.
  - c. Leave **Status** set to **OPEN**.
  - d. Set **Assignment Sequence** to **1**.
  - e. Click **Save**.
4. Select the **Document Type Auths** tab, and complete the form as follows:
  - a. Click **Add**.
  - b. Select the <document type> to authorize for this volume or select the **ALL** option to use all document types.
  - c. Repeat steps 4a and 4b for each Document Type to authorize.
  - d. Click **Save**.

5. Select the **Volume Paths** tab, click **Add**, and complete the form as follows:
  - a. Set **Platform Name** to either:
    - **HTTP\_TO\_DTM**
    - **HTTPS\_TO\_DTM** (if export connector is using HTTPS to connect to DTM).
  - b. Specify one of the following paths:
    - dtm:http://<host>:<port>/mvasdtm/markview
    - dtm:https://<host>:<port>/mvasdtm/markviewwhere <host> and <port> are the values for your installation.
  - c. Click **Save** and click **Add** again.
  - d. Based on the underlying operating system of the MarkView application server, set **Platform Name** to **UNIX\_FS\_TO\_DOC\_SERVER** or **WINDOWS\_FS\_TO\_DOC\_SERVER**.
  - e. Specify the following Path: /<repository>/<cabinet>/<folder>/  
where
    - <repository> is the repository name
    - <cabinet> is the top-level cabinet folder
    - <folder> is the list of subfolders (separated by /).
  - f. Click **Save**.

## Populate DTM preferences

Before using Kofax MarkView DTM Integration for Documentum, populate the following preferences.

### **MVAS\_DTM\_BASE\_URL**

Specifies the URL location of DTM. The value of this preference is set automatically during MarkView installation.

### **MVAS\_DTM\_INTEGRATE\_MODE**

Specifies which, if any, third-party integration system is used by Kofax MarkView DTM. For the integration with Documentum, set this preference to Documentum Content Server.

### **SPLIT\_DOCUMENTS**

If the preference is set to **FALSE**, Import Server uploads all pages for a document as part of a single TIFF file with multiple pages. For the integration with Documentum, set this preference to **FALSE**.

**Note** Kofax MarkView DTM preferences changes require that you restart Kofax MarkView DTM for the settings to take effect.

## WebLogic post-installation tasks

If you use the WildFly or JBoss EAP application server, skip this section and continue at [WildFly and JBoss EAP post-installation tasks](#).

## Add Documentum libraries to the classpath

1. From the WebLogic Admin Console, select **MarkView > Environment > Servers > markview\_server** to navigate to the markview\_server config page.
2. Select the **Configuration** tab and the **Server Start** subtab.
3. From the menu bar on the left, click **Lock & Edit**.
4. Use one continuous line to specify **Class Path**:

```
<wl-home>/server/lib/weblogic_sp.jar:<wl-home>/server/lib/weblogic.jar:<documentum-shared>/dctm.jar:<documentum-shared>/config
```

where:

- <documentum-shared> is the absolute path to the \$DOCUMENTUM\_SHARED directory. Use the absolute path, not the environment variable. For example:
    - **Valid:** /projects/home/oraias01/documentum-shared/dctm.jar
    - **Invalid:** \$DOCUMENTUM\_SHARED/dctm.jar
  - <wl-home> is the directory in which the WebLogic Server is installed.
5. Click **Save** and click **Activate**.

## Restart the MarkView server

1. Restart the MarkView server.
2. On the **Deployments** tab of the WebLogic Admin Console, verify that **viewer** is in the **Active** state.
3. If **viewer** is not in the **Active** state, click **Start**.

## WildFly and JBoss EAP post-installation tasks

Skip this section if you use the WebLogic application server.

### Add Documentum Foundation Classes (DFC) to the application server

1. Copy EMC Documentum Foundation Classes from \$DOCUMENTUM\_SHARED/dfc to the module directory \$JBOSS\_HOME/modules/com/markview/ecm/main.
2. Copy documentum-content-server.properties from \$DOCUMENTUM\_SHARED/config/ to \$JBOSS\_HOME/modules/com/markview/ecm/main.
3. Open for editing the \$JBOSS\_HOME/modules/com/markview/ecm/main/module.xml file and add all the JAR files and directories which you copied from \$DOCUMENTUM\_SHARED/dfc to the module directory \$JBOSS\_HOME/modules/com/markview/ecm/main.

For example:

```
<resources>
<resource-root path="dfc.jar"/>
<resource-root path="lib/All-MB.jar"/>
<resource-root path="lib/activation.jar"/>
<resource-root path="lib/aspectjrt.jar"/>
<resource-root path="lib/certjFIPS.jar"/>
<resource-root path="lib/configservice-api.jar"/>
<resource-root path="lib/dms-client-api.jar"/>
<resource-root path="lib/jaxb-api.jar"/>
<resource-root path="lib/jaxb-impl.jar"/>
<resource-root path="lib/jsafeFIPS.jar"/>
```

```
<resource-root path="lib/jsr173_api.jar"/>
<resource-root path="lib/xtrim-api.jar"/>
<resource-root path="lib/xtrim-server.jar"/>
<resource-root path="/" />
<resource-root path="." />
</resources>
```

**Note** Make sure you add `<resource-root path="/" />` and `<resource-root path="." />`.

4. From the Admin Console, select the **Deployments** tab and enable **viewer**.
5. In `JBOSS_HOME/modules/com/markview/ecm/main/module.xml`, locate the `<dependencies>` section and add the following line if it does not exist:

```
<module name="org.apache.log4j"/>
```

6. Restart the application server.

## Test the integration

To test the integration, run invoices through the process, from scanning to storage in MarkView.

1. Scan and process an invoice in Kofax Capture.
2. Once Kofax Capture exports the associated image and XML metadata file, verify that Kofax MarkView Export Connector successfully imports them into MarkView. Check for error messages related to the import. Use MarkView Process Monitor to determine if the import process created a MarkView document and work item.
3. Once the Oracle Payables Interface Import concurrent job finishes, use MarkView Process Monitor to verify that the invoice is attached to the document. Look at the work item properties. If the properties have a value for **InvoiceID**, the invoice was attached correctly. Record the value for the **MarkViewDocumentID** property to use later in this procedure.
4. Open the invoice in MarkView Viewer using the **Show Document** option from MarkView Process Monitor. Verify that the image and the invoice details are displayed correctly.
5. Navigate to **Administrator > Work Item Details** to find the invoice imported by MVDocumentID, WorkItemID or InvoiceNumber. Select the **Pages** tab and record the value for the Filename to use in step 6.
6. Use EMC Documentum Administrator or EMC Documentum WebTop to find the document associated with the invoice. Query for Documentum objects of type **mv\_document** with the **MarkViewDocumentID** property set to the value you recorded in step 3.

**Note** The standard Invoice Import Workflow MarkViewDocumentID property is MV Document ID of the Connector File Work Item. The Invoice Work Item will have a different MV Document ID. Alternatively, you can find the image by the Documentum content name, that equals to MarkView Filename you recorded in step 5.

See the EMC Documentum documentation for information about using EMC Documentum Administrator and EMC Documentum WebTop.

7. In the **Documentum Properties** window for the object, select the **MarkView** tab and verify that the values for the invoice fields are correct.

If the invoice document was not correctly sent to Documentum by MarkView, see [Post-installation tasks](#) on page 13. Check the mvdtm.log file.

If the invoice field values are incorrect, they were not correctly sent to Documentum by MarkView, see [Post-installation tasks](#) on page 13. Check the cmsync.log file.

## Chapter 3

# FileNet Content Manager

## About the integration

FileNet Content Manager provides document management and ready-to-use workflow that helps to capture, manage, and share content. FileNet Content Engine is a FileNet P8 component that can manage workflow objects, custom objects, and documents by offering powerful and easy-to-use administration tools. Using these tools, an administrator can create and manage the classes, properties, storage, and metadata that form the foundation of a content management system.

Key architectural aspects include:

- Object-oriented, extensible metadata model
- Application programming interfaces
- J2EE-compliant application server
- Customization
- Universal encoding standard

Communication between FileNet Content Engine and MarkView is established by means of MarkView Document Transport Module (DTM), a part of the MarkView Document Server, via HTTP Web Services to the Content Engine. FileNet Web Services return FileNet objects which can be used to process documents.

