OnBase®
Foundation EP5

Integration for Medical Imaging Viewer (Agfa)

Reference Guide

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Copyright

Document Name ..... Integration for Medical Imaging Viewer (Agfa)

Department/Group ..... Documentation

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Overview

The Integration for Medical Imaging Viewer (Agfa) allows clinicians to view clinical DICOM and non-DICOM content within a single OnBase interface. When retrieved through OnBase, DICOM content is displayed using ICIS™ View by Agfa HealthCare.

By combining images and their surrounding documentation, this integration allows clinicians to make decisions with a complete view of the patient record. DICOM documents remain in their current archive and are accessed across the network. No new archive investment is needed.

The Integration for Medical Imaging Viewer can display DICOM documents within the following OnBase modules:

- Medical Records Unity Client
- OnBase Patient Window
- OnBase Unity Client
- OnBase Web Client

Licensing

This solution requires the following components:

- Integration for Medical Imaging Viewer (Agfa)
- OnBase Patient Window
- HL7 Listener or Basic HL7 Listener
- A valid Client license

Additional licensing may be required depending on the OnBase module used to retrieve the DICOM studies. Refer to the respective module's module reference guide for complete licensing information.

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Requirements

The following sections outline requirement information specific to Integration for Medical Imaging Viewer in OnBase Foundation EP5.

General Requirements

For general requirement information that applies to Integration for Medical Imaging Viewer and other modules, see the sections on the following topics in the **Installation Requirements** manual:

- Database Requirements
- Operating System Requirements
- Web Browser Requirements

Third-Party Software Requirements

The Integration for Medical Imaging Viewer (Agfa) requires ICIS™ View (version 3 or later) by Agfa HealthCare. For information about ICIS View requirements and installation, refer to the ICIS View documentation.

Upgrade Considerations

There are no additional upgrade considerations for this module.

Installation

The Integration for Medical Imaging Viewer requires the OnBase Application Server. See the **Application Server** module reference guide for installation information.

Contacting Support

When contacting your solution provider, please provide the following information:

- The OnBase module where the issue was encountered.
- The OnBase version and build.

- The type and version of the connected database, such as Microsoft SQL Server 2014 or Oracle 12c, and any Service Pack that has been installed.
- The operating system that the workstation is running on, such as Windows 10 or Windows Server 2012 R2, and any Service Pack that has been installed. Check the supported operating systems for this module to ensure that the operating system is supported.
- The name and version of any application related to the issue.
- The version of Internet Explorer and any Service Pack that has been installed, if applicable.
- A complete description of the problem, including actions leading up to the issue.
- Screenshots of any error messages.

Supplied with the above information, your solution provider can better assist you in correcting the issue.

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Configuring Document Types for Studies

When configuring Document Types to link to DICOM studies in ICIS, follow the guidelines and requirements outlined in the following topics:

- Medical Document Type Configuration on page 6
- Document Type User Group Privileges on page 6

For detailed Document Type configuration information, see the OnBase Configuration help files or the **System Administration** module reference guide.

Medical Document Type Configuration

Ensure DICOM Document Types are configured as medical record Document Types. For information about configuring medical record Document Types and attaching documents to patients, see the **HL7** module reference guide.

Document Type User Group Privileges

The privileges required for viewing DICOM study documents vary depending on the OnBase module used for retrieval.

The following table indicates whether users need to be assigned access to DICOM Document Types in order to view DICOM study documents within each module.

Module	Document Type Assignment Required
Medical Records Unity Client	No
OnBase Patient Window	No
Unity Client	Yes
Web Client	Yes

Users may require additional privileges to retrieve documents using a specific module. For other privilege requirements, refer to the module reference guide for the respective module.

Auditing in ICIS

When a user views a DICOM study document using the OnBase Patient Window, the integration sends ICIS the current OnBase user's display name. ICIS uses the display name to log the user who viewed a study.

If the **Display real name instead of user name** global client setting is selected in OnBase Configuration, then the integration sends ICIS the user's configured **Real Name**. If the global client setting is not selected, or if the user does not have a **Real Name** configured, the integration sends ICIS the user's OnBase user name.

