



IBM iConnect[®] Access

7.2

USER'S GUIDE

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INDICATIONS FOR USE:

The IBM iConnect Access application provides internet access to multi-modality softcopy medical images, reports, and other patient-related information to conduct diagnostic review, planning and reporting through the interactive display and manipulation of medical data. IBM iConnect Access provides healthcare professional tools to aid in interpreting medical images including:

- Displaying DICOM compliant medical images and non-DICOM content using XDS.
- Reformatting images, including creation of MPRs, MIPS, MinIPs, color/monochrome 3D volume rendered images.
- Manipulating displayed images via control of slice thickness, slice interval, obliquity, perspective, rotation, window/ level, crop, zoom, color/monochrome transformations, segmentation, sculpting, straightening the display of curved structures, and creating images perpendicular to a curvilinear path.
- Creating individually captured DICOM images that can be displayed and stored in a PACS.
- Measuring coronary calcium, which is intended for non-invasive identification and quantification of calcified atherosclerotic plaques in the coronary arteries using tomographic medical image data and clinically accepted calcium scoring algorithms.

The IBM iConnect Access application can be configured to provide either lossless or lossy compressed images for display. The medical professional user must determine the appropriate level of image data compression that is suitable for their purpose.

Lossy compressed mammographic images and digitized film screen images must not be reviewed for primary image interpretations. Mammographic images may only be interpreted using an FDA approved monitor that offers at least 5 MP resolution and meets other technical specifications reviewed and accepted by FDA.

Display monitors used for reading medical images for diagnostic purposes must comply with applicable regulatory approvals and with quality control requirements for their use and maintenance. Use of IBM iConnect Access application on mobile devices such as iPhones and iPads is not intended for diagnostic use.

INSTRUCTIONS FOR USE: Instructions for use are available electronically in PDF format. Paper format can be requested for supported languages by contacting Customer Support, and will be provided free of charge within seven calendar days of receiving the request. The paper format can also be provided at the time of delivery if so requested at the time of order.

CAUTION: U.S. federal law restricts this device to sale by, or on the order of, a physician.


NOTE: The IBM iConnect Access software complies with the MDD Council Directive 93/42/EEC of 14 June 1993.

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The symbols glossary is provided electronically at [Statements and Patches](#).

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Chapter 1 Overview

This document is designed to introduce you to the main IBM iConnect Access application functions. Overview topics include:

- [About the Application on page 8](#)
- [Client Web Browser Requirements on page 9](#)
- [Standalone and Integrated Configurations on page 10](#)
- [Precautions on page 10](#)
- [About this Guide on page 12](#)

About the Application

Watson Health's IBM iConnect Access image-enables applications at the point of care, creating a more efficient environment for both physicians and patients. With this powerful solution, you can view and share images through a zerofootprint, universal viewer, providing a complete longitudinal history of DICOM and non-DICOM images—including advanced 3D visualization, and side-by-side image comparisons—all in a single view. With no user seat license limits, IBM iConnect Access can also help grow referral business, providing the ability to view and share images throughout the referring community, the entire care team, and across the enterprise.

IBM iConnect Access is a zero-download image viewer and sharing platform that empowers your enterprise to review DICOM and non-DICOM images in a single pane of glass with advanced tools from your browser-based device whenever and wherever needed. IBM iConnect Access enables you to:

- Create a single view of images from any department, -ology or service line including but not limited to radiology, cardiology, ophthalmology, orthopedics, dermatology and ENT
- Grow your referral business by providing access to view, upload, share and use 3D functionality on exams
- Reduce IT costs with a zero-download viewer and simultaneously use both LDAP directories and local application accounts for the user
- Image- and upload-enable EMRs and portals to streamline workflows
- Exchange images to create a more complete patient record

As a key component of the Watson Health Interoperability Solution Suite, IBM iConnect Access creates a better imaging experience by empowering physicians and patients to access images anywhere, anytime.

The Watson Health Interoperability Solution, which includes IBM iConnect Enterprise Archive, IBM iConnect Access and iConnect Capture, provide advanced capabilities designed to help healthcare organizations seamlessly ingest, manage, store, view, share and exchange imaging-related healthcare data. They also enable users to leverage existing applications and widely-used web and healthcare technology standards to create a vendor-neutral, interoperable environment that enhances collaboration. This capability extends beyond the four walls of the enterprise. Patients are more engaged with their care by actively sharing pictures, videos, etc. with their physicians who can add this information to the EHR record.

WARNING: Display monitors used for reading medical images for diagnostic purposes must comply with applicable regulatory approvals with quality control requirements for their use and maintenance.

WARNING: Not for diagnostic review when used on a mobile device.

NOTE: If you see http:// in your browser's address bar, it means that data transferred between the client workstation and the server is not encrypted or secure. If you require a secure encrypted connection (for example, https://), contact your System Administrator.

Client Web Browser Requirements

The following Client Web browsers are supported.

- Google Chrome 64 or later
- Microsoft Internet Explorer 11
- Microsoft Edge 41.16299 or later
- Mozilla Firefox 58 or later
- Apple Safari 10 or later for Macintosh

WARNING: If the MPEG-2 DVD codec that is used to play MPEG videos is not installed, you must obtain and install it on your client system and view MPEG-2 DVD videos in Internet Explorer 11.

NOTE: The Universal viewer is not supported for Internet Explorer 11.

NOTE: Clients connecting over RDP (remote desktop protocol) are not supported.

Standalone and Integrated Configurations

You can implement the IBM iConnect Access application as a standalone application or integrate its components into a third-party application, such as an EMR or a portal. When integrated into an existing system, only the study and patient navigation and selection differ from the standalone implementation. These differences are described in [Patient Studies on page 16](#) and [Patient Records on page 123](#).

NOTE: When using Internet Explorer to launch the Exam Importer and Web Uploader from an integrated URL, popup dialogs may display. To prevent this issue from reoccurring, deselect the checkbox “Continue to prompt when website content is blocked” and “Always ask before opening this type of address” in each dialog and apply.

Precautions

This section contains the following precautions that you must be aware of when using IBM iConnect Access:

- [Image Compression on page 10](#)
- [Image Size on page 11](#)
- [Date and Number Format on page 11](#)
- [Supported Character Sets on page 11](#)
- [Magnetic Interference on page 12](#)
- [Computer Virus Protection on page 12](#)

Image Compression

Do not use JPEG mammographic images for primary diagnostic interpretation. It is possible to misinterpret JPEG (that is, lossy compressed) images due to the loss of information from the image. To avoid misinterpretation, for all JPEG images, the application displays the image compression and its quality in the study viewers (for example, Lossy (80)). The value represents image quality, where a value of 50 represents high quality and a compression ratio of 15:1 while 100 represents the highest quality and a compression ratio of 2.6:1.

WARNING: Lossy image compression decreases the number of images which may be stored in a given media area and decreases in transfer time, at a cost of some compromises in image quality and some loss of diagnostic capability. Saving frames as bitmaps and sequences as AVI files may generate lossy data.

Lossy compression can result in “blocking” artifacts (which appear as rectangular or bar patterns overlaid on the image). Use of post-processing functions such as edge enhancement or window/level can accentuate these artifacts. Image graininess may also lead to a loss of resolution and/or

contrast detectability.

The impact of lossy compression on diagnosis may be assessed by viewing many US images in a study because blocking artifacts will vary in appearance between images.

Lossy Compressed XA images should only be used for review or referral since they may exhibit blocking artifacts and other image degradation - Lossy compressed XA images should not be used for diagnostic purposes.

JPEG images are subject to misinterpretation due to information loss. JPEG mammographic images must not be used for primary diagnostic interpretation unless approved for use in digital mammography.

If the loaded image is already lossy compressed then lossless image compression shall be used for better quality. See [Configuring User Preferences on page 157](#) for details on setting the default Image Format to PNG (loseless).

Image Size

Images in IBM iConnect Access and IBM iConnect Access 3D are resized for display in the application. Image size may not be displayed at scale of 1:1.

CAUTION: Image size shall be considered prior to diagnosis being assessed.

Date and Number Format

The date format presentation from DICOM source data is designed to be unambiguous and displayed in the format dd-MMM-yyyy. The number format displayed is determined by the region configured on the IBM iConnect Access Web server.

WARNING: On client workstations, the date and number format displayed in the study and viewer windows reflect the date and number format selected by the customer and configured on the IBM iConnect Access Web Server and not the configuration used by the client workstation. Ensure the number format used is correct for the region that the server is being used in. For more information about the date and number format, contact your System Administrator.

Supported Character Sets

The IBM iConnect Access application supports multiple character sets on the desktop and mobile 2D versions. The IBM iConnect Access 3D viewers support English only. For details on localizing the IBM iConnect Access application, refer to the IBM iConnect Access Localization Guide.

Magnetic Interference

The images displayed on the workstation's monitor(s) can be distorted by strong magnetic fields; therefore, the workstation should be positioned outside the 5 Gauss (0.5 mT) magnetic fringe field.

CAUTION: Position the workstation outside the 5 Gauss (0.5 mT) magnetic fringe field.

Computer Virus Protection

Computer viruses can prevent the application from working properly. We recommend you protect the workstation with anti-virus software. Contact your System Administrator for further details.

CAUTION: We recommend that you install anti-virus software on your workstation.

About this Guide

This user's guide assumes that you are familiar with the basic operation of personal computers, such as how to turn them on, how to use the mouse, and how to work in the Microsoft Windows Operating System environment (for example, opening and closing windows, using a browser, and understanding Windows terminology). If you are not familiar with these operations, refer to the documentation provided with your workstation.

NOTE: Cross-references that appear in [blue text](#) are hyperlinks.

Screen Captures

This guide uses screen captures to help illustrate various steps and procedures. The screen captures are used as examples only and may differ somewhat from what you actually see on your monitor in terms of color schemes and button layouts which are customer-defined.

Notes, Cautions, and Warnings

NOTE: Notes are used to indicate information which may be helpful or of special interest to the reader.

CAUTION: Caution messages indicate procedures which, if not observed, could result in loss of data on the hard disk or damage to the equipment. Do not proceed beyond a Caution message until the indicated conditions are fully understood and met.

WARNING: Warning messages indicate procedures or practices which, if not observed, could result in personal injury to the user or the patient. Do not proceed beyond a WARNING message until all of the indicated conditions are fully understood and met.



Chapter 2 Getting Started

This chapter describes how to get started using IBM iConnect Access.

Related topics:

- [Logging In to the Application on page 13](#)
- [Signing Up for a User Account on page 14](#)
- [Viewing Connection Attributes on page 15](#)

NOTE: The above topics are only applicable if you are using the IBM iConnect Access application in standalone mode.

If you are using the application on a mobile device, see [Using the Application on an iPad, iPhone, or iPod Touch on page 145](#).

Logging In to the Application

This section describes how to log in to IBM iConnect Access in standalone mode. If you do not already have a user account, you can sign up for one from the IBM iConnect Access Login screen if that option is available (see [Signing Up for a User Account on page 14](#)).

CAUTION: The application can be configured by your System Administrator to time out if left idle for a specified number of minutes. If the application times out, you must log on again.

NOTE: You cannot run simultaneous sessions of the application using the same browser. For example, if you log on to IBM iConnect Access using Internet Explorer, you cannot open another session of the application in Internet Explorer until you close the first session. However, you can open another session using a different browser. Refer to the Release Notes for a list of supported browsers.

To log on to the application

- 1 Open your Web browser.
- 2 In the **Address** field, type the URL of the IBM iConnect Access server. The Login page opens.

NOTE: If your server uses an encrypted or secure connection, use **https://** instead of **http://**. Limit the use of **http://** connections to local area networks. If using IBM iConnect Access over the Internet, use either an **https://** connection or a VPN.

- 3 On the Login page, do the following:
 - If your Web server supports additional languages, select a language from the drop-down.
 - Type your user ID and password.
 - Click **Log In**.
- 4 If configured, a site-specific message is displayed. Select **Do Not Display This Message Again** to disable the message from being displayed for future logins. Click **OK** to close the message and proceed.
- 5 After logging in you can start using the application. For information on using the Studies tab, see [Patient Studies on page 16](#). For information on using the Patients window, see [Patient Records on page 123](#).
- 6 Click **Logout** when you want to close the application. The application closes and you are returned to the Login screen.

Signing Up for a User Account

When you sign up online for a user account, IBM iConnect Access automatically sends your request to a System Administrator. If you provide an email address, the System Administrator sends you a notification when your account has been approved (created) or rejected.

NOTE: The sign up feature is configurable and may not be available on the IBM iConnect Access Login screen. For more information, contact your System Administrator.

To sign up for a user account



- 1 Open your Web browser.
 - 2 In the **Address** field, type the URL of the IBM iConnect Access server.
- NOTE:** If your server uses an encrypted or secure connection, type **https://** instead of **http://**.
- 3 On the Login screen, click **Sign up**.
 - 4 In the registration form, enter the details for your user account. Mandatory fields are indicated by an asterisk (*).

NOTE: If you want to receive email notifications regarding your account request, make sure you provide your email address in the **Email Address** field.

- 5 Click **Enroll**.
- 6 When the application opens the confirmation dialog, click **OK**.

Viewing Connection Attributes

IBM iConnect Access displays a visual representation of your connection quality and throughput. A rating icon is displayed on the Login page and, if enabled in your User Preferences, the Studies tab and both study viewers. The rating icon displayed in the Universal viewer is different than the other icons as shown below.

Icon Location	Connection Rating Icon
Login page Studies tab Enterprise viewer	
Universal viewer	

Click a rating icon to view the average round trip time and the average bandwidth of the active connection.

NOTE: The connection rating icon is not displayed until both the study and toolbar have loaded.



Chapter 3 Patient Studies

This chapter describes how to select patient studies and perform other study-related functions in the Studies tab.

Related topics:

- [Studies Tab on page 17](#)
- [Performing Searches on page 17](#)
- [Viewing Your Briefcase on page 23](#)
- [Customizing the Search Results Table on page 24](#)
- [Managing the Search Results on page 24](#)
- [Selecting and Loading Studies on page 25](#)
- [Managing Access to Studies on page 27](#)
- [Transferring Studies to a Configured Data Source on page 28](#)
- [Downloading Studies to a Local System on page 29](#)

NOTE: Selecting and loading studies into a third-party application and transferring studies to another data source may not be configured on your site. Contact your System Administrator.

When integrated with a third-party application such as an EMR, IBM iConnect Access can receive search criteria from the third-party application. Depending on your configuration and the amount of information provided, you can perform the following study-related functions in the Studies tab:

- Display search results (see [Selecting and Loading Studies from the Studies Tab on page 26](#))
- Start a new search (see [Performing Searches on page 17](#))
- Open a specific patient study in a study viewer (see [Study Viewers on page 32](#))

NOTE: Access to these features is based on your site's configuration. Contact your System Administrator.

Studies Tab

This section describes the Studies tab and how to search for studies during a review session. The Studies tab contains a configurable search criteria panel and results list, as well as options for which study viewer to open selected studies in.

The screenshot displays the IBM iConnect Access web application interface for the 'Studies' tab. At the top, there are navigation tabs for 'Studies', 'Inbounds', and 'Outbounds'. The 'Studies' tab is active. Below the tabs, there is a search criteria panel with the following fields: Last Name, Patient ID, Accession No., Study Performed (set to 'Last 2 Days'), Data Source (set to 'All'), and Search Preset. To the right of these fields, there are additional search options: First Name, Ref. Physician (with sub-options for Last Name and First Name), and My Patients Only. A 'Modality' field is also present. At the bottom of the search criteria panel are buttons for 'My Search', 'Save', 'Delete', 'Clear', and 'Search'. Below the search criteria, there is a table with columns: Study Date, Modality, Patient Name, Patient ID, Description, Accession, Refer. Physician, and # Imag. The table is currently empty, showing 'No records to view'. At the bottom of the interface, there are buttons for 'Viewer: Universal', 'Enterprise', 'Transfer', and 'Download'.

Performing Searches

The search criteria panel on the Studies tab allows you to search for studies in DICOM or XDS (if configured) data sources based on one or more parameters (such as patient name, patient ID, accession number, or study date).

The search criteria panel can be configured to provide the following search methods.