In addition to storing the captured images, MarkView sends the FileNet object document metadata, such as:

- Vendor Name
- Vendor ID
- Invoice Number
- Invoice Date
- Invoice Amount
- Purchase Order

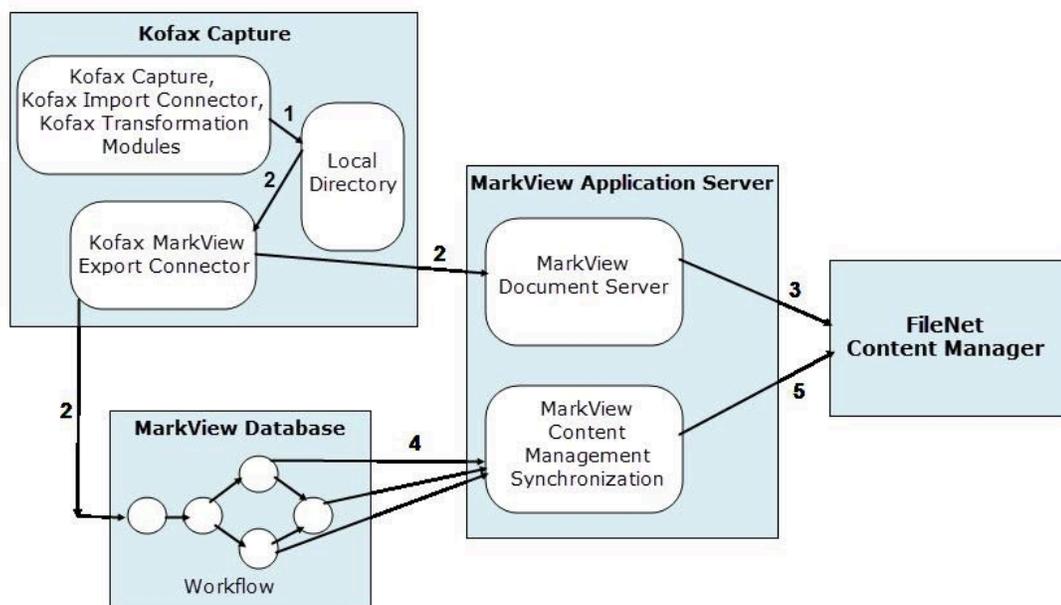
MarkView maintains the accuracy of the FileNet data by synchronizing the data as the document moves through the workflow:

- PO Invoice
- Non-PO Invoice
- Previously Entered Invoice
- Pre-Approved Invoice
- Invoice Follow-up Document

- Self-Service Invoice
- Supplier Document
- Supplier Follow-up Document

## Process flow

The following diagram shows the process flow used in the MarkView and FileNet integration. The text following the diagram describes the process flow in more detail.



### Process Flow Diagram

1. In a local directory, Kofax Capture creates a TIFF file with a captured image of an invoice and an XML file with document metadata.
2. Kofax Capture sends the TIFF file to the MarkView Document Server and the metadata file to the MarkView Workflow via Kofax MarkView Export Connector. After validation steps, the invoice gets to the Invoice Workflow in the MarkView Database.
3. MarkView Document Server sends the TIFF file to FileNet Content Manager.

4. As an invoice is routed through the workflow, MarkView sends the document metadata to MarkView Content Management Systems Synchronization. MarkView sends the document data to FileNet at various points in the workflow:
  - a. Document attachment occurs when an ERP invoice is attached to a MarkView document. PO Invoice, Non-PO Invoice, Previously Entered Invoice, Pre-Approved Invoice, Invoice Follow-up Document, Self-Service Invoice, Supplier Document, and Supplier Follow-up Document workflows are synchronized.
  - b. Entry into any of the following queues (in the PO Invoice, Non-PO Invoice, Previously Entered Invoice, Pre-Approved Invoice, Invoice Follow-up Document, and Self-Service Invoice workflows):
    - Pending Payment
    - Completed
    - Archive
    - Cancelled
  - c. Entry into any of the following queues (in the Supplier Document and Supplier Follow-up Document workflows):
    - Completed
    - Archive
5. For PO Invoice, Non-PO Invoice, Previously Entered Invoice, Pre-Approved Invoice, Invoice Follow-up Document, and Self-Service Invoice: MarkView Content Management Systems Synchronization sends the following invoice metadata to FileNet Content Manager:
  - Document ID
  - Organization Name
  - Invoice Number
  - Vendor Name
  - Invoice Date
  - PO Number
  - Invoice Currency Amount
  - Base Currency Code
  - Current WorkFlow State
  - Line Descriptions
6. For Supplier Document and Supplier Follow-up Document: MarkView Content Management Systems Synchronization sends the following invoice metadata to FileNet Content Manager:
  - Document ID
  - Organization Name
  - Vendor Name
  - Current WorkFlow State
  - Line Descriptions

## Integration requirements

### Software

Before you install and configure the Kofax MarkView DTM Integration for FileNet P8, install the following FileNet components:

- FileNet Application Engine P8: Provides Java libraries used by applications running outside of FileNet.
- FileNet Content Engine P8: Is a repository for documents used by applications for users who want to store/access their documents within FileNet.
- FileNet Content Engine Client P8: Provides the web service libraries and client configuration XML file used by applications running outside of FileNet.

### System Requirements

The integration requires a TCP/IP network connection between MarkView Document Transport Module on the application server and FileNet.

## Pre-installation tasks

Use FileNet Content Engine Enterprise Manager to create the initial object store, to bind users from the authorized user group.

Do the following:

1. Create the data sources for an object store.
2. Create the initial object store.

Refer to the IBM FileNet documentation for more information.

## Post-installation tasks

After installing MarkView, perform the tasks in this section to enable the FileNet integration.

### Populate DTM preferences

Before using Kofax MarkView DTM Integration for FileNet, populate the following preferences:

#### **MVAS\_DTM\_BASE\_URL**

Specifies the URL location of the DTM. The value of this preference is set automatically during MarkView installation.

#### **MVAS\_DTM\_INTEGRATE\_MODE**

Specifies which, if any, third-party integration system is used by Kofax MarkView DTM. For the integration with FileNet, set this preference to **FileNet Content Manager**.

#### **MVAS\_DTM\_FILENET\_DOMAIN\_NAME**

Specifies the FileNet Content Manager domain in which the object store is contained. The default system value is **FNP8V45**.

#### **MVAS\_DTM\_FILENET\_FOLDERS**

Specifies a single folder name or a list of folders separated by a comma. The folders are potential locations of documents within the Object Store. Use a forward slash (/) as a subfolder delimiter. The first mentioned folder name indicates the location to upload new documents.

The default system value is docserver. If the docserver folder does not exist on the server, this folder will be created when a user uploads a document to FileNet for the first time.

#### **MVAS\_DTM\_FILENET\_HOSTNAME**

Specifies the name of the host server on which the FileNet Content Manager integration engine specified in the **MVAS\_DTM\_INTEGRATE\_MODE** preference and the MarkView DTM reside.

#### **MVAS\_DTM\_FILENET\_JAAS\_STANZA\_NAME**

Specifies the JAAS against which to authenticate the FileNet user name and password when connecting to FileNet Content Engine when storing and retrieving documents. The default FileNet stanza is **FileNetP8WSI**.

#### **MVAS\_DTM\_FILENET\_OBJECT\_STORE**

Specifies the FileNet Content Manager object store database in which to store MarkView documents.

#### **MVAS\_DTM\_FILENET\_PASSWORD**

Specifies the password associated with the user name specified in the preference **MVAS\_DTM\_FILENET\_USERNAME**.

The password is stored as encrypted data.

#### **MVAS\_DTM\_FILENET\_PORT**

Specifies the http or https port that MarkView DTM uses to connect to the FileNet Content Manager integration engine specified in the **MVAS\_DTM\_INTEGRATE\_MODE** preference.