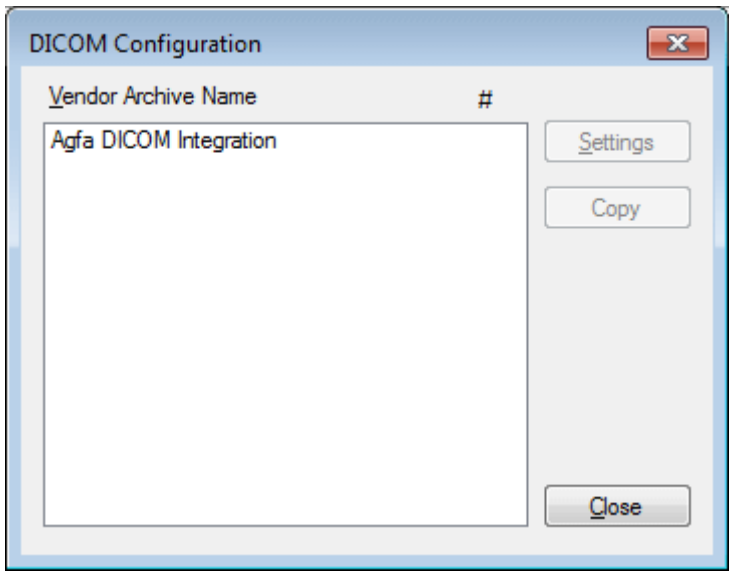
The OnBase user account is not used for authenticating with ICIS. To configure ICIS authentication information, see Configuring DICOM Repository Settings on page 7.

Configuring DICOM Repository Settings

To allow OnBase to retrieve studies from ICIS, you must configure the DICOM integration parameters in OnBase Configuration. For information about available parameters, see DICOM Parameter Descriptions on page 8.

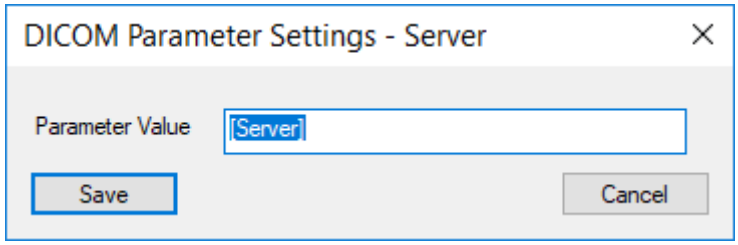
Note: You must have the **Medical Records** configuration right to configure DICOM settings.

1. Select **Medical | DICOM | Viewer Integration Settings**. The **DICOM Configuration** dialog box is displayed.



2. Select **Agfa DICOM Integration** and click **Settings**. The **DICOM Parameter Settings** dialog box is displayed.

3. Select a parameter and click **Settings**. The **DICOM Parameter Settings** dialog box is displayed.



4. Modify the **Parameter Value** as needed.
5. Click **Save**.
6. Continue modifying parameter values as needed.

DICOM Parameter Descriptions

The following ICIS View integration parameters must be configured.

Parameter	Description
Server	The ICIS server the integration will use when constructing URLs for viewing studies using ICIS View. Do not include the protocol to use (http, https). Example values: **www.server.com**, **server.com** To use a specific port number, append it to the server address as shown in the following example: **server.com:8080**
User	The user name the integration will use to authenticate with ICIS when viewing studies. This value is case-sensitive. This user name is not a user account in OnBase; it is a user in ICIS.
Password	The password the integration will use to authenticate with ICIS when viewing studies. This value is case-sensitive. This is not the password for a user account in OnBase; it is the password for the ICIS user specified in the **User** parameter.
Theme	The ICIS display theme the integration will use when displaying a study. The default value is **eprDisplay**.