- Custom Search — See [To search the study list on page 1](#).
- Patient Name Search — Enables users to search based on the patient name. See [To perform a patient name search on page 1](#).
- Emergency Search — Enables clinicians who do not have access privileges, but do have emergency search privileges, to search for patients and view their studies.

NOTE: If performing an Emergency Search, you are required to acknowledge you are accessing sensitive patient data and that your search will be audited and logged. See [Basic Patient Privacy Consent Support on page 124](#) for more information.

NOTE: Role level filters are not applied to Emergency Searches.

- Include XDS Document Search — Enables clinicians to search for a patient's XDS documents on the Studies tab using more generic search criteria such as: Patient Name

(first or last), Patient ID, Patient Date of Birth, and Master Patient ID (Gender and Issuer of Patient ID can also be used). This search option is only available if the Search Type is either Custom or Emergency. Based on the search criteria, if more than one patient is found, then a Patient Selector dialog will display so you can select a patient to search. If there are no patients found, then a regular DICOM query is performed. If there are no patients found, then a regular DICOM query is performed. For XDS document grouping, a new column is displayed if an option other than Patient search is configured in the system for document grouping. The column header title will have different values depending on which option is selected.

- None — Title
- MIME Type — MIME Type
- Primary Author — Author
- Primary Confidentiality Code — Confidentiality Code
- Primary Type Code — Type Code
- Primary Class Code — Class Code

The values for the column will be the value of the item used to group, except for when None is configured, in which case the document's title is displayed. Also, the column will only have a value for document groups, and will be empty for XDS/DICOM studies.

NOTE: Both MPI and XDS must to be configured for this option to be available.

- My Search — See [Using and Managing Saved Searches on page 1](#).
- Saved Search — See [Using and Managing Saved Searches on page 1](#).

The Studies tab can include the following search parameters:

Field	Description
Last Name	Patient's last name.
First Name	Patient's first name.
Patient Name Search	Patient's name. Applies to patient name searches only.
Gender	Gender of the patient.
Patient ID	Patient's identification number.
Date of Birth	Patient's date of birth.
Study ID	Study identification number.
Issuer of PID	Issuer of the patient ID.
Study Description	DICOM study description.

Field	Description
Accession No	A unique examination accession number generated by the Radiology Information System (RIS). It is used by the RIS system to track the radiology order, scan, and report.
Institution	Name of the institution where each series in a study was created.
Referring Physician	First and Last name of the referring physician.
Study Performed	Date and time the study was created. The date format displayed is determined by the configuration used by the IBM iConnect Access Web server and not the configuration used by your client workstation. For more information about the date and time format, contact your System Administrator.
Modality	Source modality (or modalities) of the series within the study.
Data Source	Name of the data source (or data sources) where the study is located. This field appears only if multiple data sources are configured and available to the user. If multiple data sources are selected, the Data Source field displays "Customized".
Master Patient ID	Only available if Master Patient ID is configured. If provided, IBM iConnect Access will query the Master Patient ID for other identifiers and use the results to find related all studies.

NOTE: Study List columns are configurable. As a result, it is possible that some of the parameters described may not be displayed in the search results. To customize which columns are displayed, see [Customizing the Search Results Table on page 18](#).

NOTE: If a user account is configured so that only the Studies tab is available, then the application displays no tabs.

To search the study list

- 1 On the Studies tab, ensure that the search criteria panel is displayed (see [Showing/Hiding the Search Criteria Panel on page 1](#)).

NOTE: If the System Administrator has enabled the auto query feature and My Search is set as user's default search, then the Studies tab automatically displays the results of the user's saved My Search search criteria. My Search must be identified as the default search or the auto query is not invoked.

- 2 Select the appropriate search method:
 - Custom Search — proceed to [Step ?](#)
 - Patient Name Search — see [To perform a patient name search on page 1](#)
 - Emergency Search — proceed to [Step ?](#)

- Saved Search or My Search — see [Using and Managing Saved Searches on page 1](#)
- 3 Select **Include XDS Document** if you want to include XDS documents in the search. If more than one patient is found in the search, a Patient Selector dialog will display with a list of patients to select from.

NOTE: When there is one result returned, only that patient's content is searched. Other DICOM studies matching the search criteria are not returned. If you want to see other DICOM studies, deselect the option.
 - 4 In the search criteria panel, type search parameters in one or more fields. For text input fields, you need to type only the first few characters. The more information you type, the more refined the search.

NOTE: The **Modality** field supports multiple modality searches. To search for studies by multiple modalities, insert a backslash (\) between each modality code (for example, CT\MR).
 - 5 If you want to search the Study List for studies referred by a specific physician, select **Ref. Physician** and type the first and/or last name of the referring physician.
 - 6 You can select **My Patients Only** to limit the results to your patients.

NOTE: This option only applies if you are a referring physician or reading physician. When you select this option, the application compares your user name with the Referring Physician DICOM attribute or the Name Of Physician(s) Reading Study DICOM attribute in the studies and displays only studies that match your name.
 - 7 If you want to search for studies created within a specific time frame, select a preset from the **Study Performed** drop-down or select a **Custom Date Range** and do the following:
 - Click the **From** field to select a start date from the calendar. The application searches for studies created on or after the specified date. Any studies created before the “From” date are considered as prior studies.
 - Click the **To** field to select an end date from the calendar. The application searches for studies created on or before the specified date.
 - Click **OK**.
 - 8 If multiple data sources are available, use the **Data Source** drop-down to limit your search to a specific data source. If you select no data sources, the system queries all configured data sources. You can select multiple data sources. In this case, the **Data Source** field displays “Customized”.
 - 9 Optionally, if configured, enter the **Master Patient ID**. IBM iConnect Access will query the Master Patient ID Domain Service to retrieve the Master Patient ID Domain. It will use the Master Patient ID and Domain to query MPI to find all patient identifiers. Then use the result to search related data sources to find studies.

- 10** When you are finished entering your search criteria, click **Search**. The application queries the system and displays the search results and the total number of records found.

If you selected **Include XDS Document**, and more than one patient is returned, the **Select a Patient** dialog is displayed for you to select a patient before the results are displayed. This allows clinicians to select which patient they want to search for XDS content in addition to regular DICOM studies/documents.

CAUTION: Accession number is not case-sensitive. Using random letter case to differentiate may result in studies not being displayed. For example, if Study1 has accession number "Ab123" and Study2 has "aB123", which is the same accession number as Study1, it could result in one of those studies not being displayed.

NOTE: By default, the application can initially retrieve a maximum of 200 studies. To increase or decrease this limit, contact your System Administrator.

NOTE: If the Auto-Search feature is enabled in the System Service tool, the next time you log on, the application applies your last search criteria and displays only the patient studies that match.

NOTE: If you do not want to have the automatic search run when you log on or return to the Study window, turn off the automatic search user preference. See [User Preferences on page 157](#).

NOTE: For Emergency Searches with no search parameters, you will need to accept the warning dialog to continue.

To perform a patient name search

- 1** In the Studies tab, select the **Patient Name Search** radio button.
- 2** In the **Patient Name** field, type some or all of the patient's surname or given name. For example, the system will return John Doe's studies if you type John Doe, Jo D, Doe J. For patient name searches, no wildcard characters are necessary.
- 3** If you want to search for studies created in a specific time frame, select a preset from the **Study Performed** drop-down or select a Custom Date Range and do the following:
 - Click the **From** field to select a start date from the calendar. The application searches for studies created on or after the specified date. Any studies created before the "From" date are considered as prior studies.
 - Click the **To** field to select an end date from the calendar. The application searches for studies created on or before the specified date.
 - Click **OK**.
- 4** If multiple data sources are available, use the **Data Source** drop-down to limit your search to a specific data source. If you select no data sources, the system queries all configured data sources. You can select multiple data sources. In this case, the **Data Source** field displays "Customized".

- 5 When you have finished entering your search criteria, click **Search**. The application queries the system and displays the search results and the total number of records found.

Using and Managing Saved Searches

The IBM iConnect Access application enables you to save your search criteria. Once saved, you can retrieve and apply the saved search without having to re-enter search criteria.

To save your search criteria

- 1 From the Studies tab, ensure that the search criteria panel is displayed (see [Showing/Hiding the Search Criteria Panel on page 1](#)).
- 2 Specify your search criteria.
- 3 Click **Save**.
- 4 Select one of the following:
 - **Save as Preset Named** — saves the search under a unique name
 - **Save as My Search** — saves the search and assigns it to the My Search button
- 5 Click **Save**.

To run a saved search

- 1 Ensure that the search criteria panel is displayed (see [Showing/Hiding the Search Criteria Panel on page 1](#)).
- 2 Do one of the following:
 - From the **Search Preset** drop-down, select the desired search and click **Search**.
 - If you have saved a search as “My Search”, click **My Search**.



To delete a saved search

- 1 Ensure that the search criteria panel is displayed (see [Showing/Hiding the Search Criteria Panel on page 1](#)).
- 2 From the **Search Preset** drop-down, select the search you want to delete.
- 3 Click **Delete**.

Showing/Hiding the Search Criteria Panel

To make more room on the Studies tab for viewing search results, you can hide the search criteria panel.

To show/hide the search criteria panel

To hide the search criteria panel click  . If the search criteria panel is hidden, click  to display it.

Viewing Your Briefcase

IBM iConnect Access enables you to view your Briefcase, which is stored in the Merge PACS Archive. For this feature to work, the user name in the IBM iConnect Access user database needs to be the same as the user name in Merge PACS user database. User name synchronization is typically performed by means of LDAP or Active Directory.

NOTE: Users cannot modify Briefcase contents from within IBM iConnect Access. The modification of Briefcase contents is performed exclusively from within the Merge PACS Viewer.

Your Briefcase, also known as a teaching worklist (TWL), is a collection of associated studies. Each study can be associated with no or an unlimited number of teaching worklists. A number of non-DICOM tags can be specified for each study in a teaching worklist. Any number of teaching worklists can be created by a user but only one of these worklists can be defined as the Briefcase.

Your Briefcase displays a list of all teaching worklists for all connected Merge PACS archives. The teaching worklists display the worklist name and the data source name for all teaching worklists. The default teaching worklist is displayed first in the worklist drop-down.

When a worklist is displayed, the study list displays the same columns that are used for a standard search.

NOTE: The Briefcase contents provide a snapshot of the state of your teaching worklists. The display of the teaching worklist is not be updated until a new query is run.

To view worklists

- 1 In the Studies tab, click the **Worklist** drop-down and select a worklist.

NOTE: Clicking **Briefcase** loads the Briefcase. The Briefcase is the first teaching worklist displayed in the **Worklist** drop-down.

The list of studies in the selected teaching worklist is displayed in the study list.

- 2 Double-click a study to open it in a study viewer.

NOTE: If you do not have any teaching worklists available, the Briefcase button and drop-down are not enabled.

Customizing the Search Results Table

You can add, remove, and move columns in the search results table. If your Administrator has enabled the **Allow User to Save Study List Column Layout** option at the domain and role levels, these settings are saved. Otherwise, the default settings are restored when you log out or navigate away from the page.

To customize the search results

- 1 At the bottom of the search results list, click **Choose Columns**. The Select Columns dialog opens.
- 2 Do the following:
 - To sort columns within a list, click and drag the column up or down.
 - To remove a column from the selected list and place it in the unselected list, click the minus sign. Unselected columns do not appear in the search results table.
 - To add a column from the unselected list to the selected list, click the plus sign.

NOTE: Alternatively, you can move all of the columns from one list to another by clicking **Remove All** or **Add All**.

- 3 Click **OK** to save your changes.

Managing the Search Results

The search window enables you to manage the search results in the following ways:

- Sort the search results in ascending or descending order by clicking the column headings.
- Group the search results based on a selected category, such as last name, modality, and study date.

To sort the search results

- 1 Click the appropriate column heading in the list. For example, **Last Name**.
- 2 The application sorts the patients in ascending or descending order according to the information in the column (either alphabetically or numerically, depending on the type of information). It displays an arrow in the column heading to indicate the column that is used to sort the information in the Studies tab.
- 3 Click the column heading again to reverse the sort order.

To group search results

From the **Group By** drop-down, select the desired grouping. The application refreshes the search results and groups the information according to your grouping selection.

For example, if you select Study Date and Time, the search results appear in ascending order by date.

By default, the **No Grouping** option groups search results in ascending alphabetical or numerical order based on the contents of the first column.

NOTE: You can expand or collapse each grouping.

Selecting and Loading Studies

This section contains the following procedures:

- [Selecting and Loading Studies for Review on page 25](#)
- [Selecting and Loading Studies from the Studies Tab on page 26](#)
- [Selecting and Loading Studies into an External Application on page 27](#)

Selecting and Loading Studies for Review

This section describes how to select and load a study for review.

When you first load a study into a study viewer, the application loads as many series as possible into the number of available viewers. This scenario is only applicable if a default viewer setting exists for the study's modality. For example, if a viewer setting of 1x2 viewers was configured for MR studies, when you load an MR study, the application displays two viewers and automatically loads the first two series into the viewers. If a viewer setting does not exist for a modality, the application loads the first series into a single viewer.

CAUTION: It is recommended that studies be reviewed after quality control has been performed.

NOTE: To configure a default viewer setting for a modality, contact your System Administrator.

To select and load a study

- 1 Click on the required study in the Studies tab. The application highlights the selected study.
- 2 Double-click the study to open in the default viewer type or select a viewer type, Enterprise or Universal. The application displays the selected study in appropriate study viewer.

Selecting and Loading Studies from the Studies Tab

When integrated, IBM iConnect Access receives the search criteria from a third-party application. Based on your site's configuration, IBM iConnect Access may list search results in the Studies tab, or directly display the patient study in a viewer window (see [Study Viewers on page 32](#)).

The Studies tab displays the search results in either a patient-centric or a study-centric view as described below. From the Studies tab, you can select one or multiple studies to load into the study viewer.

- **Patient-centric** — Displays the search results by patient (that is, studies are grouped based on patient name, ID, date of birth, and gender).

NOTE: In many cases, the patient-centric view is not available as this requires the use of an Enterprise Master Patient Index. Consult your System Administrator for availability.

NOTE: When you select a patient, all studies associated with the patient are loaded into the study viewer.

- **Study-centric** — Displays the search results by study.

NOTE: Depending on your configuration, you can start a new search from this window (see [Performing Searches on page 17](#)). If you start a new search, the Studies tab replaces the current search results with the new results. The Studies tab does not save your search criteria.

To select and load one or more studies

- 1 The application displays the search results in the Studies tab. By default, the Studies tab lists the results by location. You can sort the results using the remaining column headings (see [Managing the Search Results on page 24](#)).
- 2 Do one of the following:
 - In a study-centric list, select the checkbox beside the studies you want to load.
 - In a patient-centric list, select the checkbox for the patient studies you want to load. The application loads all studies associated with the selected patient.
- 3 Click **Enterprise** or **Universal**. For instructions on using the study viewers, see [Study Viewers on page 32](#).


Selecting and Loading Studies into an External Application

You can select and load studies into other standalone applications that are external to IBM iConnect Access.

Use the following procedure to select and load a study into a third-party application.

To select and load a study into an external application

- 1 Do one of the following:
 - Select a study in the Studies tab, select the third-party application, and click **Launch**.
 - In a study viewer, position the pointer over the External Application button and select the third-party application.

Enterprise 

Universal 

- 2 IBM iConnect Access launches the external application and the selected study is displayed in application's native interface.

NOTE: The External Applications feature is also accessible from the Studies and XDS pages in the Patient Record.

Managing Access to Studies

The Grant Access feature enables you to grant or remove access to specific studies. Access can be granted at either the group or user level. The Grant Access feature is accessible from the Studies, Inbounds, and Outbounds tabs as well as the study viewers.

NOTE: If the Grant Access feature is not enabled, contact your System Administrator.

NOTE: It is the users responsibility to check that data is correct before allowing access to studies.

To manage access to studies

- 1 Do one of the following:
 - Select a study in the Studies, Inbounds, or Outbounds tab. If you want to select multiple studies, hold down the CTRL key and select the studies in the list. The application highlights selected studies. Click **Grant Access**.
 - With a study open in a study viewer, click **Grant Access**.
 - Enterprise viewer — from the Review toolbar.
 - Universal viewer — from the Study Action drop-down in the Study Panel toolbar.