#### **MVAS\_DTM\_FILENET\_PROTOCOL**

Specifies the protocol for MarkView to use when connecting to the FileNet Content Manager integration engine specified in the **MVAS\_DTM\_INTEGRATE\_MODE** preference.

#### **MVAS\_DTM\_FILENET\_USERNAME**

Specifies the user name to use when storing documents in and retrieving them from FileNet Content Manager.

#### **MVAS\_DTM\_FILENET\_URL\_TRANSPORT**

Specifies the transport protocol name in the connection URL to FileNet Content Engine Web Services.

Values:

- For IBM FileNet CM 5.0 or earlier: Set the preference to **FNCEWS40DIME**.
- For IBM FileNet CM 5.1 or higher: Set the preference to **FNCEWS40MTOM**.

The default system value is **FNCEWS40DIME**.

### **MVAS\_DTM\_FILENET\_WASP\_LOCATION (IBM FileNet 4.5.0 or earlier only)**

Specifies the location where the FileNet Content Engine Client web service is defined.

If FileNet and MarkView Document Server are installed on different servers, verify the following:

- For WebLogic: `$MV_HOME/<MVAS_DTM_FILENET_WASP_LOCATION preference value>/conf` directory contains `clientconf.xml`
- For WildFly: `<MVAS_DTM_FILENET_WASP_LOCATION preference value>/conf` directory contains `clientconf.xml`

For integration with IBM FileNet 4.5.1 or higher, leave the preference value empty.

Note the following:

- The Volume Paths and Workstations must point to the server where Kofax MarkView DTM is running. If the DTM location changes, update the Volume Paths and Workstations.
- Kofax MarkView DTM preferences changes require that you restart Kofax MarkView DTM for the settings to take effect.

## WebLogic post-installation tasks

If you use the WildFly or JBoss EAP application server, skip this section and continue at [WildFly or JBoss EAP post-installation tasks](#).

### Copy configuration files (IBM FileNet 4.5.0 only)

1. On the FileNet Server system, locate the following file:  
`<FileNet_installation_directory>/ContentEngine/tools/upgrade/wasp/clientconf.xml`  
The path may vary, depending on the default installation location. If you installed FileNet Content Manager in a different path, locate the files in the appropriate folder.
2. Copy (do not move) the `clientconf.xml` file to the `$MW_HOME` directory on the MarkView Document Server file system.
3. Restart the WebLogic application server.

### Add FileNet libraries to the classpath (IBM FileNet 4.5.0 only)

1. Locate the `.jar` files in the `lib` subfolder under `ContentEngine` installation directory, such as `<FileNet_installation_directory>/ContentEngine/tools/upgrade/wasp/lib`.

2. Copy (do not move) the following FileNet jar files to the `<MarkView_domain>/lib/` folder on the MarkView Document Server file system, to add FileNet libraries to the classpath of Kofax MarkView DTM:
  - activation.jar
  - antlr.jar
  - builtin\_serialization.jar
  - core\_services\_client.jar
  - jaas.jar
  - jaxm.jar
  - jaxrpc.jar
  - jetty.jar
  - runner.jar
  - saaj.jar
  - validator.jar
  - wasp.jar
  - wsdl\_api.jar
  - xercesImpl.jar
  - xml-apis.jar
  - xmlParserAPIs.jar
3. Locate Jace.jar files in the ContentEngine installation directory, such as `<FileNet_installation_directory>/ContentEngine/tools/upgrade`.
4. Copy the Jace.jar file to the `<MarkView_domain>/lib/` folder.
5. Restart the WebLogic application server.

### Add FileNet libraries to the classpath (IBM FileNet 4.5.1 and higher)

1. Locate the .jar files in the ContentEngine installation directory, such as `<FileNet_installation_directory>/ContentEngine/lib`, `<FileNet_installation_directory>/ContentEngine/tools/upgrade`, or `<FileNet_installation_directory>/ContentEngine/cdapi`.  
The path may vary, depending on the default installation location and the IBM FileNet version installed. Locate the files in the appropriate folder.
2. Copy (do not move) the following FileNet jar files to the `<MarkView_domain>/lib/` folder on the MarkView Document Server file system, to add FileNet libraries to the classpath of Kofax MarkView DTM:
  - Jace.jar
  - log4j.jar
  - javaapi.jar
  - listener.jar
  - p8cjares.jar
  - stax-api.jar
  - xlsxScanner.jar
  - xlsxScannerUtils.jar

3. Restart the WebLogic application server.

## WildFly or JBoss EAP post-installation tasks

Skip this section if you use the WebLogic application server.

### Copy configuration files (IBM FileNet 4.5.0 only)

1. In the `$JBOSS_HOME/modules/com/markview/ecm/main` directory, create the `conf` directory.
2. On the FileNet Server system, locate the following file:  
`<FileNet_installation_directory>/ContentEngine/tools/upgrade/wasp/conf/clientconf.xml`  
The path may vary, depending on the default installation location. If you installed FileNet Content Manager in a different path, locate the files in the appropriate folder.
3. Copy the `clientconf.xml` file from `<FileNet_installation_directory>/ContentEngine/tools/upgrade/wasp/conf` to `$JBOSS_HOME/modules/com/markview/ecm/main/conf`.
4. Restart the application server.

### Add FileNet libraries to the classpath (IBM FileNet 4.5.0 only)

1. Locate the `.jar` files in the `lib` subfolder under `ContentEngine` installation directory, such as `<FileNet_installation_directory>/ContentEngine/tools/upgrade/wasp/lib`.
2. Copy (do not move) the following FileNet jar files to `$JBOSS_HOME/modules/com/markview/ecm/main` on the MarkView Document Server file system:
  - `activation.jar`
  - `antlr.jar`
  - `builtin_serialization.jar`
  - `core_services_client.jar`
  - `jaas.jar`
  - `jaxm.jar`
  - `jaxrpc.jar`
  - `jetty.jar`
  - `runner.jar`
  - `saaj.jar`
  - `validator.jar`
  - `wasp.jar`
  - `wSDL_api.jar`
  - `xercesImpl.jar`
  - `xml-apis.jar`
  - `xmlParserAPIs.jar`
3. Locate the `Jace.jar` file in the `lib` subfolder under `ContentEngine` installation directory, such as `<FileNet_installation_directory>/ContentEngine/lib`.
4. Copy the `Jace.jar` file to the `$JBOSS_HOME/modules/com/markview/ecm/main` folder.

5. In `JBOSS_HOME/modules/com/markview/ecm/main/module.xml`, change the values in the `<resources>` section as follows:

```
<resources>
<resource-root path="Jace.jar"/>
<resource-root path="xercesImpl.jar"/>
<resource-root path="runner.jar"/>
<resource-root path="jaxm.jar"/>
<resource-root path="core_services_client.jar"/>
<resource-root path="activation.jar"/>
<resource-root path="xmlParserAPIs.jar"/>
<resource-root path="xml-apis.jar"/>
<resource-root path="wsdl_api.jar"/>
<resource-root path="wasp.jar"/>
<resource-root path="validator.jar"/>
<resource-root path="saaj.jar"/>
<resource-root path="jetty.jar"/>
<resource-root path="jaxrpc.jar"/>
<resource-root path="jaas.jar"/>
<resource-root path="builtin_serialization.jar"/>
<resource-root path="antlr.jar"/>
<resource-root path="/" />
<resource-root path="conf/" />
</resources>
```

6. In `JBOSS_HOME/modules/com/markview/ecm/main/module.xml`, change the values in the `<dependencies>` section as follows:

```
<dependencies>
<module name="org.apache.log4j"/>
<module name="javax.api"/>
<module name="javax.transaction.api"/>
<module name="org.jboss.as.naming" export="true"/>
<module export="true" name="sun.jdk" optional="true"/>
</dependencies>
```

## Add FileNet libraries to the classpath (IBM FileNet 4.5.1 and higher)

1. Locate the `.jar` files in the ContentEngine installation directory, such as `<FileNet_installation_directory>/ContentEngine/lib`, `<FileNet_installation_directory>/ContentEngine/tools/upgrade`, or `<FileNet_installation_directory>/ContentEngine/cdapi`.  
The path may vary, depending on the default installation location and the IBM FileNet version installed. Locate the files in the appropriate folder.
2. Copy (do not move) the following FileNet jar files to `$JBOSS_HOME/modules/com/markview/ecm/main` on the MarkView Document Server file system:

- Jace.jar
- javaapi.jar
- listener.jar
- p8cjares.jar
- stax-api.jar
- xlxpScanner.jar
- xlxpScannerUtils.jar

3. In `JBOSS_HOME/modules/com/markview/ecm/main/module.xml`, change the values in the `<resources>` section as follows:

```
<resources>
```

```
<resource-root path="Jace.jar"/>
<resource-root path="javaapi.jar"/>
<resource-root path="listener.jar"/>
<resource-root path="p8cjares.jar"/>
<resource-root path="stax-api.jar"/>
<resource-root path="xlxpScanner.jar"/>
<resource-root path="xlxpScannerUtils.jar"/>
</resources>
```

4. In `JBOSS_HOME/modules/com/markview/ecm/main/module.xml`, change the values in the `<dependencies>` section as follows:

```
<dependencies>
<module name="org.apache.log4j"/>
<module name="javax.api"/>
<module name="javax.transaction.api"/>
<module name="org.jboss.as.naming" export="true"/>
<module export="true" name="sun.jdk" optional="true"/>
</dependencies>
```

## Configure the security system

1. Open for edit `JBOSS_HOME/standalone/configuration/standalone.xml` and locate the following lines:

```
<subsystem xmlns="urn:jboss:domain:security:1.2">
<security-domains>
<security-domain name="other" cache-type="default">
<authentication>
```

2. Add the following string right after the opening tag `<authentication>`:

```
<login-module code="com.filenet.api.util.WSILoginModule" flag="required"/>
```

3. Within `<subsystem xmlns="urn:jboss:domain:security:1.2">`, add the following strings right after the `<security-domains>` tag:

```
<security-domain name="FileNetP8WSI" cache-type="default">
<authentication>
<login-module code="com.filenet.api.util.WSILoginModule" flag="required"/>
</authentication>
</security-domain>
```

4. Save the file and restart the application server.

## Test the integration

To test the integration, run invoices through the process, from scanning to storage in MarkView.

1. Scan and process an invoice in Kofax Capture.
2. Once Kofax Capture releases the associated image and XML metadata file, verify that Kofax MarkView Export Connector successfully imports them into MarkView. Check for error messages related to the import. Use MarkView Process Monitor to determine if the import process created a MarkView document and work item.
3. Once the Oracle Payables Interface Import concurrent job finishes, use MarkView Process Monitor to verify that the invoice is attached to the document. Look at the work item properties. If the properties have a value for **InvoiceID**, the invoice was attached correctly.
4. Open the invoice in MarkView Viewer using the **Show Document** option from MarkView Process Monitor. Verify that the image and the invoice details are displayed correctly.

5. Navigate to **Administrator > Work Item Details** to find the invoice imported by MVDocumentID, WorkItemID or InvoiceNumber. Open the **Pages** tab and record the value for Filename to use in the next step.
6. Use **Content Engine Enterprise Manager** to find the document associated with the invoice. Find the MarkView document in the appropriate object store by Filename you recorded in the previous step.

**Note** MarkView Filename string has the following structure:

0...00<ID>.tif

where <ID> is the Document Title of the FileNet content.

See the IBM FileNet documentation for information about using Content Engine Enterprise Manager or other clients for IBM FileNet.

7. If the invoice document was not correctly sent to FileNet by MarkView:
  - a. Review the procedures in [Post-installation tasks](#) on page 22.
  - b. Review the mvdtm.log file for errors.
  - c. Review the cmsync.log file to check if the invoice field values are incorrect.

## Chapter 4

# IBM Content Manager

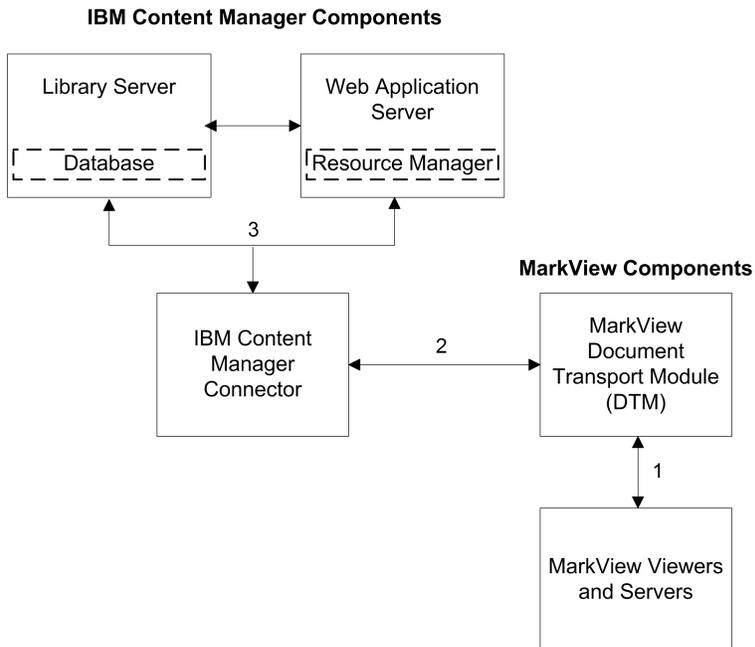
## About the integration

IBM Content Manager lets you manage unstructured content through document storage and retrieval. IBM Content Manager offers the following features:

- Support for multiple operating systems
- A Java-based tool for managing the system
- Client options
- Browser access
- Support for a wide variety of business document formats
- Administration tools for defining users and user privileges, defining data, and providing ways to manage servers and data
- Methods for keeping the system secure
- Document routing to manage the flow of work through the system

IBM Content Manager integrates with MarkView Data Transport Module (DTM), a part of MarkView Document Server. The integration enables MarkView products to access and act upon documents stored within a database. These actions include uploading, retrieving, copying, deleting, and depending on protocol, appending to documents.

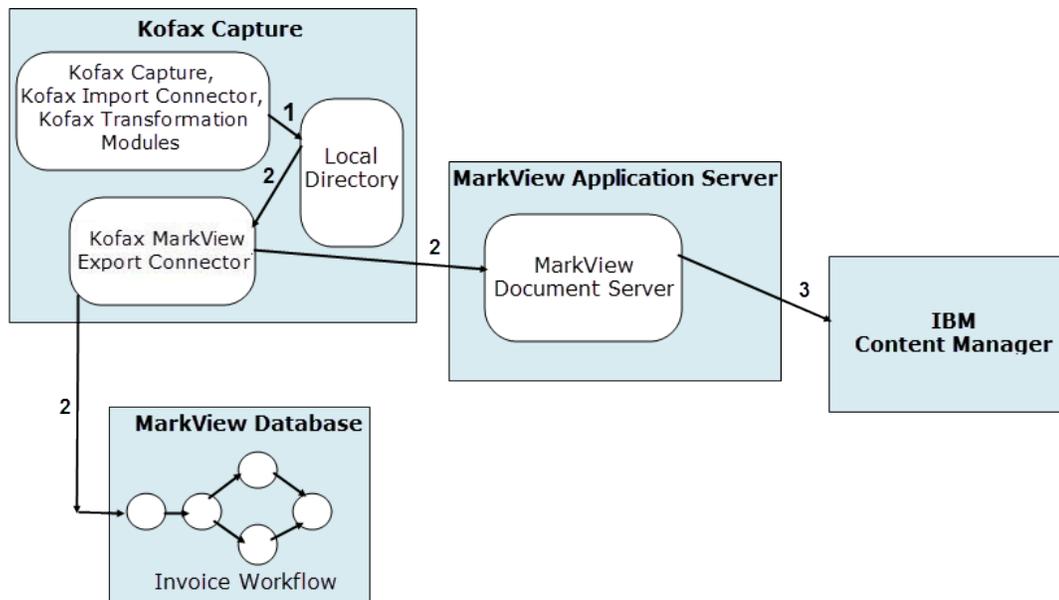
The following diagram shows the interaction between IBM Content Manager and MarkView DTM.