Parameter	Description
Enable HTTPS	Controls the protocol the integration will use when performing web requests to the ICIS server. Valid values are **1** (for https) and **0** (for http). The default and recommended value is **1**. When this value is **0**, the integration's connections to the ICIS server are insecure. Ensure you understand the risks associated with insecure connections before disabling this setting. **Note:** If the OnBase Patient Window is configured to use HTTPS, but ICIS View is not, then Firefox will block ICIS View from loading. Internet Explorer will allow ICIS View to load in a mixed environment only if the browser's **Display mixed content** security setting is enabled.
Enable Federated Search	Controls whether Patient Window users can retrieve external studies from ICIS. External studies are studies that do not have placeholder documents residing in OnBase. Valid values are **0** (disabled) and **1** (enabled). The default value is **0**. When this setting is **1**, then the **Find More Studies** button is available in the Patient Window. When users click this button, the Patient Window retrieves external studies from ICIS using all MRNs associated with the current patient's MPI. When this setting is **0**, users will not be able to retrieve external studies from ICIS using the Patient Window. You do not need to enable this setting to use the federated search option in the HL7 DICOM Processor.

Copying Servers

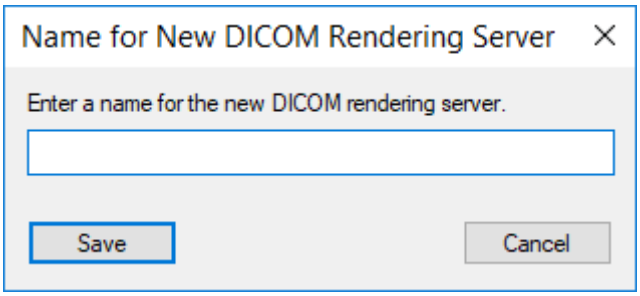
The **DICOM Configuration** dialog box includes a **Copy** button, which allows you to configure additional rendering servers.

For the creation of placeholder documents, the HL7 DICOM Processor uses only the default (original) server. Federated searches executed by the Patient Window will use all servers that have federated searching enabled.

To copy a rendering server:

1. Select **Medical | DICOM | Viewer Integration Settings**. The **DICOM Configuration** dialog box is displayed.
2. Select the server you want to copy.

3. Click **Copy**. The **Name for New DICOM Rendering Server** dialog box is displayed.



4. Type a name for the new server.
5. Click **Save**. The **DICOM Parameter Settings** dialog box is displayed.
6. Customize the settings for the new server.
7. Click **Close**.

Creating Documents for Externally Stored DICOM Studies

Use the HL7 DICOM Processor to create placeholder documents in OnBase for studies stored in an external DICOM repository.

The DICOM Processor creates placeholder documents representing studies stored in an external DICOM repository. Placeholder documents allow OnBase applications, such as the OnBase Patient Window, to display studies stored in external repositories. When a placeholder document is retrieved using the OnBase Patient Window, the associated study is retrieved from the external repository and displayed using the medical imaging viewer. The DICOM Processor requires an **HL7 Listener** license. It is not available under the **Basic HL7 Listener** license.

The DICOM Processor is configured in OnBase Configuration under **Medical | HL7 | Import Process**. For specific information about configuring an HL7 import process, see the **HL7 Module** module reference guide or the **HL7 Listener / HL7 Sender** help files.

Choosing How Documents Are Created

Before configuring the DICOM Processor, answer the following questions:

1. Do you want the DICOM Processor to create placeholder documents for all of the patient's existing studies?
   - This approach is useful if you want to create placeholder documents based on events like patient registration, which may not be associated with specific studies.
   - If you use this approach, incoming HL7 messages do not have to specify a study UID. Messages only need to provide the patient identifier.
   - To use this approach, see Creating Documents from a Federated Search on page 12.

2. Do you want the DICOM Processor to create placeholder documents immediately upon receiving HL7 messages containing study UIDs?
   - This approach allows the DICOM Processor to immediately create placeholder documents as soon as the HL7 messages are received.
   - This approach assumes the HL7 messages contain the information necessary to identify specific studies in the DICOM repository.
   - To use this approach, see Creating Documents for Specific Studies on page 11.
3. Did you answer yes to both questions?

   If so, then you must configure two separate import processes: one to create documents using a federated search, and one to create documents using the study information in the HL7 message.

Creating Documents for Specific Studies

Follow these steps to configure the DICOM Processor to create documents for the study UIDs specified in the HL7 messages.

For detailed HL7 import process configuration information, see the **HL7 Module** module reference guide.