- 2 The Grant Access dialog opens. Studies you are about to grant access to are displayed. If you have selected multiple studies, proceed to [Step 3](#).

If you have selected one study from the study list or are granting access to a study using a study viewer, the Grant Access dialog lists related studies. Select any related studies to add. Click **Select All** to add all related studies.
- 3 From the **Select Domain** drop-down, select the domain that contains the group(s) or users(s) to which you want to grant access.
- 4 To find specific groups or users, type the name in the **Filter Groups** or **Filter Users** fields and click **Search**. The filtered results display.
- 5 Select the groups or users that you want to grant or remove access, then click either **Add** or **Remove** correspondingly.
- 6 Click **Grant Access** to save the access privileges.

Transferring Studies to a Configured Data Source

The Transfer feature enables you to transfer a study from IBM iConnect Access to another data source. The Transfer feature is accessible from the Studies, Inbounds, and Outbounds tabs as well as the study viewers.

CAUTION: Transfers should be performed after quality control has been completed.

NOTE: The Transfer feature is also accessible from the Studies and XDS pages in the Patient Record.

To transfer studies to a configured data source

- 1 Do one of the following:
 - Select one or more studies in the Studies, Inbounds, or Outbounds lists. To select multiple studies, press the CTRL key and select the studies in the list. The application highlights the selected studies. Click **Transfer**.
 - With a study open in a study viewer, click **Transfer**.
 - Enterprise viewer — from the Review toolbar.
 - Universal viewer — from the Study Action drop-down in the Study Panel toolbar.
- 2 The Transfer dialog opens. Studies you are about to transfer are displayed. If you have selected multiple studies proceed to [Step 3](#).

If you selected one study from the study list or are transferring a study using a study viewer, related studies are also displayed. Select any related studies to add to the transfer. Click **Select All** to add all related studies.

- 3 From the **Transfer to** drop-down, select a configured data source destination.
- 4 Click **Transfer**. The Transfer Status dialog opens, displaying the status of the transfer. The transfer status changes from "In Progress" to "Succeeded" when the transfer has successfully completed. During the transfer process, a transfer job will have one of the following status values:

Status	Description
Created	The system has created the transfer job.
Succeeded	The transfer has successfully completed.
In Process	The construction of the package is in progress.
Retry	The transfer has failed and can be retried.

NOTE: You can also view the transfer status by selecting **Transfer Status** from the **Options** menu.

Downloading Studies to a Local System

When downloading a study to the local system, the system retrieves all information from all data sources and processes them into one zip file per study. The zip file observes the following naming convention: <patient last name>_<patient first name>_<description>_<study date>_<study time>. For example:

Jane_Doe_Pelvis_06-Jan-2012_1_23_00_PM_0.zip

This zip file is then downloaded to the destination you have specified.

The Download feature is accessible from the Studies, Inbounds, and Outbounds tabs as well as the study viewers.

CAUTION: Download should be performed after quality control has been completed.

NOTE: The Download feature is also accessible from the Studies page in the Patient Record.

During the download process, a download can have one of the following status values:

Status	Description
Created	The system has created the download.
Ready	The system has retrieved information from all data sources and processed the information into a zip file. The file can now be downloaded.
In Process	The construction of the package is in progress.

Status	Description
Done	The file has been downloaded.
Retry	The download has failed and can be retried.
Expired	The download period has been exceeded. By default, the period is one hour. Contact your system administrator to adjust this time period.

To download a study to a local system

1 Do one of the following:

- Select one or more studies in the Studies, Inbounds, or Outbounds list. To select multiple studies, press the CTRL key and select the studies in the list. The application highlights the selected studies. Click **Download**.
- With a study open in a study viewer, click **Download Study**.
 - Enterprise viewer — from the Review toolbar.
 - Universal viewer — from the Study Action drop-down in the Study Panel toolbar.

2 The Download dialog opens. Studies your are about to download are displayed. If you have selected multiple studies, proceed to **Step 3**.

If you selected one study from the study list or are downloading a study using a study viewer, related studies are also displayed. Select any related studies to add to the download. Click **Select All** to add all related studies.

3 The **Download to** option is set to **Local System** by default. Later in the download process you will be given the option to select a save location on your local system. Select **Data Mask Exams** to anonymize/customize the study/patient information.

NOTE: iConnect Enterprise Archive 12 or higher is required in order to use the Data Mask Exams feature.

4 Click **Download** and do one of the following:

- a** If **Data Mask Exams** was not selected, the Quality Control dialog opens, displaying the values for studies to be downloaded. Verify that the values are complete and correct. Apply the current values you want to keep and enter any new values into the New Values column. If you had multiple studies selected, you need to confirm the new values before proceeding.

To confirm the values of one study at a time, click the study in the list at the top of the dialog and then click **Confirm** when the new values have been validated.

To confirm the new values of all studies at once, click **Confirm All**.

To copy values of one study to any related studies, select **Copy patient attributes to all related studies** for the study you want to copy values from.

Proceed to **Step 5**.

- b** If **Data Mask Exams** was selected, the Data Masking Settings dialog opens. The Patient/Study Information values are automatically generated or removed by default. Enter any values you want apply to the patient/study.

To copy values of one study to all studies, select **Copy patient attributes to all studies** for the study you want to copy values from.

- 5** Click **Submit**. The Download Status dialog opens.

NOTE: You can also view the download status by choosing **Transfer Status** from the **Options** menu.

- 6** The status refreshes every 30 seconds. However, you may manually refresh the display by clicking **Refresh** to view the most current status of the transfer.
- 7** When the package has a status of Ready, click **Download**. The Download Packages dialog opens, displaying the name and size of the file.
- 8** Click **Download**. The File Download dialog opens, enabling you to open or save the package.
- 9** Save the package to the desired location and close the File Download dialog. When the package is successfully downloaded, the **Status** field in the Download Packages dialog displays a checkmark.



Chapter 4 Study Viewers

The study viewers enable you to review studies in the following viewer types:

- **Enterprise** — legacy IBM iConnect Access study viewer including all the standard workflow and image viewing tools.
- **Universal** — universal user interface with similar functionality to the Enterprise viewer. Includes support for diagnostic quality collaboration and screen sharing.

NOTE: Some Enterprise features are not available on the Universal viewer (see the exception list in [Universal Study Viewer on page 52](#) for a list of features).

NOTE: The Universal viewer is only supported for desktop browsers (except Internet Explorer 11) and is not available on mobile devices.

Study viewer functionality is described in the following:

- [Opening the Viewers on page 33](#)
- [Enterprise Study Viewer on page 33](#)
- [Universal Study Viewer on page 52](#)
- [Working with Studies on page 64](#)
- [Saving Presentations on page 85](#)
- [Emailing Studies on page 87](#)
- [Reporting Errors on page 88](#)
- [Working with Conference Folders on page 88](#)
- [Collaborating on Studies on page 92](#)

The study viewers support the IBM iConnect Access 3D Viewer plugin, which is available under a separate license. IBM iConnect Access 3D provides clinical users the ability to perform and save advanced image processing of tissue volumes for MRI, CT, and PET. For more information on the IBM iConnect Access 3D Viewer, see [iConnect Access 3D Viewer on page 95](#).

Opening the Viewers

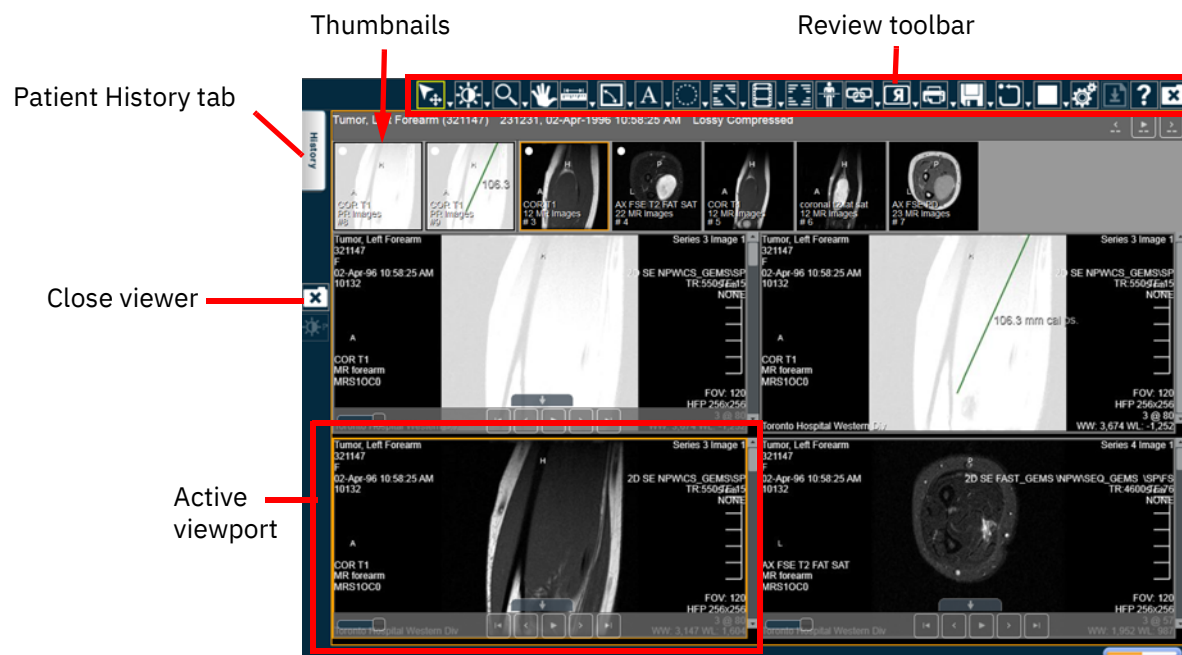
To open a study in a study viewer, do one of the following:

- Select a study in the study list search results and click a viewer type, **Enterprise** or **Universal**. The study opens in the selected viewer.
- Double-click a study in the study list search results. The study opens in the viewer set by the Default Viewer Setting in your User Preferences.

CAUTION: Closing a viewer does not save the presentation state applied to images.

Enterprise Study Viewer

The Enterprise study viewer window consists of the following components:



- [Patient History Tab on page 34](#)
- [Thumbnail Toolbar on page 64](#)
- [Viewer and Viewports on page 36](#)
- [Enterprise Viewer Review Toolbar on page 37](#)

NOTE: To help you differentiate between patients who have the same name, each viewport displays the patient name and a unique patient ID.

NOTE: When loading a shared study from a holding pen that has not been reconciled, a yellow caution icon appears at the top of the viewport and in the Status column for the study in the Patient History tab. The tool tip for the icon states “Foreign Exam. This study may not belong to the same patient.”.

Patient History Tab

The Patient History tab contains the following:

- Patient information section — displays the patient's name, patient ID, date of birth, and if MPI is configured, Master Patient ID.

NOTE: If Master Patient ID is configured, IBM iConnect Access will query the Master Patient ID for other identifiers and use the result to find all related studies. Also, if “Add local query result” is enabled, IBM iConnect Access will query all local data sources belonging to the domain and use the query parameters configured in the domain or system (integrated) to query those data sources. If IBM iConnect Access finds any related studies, they will be identified with a “+” symbol.

- Related studies section — lists any DICOM or document studies that may be associated with the patient for comparison. When you load a study in the Enterprise viewer, IBM iConnect Access automatically searches for matches containing the same patient name, patient date of birth, and patient ID and displays them in the related studies section of the Patient History tab. See [Comparing Related Studies on page 35](#) for steps on comparing related studies.

NOTE: If a patient has XDS documents that do not have a study identifier (accession number or study instance UID), the documents will be grouped in an entry that displays “Other Patient Documents” in the “Study Description” column.

- Report area — lists any associated reports. Reports can include audio files (such as digital dictations) that you can play directly from the report area or the viewer (if you have selected Report View).
- A notes/comments section — displays any notes added to the study using the conference folders feature. These notes appear in the Patient History tab if the study was loaded from the Conference Folders tab. See [Working with Conference Folders on page 88](#).

Related topics:

- [Comparing Related Studies on page 35](#)
- [Viewing Order Requisitions on page 35](#)
- [Viewing a Study Report in the Enterprise Viewer on page 36](#)

Comparing Related Studies

Related studies enable you to compare the original study with one or more additional studies. When opening a related study in the Enterprise viewer, each study is displayed in separate panel with its own thumbnails and demographic information. Up to three viewer panels can be open at one time in the Enterprise viewer. Each can be closed individually, except for the primary study (the one that was originally selected from the study list).

To select and load another study

From the Related Studies list, double-click a study. The application loads the study images into a new viewer panel.

Viewing Order Requisitions

If a study contains an order requisition, you can display it in the Enterprise viewer using the Requisition View. The Enterprise viewer supports the following types of documents:

- DICOM images
- Non-DICOM images (such as JPG and GIF files)
- Adobe Portable Document Format (PDF) documents
- Microsoft Office documents (for example, Microsoft Word, Microsoft PowerPoint, Microsoft Excel)
- Videos (such as AVI and MPG files)

NOTE: The Requisition View is an optional feature and may not be available at your site. This feature requires custom adaptation offered by the Professional Services team. Contact [Customer Support](#) for details.

When viewing the order requisition in the Enterprise viewer, the viewer provides basic tools that are native to the file format of the order requisition. For example, if the order requisition is an Adobe PDF file, the viewer provides the application's basic toolbar. Modified documents can only be saved locally.

NOTE: Except for DICOM images, the viewer can only display documents whose application is already installed on your workstation. For example, to load and review a Microsoft Word document, the application must already exist on your local workstation. If the application is not already installed, the application asks if you want to save the document locally.

NOTE: Any changes to the requisition files performed in the viewer can only be saved to the local computer.

To view an order requisition for study

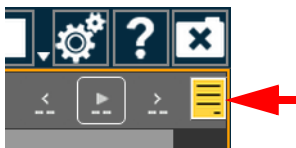
- 1 Select and load the desired study in the Enterprise viewer (see [Selecting and Loading Studies on page 25](#)).
- 2 Open the Patient History tab.
- 3 Click **Requisition** to display the requisition in the viewer.

Viewing a Study Report in the Enterprise Viewer

You can view reports that are associated with a study. Reports can include items such as a DICOM Structured Report's, PDF, or audio file (digital dictation). Reports can be viewed directly from the Report Panel or the Enterprise viewer (if you have selected Report View). For audio files, the application displays audio controls then automatically plays the audio file once it has finished loading.

To access a study report

- 1 Select and load a study (see [Selecting and Loading Studies on page 25](#)).
- 2 Do one of the following:
 - Open the Patient History tab, select a study, and click **Report** to display the report in the Report viewer.
 - Open the study in the viewer and click the Report button.



NOTE: The Report buttons are only enabled when a there is report available.

NOTE: To return to viewing the patient's images in the viewer, close the Patient History tab.

- 3 If a study has multiple reports, select the desired report from the top of the report list.

Viewer and Viewports

The viewer consists of a configurable number of viewports. You can configure the viewer by means of the following:

- [Series Viewer Options on page 46](#)
- [Image Layout Options on page 48](#)

Enterprise viewer Modality Toolbar

The Enterprise viewer modality toolbar contains tools that are specific to a given modality. Modality toolbars are configured by the System Administrator.



The tools contained in the modality toolbar are the same as those contained in the review toolbar. Refer to [Enterprise Viewer Review Toolbar on page 37](#) for details on the individual tools.

NOTE: The Enterprise viewer modality toolbar does not apply to document-only studies.

Enterprise Viewer Review Toolbar

The Review toolbar contains tools that you can use to investigate and manipulate images in the image viewer.



NOTE: The Review toolbar is configurable by the System Administrator. As a result, the contents of the toolbar and the order of buttons may differ.

NOTE: If the selected viewport contains an image document (such as JPG, PNG, GIF) or non-image document (such as PDF, HTML, text, audio, video), many of the Review toolbar tools are disabled.

NOTE: Do not drag the mouse outside of the browser when interacting with the viewport (in other words, when you release the mouse button, make sure the mouse cursor stays within the boundaries of the browser).