1. MarkView Viewer or MarkView Document Library modules send requests to MarkView DTM if any action with a document is needed.
2. IBM Content Manager Connector acts as the interface between the DTM and content manager components.  
DTM speaks directly with IBM Content Manager Connector using Java API calls.
3. The Connector relays these calls to either Library Server or Resource Manager, depending on the action.

## Process flow

The following diagram shows the process flow used in the MarkView and IBM Content Manager integration. The text following the diagram describes the process flow in more detail.



### Process Flow Diagram

1. In a local directory, Kofax Capture creates a TIFF file with a captured image of an invoice and an XML file with document metadata.
2. Kofax Capture sends the TIFF file to the MarkView Document Server and the metadata file to the MarkView Workflow via Kofax MarkView Export Connector. After validation steps, the invoice gets to the Invoice Workflow in the MarkView Database.
3. MarkView Document Server sends the TIFF file to IBM Content Manager.

## Related IBM Content Manager information

### Library Server

Library Server is the main repository for the information stored in IBM Content Manager. It is the central access control module for storing and managing documents stored on one or more resource managers.

Library Server:

- Processes requests received from the Connector and clients.
- Maintains data integrity between all of the Content Manager components.
- Controls the user access to objects stored on any resource manager using security tokens (PID strings).
- Relies on a relational database management system to manage the content and perform parametric searches, text searches, and combined (parametric and text) searches.

## Resource Manager

Resource Manager is the underlying mechanism for storing objects in IBM Content Manager. You can store and retrieve objects on Resource Manager but requesting data is routed through Library Server. One Library Server can support multiple Resource Managers, each containing various content.

Resource Manager consists of two parts:

- Resource Manager database
- Resource Manager application

These parts can be located on the same computer as Library Server or can be located remotely.

## Integration requirements

### IBM software

Install IBM DB2 Content Manager Enterprise Edition before installing the Middle-tier components. Ensure that IBM Content Manager meets the minimum requirements listed on the IBM Content Manager website. For information about IBM Content Manager, refer to the documentation that came with the product or contact IBM for support.

### System requirements

The integration requires a TCP/IP network connection between MarkView Document Transport Module on the application server and IBM Content Manager.

## Pre-installation tasks

Use IBM Content Manager System Administration Client to create users and grant them the necessary privileges. The following procedure provides a basic example of creating IBM Content Manager users, including the default user account.

1. Create a privilege set with the appropriate rights for MarkView Document Server destination.
2. Create a user group for MarkView Document Server users.
3. Create the user accounts for MarkView Document Server.
4. Create an access control list for the users.

Refer to the IBM Content Manager documentation for more information.

## Post-installation tasks

After installing MarkView, perform the tasks in this section to enable IBM Content Manager integration.

## Populate DTM preferences

Before using the Kofax MarkView DTM Integration for IBM Content Manager, populate the following preferences.

### **MVAS\_DTM\_BASE\_URL**

Specifies the URL location of the DTM. The value of this preference is set automatically during MarkView installation.

### **MVAS\_DTM\_INTEGRATE\_MODE**

Specifies which, if any, third-party integration system is used by Kofax MarkView DTM. For the integration with IBM Content Manager, set this preference to **IBM Content Manager**.

### **MVAS\_DTM\_ICM\_HOSTNAME**

Specifies the name of the host server on which the IBM Content Manager integration engine specified in the MVAS\_DTM\_INTEGRATE\_MODE preference and MarkView DTM reside.

### **MVAS\_DTM\_ICM\_PORT**

Specifies the http or https port that MarkView DTM uses to connect to the IBM Content Manager integration engine specified in the MVAS\_DTM\_INTEGRATE\_MODE preference.

### **MVAS\_DTM\_ICM\_USERNAME**

Specifies the user name to use when storing documents in and retrieving them from IBM Content Manager.

### **MVAS\_DTM\_ICM\_PASSWORD**

Specifies the password associated with user name specified in the preference MVAS\_DTM\_ICM\_USERNAME.

The password is stored as encrypted data.

### **MVAS\_DTM\_ICM\_WEBSPHERE\_HOSTNAME**

The preference is out-of-date and is not used.

### **MVAS\_DTM\_ICM\_MAX\_CONNECTIONS**

Specifies the maximum number of IBM Content Manager connections at a time.

### **MVAS\_DTM\_ICM\_MIN\_CONNECTIONS**

Specifies the minimum number of IBM Content Manager connections at a time.

### **MVAS\_DTM\_ICM\_INIT\_CONNECTIONS**

Specifies the initial number of IBM Content Manager connections.

### **MVAS\_DTM\_ICM\_CONNECTION\_TIMEOUT**

Specifies the number of milliseconds before the IBM Content Manager connections timeout during connection initialization.

Note the following:

- The Volume Paths and Workstations must point to the server where Kofax MarkView DTM is running. If the DTM location changes, update Volume Paths and Workstations.
- Kofax MarkView DTM preferences changes require that you restart Kofax MarkView DTM for the settings to take effect.

## WebLogic post-installation tasks

If you use the WildFly or JBoss EAP application server, skip this section and continue at [WildFly or JBoss EAP post-installation tasks](#).

### Copy configuration files

1. On the IBM Content Manager Server system, locate the following file:

`C:\Program Files\IBM\db2cmv8\cmgmt\connectors\cmbicmsrvs.ini`

The paths vary, depending on the default installation location. If you installed IBM Content Manager in a different path, locate the files in the appropriate folder.

2. Copy (do not move) the `cmbicmsrvs.ini` file to the `$MW_HOME` directory on the MarkView Document Server file system.
3. Restart the WebLogic application server.

### Add IBM Content Manager libraries to the classpath

1. On the IBM Content Manager Server system, locate the following files:

- `<IBMCROOT>\lib\cmbcm81.jar`
- `<IBMCROOT>\lib\cmbicm81.jar`
- `<IBMCROOT>\lib\cmb SDK81.jar`
- `<IBMCROOT>\lib\db2jcc.jar`
- `<IBMCROOT>\lib\db2jcc_license_cu.jar`
- `<IBMCROOT>\lib\db2jcc_license_cisuz.jar`

**Note** `<IBMCROOT>\lib\cmbcm81.jar`

`<IBMCROOT>\lib\cmbcm81.jar`

`<IBMCROOT>\lib\cmbicm81.jar`

`<IBMCROOT>\lib\cmb SDK81.jar`

See the IBM documentation for more information.

2. Copy (do not move) the IBM Content Manager .jar files to `$MW_HOME/lib/` folder on the MarkView Document Server file system.  
The folder should be in CLASSPATH.

## WildFly or JBoss EAP post-installation tasks

Skip this section if you use the WebLogic application server.

## Copy configuration files

1. On the IBM Content Manager Server system, locate the following files:

- <IBMCMROOT>\cmgmt\connectors\cmbicmsrvs.ini
- <IBMCMROOT>\cmgmt\connectorscmbicmenv.ini
- <IBMCMROOT>\cmgmt\cmbcmenv.properties

**Note** If you do not have cmbcmenv.properties, create the file in the specified folder.

The paths vary, depending on the default installation location. If you installed IBM Content Manager in a different path, locate the files in the appropriate folder.

2. Copy (do not move) the files to the \$JBOSS\_HOME/modules/com/markview/ecm/main directory.
3. Open cmbcmenv.properties for editing and set the path value to the CMCFGDIR parameter. The value must be the directory where you copied the files to, such as \$JBOSS\_HOME/modules/com/markview/ecm/main.
4. Restart the application server.

## Add IBM Content Manager libraries to the classpath

1. On the IBM Content Manager Server system, locate the following files:

- <IBMCMROOT>\lib\cmbcm81.jar
- <IBMCMROOT>\lib\cmbicm81.jar
- <IBMCMROOT>\lib\cmbsdk81.jar
- <IBMCMROOT>\lib\db2jcc.jar
- <IBMCMROOT>\lib\db2jcc\_license\_cu.jar
- <IBMCMROOT>\lib\db2jcc\_license\_cisuz.jar

**Note** <IBMCMROOT>\lib\cmbcm81.jar

<IBMCMROOT>\lib\cmbcm81.jar

<IBMCMROOT>\lib\cmbicm81.jar

<IBMCMROOT>\lib\cmbsdk81.jar

See the IBM documentation for more information.