1. Map the **$$DICOMSTUDYID** predefined default value to the HL7 message template.

   The DICOM Processor message action determines the uniqueness of a study by its study UID. Messages containing new study UIDs will result in the creation of new placeholder documents.

Note: The HL7 Listener will not create a placeholder document for a specific study if the study UID is missing.

2. Ensure the message template is configured to index documents with the patient identification information necessary to attach documents to patient records or charts.

   See the **HL7** module reference guide for more information.
3. If the message template needs to handle multiple DICOM studies, select the **Enable to repeat** setting for the message segment containing the studies. This setting is available in **HL7 Segment Settings** for the message segment.

   When a single HL7 message specifies multiple study UIDs, each study is stored as a separate placeholder document and indexed using the Keyword Values from the message. If each study document should have different Keyword Values, then the sending application needs to send a separate HL7 message for each study.
4. Configure the following DICOM Processor options:
   - **Document Type**—Select the Document Type where this import process should store DICOM study documents.

     To archive DICOM studies to different Document Types based on modality, configure a separate DICOM import process and message template for each Document Type. Then, configure each message template to filter on the modality code field.
   - **DICOM Repository**—Select the server for the medical imaging viewer. Available servers are configured under **Medical | DICOM | Viewer Integration Settings**.

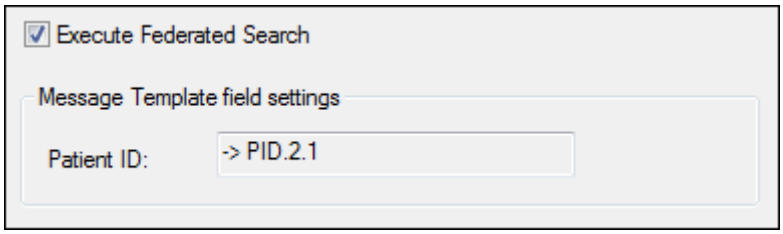
Creating Documents from a Federated Search

Follow these steps to configure the DICOM Processor to create documents for all of the patient's existing studies in the external DICOM repository. For detailed HL7 import process configuration information, see the **HL7 Module** module reference guide.

1. Configure the parameters for your DICOM integration under **Medical | DICOM | Viewer Integration Settings**.
2. Map the $$DICOMPATIENTID default value to the MPI number in the HL7 message template.

   The HL7 DICOM Processor uses the MPI to find all of a patient's studies in the DICOM repository.
3. To store the study date as a Keyword Value on placeholder documents, do the following:
   a. Create a Keyword Type to store study dates.
   b. Map the Keyword Type to the **DICOM - Study Date** chart data field.[1]
   c. Assign the Keyword Type to the Document Type used to store DICOM study documents.
4. Configure the options for the DICOM Processor import process:
   a. From the **Document Type** drop-down list, select the Document Type where DICOM study documents should be stored. All studies retrieved by the federated search will be stored under this Document Type.
   b. From the **DICOM Repository** drop-down list, select the medical imaging viewer integration.
   c. Select the **Execute Federated Search** option to use the MPI value in the $$DICOMPATIENTID field to locate and create documents for all of the patient's studies existing in the DICOM repository. This option requires the -HL7DICOMPROCESSOR command line switch.

      You can see which field is configured as the $$DICOMPATIENTID by checking the **Message Template field settings | Patient ID** field. This field is displayed when you select **Execute Federated Search**.



1. The **DICOM - Study Date** chart data field extracts study dates only from DICOM data retrieved through an HL7 federated search. This field does not extract study dates from HL7 message data, and it cannot be mapped to an HL7 message field.

5. Run a client process with the -HL7DICOMPROCESSOR command line switch. This switch is required for performing the federated search and creating the placeholder documents.

Linking to a Study Using OnBase Patient Window

The OnBase Patient Window can be configured to display specific studies when users access a URL. The following URL query string parameters are specific to DICOM viewer integrations.