For more information, see:

- [All-In-One Tool on page 39](#)
- [Window Options on page 39](#)

- [Zoom on page 40](#)
- [Pan on page 40](#)
- [Measurement Tools on page 41](#)
- [Text and Annotations on page 42](#)
- [Annotation Options on page 43](#)
- [User Preferences on page 43](#)
- [Pixel Value on page 44](#)
- [Cine and Stack on page 44](#)
- [Link Options on page 45](#)
- [Image Orientation on page 45](#)
- [Printing and Generating Reports on page 46](#)
- [Save on page 46](#)
- [Series Viewer Options on page 46](#)
- [Series Scope Options on page 47](#)
- [Image Layout Options on page 48](#)
- [Series Navigation Options on page 48](#)
- [Email/Share Study on page 49](#)
- [Invite to Upload on page 49](#)
- [Transfer Study on page 49](#)
- [Nominate Study for Archiving on page 49](#)
- [Reconcile Exam on page 50](#)
- [Change Destination on page 50](#)
- [Add Receiver on page 50](#)
- [Conference Folders on page 51](#)
- [Report Error on page 51](#)
- [External Application Launch on page 51](#)
- [3D View - Enterprise viewer on page 51](#)
- [Download Document on page 51](#)

- [Online Help on page 51](#)



All-In-One Tool

	Enables the All-In-One tool. See Using the All-In-One Tool/Mouse Configuration on page 67 .
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Window Options

	<p>Window Level. Enables you to manually adjust the window width and level. Width can be wide (many grays, less contrast) or narrow (fewer grays, more contrast). Level can be high (dark) or low (bright). See Changing Window Settings on page 68.</p> <p>NOTE: If the image or presentation state has VOI LUT (value of interest lookup table), the application displays “LUT” in the viewport instead of W/L values. If you perform any W/L operation, IBM iConnect Access uses W/L instead of LUT. Performing a reset restores the LUT until you perform another W/L operation. Contact your System Administrator to configure the default behavior for this tool in the Enterprise viewer.</p>
	Auto Window Level. Applies optimum window width and level values based on a histogram analysis of the active image. See Changing Window Settings on page 68 .
	<p>Invert. Calibrates the image grayscale to provide a negative image display. Click again to return to the original setting.</p> <p>For MG images, this feature only inverts the breast tissue; the background remains black.</p>
	<p>Reset. Resets the image display parameters (such as window settings, zoom, pan, orientation and grayscale inversion) to the last saved settings or, if you have not saved the settings during the current session, resets the parameters to the settings applied when the study was first loaded.</p> <p>When you reset the image display parameters, depending on the scope set for the viewer, the application resets the current image or all the images in the series.</p>
	Full Screen. Full screen mode offers more screen real estate by hiding the menu bar and toolbar from the viewer. See Using Full Screen Mode on page 67 .
	Close. Closes the viewer and returns to the study list.

Zoom

	<p>Interactive Zoom. Zooms the selected image. In the viewport, click and hold the left mouse button, and move the cursor up/down to zoom in/out on the center of the image.</p>
	<p>Magnifier. Magnifies an area of an image. You can move the magnification window to different locations within the viewport.</p> <p>Move the magnifier window to magnify areas of interest. Left-click within the magnification window to dismiss the window.</p> <p>To change the magnification level, you can either disable the tool and select a different magnification factor, or scroll the mouse wheel while in the magnifier.</p>

Pan

	<p>Pan. Repositions the image within the viewport.</p>
---	--






Measurement Tools

NOTE: The application does not allow measurement tools on an ultrasound study that contains multiple measurement regions or when there is a single measurement region in which the measurement is other than distance.

NOTE: Measurement tools are disabled for US studies in the following cases:

- there is a single measurement region, but the metric is other than distance.
- there are multiple measurement regions





	<p>Line Measurement. The application displays the distance between the starting point and ending point in millimeters when the image is calibrated. When not calibrated, it displays in pixels (px). The behavior of this tool can be configured in three ways in the IBM iConnect Access Service Tool. To change the behavior, contact your System Administrator.</p> <ul style="list-style-type: none"> • By default, the line measurement tool requires you to click on the image to identify the start of the line, and click again to identify the end of the line. • If the Use Alternate Drawing option is enabled in the Service Tool, after the line is drawn, you can select and move the line and each of its endpoints. • The third behavior enables you to use the option Rubberbanding Behavior When Drawing Line Measurement. With Rubberbanding, click and hold the left mouse button to start the line. Drag the cursor to the desired location and release the button to identify the endpoint. The line appears as you move the endpoint.
	<p>Calibration. Click two points on the image to create a line. The application displays the distance and an input field where you can enter the newly calibrated distance, in millimeters. See Working with Calibration Lines on page 74.</p>
	<p>Plumb Lines; Horizontal and Vertical. Select the desired plumb line orientation—vertical or horizontal—and click anywhere on an image to draw a plumb line across the entire image intersecting at the location of the mouse cursor. See Working with Plumb Lines on page 76.</p>
	<p>Joint Line. Measure angles for metatarsal osteotomies with the assistance of a line perpendicular to the base of the angle. Click two points on the image to create a reference line. Click a third point on the image to complete an angle. The application displays the angle measurement at the intersection. Adjustments can be made to joint lines after they have been created. See Working with Joint Lines on page 76.</p>



	Transischial Line. Used to measure leg length discrepancies for pre-operative planning of orthopedic surgeries. Click two points on the image to create a reference line. Click two more points on either side of the reference line to measure the distance between those points and the reference line. The application displays the distance between the two points and the reference line and calculates the discrepancy between the two distances.
	Angle. Click three points on the image. The application displays the angle's measurement.
	Cobb Angle. Click two points on the image to create a line. Click two more points to create the second line. The application extrapolates the point where the two lines intersect and displays the Cobb Angle.
	Free Draw. Click and hold the left mouse button to begin drawing nonlinear annotations on an image by moving the cursor. Release the left mouse button to end the annotation.
	Localizer Lines. These lines enable you compare images of different planes. The application takes one reference image, compares it with the images in the other viewers, then displays a line (if applicable) that shows where the reference image intersects with the other images. See Working with Localizer Lines on page 73 .

Measurements made in the Enterprise viewer can be modified as follows:

- Click and drag a handle of a measurement to move the handle's location. Calculated values, such as distance measurements, are updated dynamically.
- Click and drag a measurement or text box to move it.
- Right-click a measurement to delete it.

Text and Annotations

	Add text. Click the image where you want the text to appear. The application places a text insertion point on the image. Type the text you want to place on the image. Click outside of the text box or press Enter to complete the function.
	Edit text. Click the text and edit as desired. Click outside of the text box or press Enter to complete the action.
	Toggles the text. Click once to hide the text and again to restore the text.
	Annotation rectangle. Click and drag the mouse cursor to draw a rectangle over the desired region. When you release the mouse button, the application displays the region of interest (ROI) measurements. *

	Annotation Ellipse. Click and drag the mouse cursor to draw an ellipse over the desired region. When you release the mouse button, the application displays the ROI measurements. *
	Annotation ROI. Click and drag the mouse cursor to draw a freehand ROI. When you release the mouse button, the application completes the ROI with a straight line between the start and end points. The application displays the ROI measurements. *




* For each annotation drawn, the following measurements are displayed: Max (maximum pixel value), Min (minimum pixel value), and Mean (average pixel value). For the Annotation Rectangle and Annotation Ellipse, Area (pixel area in sq. mm) is also displayed. For CT images, the pixel measurements are automatically converted to Hounsfield units.

Annotation Options


Annotation options enable you to manage the following annotations:

- Measurement annotations (such as line, rectangle, ellipse, ROI, angle, and Cobb angle). All measurements are displayed in metric units.
- Text annotations (such as labels and notes).

The following table describes all of the available annotation tools:

	Edit Annotation. When selected, enables you to modify a selected annotation in the image viewer.
	Delete Annotation. When selected, deletes a selected annotation in the image viewer.
	Delete All Annotations. When selected, deletes all annotations in the image viewer.


User Preferences

	Opens the User Preferences dialog, where preferences for the viewer are set by the user. When these preferences are set by an Administrator for a role, all members of the role inherit the same preferences unless overridden at the user level. For more information, see Configuring User Preferences on page 157 .
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Pixel Value

	<p>Pixel Value. Identifies the pixel coordinates and the pixel value of a pixel when you click on an image. The pixel value is expressed as an RGB value for color images or a grayscale value (representing brightness) for monochrome images.</p> <p>For CT images, the pixel measurements are identified by the abbreviation "HU" if the pixel values are stored in Hounsfield units. An abbreviation of "US" indicates an unspecified unit of measure.</p>
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Cine and Stack

	<p>Cine. You can animate any active series using the Cine feature. Cine controls provide standard navigation commands that enable you to stop, pause, and move forward or backward through the cine. You can also adjust the speed of the cine and use the zoom, pan, and window settings while in cine mode.</p> <p>Cine starts automatically for modalities in which auto-play is configured.</p> <p>See Using the Cine Feature on page 77.</p>
	<p>Stack. Produces a stack of all images in the study within a single viewport. Use the scroll bars to scroll through the images that constitute the stack. An indicator displays in the viewport to identify that the images are stacked.</p>  <p>Global Stack does not apply when Exam Mode is enabled for modalities.</p>
	<p>Scroll Tool. Enables you to scroll through the images in a series within a viewport by moving the mouse cursor up or down while the left mouse button is pressed.</p>

Link Options










	Link All. See Link All / Link All Offset on page 69 .
	Link All Offset. See Link All / Link All Offset on page 69 .
	Link Cancel. See Cancel on page 70 .
	Link Selected. See Link Selected / Link Selected Offset on page 69 .
	Link Selected Offset. See Link Selected / Link Selected Offset on page 69 .



Image Orientation

	Flip Horizontal. Flips the image on the horizontal axis.
	Flip Vertical. Flips the image on the vertical axis.
	Rotates the image clockwise or counter-clockwise in 90 degree increments.



Edge Enhancement

	<p>The Edge Enhancement feature enables you to enhance the edge of an image. Edge enhancement is an image processing filter that enhances the edge contrast of an image to improve its apparent sharpness.</p> <p>NOTE: The edge enhancement filter is intended for use on images with high spatial resolution and low signal-to-noise ratios. The edge enhancement filter is intended for use on X-ray images only.</p> <p>For more information, see Applying Edge Enhancement on page 82.</p>
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Printing and Generating Reports


	<p>Print View. Prints the selected patient image to a printer connected to your local workstation. If you are connected to a network, you can print to a network printer.</p> <p>The application's print function is dependent on the Web browser that you are using. Hardcopy printouts can vary between different Web browsers.</p> <p>See Printing Patient Images and Documents on page 83.</p>
	<p>Generate PDF Report. Generates a report of the study with embedded key images (if applicable) in PDF format. This option is only available when the study being viewed contains a report in text, HTML, or XML format. The first page of the report includes information that describes the exam and can optionally include logos and the institution's name and other information. Patient information appears in the header of every page.</p> <p>See Generating PDF Reports on page 84.</p>

Save

	<p>Save Series. Saves the presentation state (PR series) for the currently active series.</p>
	<p>Save Annotated Images. Saves annotated images to the currently selected series.</p>

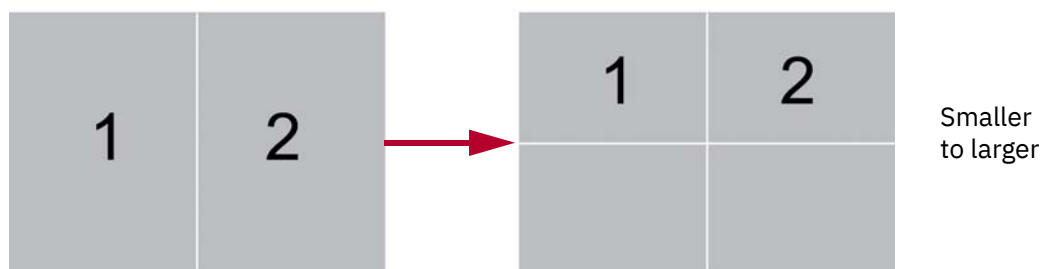
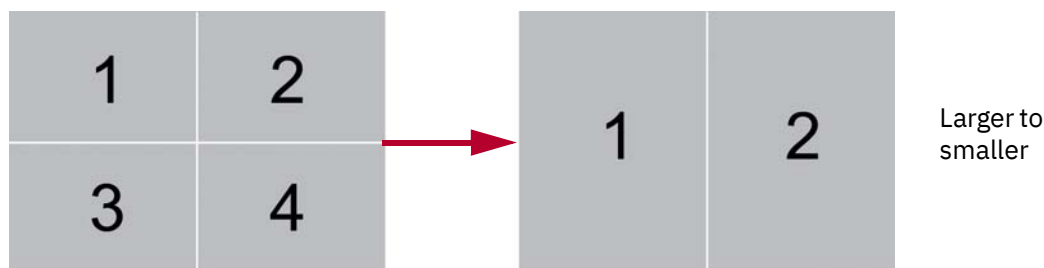
Series Viewer Options

For modalities other than PR and KO, series scope is set by default.

	<p>The Series Viewer in the Enterprise viewer enables you to display one, two, four, or six viewports within a viewer panel. Each viewer panel displays a series which you load from the Series Thumbnails panel or Patient History tab. When you use multiple viewports, you can perform side-by-side comparison of the same or different series, from the same or different studies for the same patient.</p>
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NOTE: When you first load a study, the application displays the number of viewers defined in the modality presets. For information on defining the modality presets, refer to the IBM iConnect Access Administrator's Guide.

When you change the number of viewports from a larger to a smaller number, the application preserves the first n images (where n is the smaller number). When you change the number of viewports from a smaller to a larger number the application preserves the images.



The application saves the last viewer settings and displays the same number of viewers the next time you load a study into the viewer window.

Series Scope Options

Scope is the range of displayed images to which the application applies your changes (such as window settings, zoom, pan, orientation and grayscale inversion). There are two scope settings: Image and Series. When you apply a scope, the setting applies to all viewer panels during a review session.

NOTE: For PR and KO modalities or if global stack is enabled, the default scope is set to Image. Otherwise, the scope is set to Series. If both scope options are configured, the system highlights the option that is applied. To keep series scope, ensure the scope setting is set to Series.

NOTE: If you change your scope setting from Image to Series during a review session, the application applies any review parameters on any image to all the images in the series.

Your scope setting applies to all the series that belong to the same study, including the studies in the Related Studies List.

	Series Scope. Applies review parameters to all images in a series.
--	--



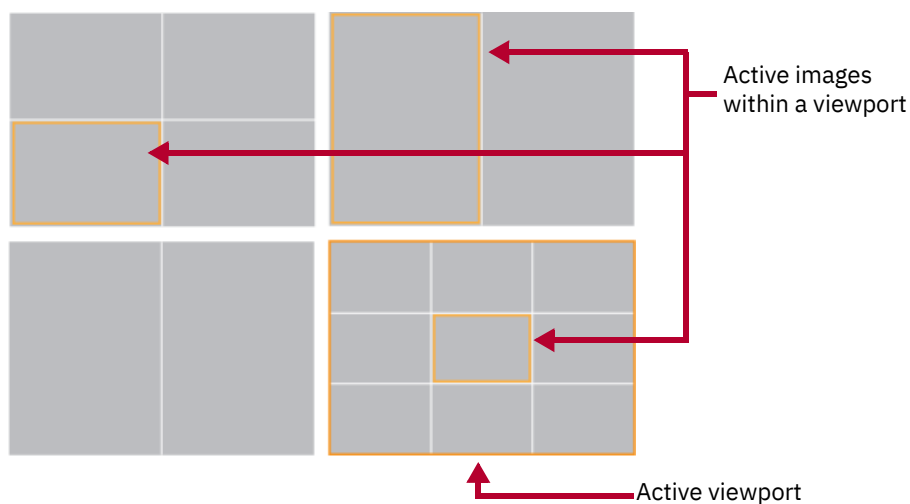
	Image Scope. Applies review parameters to the current image.
---	--


Image Layout Options

	The image layout specifies the number of rows and columns in which images are displayed within a viewport. For example, if you select a 2x2 layout, there are four images in the viewport.
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The following example shows four viewports, each with a different layout. The application applies a border to active viewports and images.




Series Navigation Options

	Navigate to the next or previous series.
---	--


Email/Share Study

	Send a study to non-registered users via email. See Emailing Studies on page 87 .
	Opens the Grant Access dialog. See Managing Access to Studies on page 27 .