2. Copy (do not move) the IBM Content Manager jar files to \$JBOSS\_HOME/modules/com/markview/ecm/main.
3. In \$JBOSS\_HOME/modules/com/markview/ecm/main/module.xml, change the values in the <resources> section as follows:

```
<resources>
<resource-root path="cmbsdk81.jar"/>
<resource-root path="cmbcm81.jar"/>
<resource-root path="cmbicm81.jar"/>
<resource-root path="db2jcc.jar"/>
<resource-root path="db2jcc_license_cu.jar"/>
<resource-root path="db2jcc_license_cisuz.jar"/>
<resource-root path="/" />
</resources>
```

4. Restart the application server.

## Test the integration

To test the integration, run invoices through the process, from scanning to storage in MarkView.

1. Scan and process an invoice in Kofax Capture.
2. Once Kofax Capture releases the associated image and XML metadata file, verify that Kofax MarkView Export Connector successfully imports them into MarkView. Check for error messages related to the import. Use MarkView Process Monitor to determine if the import process created a MarkView document and work item.
3. Once the Oracle Payables Interface Import concurrent job finishes, use MarkView Process Monitor to verify that the invoice is attached to the document. Look at the work item properties. If the properties have a value for **InvoiceID**, the invoice was attached correctly.
4. Open the invoice in MarkView Viewer using the **Show Document** option from MarkView Process Monitor. Verify that the image and the invoice details are displayed correctly.
5. Navigate to **Administrator > Work Item Details** to find the invoice imported by MVDocumentID, WorkItemID or InvoiceNumber. Open the **Pages** tab and record the value for the Filename to use in the next step.
6. Use **Clients for DB2 Content Manager (IBM DB2 Content Manager eClient or IBM Web Interface for Content Management)** to find the document associated with the invoice by Filename you recorded in the previous step.

**Note** MarkView Filename string has the following structure:

0...00<ID>.tif

where <ID> is the Document ID of the IBM Content Manager content.

See the IBM Content Manager documentation for information about using IBM DB2 Content Manager eClient or IBM Web Interface for Content Management.

If the invoice document was not correctly sent to IBM Content Manager by MarkView, see [Post-installation tasks](#) on page 33. Check the mvdtnm.log file.

## Chapter 5

# Oracle WebCenter Content

## About the integration

Oracle WebCenter Content Server is a web-based interface used to manage the content life cycle. Folders and folios can be used to manage groups of content, and content also can be categorized as it is checked in to the repository.

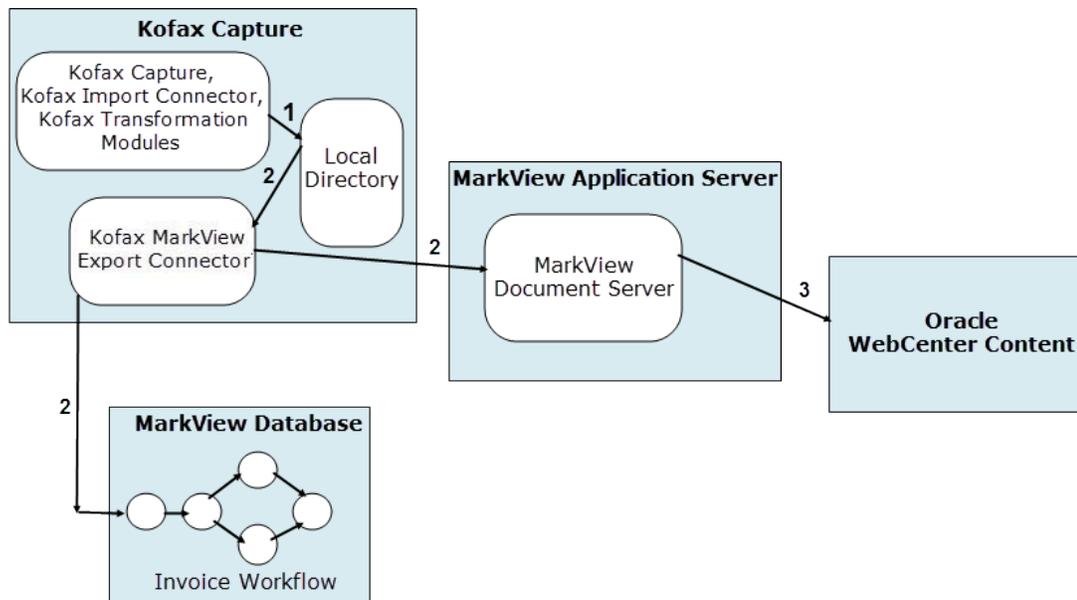
Oracle WebCenter Content Server is a service for accessing the content and content management functions within Oracle WebCenter Content. For example, one simple integration option is to reference content that is managed within Oracle WebCenter Content by a persistent URL. Some other integration options enable you to use the Java API, the Microsoft Component Object Model (COM) interface, or the ActiveX control.

The Remote Intradoc Client (RIDC) provides a thin communication API for communication with Oracle WebCenter Content Server. This API removes data abstractions to Oracle WebCenter Content Server providing handling of connection pooling, security, and protocol specifics. RIDC supports Intradoc socket-based communication and the HTTP protocol.

Oracle WebCenter Content Server integrates with MarkView Data Transport Module (DTM), a part of MarkView Document Server, using RIDC interfaces.

## Process flow

The following diagram shows the process flow used in the MarkView and Oracle WebCenter Content integration. The text following the diagram describes the process flow in more detail.



### Process Flow Diagram

1. In a local directory, Kofax Capture creates a TIFF file with a captured image of an invoice and an XML file with document metadata.
2. Kofax Capture sends the TIFF file to MarkView Document Server and the metadata file to the MarkView Workflow via Kofax MarkView Export Connector. After validation steps, the invoice gets to the Invoice Workflow in the MarkView Database.
3. MarkView Document Server sends the TIFF file to Oracle WebCenter Content.

## Integration requirements

### Software

Install the Oracle WebCenter Content before configuring the middle-tier components. Ensure that Oracle WebCenter Content meets the minimum requirements listed on the Oracle WebCenter Content website. For information about Oracle WebCenter Content, refer to the documentation that came with the product or contact Oracle for support.

### System requirements

The integration requires a TCP/IP network connection between MarkView Document Transport Module on the application server and Oracle WebCenter Content.

## Post-installation tasks

After installing MarkView, perform the tasks in this section to enable Oracle WebCenter Content integration.

### Populate DTM preferences

Before using the Kofax MarkView DTM Integration for Oracle WebCenter Content, populate the following preferences.

#### **MVAS\_DTM\_BASE\_URL**

Specifies the URL location of the DTM. The value of this preference is set automatically during MarkView installation.

#### **MVAS\_DTM\_INTEGRATE\_MODE**

Specifies which, if any, third-party integration system is used by Kofax MarkView DTM. For the integration with Oracle WebCenter Content, set this preference to **Oracle WebCenter Content**.

#### **MVAS\_DTM\_WCC\_HOSTNAME**

Specifies the name of the host server on which the Oracle WebCenter Content integration engine specified in the `MVAS_DTM_INTEGRATE_MODE` preference and the MarkView DTM reside.

#### **MVAS\_DTM\_WCC\_PORT**

Specifies the http or https port that MarkView DTM uses to connect to the Oracle WebCenter Content integration engine specified in the `MVAS_DTM_INTEGRATE_MODE` preference.

#### **MVAS\_DTM\_WCC\_USERNAME**

Specifies the user name to use when storing documents in and retrieving them from Oracle WebCenter Content.

#### **MVAS\_DTM\_WCC\_PASSWORD**

Specifies the password associated with user name specified in the preference `MVAS_DTM_WCC_USERNAME`.

The password is stored as encrypted data.

#### **MVAS\_DTM\_WCC\_PROTOCOL**

Specifies the protocol for MarkView to use when connecting to the Oracle WebCenter Content integration engine specified in the `MVAS_DTM_INTEGRATE_MODE` preference.