Parameter	Description
studyuid	Specifies the UID of the study the Patient Window should display by default. If the query string specifies the study UID without the **mrn** or **mpi** parameter, then the **vna** parameter must also be specified. In this case, the OnBase Patient Window opens in expanded mode. Users can view only the specified study; other patient information and documents are unavailable.
vna	Specifies the integration to use for retrieving the specified study. For this integration, set the **vna** parameter to **3**. This parameter is required only if the query string provides the study UID without the **mrn** or **mpi** parameter.

For example, the following URL would retrieve MPI 101 with study UID 123 displayed by default.

```
https://server/PatientWindow/Login.aspx?mpi=101&studyuid=123
```

For detailed information about URL construction and query string parameters, see the **Patient Window** module reference guide.

Troubleshooting

Refer to the following topics for information about troubleshooting problems with the integration.

Cannot Display Studies

When a user cannot open a study in the OnBase Patient Window, the following message is displayed in the document viewer:

- There was an error processing this DICOM Study request. Please contact your administrator.

This message is displayed when there is an error with the study URL. One possible cause is that the server retrieving the studies is offline.

If the server is functioning properly, ensure the viewer parameters are correct. These parameters are configured in OnBase Configuration under **Medical | DICOM | Viewer Integration Settings**.

This error may also be due to an authentication failure. Ensure the correct ICIS **User** and **Password** are configured in DICOM Configuration. These values are case-sensitive.

Find More Studies Error

When a user clicks the **Find More Studies** button in the OnBase Patient Window, the following error may be displayed:

- Error during AgfaDicomIntegration Federated Search.

When this error occurs, the user cannot return to the OnBase Patient Window's main interface.

This error may occur because the ICIS server or credentials specified in OnBase Configuration are invalid. Check the parameters configured under **Medical | DICOM | Viewer Integration Settings**. For more information, see DICOM Parameter Descriptions on page 8.

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DICOM documents are displayed using ICIS View. For information about using ICIS View, please refer to the ICIS View documentation or help files.

For information about using OnBase functionality, refer to the module's corresponding module reference guide or help files.

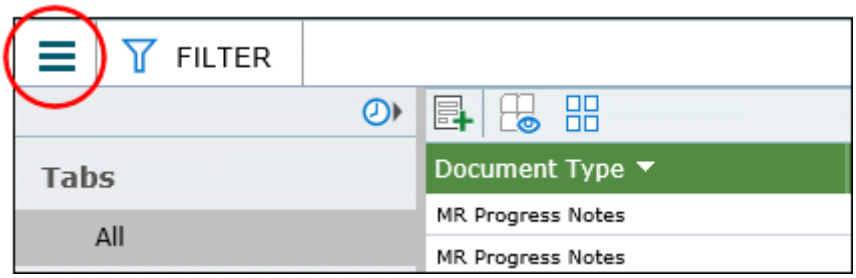
Patient Window Usage

In addition to displaying DICOM documents that OnBase has record of, OnBase Patient Window also can retrieve and display external studies. External studies are DICOM studies OnBase is not aware of because their information has not been imported from the source DICOM system. The retrieval of external studies is called federated searching.

When the integrated viewer is configured for federated searching, the **Find More Studies** button is available when you view a patient's record.

To retrieve external studies:

1. Rest your pointer over the main menu icon.



2. Click **Find More Studies** to execute a federated search.
   - OnBase Patient Window retrieves external studies using the associated patient identifier.
   - If your system is integrated with multiple medical imaging viewers, the **Find More Studies** button can retrieve studies using each viewer configured for federated searching.
3. Review the matching external studies.
   - OnBase Patient Window adds external studies to the **Other** tab.
   - In timeline mode, external studies are organized according to the dates associated with them in the DICOM system. If no date is associated with the study, OnBase Patient Window uses the date from the Application Server at the time the study was retrieved.

4. Double-click an external study to open it.

   If you return to a patient's record after viewing another record, you must click the **Find More Studies** button again to retrieve external studies.

Note: Some OnBase Patient Window features are not available for studies retrieved using the **Find More Studies** button. These studies cannot be added to cases, filtered from the document list, submitted for document corrections, or viewed in split view mode. Confidentiality codes are not applicable to external studies at the document or chart level. Clicking **Previous Page** or **Next Page** from an external study will display the previous or next document, respectively.