Invite to Upload

	Invite non-registered users to upload studies as guest using the Web Uploader. See Inviting to Upload on page 142 .
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Transfer Study

	Opens the Transfer dialog. See Transferring Studies to a Configured Data Source on page 28 .
---	---

Download Study

	Opens the Download dialog. See Downloading Studies to a Local System on page 29 .
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Nominate Study for Archiving

	Opens the Confirm Study Archive Nomination dialog. See Nominating Studies for Archiving on page 139 .
---	--

Denominate Study for Archiving

	Opens the Confirm Study Denomination dialog. See Denominating Studies for Archiving on page 139 .
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Reconcile Exam



Opens the **Reconcile Exam** dialog. See [Reconciling Exams on page 141](#).

Change Destination



Opens the **Change Destination** dialog. See [Changing a Study Destination on page 140](#).

Add Receiver




Opens the **Add Additional Details** dialog. See [Adding Recipients on page 138](#).


Conference Folders

	Opens the Add to Conference Folder dialog. See Working with Conference Folders on page 88 .
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Report Error

	Opens the Report Problem dialog. See Reporting Errors on page 88 .
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External Application Launch

	Launches an external third-party application with the selected study displayed in application's native interface. Position the cursor over the External Application Launch icon and select the third-party application.
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3D View - Enterprise viewer

	<p>Opens the currently selected MRI, CT, and PET series containing 15 or more images in the Enterprise IBM iConnect Access 3D viewer. See Using iConnect Access 3D Views on page 111 for information on viewing 3D images in the available modes.</p> <p>NOTE: 3D View option in the Enterprise viewer is only available on mobile (iPAD) devices.</p>
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Download Document

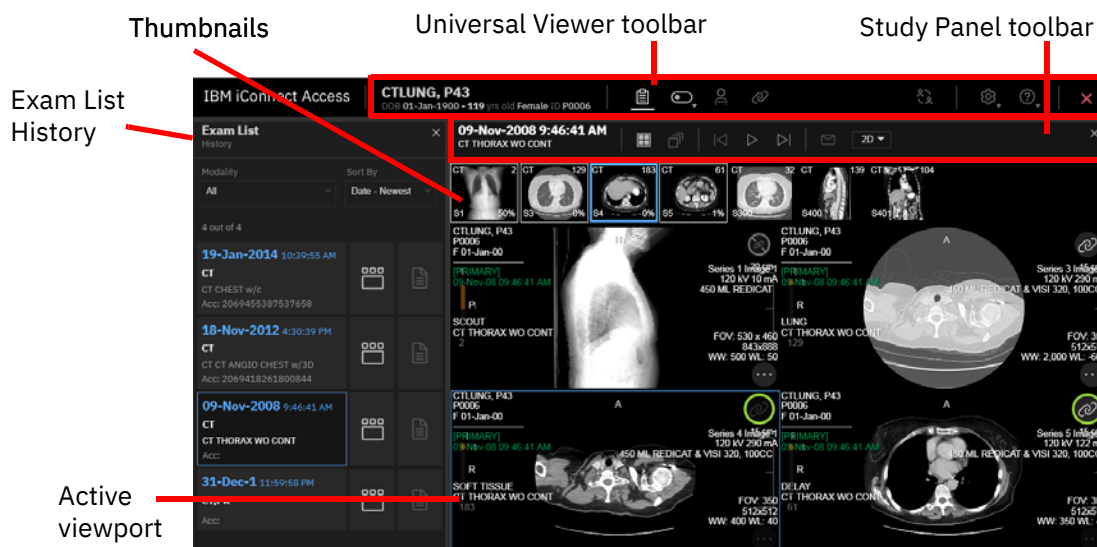
	<p>Downloads the document in the currently selected viewport. The icon is enabled if the currently selected viewport contains an XDS document.</p> <p>There are cases in the viewer where the plugin detection cannot accurately determine if a file will display properly. For example, some video files may fail to load with certain plugins. Click the Download Document icon to download and view the document. The document opens in the default program for the document type.</p>
---	---

Online Help

	Opens the IBM iConnect Access Help system in another browser window.
---	--

Universal Study Viewer

The Universal study viewer window consists of the following components:



- [Exam List History on page 54](#)
- [Thumbnail Toolbar on page 64](#)
- [Universal Viewer Toolbar on page 53](#)
- [Study Panel Toolbar on page 56](#)
- [Viewer and Viewports on page 57](#)
- [Toolbox on page 58](#)









NOTE: When loading a shared study from a holding pen that has not been reconciled, a warning icon appears at the top right corner of the exam card in the Exam List History.

The Universal viewer has similar functionality to the Enterprise viewer with the exception of the following features which are Enterprise viewer only:

- All-in-one tool
- Edge Enhancement tool
- Split Color Channel
- DICOM Video
- Print
- RDM support

Universal Viewer Toolbar

The Universal viewer toolbar contains the following items:

- The patient's name, date of birth (DOB), and ID.
- Patient History  — open or close the Exam List History panel.
- Show/Hide  — expand to toggle the following options on or off:
 - Image text
 - DICOM 6000 overlays
 - Thumbnails
 - Stack slider
 - 3D controls (if enabled) (includes MPR crosshairs and 3D rotation controls)
- Localizer Lines  — toggle localizer lines on or off. See [Working with Localizer Lines on page 73](#) for more information on using Localizer Lines.
- Linked Scrolling  — enable scrolling of multiple series in several viewports at the same time. See [Linked Scrolling on page 69](#) for more information.
- Collaboration  — display a list of users currently viewing the same study and initiate a diagnostic quality collaboration session. See [Collaborating on Studies on page 92](#) for more information on using the Collaboration feature.
- User Settings  — expand to toggle the user interface (UI) font and overlay size, toggle the UI skin brightness, toggle compression on/off, set the GPU Memory limit or open the User Preferences dialog (see [Configuring User Preferences on page 157](#)).
 - Compression — toggles compression on or off in real-time. Controls whether images are sent from the server compressed or uncompressed. When compression is off, cine may play slower if your connection to the IBM iConnect Access server has high latency and/or low bandwidth. The selected option is saved unless you clear the browser cache.
 - GPU Memory — sets the maximum GPU memory limit available for the viewer to store images in the GPU memory. By default it is 4 GB. You can change this setting as desired within the GPU limits of your system. The selected option is saved unless you clear the browser cache. **Note:** For the Edge browser, GPU memory is capped at 2 GB.
- Help  — expand to open the IBM iConnect Access Help or the About dialog.
- Exit  — close the Universal viewer.

Exam List History

The Exam List History displays any DICOM or document studies that may be associated with the patient for comparison. When you load a study in the Universal viewer, IBM iConnect Access automatically searches for matches containing the same patient name, patient date of birth, and patient ID and displays them in the Exam List History. From the Exam List History, you can:

- open related studies for comparison.
- filter by modality and non-DICOM content.
- search by description and accession number.
- sort by date.
- view a thumbnail preview window for related studies.
- view reports.
- Break Glass (if configured) to perform an emergency session. After acknowledgment of a popup dialog, you will be allowed to access all studies, images and documents that you do not normally have access to.

NOTE: Break Glass will not be available in the Universal viewer if you already performed an Emergency Search or used Break Glass from outside of the viewer.

Related topics:

- [Comparing Related Studies on page 54](#)
- [Viewing Thumbnail Previews on page 55](#)
- [Viewing a Study Report in the Universal Viewer on page 55](#)

Comparing Related Studies

The Exam List History enables you to compare the original study with one or more additional studies. When opening a related study in the Universal viewer, each study is displayed in separate panel with its own thumbnails and demographic information. Up to five viewer panels can be open at one time in the Universal viewer. Each can be closed individually, including the primary study (the one that was originally selected from the study list).


To select and load another study

From the Exam List History, click a study. The application loads the study images into a new viewer panel.

Viewing Thumbnail Previews

The Exam History list allows you to view a thumbnail preview window of a related study series. From the thumbnail preview window, you can load different series from the same study, or another study for the same patient, into the Universal viewer.


To view thumbnail previews

- 1 Load a study in the Universal viewer.
- 2 From the Exam List History, click **Thumbnail Previews**  for a related study. The thumbnail preview window opens displaying the thumbnails.
- 3 To open a thumbnail preview, do one of the following:
 - Select a viewport from an open study panel and double-click the thumbnail.
 - Drag and drop the thumbnail into the desired viewport of an open study panel.
- 4 Click **Thumbnail Previews** to close the preview window.

Viewing a Study Report in the Universal Viewer

You can view reports that are associated with a study. Reports can include items such as a DICOM Structured Reports or PDF. Reports can be viewed directly from the Exam List History.

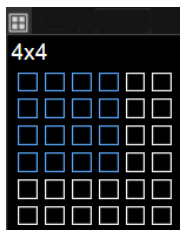
To access a study report

- 1 Load a study in the Universal viewer.
 - 2 Open the Exam List History and locate the study containing the report.
 - 3 Click **Reports** . The Report viewer opens.
- NOTE:** The Reports icon is disabled if the study does not contain any reports.
- 4 Each report is displayed in its own tab. Click a tab to display the corresponding report.
 - 5 Click Reports again or the close button to close the Report viewer.


Study Panel Toolbar

The Study Panel toolbar displays the study date and time, and includes the following tools for viewing and emailing studies.

Layout Options

	<p>The layout option specifies the number viewports displayed within a viewer panel. Each image area within a viewer panel is referred to as a viewport. For example, if you select a 4x4 layout, there are sixteen viewports in the viewer panel.</p>
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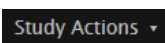
Global Stack

	<p>Produces a stack of all images in the study within a single viewport. Use the mouse scroll wheel to scroll through the images that constitute the stack.</p> <p>Note: Global Stack does not apply when Exam Mode is enabled for modalities.</p> <p>Note: PR and KO modalities are excluded and will not display in the viewport where Global Stack is applied.</p>
---	---


Cine Group Play

	<p>Play a cine group. See Using Cine for Cardiology Studies on page 79.</p>
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
Study Actions

	<p>Launch a configured image sharing feature for the study.</p> <ul style="list-style-type: none"> • Change Destination • Reconcile Received Exams • Transfer • Download • Add Receiver • Nominate for Archive • Denominate Study • Grant Access <p>See “Chapter 7, Image Sharing” on page 126 for details on using each feature.</p>
---	---


Email Study

	Send a study to non-registered users via email. See Emailing Studies on page 87 .
---	---

3D View - Universal viewer

	<p>Opens the currently selected MRI, CT, and PET series containing 15 or more images in the Universal IBM iConnect Access 3D viewer using one of the following selected modes:</p> <ul style="list-style-type: none"> • MPR • 3D 4:1 Layout • 3D 6:1 Layout • Curved MPR • Calcium Scoring <p>See Using iConnect Access 3D Views on page 111 for information on viewing 3D images in the available modes.</p> <p>NOTE: The Universal viewer 3D view is only available on desktop devices.</p>
---	---

External Application Launch

	Launches an external third-party application with the selected study displayed in application's native interface. Position the cursor over the External Application Launch icon and select the third-party application.
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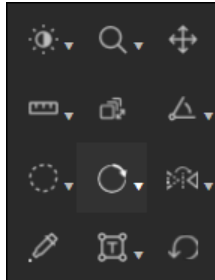
Viewer and Viewports

The viewer consists of a configurable number of viewer panels and viewports. You can configure the Universal viewer by means of the following:

- [Series Viewer Options on page 46](#)
- [Layout Options on page 56](#)

Toolbox

The Toolbox contains tools that you can use to investigate and manipulate images in the image viewer. To access the toolbox, right-click on a viewport containing an image or series.



- NOTE:** The Toolbox is configurable by the System Administrator. As a result, the contents of the Toolbox and the order of the tools may differ.
- NOTE:** If the selected viewport contains an image document (such as JPG, PNG, GIF) or non-image document (such as PDF, HTML, text, audio, video), many of the tools are disabled.
- NOTE:** Do not drag the mouse outside of the browser when interacting with the viewport (in other words, when you release the mouse button, make sure the mouse cursor stays within the boundaries of the browser).

For more information, see:

- [Window Options on page 59](#)
- [Zoom on page 59](#)
- [Pan on page 59](#)
- [Measurement Tools on page 60](#)
- [Text and Annotations on page 61](#)
- [Pixel Value on page 62](#)
- [Series Scrolling on page 62](#)
- [Image Orientation on page 62](#)
- [Save on page 63](#)
- [Series Scope Options on page 63](#)
- [Layout Options on page 56](#)
- [Email Study on page 57](#)
- [3D View - Universal viewer on page 57](#)
- [External Application Launch on page 57](#)

Window Options

	<p>Window Level. Enables you to manually adjust the window width and level. Width can be wide (many grays, less contrast) or narrow (fewer grays, more contrast). Level can be high (dark) or low (bright). See Changing Window Settings on page 68.</p> <p>NOTE: If the image or presentation state has VOI LUT (value of interest lookup table), the application displays “LUT” in the viewport instead of the width/level values.</p>
	<p>Auto Width Level. Applies optimum window width and level values based on a histogram analysis of the active image. See Changing Window Settings on page 68.</p>
	<p>Invert. Calibrates the image grayscale to provide a negative image display. Click the button again to return to the original setting.</p> <p>For MG images, this feature only inverts the breast tissue; the background remains black.</p>

Zoom

	<p>Interactive Zoom. Zooms the selected image. In the viewport, click and hold the left mouse button, and move the cursor up/down to zoom in/out on the click point.</p> <p>CAUTION: If you click outside of the anatomical area in the image, the image will be re-centered around the selected point and the anatomical data may become located outside the viewer.</p> <p>CAUTION: When zooming in the Universal viewer, a minor change of $\leq 5\%$ in zoom factor may not trigger an update to the viewport resolution to match the modified zoom factor.</p>
	<p>Magnifier. Magnifies an area of an image. You can move the magnification window to different locations within the viewport.</p> <p>Hold the left mouse button to display and move the magnifier window to magnify areas of interest. Release to dismiss the window.</p> <p>You can use mouse wheel while holding the left mouse button to change the magnification factor between 2x, 3x, and 4x.</p>

Pan







	<p>Pan. Repositions the image within the viewport.</p>
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Measurement Tools

NOTE: The application does not allow measurement tools on an ultrasound study that contains multiple measurement regions or when there is a single measurement region in which the measurement is other than distance.

NOTE: Measurement tools are disabled for US studies in the following cases:

- there is a single measurement region, but the metric is other than distance.
- there are multiple measurement regions







	Line Measurement. The application displays the distance between the starting point and ending point in millimeters when the image is calibrated. When not calibrated, it displays in pixels (px). Click two points on the image to create a line. After the line is drawn, you can select and move the line and each of its endpoints.
	Calibration. Click two points on the image to create a line. The application displays the distance and an input field where you can enter the newly calibrated distance, in millimeters. After the line is drawn, you can select and move the line and each of its endpoints. See Working with Calibration Lines on page 74 .
	Transischial Line. Used to measure leg length discrepancies for pre-operative planning of orthopedic surgeries. Click two points on the image to create a reference line. Click two more points on either side of the reference line to measure the distance between those points and the reference line. The application displays the distance between the two points and the reference line and calculates the discrepancy between the two distances.
	Angle. Click three points on the image. The application displays the angle's measurement. You can also modify any existing angle measurements. Click and hold an endpoint, drag to the desired location, and release.
	Cobb Angle. Click two points on the image to create a line. Click two more points to create the second line. The application extrapolates the point where the two lines intersect and displays the Cobb Angle. You can also modify any existing Cobb angle measurements. Click and hold an endpoint, drag to the desired location, and release.
	Plumb Lines; Horizontal and Vertical. Select the desired plumb line orientation—vertical or horizontal—and click anywhere on an image to draw a plumb line across the entire image intersecting at the location of the mouse cursor. See Working with Plumb Lines on page 76 .

	<p>Joint Line. Measure angles for metatarsal osteotomies with the assistance of a line perpendicular to the base of the angle. Click two points on the image to create a reference line. Click a third point on the image to complete an angle. The application displays the angle measurement at the intersection. Adjustments can be made to joint lines after they have been created. See Working with Joint Lines on page 76.</p>
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Measurements made in the Universal viewer can be modified as follows:

- Click and drag a handle of a measurement to move the handle's location. Calculated values, such as distance measurements, are updated dynamically.
- Click and drag a measurement or text box to move it.
- Right-click a measurement to delete it.