#### **MVAS\_DTM\_WCC\_OBJECT\_STORE**

Specifies the Oracle WebCenter Content object store database in which to store MarkView documents.

#### **MVAS\_DTM\_WCC\_DOCUMENT\_TYPE**

Specifies the Oracle WebCenter Content document type to assign to new MarkView documents. Configure other valid values in Oracle WebCenter Content. See the Oracle documentation for more information.

#### **MVAS\_DTM\_WCC\_SECURITY\_GROUP**

Specifies the Oracle WebCenter Content security group for new MarkView documents. Configure values in Oracle WebCenter Content. See the Oracle documentation for more information.

**Note** Kofax MarkView DTM preferences changes require that you restart Kofax MarkView DTM for the settings to take effect.

## Install Oracle RIDC

To enable Oracle WebCenter Content integration, provide Remote Intradoc Client (RIDC) .jar files to the application server.

On the Oracle WebCenter Content Server system, locate the following .jar files (version numbers for your files may differ from the samples shown here).

- oracle.ucm.ridc-11.1.1.jar
- httpclient-4.1.1.jar
- httpcore-4.1.jar
- httpmime-4.1.1.jar

These libraries are located in the WebCenter Content directory [...] /ucm/Distribution/RIDC/.

Also, download commons-logging-1.2.jar from the [Apache Commons website](#).

You may optionally download the required jar files as part of the RIDC suite from the [Oracle website](#).

## WebLogic post-installation tasks

If you use the WildFly or JBoss EAP application server, skip this section and continue to [WildFly or JBoss EAP post-installation tasks](#).

### Add WebCenter Content libraries to the classpath

1. Copy (do not move) the RIDC files with the .jar extension, including commons-logging-1.2.jar, to \$MW\_HOME/lib/ on the MarkView server.
2. Download the log4j-1.2.14.jar file from <http://www.apache.org>.
3. Copy log4j-1.2.14.jar to \$MW\_HOME/lib/ on the MarkView server.  
The folder should be in CLASSPATH.
4. Restart the WebLogic application server.

## WildFly or JBoss EAP post-installation tasks

Complete the following steps if you use the WildFly or JBoss EAP application server.

### Add RIDC Classes to the WildFly or JBoss EAP application server

1. Shut down the application server.
2. Copy the RIDC files with the .jar extension, including commons-logging-1.2.jar, to the module directory:

```
<JBOSS_HOME>/modules/com/markview/ecm/main
```

3. Open for editing the `<JBASS_HOME>/modules/com/markview/ecm/main/module.xml` file and add all the `.jar` files which you copied to the module directory:

`$JBASS_HOME/modules/com/markview/ecm/main`

For example, add the following lines:

```
<resources>
<resource-root path="oracle.ucm.ridc-11.1.1.jar"/>
<resource-root path="httpclient-4.1.1.jar"/>
<resource-root path="httpcore-4.1.jar"/>
<resource-root path="httpmime-4.1.1.jar"/>
<resource-root path="commons-logging-1.2.jar"/>
</resources>
```

4. Start the application server.

## Test the integration

To test the integration, run invoices through the process, from scanning to storage in MarkView.

1. Scan and process an invoice in Kofax Capture.
2. Once Kofax Capture exports the associated image and XML metadata file, verify that Kofax MarkView Export Connector successfully imports them into MarkView. Check for error messages related to the import. Use MarkView Process Monitor to determine if the import process created a MarkView document and work item.
3. Once the Oracle Payables Interface Import concurrent job finishes, use MarkView Process Monitor to verify that the invoice is attached to the document. Look at the work item properties. If the properties have a value for **InvoiceID**, the invoice was attached correctly.
4. Open the invoice in MarkView Viewer using the **Show Document** option from MarkView Process Monitor. Verify that the image and the invoice details are displayed correctly.
5. Navigate to **Administrator > Work Item Details** to find the invoice imported by `MVDocumentID`, `WorkItemID` or `InvoiceNumber`. Open the **Pages** tab and record the value for the `Filename` to use in the next step.

6. Access the documents stored in Oracle WebCenter Content through the WCC web interface to find the document associated with the invoice. Log in to the Web console as follows: `http://<WCCHOST>:<PORT>/cs/`

Use the Browse Content menu item to access the contribution folder that stores MarkView documents.

Alternatively, you can use the search functionality to find images for a particular MarkView document. Each MarkView document has a title with the following structure:

MarkView Document <MV Doc ID>:<MV Page Number>

**Note** For the standard Invoice Import Workflow, <MV Doc ID> is MV Document ID property of Connector File Work Item. The Invoice Work Item has a different MV Document ID, which can be found by the Filename you recorded in the preceding step. The MarkView Filename string has the following structure:

0...00<ID>.tif

where <ID> is the ID of Oracle WebCenter Content

See the Oracle WebCenter Content documentation for information about using the WCC web interface.

If the invoice document was not correctly sent to FileNet by MarkView, see [Post-installation tasks](#) on page 40. Check the mvdtm.log file.

## Set up Oracle WebCenter Content with the previously captured documents

If your MarkView system was previously configured to work with another document server, you may need access to the documents captured when using other content management systems. In the MarkView Admin User Interface, select the required type of secondary integration. Use the secondary integration for the previously captured documents download.

MarkView supports the following combinations for DTM integration modes:

- Single document repository mode: Support for all content management systems (Documentum, Oracle WebCenter Content, FileNet, etc.)  
Set the secondary mode to **NONE** (default value)
- Primary/Secondary document repository mode
  - Primary document repository mode: Oracle WebCenter Content only
  - Secondary document repository mode: Other (Documentum, FileNet, etc.)

### Populate DTM preferences

Populate the following preference before using the previous DTM integration in a secondary mode.

#### **MVAS\_DTM\_INTEGRATE\_MODE\_SECONDARY**

Specifies which, if any, third-party integration is used by Kofax MarkView DTM as a secondary content server. The default value is **NONE**.

Note the following:

- Oracle WebCenter Content integration does not use the Volume Paths and Workstations. The Volume Paths and Workstations must point to the server where Kofax MarkView DTM is running, the same as the integration with the previously used repositories.  
Update the Volume Paths and Workstations if the previous DTM location changed.
- Kofax MarkView DTM preferences changes require that you restart Kofax MarkView DTM for the settings to take effect.

## Chapter 6

# External content management systems integration via ArchiveLink

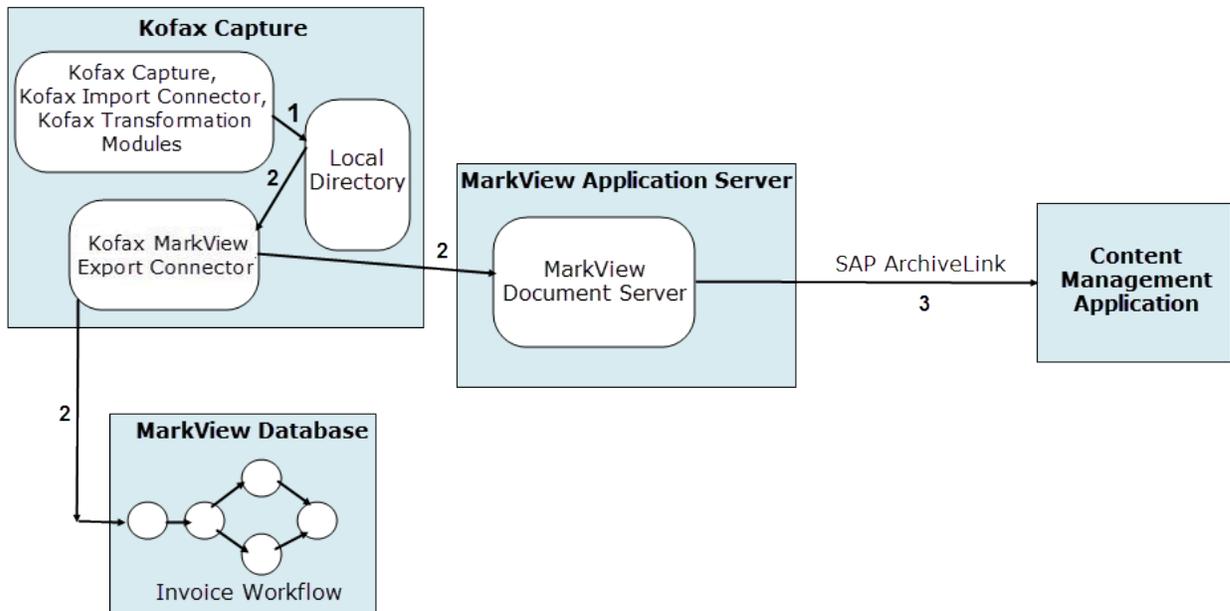
## About the integration

SAP ArchiveLink is a service integrated with SAP Web Application Server that provides functionality to associate electronic documents stored in a third-party content management system with application documents entered in the SAP system. ArchiveLink contains tools and application programming interfaces (APIs) that ensure a unified integration of these images across various SAP modules. ArchiveLink supports a variety of document storage scenarios, such as inbound documents (documents created outside of SAP), outbound documents (documents created in SAP), print lists (reports created in SAP), and archive files (output of data archiving processes). For more detailed information about ArchiveLink, refer to the SAP documentation.