Text and Annotations

	<p>Add Text. Click the image where you want the text to appear. The application places a text insertion point on the image. Type the text you want to place on the image. Click outside of the text box or press Enter to complete the function.</p>
	<p>Free Draw. Click and hold the left mouse button to begin drawing nonlinear annotations on an image by moving the cursor. Release the left mouse button to end the annotation.</p>
	<p>Annotation Rectangle. Click and drag the mouse cursor to draw a rectangle over the desired region. When you release the mouse button, the application displays the region of interest (ROI) measurements. *</p>
	<p>Annotation Ellipse. Click and drag the mouse cursor to draw an ellipse over the desired region. When you release the mouse button, the application displays the ROI measurements. *</p>
	<p>Annotation ROI. Click and drag the mouse cursor to draw a freehand ROI. When you release the mouse button, the application completes the ROI with a straight line between the start and end points. The application displays the ROI measurements. *</p>
	<p>Delete All Annotations. When selected, deletes all annotations in the image viewer.</p>

* For each annotation drawn, the following measurements are displayed: Max (maximum pixel value), Min (minimum pixel value), and Mean (average pixel value). For the Annotation Rectangle and Annotation Ellipse, Area (pixel area in sq. mm) is also displayed. For CT images, the pixel measurements are automatically converted to Hounsfield units.

Annotations made in the Universal study viewer can be modified as follows:

- Click and drag a handle of a measurement to move the handle's location. Calculated values, such as area, are updated dynamically.

- Click and drag an annotation to move it.
- Right-click an annotation to delete it.

Pixel Value


	<p>Pixel Value. Identifies the pixel coordinates and the pixel value of a pixel when you click on an image and hold the button. The pixel value is expressed as an RGB value for color images or a grayscale value (representing brightness) for monochrome images.</p> <p>For CT images, the pixel measurements are identified by the abbreviation “HU” if the pixel values are stored in Hounsfield units. An abbreviation of “US” indicates an unspecified unit of measure.</p>
--	--

Series Scrolling



	<p>Scroll Tool. Enables you to scroll through the images in a series within a viewport by moving the mouse cursor up or down while the left mouse button is pressed.</p>
	<p>3D Cursor. When applied, all displayed MRI, CT, and PET series that share the same DICOM frame of reference as the active viewport align at the nearest slice to the current spatial location selected with the 3D Cursor.</p> <p>Click anywhere on image to place a 3D Cursor marker and align series accordingly.</p> <p>The 3D Cursor may select a scout image of the same plane as the reference image in a stack that is of a different plane, if the scout image is before the other images that might be otherwise chosen, e.g. when scout image is the first image in the stack.</p> <p>WARNING: If a good match within configured tolerance cannot be found in any of the other viewports, the marker will not be displayed in those viewports and those viewports will not scroll.</p> <p>Note: The 3D Cursor is only available in the Universal viewer.</p> <p>Note: The 3D Cursor cannot be used while Cine running.</p>

Image Orientation

	<p>Flip Horizontal. Flips the image on the horizontal axis.</p>
	<p>Flip Vertical. Flips the image on the vertical axis.</p>

	Rotates the image clockwise or counter-clockwise in 90 degree increments.
---	---

Save



	Save Series. Saves the presentation state (PR series) for the currently active series.
	Save Annotated Images. Saves annotated images to the currently selected series.

Series Scope Options


Scope is the range of displayed images to which the application applies your changes (such as window settings, zoom, pan, orientation and grayscale inversion). There are two scope settings: Image and Series. When you apply a scope, the setting applies to all viewers during a review session.

NOTE: If you change your scope setting from Image to Series during a review session, the application applies any review parameters on any image to all the images in the series.

Your scope setting applies to all the series that belong to the same study.

	Series Scope. Applies review parameters to all images in a series.
	Image Scope. Applies review parameters to the current image.

Reset

	Resets your presentation to the initial state.
---	--

Working with Studies

The following sections describe how to work with studies using the study viewers:

- [Thumbnail Toolbar on page 64](#)
- [Using the All-In-One Tool/Mouse Configuration on page 67](#)
- [Using Full Screen Mode on page 67](#)
- [Changing Window Settings on page 68](#)
- [Linked Scrolling on page 69](#)
- [Working with Localizer Lines on page 73](#)
- [Working with Calibration Lines on page 74](#)
- [Working with Plumb Lines on page 76](#)
- [Working with Joint Lines on page 76](#)
- [Using the Cine Feature on page 77](#)
- [Viewing DICOM Information on page 82](#)
- [Applying Edge Enhancement on page 82](#)
- [Printing Patient Images and Documents on page 83](#)
- [Generating PDF Reports on page 84](#)
- [Collaborating on Studies on page 92](#)

Thumbnail Toolbar

Thumbnails enable you to quickly navigate studies for review. The thumbnail toolbar can display a single DICOM image (such as a CR, DR, or ultrasound), DICOM series (in the case of a slice stack of MR or CT images), DICOM video, audio file (such as WAV or MP3), video file (such as AVI or MP4), PDF document, HTML report, CDA document, Microsoft Office document (such as Word, Excel, PowerPoint), text document, or KOS document (reference to DICOM images, KOS documents display with the thumbnail title "KOS").

NOTE: DICOM Video is not supported in the Universal viewer.

NOTE: Some files and documents require a plugin to view in the browser. If a plugin is available, you may be requested to activate and allow the plugin in the browser. If a plugin is not available, you will be notified in the browser that the document

cannot be displayed and provided the option to download the document in order to view it (see [Download Document on page 51](#) for more information on downloading documents).

Thumbnail behavior can be configured per modality using the System Configuration tool, in Domain Settings and in User Preferences. For example, you can choose to have a CR series of three images represented by a single thumbnail (**Series**), by three thumbnails (**Image**), or, if available, both multiframe and non-multiframe images (**Auto**). If **Image** is selected, each viewport that corresponds to a thumbnail displays a single image. If **Auto** is selected and the series contains both multiframe and non-multiframe images, each multiframe image will have one thumbnail and all non-multiframe images will be grouped together and represented by a single thumbnail.

NOTE: Some studies, such as dual echo MR, appear as a single study in the Studies tab but are interpreted by the application as two separate series (one series for each TE value). In these cases, the application displays two thumbnails instead of one.

NOTE: The Series Thumbnail panel displays the image series for the study currently selected study in the Enterprise viewer Patient History or Universal viewer Exam List History. See [Comparing Related Studies on page 35](#).

Thumbnail overlays display information on the Enterprise viewer in the bottom left corner of the thumbnail. On the Universal viewer, thumbnail overlays are displayed in the four corners of the thumbnail. The overlays are configurable and by default show the following:

- Enterprise viewer — description, number of images, modality, and series (and optionally image) number.
- Universal viewer — clockwise in each corner from top left: modality, number of slices, percentage of slices viewed in the stack, and series (and optionally image) number.

NOTE: Place the cursor on a thumbnail to view additional image information.

NOTE: If the percentage of slices viewed is not visible or disabled, the feature is not enabled. Contact your System Administrator.

If the number of thumbnails exceeds the width of the screen, do the following:

- Enterprise viewer — click and drag the thumbnail toolbar scrollbar to navigate left and right through the available thumbnails.
- Universal viewer — click the navigation arrows at the ends of the thumbnail toolbar to navigate left and right.

To open a thumbnail

You can open a thumbnail into a viewport in the following ways:

- Select a viewport and double-click the thumbnail.
- Drag and drop the thumbnail into the desired viewport.

NOTE: In the Universal viewer, thumbnails can be opened in any viewport in any open study panel. In the Enterprise viewer, thumbnails can only be opened in a viewport within the active study panel.

To open a DICOM video in a viewport

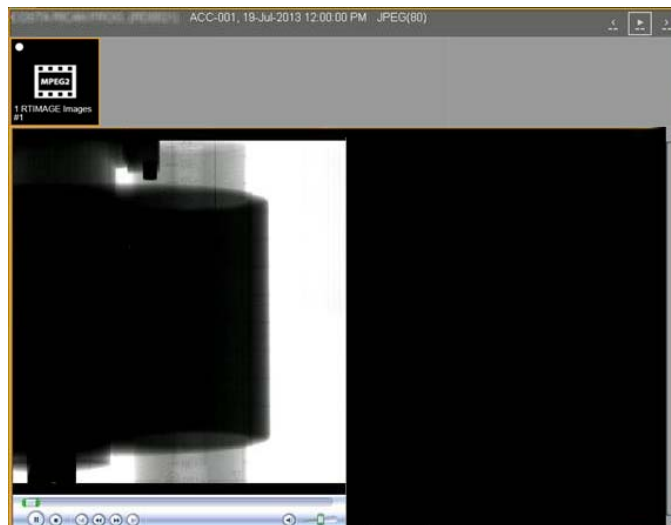
NOTE: DICOM video is not supported in the Universal viewer.

You can open a DICOM video (MPEG-2 or MPEG-4) in a viewport in the following ways:

- Select the viewport in which you want to open the video and then double-click the thumbnail.
- Click and drag the thumbnail to the desired viewport.

The native IBM iConnect Access video viewer provides a play/pause button. You can click the progress bar to navigate to a specific location in the video.

For MPEG-2 videos, you must use a video player plugin, such as Windows Media Player or QuickTime and Internet Explorer 11 as the browser. In this case, the video controls are native to the plugin. The following sample screen shows the Windows Media Player interface.



WARNING: If the MPEG-2 DVD codec that is used to play MPEG videos is not installed, you must obtain and install it on your client system to use Windows Media Player or QuickTime.

Using the All-In-One Tool/Mouse Configuration

The All-In-One tool and Mouse Configuration options enable you to assign specific functions to the right and left mouse buttons and to the mouse wheel, as well as button combinations in the Universal viewer. If you have a five-button mouse, you can also assign the fourth and fifth buttons for use in the Universal viewer. The functions are available when the cursor is positioned over images displayed in the viewports.

The All-In-One tool is enabled by default in the Enterprise viewer. The tool can be disabled by clicking any other button in the Review toolbar. If the tool has been disabled, it can be enabled by clicking All-In-One in the Review toolbar:



The mouse configurations in the Universal viewer are always active. Note that the left (Active Tool) and right (Toolbox) buttons are reserved and cannot be modified.

NOTE: Mouse buttons four and five will not cause the browser to page forward or backward in the Universal viewer. However, in other parts of application, they may cause the browser to page forward or backward.

NOTE: Mozilla Firefox, Internet Explorer 11 and Edge (without Chromium), do not support overriding the fourth and fifth buttons.

NOTE:

The button functions can be assigned in the **User Preferences** dialog. See [User Preferences on page 157](#) for more information.

Using Full Screen Mode

You can create more space on the monitor for viewing images using Full Screen mode. Full Screen mode hides the thumbnails and review toolbar from the viewer.

NOTE: This is different from your browser's full screen (F11) mode.

NOTE: Full Screen mode is not available in the Universal viewer.

To use Full Screen Mode

- 1 In the Enterprise viewer, click the **Full Screen** button.



The application maximizes the viewer and hides the thumbnails and review toolbar.

- 2 To exit from Full Screen mode, click **Menus** on left side of the screen and then click the **Full Screen** button again.

Changing Window Settings

The window settings (such as window width and level) on digital images are similar to the contrast and brightness, respectively, on your computer screen. The window width can be wide (many grays, less contrast) or narrow (fewer grays, more contrast). The window level can be high (dark) or low (bright). You can apply the window width and window level functionality across different modalities, including 2D color studies (such as Doppler U/S, PET, NM, cardio).

You can change the window settings manually, automatically, or by using presets. Presets are set in User Preferences. For more information on presets, see [User Preferences on page 157](#).

NOTE: Additional presets can also be created by an Administrator.

Manually changing the window settings is sensitive to the speed in which you move the mouse. If you move the mouse slowly, the window level changes are relatively small. If you move the mouse more quickly, the changes are more pronounced. As well, the changes are more pronounced for higher resolution data.

NOTE: If the image or presentation state has VOI LUT, the application displays “LUT” in viewport instead of W/L values.

To change the window settings using the mouse

- 1 From the Enterprise viewer Review toolbar or Universal viewer Toolbox, click **Window Level**.



- 2 Adjust the window width and/or level as follows:

- Click and drag the mouse vertically over the selected image to adjust the window level.
- Click and drag the mouse horizontally over the image to adjust the window width.

To change the window settings automatically

- 1 Do one of the following:

- From the Enterprise viewer Review toolbar, click the **Auto Window Level** tool.



- From the Universal viewer Toolbox, click the **Auto Window Level** tool.



- 2 The application applies optimum window width and level values based on a histogram analysis of the active image.

Linked Scrolling

Linked scrolling automates the scrolling of multiple series in several viewports at the same time. When one viewport is scrolled, the other linked series scroll in increments based on their physical location. If images cannot be matched spatially, the other selected viewports scroll in increments based on their numbering (numerically).

CAUTION: When using linked scrolling, issues such as poor network connection could cause a delay or out of sync between the linked viewports.

The Linked Scrolling tool behavior differs slightly depending on the study viewer type. Refer to the following sections for information on linked scrolling for each type.

- [Linked Scrolling – Enterprise Viewer on page 69](#)
- [Linked Scrolling – Universal Viewer on page 71](#)

Linked Scrolling – Enterprise Viewer

The Enterprise viewer provides the following link options:

- [Link All / Link All Offset on page 69](#)
- [Link Selected / Link Selected Offset on page 69](#)
- [Cancel on page 70](#)

Link All / Link All Offset

The **Link All** option links all displayed series. The system attempts to automatically align the slices based on their DICOM position and orientation attributes.

The **Link All Offset** option links all displayed series but assumes the current scroll positions represent spatially aligned images. The system maintains the same offsets as the images are scrolled.

NOTE: The availability of the Link All features is configurable. Contact your System Administrator.

Link Selected / Link Selected Offset

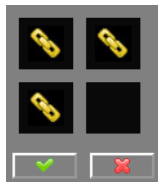
The **Link Selected** option links only the selected series. The system attempts to automatically align the slices based on their DICOM position and orientation attributes.

The **Link Selected Offset** option links only the selected series. The system assumes the current scroll positions represent spatially aligned images. The system maintains the same offsets as the images are scrolled.

When you select either of these options, the system displays a representation of the viewers currently displayed; for example:



When you click within the boxes to identify the viewers (and series) that you want to link, the system identifies the linked boxes as follows:



Click the check mark to complete the link.

Cancel

The **Cancel** option unlinks images.

Linking a Series

Perform the following to link a series.

To link a series

- 1 Select the number of viewports to compare the series (see [Series Viewer Options on page 46](#)).
- 2 Load and display the series.
- 3 From the **Linked Scrolling** drop-down, select the appropriate link option. For more information on individual options, see [Link Options on page 45](#).

NOTE: If a series is linked numerically, the images display the linked icon with the number sign beside it. If a series is linked spatially, the number sign does not appear.

To manipulate a linked series

Use the scroll bars to scroll through the stacks. The linked series scroll simultaneously according to how they are linked.

The example below displays secondary capture images using the Linked Scrolling feature (Linked All).

Linked scrolling on active viewport

Numerical linking icon



NOTE: In the Enterprise viewer, if the images are determined to be too far from each other (in other words, beyond the configured slice distance or angle tolerance), an X appears beside the linked icon. The tolerances are only configurable at the system level by a System Administrator. For details on configuring the tolerance levels, refer to the IBM iConnect Access Installation Guide.









Linked Scrolling – Universal Viewer

The Universal viewer provides the following link options:

- Auto — automatically link all eligible series viewports within the currently selected viewer panel.
- Manual — link two or more series manually.


The following icons are displayed in the top right corner of each viewport and indicate the viewports linking scrolling status.

Status	Description
 Progress indicator	Application is determining whether series can link to other viewports.
 Active	Currently selected series.
 Linkable	Series is linkable.
 Linked	Series is linked to the active series.
 Not linkable	Series is not linkable to the active series.
 Series does not match	Series cannot find a precise matching slice to scroll. Series scrolling may be out of sync.

Linking a Series

Perform the following to link all series or to manually link series.

To automatically link all eligible series

- 1 Set the desired number of viewports in a viewer panel for comparing the series (see [Layout Options on page 56](#)).
- 2 Set the viewports to the desired slice offsets to be linked.
- 3 From the Universal viewer toolbar, click **Auto Linked Scrolling** . All eligible series viewports are linked. The link status icon is displayed in the top right of each viewport within the viewer panel indicates the link status.

NOTE: When Auto Linked Scrolling is enabled, the More menu is not available.

- 4 To disable linking, click **Auto Linked Scrolling**. All automatic links are removed from each linked series in the viewer panel.

To manually link a series

- 1 Set the desired number of viewer panels and viewports for comparing the series (see [Layout Options on page 56](#)).
- 2 Select an initial viewport to link and scroll to the desired slice.

- For each linkable series you want to link, scroll to the correct slice offset in the corresponding viewport and click the **Linkable** icon in the top right corner of the viewport.

NOTE: Manual linking overrides auto-linking. If a series viewport has been linked or unlinked through manual linking, it will not be included in auto linking again until its host study panel is re-opened.

- To remove a linked series, click the **Linked** icon for each series you to unlink.

To manipulate linked series

Place the cursor on a linked series and use the mouse scroll wheel to scroll through the stacks. The linked series will scroll simultaneously according to how they are linked.

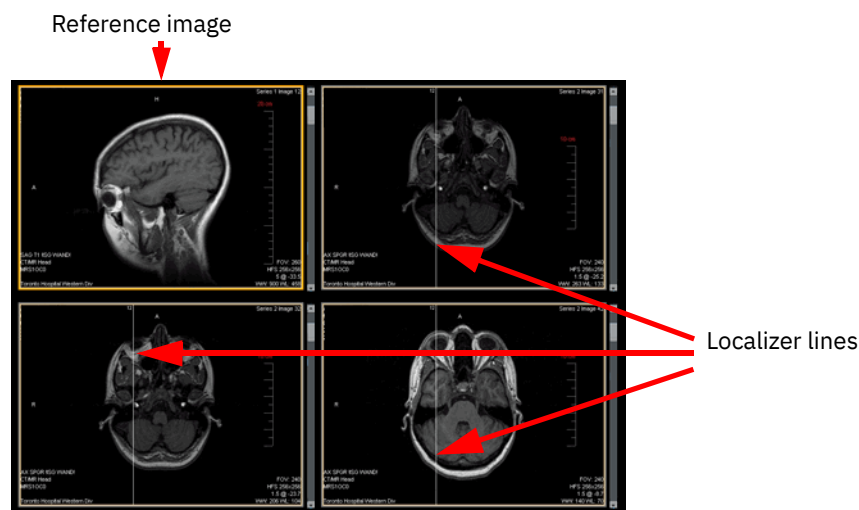
Working with Localizer Lines

The application can display localizer lines when you compare images of different planes. The application takes one reference image, compares it with the images in the other viewports, then displays a line (if applicable) that shows where the reference image intersects with the other images.



NOTE: This feature is only available when you display multiple viewports (see [Series Viewer Options on page 46](#)).

NOTE: After you enable the Localizer Line feature, it remains active until you disable it or when you switch from multiple viewers to a single viewer (see [Series Viewer Options on page 46](#)).

The following example shows a viewport selected as the reference and the images in the other viewports displaying the localizer lines.



To display localizer lines

- 1 Select your viewport setting (see [Series Viewer Options on page 46](#)). You must have a minimum of two viewports.
- 2 Select and load the desired images into the viewports.
- 3 If desired, select the image layout for each viewport.
- 4 Click the viewport that contains the images you want to use as a reference.
- 5 Do one of the following:
 - From the Enterprise viewer Review toolbar, click the **Localizer Lines**  tool.
 - From the Universal viewer toolbar, click the **Localizer Lines**  tool.

The images in the other viewports update to show the localizer lines indicating where the images intersect.

NOTE: If the reference image is on the same plane as the images in the other viewers, the application displays a white box around the image.

- 6 To change the reference image, click a different viewport. The images in the other viewports update to show where the images intersect.

NOTE: When you click another viewport, the series in that viewport immediately becomes the reference image even if you are only scrolling that series or applying a tool on that image/series (for example, pan, zoom, window settings).

- 7 Click **Localizer Lines** again to toggle the feature off.

Working with Calibration Lines

In the image viewport, the Calibration tool enables you to draw a calibration line and input its length in millimeters. After calibration, all existing annotations in the image are recalculated and any new annotations are calculated using the newly calibrated value. The calibration line appears as a normal line measurement afterwards.

The Calibration tool only affects the image level; therefore, it only affects one image from the image viewport. Other images in the same series are not calibrated.

NOTE: The Calibration tool is disabled on PR/KO/MR/CT/PET/NM series images.

You cannot perform calibration by editing an existing calibration line. The calibration process must be repeated to re-calibrate.

When you apply the Calibration tool to input the actual length, the new pixel spacing is recalculated according to the current pixel aspect ratio value. If neither the pixel spacing nor pixel aspect ratio exist, square pixels are assumed for calculating the new pixel spacing.



The following units of measure apply to measurement values:

- px – The measurement is displayed in pixels.
- mm cal – The pixel spacing for the measurement was calibrated by the application, either by using the provided Estimated Radiographic Magnification Factor (ERMF) or by using other correction factors provided by the modality.
- mm det – The pixel spacing for the measurement came directly from the detector/modality and was not calibrated by the application.
- mm cal ps – The pixel spacing for the measurement was manually calibrated using the Manual Calibration Tool.
- mm unknown – The measurement value is unknown.

Depending on the type of calibration performed, one of the following indicators may also be displayed:

- FIDUCIAL – The pixel spacing values have been calibrated by the operator or image processing software by the measurement of an object (fiducial) that is visible in the pixel data and is of known size and is located close to the central ray (e.g. a catheter).
- GEOMETRY – The pixel spacing values account for assumed or known geometric magnification effects and correspond to some unspecified depth within the patient.

To display calibration lines

- 1 Click the viewport with the image you want to calibrate.
- 2 Do one of the following:
 - From the Enterprise viewer Review toolbar, click the **Calibration**  tool.
 - From the Universal viewer Toolbox, click the **Calibration**  tool.
- 3 Draw a line in the image by clicking the image to set the start point and clicking again to set the end point. A text box opens for the input value.
- 4 Change the default value by typing a new value in the text box. The unit of measure is millimeters (minimum 0, maximum 1000). Click **Enter**.

All annotations in this image are recalculated and updated according to the new value. The calibration line remains but is no longer highlighted.

NOTE: The Calibration results are stored in the current image presentation. They are not automatically saved. To preserve the calibration result so it can be accessed later, you will need to save the series as described in [Saving Presentations on page 85](#)).

NOTE: At any time, you can abort the calibration by pressing the Escape (Esc) key. The calibration line is removed.





NOTE: When reloading a study, saved PR objects from previous calibrations will have the correct calibration result. However, if loading the image series instead of the saved PR, pixel spacing will be incorrect.

- 5 To modify the line, click on the line or an endpoint and drag to the desired location.

Working with Plumb Lines

You can add a vertical or horizontal plumb line to an image by selecting the desired Plumb Line tool and clicking on an image. A horizontal or vertical plumb line is placed across the image intersecting the location of the mouse cursor.


To add a plumb line

- 1 Do one of the following:
 - From the Enterprise viewer Review toolbar, click the desired Plumb Line tool.
Horizontal  or Vertical 
 - From the Universal viewer Toolbox, click the desired Plumb Line tool.
Horizontal  or Vertical 
- 2 Click anywhere on an image to draw the plumb line horizontally or vertically across the entire image intersecting the location of the mouse cursor.

Working with Joint Lines

You can measure angles for metatarsal osteotomies with the assistance of a line perpendicular to the base of the angle using the Joint Line tool.

To measure an angle

- 1 From the Enterprise viewer Review toolbar or the Universal viewer Toolbox, click the **Joint Line**  tool.
- 2 Click on an image once with the left mouse button where you want to begin drawing the first line.
- 3 Click a second time with the left mouse button where you want to define the end position of the first line.

- 4 Click a third time with the left mouse button where you want to complete the angle. The angle will be placed and the angle measurement will appear at the intersection point.



- 5 With the Joint Line tool cursor, you can make the following adjustments to the annotation once you have created it:
 - To move the entire annotation, click on the first line drawn and drag the entire annotation to a new location.
 - To move the location of the perpendicular line, click on the line's endpoint and drag it to a new location.
 - To move the accompanying text, click on the text and drag it to a new location.
 - To change the angle, click on any line's endpoint and drag it to a new location.

Using the Cine Feature

The Cine feature enables you to animate any active series. Cine controls provide standard navigation commands that enable you to stop, pause, and move forward or backward through the cine. You can also adjust the speed of the cine and use the zoom, pan, and window settings while in cine mode, as well as apply flip, rotate, and reset operations.

CAUTION: A monitor with at minimum 30Hz refresh rate is recommended to play cine at the displayed speed.

For information on cardiology-specific Cine, refer to [Using Cine for Cardiology Studies on page 79](#).

Exam Mode


Exam Mode sets cine to play through the entire study (all clips) and repeats, instead of just playing through the current clip. Exam Mode can be enabled or disabled in your user preferences (see [Configuring User Preferences on page 157](#)).

When Exam Mode is enabled, the Exam mode button is available in the study viewers, which you can use to toggle Exam Mode on/off.

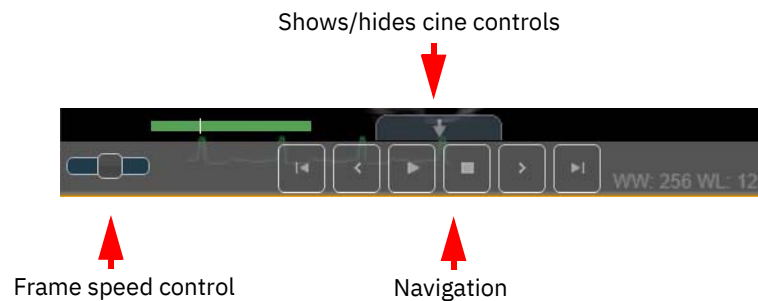
Enterprise  Universal 

Using Cine

To use cine

- 1 Click the viewport of the series you want to animate.
- 2 Do one of the following:
 - In the Enterprise viewer Review toolbar, click **Cine** .

The application loads the images into the Enterprise viewer, displays the cine controls, and starts the cine.



- In the Universal viewer, click the **More**  icon at the bottom right of the viewport. The application displays the cine controls in the Universal viewer.



- 3 Operate the cine as follows:
 - To play the cine, click **Play**. The cine advances through the images in a loop until the animation is paused or stopped.
 - To advance the cine by one frame, click **Forward**. To move backward by one frame, click **Back**. In both cases, make sure the cine is paused first.
 - To pause the cine, click **Pause**. Click **Play** to resume.
 - To stop the cine, click **Stop**. On the Enterprise viewer, the **Cine** status bar closes.
 - On the Universal viewer, click **Play all in the study** to play all visible series.

To adjust the cine speed

1 Do one of the following:

- From the Enterprise viewer cine controls, click and drag the frame speed control slider to achieve the desired frame rate. The frame speed control displays the adjusted cine speed; for example, 4/20 fps where 4 is the current frame rate and 20 is the adjusted frame rate.
- From the Universal viewer cine controls, click the frame speed control and a drag the frame speed slider to achieve the desired frame rate. The frame speed control displays the current frame rate.

2 The application adjusts the speed dynamically as you move the sliders.

Using Cine for Cardiology Studies

For cardiology studies, you can play and navigate cine groups and cine clips.

A cine clip is a single series that can be viewed by stepping through images or by playing the entire set of images.

A cine group is a grouping of series. A series can consist of an image (in the case of multiframe images such as US, XA) or a series of non-multiframe images (such as CT or MR). KO and PR are also considered series. Cine groups are based on the number of viewports. For example, if there are 4 visible viewports, series 1 through 4 are be part of group 1, series 5 through 8 are part of group 2, and so forth. If there are 6 visible viewports, series 1 through 6 would be in group 1, series 7 through 12 would be in group 2 and so forth. Group assignments are based on the thumbnail order and include KO and PR.

WARNING: It is recommended that virtual desktop infrastructure not be used in conjunction with the Cine feature, as it is possible that frames may be dropped when playing at frame rates that are higher than they can transfer. If you notice that cine play is uneven, it is recommended that you launch URLs in a local browser.

If using a Citrix environment, the system can be configured to launch the IBM iConnect Access URL in a local browser. Contact Citrix for more information.

Cine controls for cardiology studies appear as follows:

Group Controls

Group controls
(previous group,
play/pause, next
group)

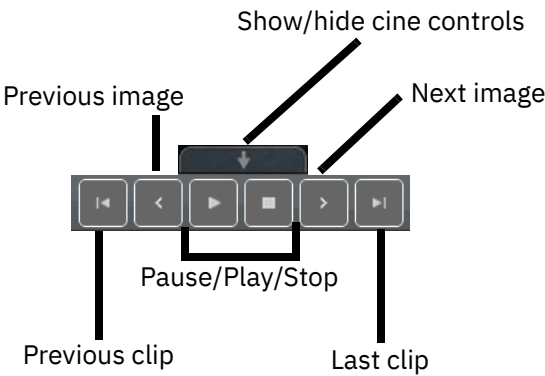
Enterprise








Universal












Image/Clip Controls



Group Controls

Control	Description
 	Starts playing the previous or next series. For example, if the layout is 2x2 and cine group 2 was previously playing, clicking Next starts playing series 9 through 12. The initial cine frame rate used corresponds to each particular series.
  	<p>Click Play in the group control bar to start playing cine for all visible viewports containing multiframe images or a series with multiple non-multiframe images.</p> <p>If you select a viewport and click Play, then the cine starts playing from the first image in the series based on the specified frame rate. When the last image of the series is reached, cine proceeds to the first image of the next series. If the series consists of a single image, cine will delay for a configurable number of seconds before proceeding to the next series. Cine continues from series to series until cine is stopped or paused.</p>

Clip Controls

Control	Description
   	<p>The viewport switches to the previous or next series and displays the first image of that series. If the cine was previously playing, then the previous or next series starts playing.</p>
 	<p>Enables you to play or pause the current series.</p>
 	<p>Enables you to manually step through the images in the current series. If the cine is currently on the last image of the series, then:</p> <ul style="list-style-type: none"> the cine is returned to the first image of the series if Exam Mode is not enabled. the cine displays the first image of the next series if Exam Mode is enabled. <p>For information on enabling or disabling Exam Mode, see Configuring User Preferences on page 157.</p> <p>Exam Mode can also be enabled or disabled at the domain or role level by the System Administrator.</p> <p>When enabled, Exam Mode causes cine to play through the entire study (plays through entire clip, proceeds to the next clip and plays it until it eventually cycles back to the first clip and repeats) instead of just playing through the current clip.</p>
	<p>Stops the cine.</p>

To use cine for cardiology exams

- 1 Load a cardiology exam (US, XA) into the Enterprise viewer.

If auto-play is enabled for applicable modalities, cine starts automatically.

NOTE: Auto-play is currently only available in the Enterprise viewer.

- 2 Use the controls to navigate through clips or groups.

The viewer quality (lossless PNG or lossy JPEG) is defined as a user preference. If you change this preference, the default viewer quality only takes effect when the viewer is reloaded.

- 3 You may optionally do the following:

- Apply edge enhancement to cath (XA) images during the cine (provided edge enhancement is enabled in the application). See [Applying Edge Enhancement on page 82](#).
- Apply window level, pan, and zoom during cine. Applying these tools affects all frames in that multiframe image. For non-multiframe images, the entire series is affected. See [Changing Window Settings on page 68](#).


Viewing DICOM Information

The DICOM Info tool allows you to view DICOM header information for the currently displayed image on the selected viewport. You can also export the DICOM information as a text file to your local system.

NOTE: DICOM Info is not available if the image failed to load in the viewer.

NOTE: DICOM Info is only available in the Universal viewer.