SAP ArchiveLink is a communication protocol that links SAP to any certified content management application (Opentext, SharePoint etc). MarkView allows using the SAP Archive Link interface for storing documents in an ArchiveLink certified third-party content management system. As an option for storing documents in its own file repository, MarkView can be configured to transfer documents to an ArchiveLink certified third-party content management system.

## Process flow

The following diagram shows the process flow used in the MarkView and the integration via SAP ArchiveLink. The text following the diagram describes the process flow in more detail.



### Process Flow Diagram

1. In a local directory, Kofax Capture creates a TIFF file with a captured image of an invoice and an XML file with document metadata.
2. Kofax Capture sends the TIFF file to MarkView Document Server and the metadata file to the MarkView Workflow via Kofax MarkView Export Connector. After validation steps, the invoice gets to the Invoice Workflow in the MarkView Database.
3. MarkView Document Server sends the TIFF file to External Content Manager through the ArchiveLink interface.

## Integration requirements

For this integration option, install and configure the content management system that supports the official SAP ArchiveLink interface. Configure the third-party content management system in SAP without security (ArchiveLink certificate). Access security for the end user communication is provided by the MarkView ArchiveLink integration.

## Post-installation tasks

After installing MarkView, perform the tasks in this section to enable integration via ArchiveLink.

## Populate DTM preferences

Before using Kofax MarkView DTM Integration for ArchiveLink, populate the following preferences:

### **MVAS\_DTM\_BASE\_URL**

Specifies the URL location of DTM. The value of this preference is set automatically during MarkView installation.

### **MVAS\_DTM\_INTEGRATE\_MODE**

Specifies which, if any, third-party integration system is used by Kofax MarkView DTM. For the integration via ArchiveLink, set this preference to **ArchiveLink**.

### **MVAS\_DTM\_ARCHIVELINK\_BASE\_URL**

Specifies the base URL of the ArchiveLink interfaced Content Server that stores the documents. For example, `http://vmwin2k3ee:8080/Archive/archive.dll?`

### **MVAS\_DTM\_ARCHIVELINK\_REPO\_NAME**

Specifies the repository name of the ArchiveLink in which to store the documents, such as A1.

## Appendix A

# Troubleshooting

## Multipage TIFF support

Kofax MarkView Export Connector supports upload of TIFF files with multiple pages. The documents can be uploaded as individual files, one per page, or as a single multipage file. Use the following preference to define if the document should be split:

**SPLIT\_DOCUMENTS:** The preference controls the splitting behavior while uploading documents. If the preference is set to **FALSE**, Kofax MarkView Export Connector uploads all document pages as part of a single multipage TIFF file. Otherwise, the document is split by default. Both values are supported by all integrations types, except EMC Documentum. Set **SPLIT\_DOCUMENTS** to **FALSE**, when using Documentum as a primary content system.

## Log file locations

MarkView maintains log files of information and errors for MarkView Document Server and MarkView Content Management Systems Synchronization. The log files path is configured in the `markview.home` variable.

- Log entries for MarkView Document Transport Module are written to `mvdtm.log`. Use the `MVAS_DTM_LOGGING_LEVEL` preference to change the logging level.
- Log entries for MarkView Content Management Systems Synchronization are written to `cmsync.log`. Use the `CMSYNC_LOGGING_LEVEL` preference to change the logging level.

## Troubleshooting common integration issues

### Access to images is rejected (External ECM System integration via ArchiveLink)

If a user cannot access images through MarkView, the issue may be caused by the third-party archive server.

**Solution:**

1. Review the MarkView system, including ArchiveLink, Gateway, MarkView Viewer, and DTM log files.
2. Review the log files of the archive server.

3. Access documents directly from the third-party archive server.

## Documents written to MarkView Document Server

Documents are still written to the file system on MarkView Document Server and not to the content server.

1. Review the post-installation tasks for the content management system you use.
2. Verify the following settings:
  - The `MVAS_DTM_INTEGRATE_MODE` preference setting is correct.
3. If you use the EMC Documentum integration, verify the following settings:
  - Existing standard volumes have a status of CLOSED.
  - The new volume for use by Documentum exists and has a status of OPEN.
  - The Documentum volume is authorized for the Document Types in use.
  - The volume paths are correct.
4. Review `mvdtm.log` for errors.

## Class files not found

The `mvdtm.log` file reports the following:

```
The MVAS_DTM_INTEGRATE_MODE preference has been set to ... but the associated class files cannot be found.
```

This error indicates that MarkView Document Server cannot locate the libraries needed to communicate with a content management system. This can mean that content management system libraries were not added to the Classpath, or that the Classpath was not set up properly.

### Solution:

1. Verify the jar files are accessible to Kofax MarkView DTM.
2. WebLogic installation: Review the procedures earlier in this guide for adding libraries to the classpath for your integration.
3. WildFly installation: Review the procedures earlier in this guide for adding classes to the application server for your integration.

## Class files not found (EMC Documentum integration)

The `mvdtm.log` file reports the following:

```
The MVAS_DTM_INTEGRATE_MODE preference has been set to "Documentum Content Server" but the associated class files cannot be found. Unable to locate the com.documentum.fc.client.IDfTypedObject class. This class is distributed in dfc.jar which would normally be installed as part of the Documentum DFC installation. This could indicate a problem with the DFC installation, or an issue with the Classpath in use by this application. Verify that DFC has been properly installed, and that the Classpath for this application has been correctly modified.
```

This error indicates that MarkView Document Server cannot locate the Documentum libraries needed to communicate with Documentum. This can mean that Documentum Foundation Classes software was not installed properly, or that the Classpath was not set up properly.

**Solution:**

1. Verify the DFC installation.
2. WebLogic installation: Review the procedures in [Add Documentum libraries to the classpath](#) on page 16.
3. WildFly installation: Review the procedures in [Add Documentum Foundation Classes \(DFC\) to the application server](#).

## Documentum DFC libraries are not in classpath (EMC Documentum integration)

```
It does not appear that Documentum DFC libraries are in the classpath.
Verify that Documentum DFC is installed in this environment and has
been correctly added to the classpath of this application.
```

This error means that MarkView Documentum Synchronization cannot locate the Documentum libraries needed to communicate with Documentum. This can mean that DFC was not installed properly, or that the Classpath was not set up properly.

**Solution:**

1. Verify the DFC installation.
2. Review the procedures in [Add Documentum libraries to the classpath](#) on page 16.

## Logger class not found (Oracle WebCenter Content integration)

One or more deployments failed with the following errors:

```
Error An error occurred during activation of
changes, please see the log for details. Error
java.lang.ClassNotFoundException: org.apache.log4j.Logger. Error
org.apache.log4j.Logger.
```

**Solution:**

1. Download the log4j-1.2.14.jar file from <http://www.apache.org>.
2. Copy the JAR file to the MarkView domain directory.
3. Restart the Administration Server and all Managed Servers in the domain.

## Appendix B

# Third-party license agreement

### BEA Public License Version 2.1

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