To view/export DICOM information

- 1 In the Universal viewer, click the **More**  icon at the bottom right of the viewport. The application displays the cine controls and DICOM Info option in the Universal viewer.
- 2 Click **DICOM Info**. The DICOM Information dialog opens displaying the DICOM information.
- 3 Click **Export** if you want to save the DICOM information to a text file. Select a file location and save.
- 4 Click **Close** to finish viewing DICOM Information.

Applying Edge Enhancement

The Edge Enhancement tool enables you to enhance the edge of an image. Edge enhancement is an image processing filter that enhances the edge contrast of an image to improve its apparent sharpness.

NOTE: The Edge Enhancement tool is not available in the Universal viewer.

This feature has the effect of creating subtle bright and dark highlights on either side of any edges in the image, leading the edge to look more defined. This enhancement enables you to more easily detect tube placements, hairline fractures, and so on.

NOTE: The edge enhancement filter is intended for use on images with high spatial resolution and low signal-to-noise ratios. The edge enhancement filter is intended for use on X-ray and cardio (XA) images only.

NOTE: Not all image archives support the Edge Enhancement feature. Enhanced images with this feature applied may not appear as expected.

To manually perform edge enhancement

- 1 In the Enterprise viewer, click the image viewport of the image you want to enhance.
- 2 Click **Edge Enhancement**.



- 3 Place the mouse cursor over the image, click the left mouse button and perform any of the following actions:
 - Drag the mouse upward — Increases the size of edge for the image.
 - Drag the mouse downward — Decreases the size of edge for the image.
 - Drag the mouse right — Increases the contrast for the image.
 - Drag the mouse left — Decreases the contrast for the image.

To perform edge enhancement using presets

- 1 Click the image viewport of the image you want to enhance.
- 2 Click one of the predefined settings for edge enhancement.



Medium 3x3

Low 5x5

Medium 11x11

The image is enhanced to the predetermined level.

- 3 If required, click another option to change the edge enhancement.

Printing Patient Images and Documents

The Print feature prints the following image and document types that are displayed in the viewer:

- Images — such as DICOM, JPG, PNG, GIF, TIFF, BMP
- Printable documents — such as PDF, XML, TXT, HTML, or video (MP4, WMV, AVI, etc.)


NOTE: The Print feature is not available in the Universal viewer.

Unprintable documents (such as XLS or audio (MP3, WAV, MIDI, etc.)) cannot be printed.

You can print to a printer connected to your local workstation or a network printer if you are connected to a network.

WARNING: The application's print function depends on the Web browser that you are using. Print output can vary between different Web browsers and are not recommended for diagnostic use.

To print patient images

- 1 Select and load the desired study in the Enterprise viewer.
- 2 If required, use the review tools to manipulate the image.
- 3 Select the viewport with the image to be printed and click **Print View** .

The composite image layout print dialog opens displaying all viewports in the active panel with Print Preferences options. If a viewport contains an image, the image is displayed. If a viewport contains a Printable Document, Unprintable Document, or is empty, a blank image is displayed.

NOTE: If the selected viewport is empty but there is at least one viewport that contains an image, the application proceeds to the composite image layout print dialog. If the selected viewport is empty and there are no viewports that contain an image, a message is displayed that the selected viewport is empty.

- 4 Select the page size and orientation that corresponds with the browser's print settings.
- 5 Click **Print**. The application displays a standard print dialog.
- 6 Set the printer options, click **Print**.

To print printable documents

- 1 Select and load the desired study.
- 2 Select the viewport with the document to be printed and click **Print View**. The application displays the document in a new browser window.
- 3 Click **Print**. The application displays a standard print dialog.
- 4 Set the printer options and click **Print**.

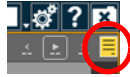
Generating PDF Reports

The following procedure describes how to generate and download PDF reports.

NOTE: The Generate PDF Report tool is not available in the Universal viewer.

To generate PDF reports

- 1 Open a study in the Enterprise viewer.
- 2 Click the **Report** button.



The report opens in the Enterprise viewer.

- 3 Click **Generate PDF Report**. The Opening Report dialog opens.

NOTE: **Generate PDF Report** is enabled only after you have displayed a report in the report viewer.

- 4 Do one of the following:
 - Select **Open with** and select the appropriate program to open and view the file.
 - Select **Save File** to download the file to the Downloads folder of your computer.
- 5 Click **OK**.

Saving Presentations

NOTE: This feature may not be available depending on your site configuration. Contact your System Administrator.

If configured, the application enables you to save the following attributes of your current review session as a presentation:

- Image display parameters (for example, window settings, zoom, pan, orientation, and grayscale inversion)
- Annotations (such as measurements and text)
- Edge Enhancement parameters (edge contrast and kernel size)

NOTE: Edge Enhancement is not available in the Universal viewer.

The application provides two methods for saving presentations:

- **Save Series** — Saves annotations and image display parameters on all images in the series.
- **Save Annotated Images** — Saves only the annotations on all images in the series.

NOTE: When you save the image display parameters, you save them for the active viewport.

NOTE: When you save the image display parameters you have set during the review session, you override the original values from the acquisition device.

To save a presentation

- 1 Make the desired changes to the following image display parameters:
 - Window settings (see [Changing Window Settings on page 68](#))
 - Spatial adjustments (see [Zoom on page 40](#))
 - Image orientation and grayscale inversion (see [Image Orientation on page 45](#))
- 2 Add the desired annotations (see [Annotation Options on page 43](#)).
- 3 When you have completed making the desired changes, Do one of the following:

- Click one of the following in the Enterprise viewer Review toolbar:

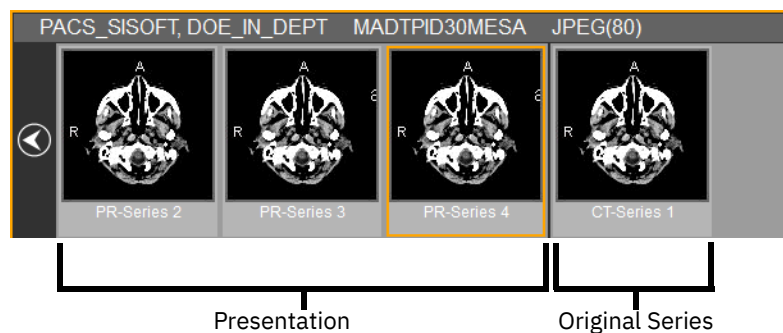
• **Save Series**  or **Save Annotated Image** .

NOTE: While the save is occurring, a spinning wheel is displayed until the operation has completed. Saving a series takes longer than saving annotated images, particularly if the series consists of many images.

- Click one of the following in the Universal viewer Toolbox:

• **Save Series**  or **Save Annotated Image** .

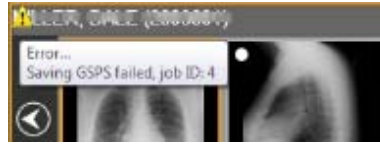
- 4 The application saves the presentation as a new series in the Series Thumbnail panel.



Presentations are identified with a PR prefix.

NOTE: The Series Thumbnail panel displays the thumbnails for the study that is currently selected in the Related Studies List. If your presentation series does not appear in the Series Thumbnail panel, make sure that the study to which your series belongs is selected.

NOTE: If an error occurs during the save operation, a warning icon appears at the top left of the thumbnail panel. Hover the cursor over the icon to determine the nature of the error.



Emailing Studies

IBM iConnect Access enables authorized users to send links for studies to non-registered users via email. For purposes of security, this feature may be configured to require the recipient to correctly type a Personal Identification Number (PIN) before accessing the study.



An administrator can enable or disable the email study feature, as well as the PIN security feature.

When an authorized user successfully emails a study, the recipient receives an email that contains a link to the study. The recipient may use the tools in the toolbar to manipulate the image, but the image cannot be saved. After a configurable period of time, the link to the study expires.

NOTE: This feature enables users to send protected health information to non-registered users. The user is advised to exercise discretion when disseminating such information.

For information on enabling the email study feature, refer to the IBM iConnect Access Installation Guide.

To email a study

- 1 Open the study into a study viewer.
- 2 Click **Email Study**: Enterprise viewer , Universal viewer . The Email Study dialog opens.

NOTE: If Email Study is not visible or disabled, the feature is not enabled. Contact your System Administrator.

- 3 In the **To Email** field, type the email address of the recipient.

CAUTION: Ensure the correct email address is entered otherwise the recipient may not receive the email.

- 4 In the **To Name** field, type the name of the recipient.
- 5 Type a reason for the email.


- 6 The Email Study dialog includes a list of related studies if any are found. Select any related studies you want to include or click **Select All** to add all related studies.
- 7 Click **Send Email**. The system sends the recipient an email that contains a link to the study. If this feature is configured to require a personal identification number (PIN) for the recipient to open the study, the application displays a system-generated PIN.
- 8 Notify the recipient of the system-generated PIN.
- 9 Close the Email Study dialog.

Reporting Errors

The Report Error feature allows users to report an error found in an XDS document to the user responsible for registering the document. The error report is encrypted and sent to the configured Merge Document Management (MDM) system.

NOTE: The Report Error feature is not available in the Universal viewer.

To report an error

- 1 Click Report Error . The Report Problem dialog opens.
- 2 Your **First Name** and **Last Name** auto populated, if available. Type your **Phone Number** and **Email Address**, and modify your name if necessary.
- 3 Enter your message in the **Comments on issue** text box.
- 4 Click **OK**. A dialog opens and displays the status of the error report message.
- 5 Click **Close**.

Working with Conference Folders

The Conference Folder feature enables users to participate in internal conferences where de-identification of the patient is not required. Physicians, including radiologists, cardiologists, oncologists, neurologists, ENT specialists, pathologists, may now create a folder with a list of exams and notes to be reviewed in a particular conference.

NOTE: The Conference Folder feature is not available in the Universal viewer.

A top level conference folder (level 1) can have one or more subfolders (level 2) and a subfolder can have one or more child subfolders (Level 3).

- Brain Tumor Board
 - October 6
 - October 13

- October 20

A top level conference folder can only be added, deleted, or modified by a Super Administrator or Domain Administrator user type.

Each top level folder has the following:

- A free text description section that describes the conference and relevant information.
- One or more folder managers who are identified by their user ID.

Folder managers are able to:

- Add, modify, and archive subfolders.
- Add or delete studies to or from subfolders.
- Add, delete, and modify conference study notes.
- Add, delete, and modify subfolder descriptions.

From the viewer, a folder manager can add an exam to a folder. This feature enables the folder manager to add a current exam with exam-specific conference study notes to a particular subfolder.

From the subfolder study list view, exams are listed and sortable with their associated conference study notes.

Conference study notes are available for review within the Patient History tab of the Enterprise viewer (if the study was loaded from the Conference Folders tab) as well as within the **Notes/Comments** field of the Conference Folders tab.

A Conference User role level permission enables users to view the exams and study notes within all conference folders.

- Users who do not have conference folder privileges cannot see the Conference Folders tab or the folder contents.
- The contents of conference folders can be viewed on iPad and iPhone Mobile iOS devices, but these devices do not support conference folder manager functions.

Conference users are able to see the entire conference folder structure and its contents for their domain regardless of role level segmentation.

A subfolder or conference study cannot be moved between top level folders. Therefore, once created, a subfolder or conference study always has the same top level folder.

For information on creating the folder structure at the domain or role level, refer to the IBM iConnect Access Administration Guide.

Related content:

- [Adding Studies to Conference Folders on page 90](#)
- [Opening Studies from Conference Folders on page 90](#)
- [Adding Notes to Studies on page 91](#)
- [Archiving Conference Folders on page 91](#)

Adding Studies to Conference Folders

After you have searched for and displayed a study in the Enterprise viewer, you can add it and any priors to a study folder.

To add studies to conference folders

- 1 In the Enterprise viewer, click **Add to Conference Folder**. The Add to Conference Folder dialog opens.

NOTE: If the Add to Conference Folder button is not displayed, this feature has not been enabled at either the system or domain level. Contact your System Administrator.

- 2 Click **Browse**. The Select a Destination Folder dialog opens.

- 3 Select the appropriate child subfolder.

NOTE: If no folder structure is displayed, contact your Domain Administrator. Instructions on creating conference folders are contained in the IBM iConnect Access Administrator's Guide.

NOTE: If the study has already been added to the selected conference folder, the following message appears: The conference study already exists in the folder.

- 4 Click **Select Folder**. The selected folder appears in the **Destination Folder** field of the Add to Conference Folder dialog.

- 5 Optionally type notes in the **Study Notes/Comments** field.

NOTE: Notes are only available when the study is loaded from the Conference Folders tab.

- 6 Click **Add**. The study is added to the specified folder.

Opening Studies from Conference Folders

The following procedure describes how to open a study that has been added to a conference folder.

To open studies

- 1 In the Conference Folders tab, navigate to the child subfolder that contains the studies that you want to view. The study list displays all studies contained in the folder.
- 2 Double-click the study that you want to view. The study opens in the Enterprise viewer.

Adding Notes to Studies

You can either add notes to studies when you add studies to the conference folder (see [Adding Studies to Conference Folders on page 90](#)) or after the study has been added to a conference folder. The following procedure describes how to add notes after the study has been added to the conference folder.

To add notes to a study

- 1 In the Conference Folders tab, navigate to the child subfolder that contains the study to which you want to add a note.
- 2 Select the study. The **Notes/Comments** field displays any notes that have already been entered.
- 3 In the **Notes/Comments** field, click **Edit**.
- 4 Type a note.
- 5 Click **OK**.

Archiving Conference Folders

When work with a conference folder has finished, folder administrators can archive it. The archive retains the folder's name, description, study identifiers (accession number/study instance UID), and associated conference study notes that are saved within the database.

When a folder is archived, only child subfolder are moved to the archive. The folder and subfolder are still displayed in the Active list.

NOTE: If you want to have an archived conference folder restored, or have a conference folder deleted entirely, contact your domain administrator.

To archive a folder

- 1 In the Active list of the Conference Folder tab, select the folder that you want to archive.
- 2 Click **Archive** and confirm the action. The folder is removed from the Active folder list.

Color Splitting

For studies with modality OP, OT, or SC that support channel color splitting, you can view each of the RGB channels separately in the Enterprise viewer.

NOTE: Color Splitting is not supported in the Universal viewer.

NOTE: When red removal color split channel is applied some image information/details may not be visible.

To split channel colors

- 1 Open a study with modality OP, OT, or SC that supports color splitting in the Enterprise viewer.
- 2 Color splitting options are available for all the viewports that contain images with modality OP, OT, or SC.



- 3 Select red, green, or blue on the color splitting icon to toggle the image components respectively. Select RGB to view all simultaneously.

Collaborating on Studies

The Collaboration feature allows multiple users who are currently viewing the same study in the Universal viewer to initiate a diagnostic quality collaboration session together. If other users are viewing the same study, you can send them invitations to collaborate. This includes guest users that are viewing the study from email links, as well as registered users who are viewing the study after being granted access to it.

Each participant in the collaboration session views their own rendering session of the images utilizing the Universal viewer to display diagnostic quality images, provided they have an appropriate physical display and viewing environment. Participants will not be able to see the presenter modify non-image documents such as audio files, video files, and reports.

The host user in a collaboration session controls the viewing session and is the original presenter. The current presenter controls all viewing aspects of the Universal viewer and can pass presentation rights to one of the other users at any time during the session. Non-presenters can view the studies using the presenter user's preferences, but cannot modify the view or the study.

Collaboration sessions end when the host user ends the session, or all other users other than the host user leaves the session. When the session ends or a user exits, all users are returned to the Universal viewer in the latest presentation state.

CAUTION: When collaborating with a guest user, network connection issues could cause a delay between what is displayed for the presenter and guest user.

NOTE: Another form of communication should be used in conjunction with the collaboration session to ensure there is no confusion between users.

NOTE: The Collaboration feature is not available in the Enterprise viewer.

NOTE: If the Collaboration button is not displayed, this feature has not been enabled at either the system or domain level. Contact your System Administrator.

NOTE: If you have performed an emergency search/break glass, you will not be able to participate in a collaboration session.


Related content:

- [Inviting Other Users to Collaborate on page 93](#)
- [Collaborating on Studies on page 94](#)

Inviting Other Users to Collaborate

This section describes how to invite other users to collaborate on studies.

To invite other users to collaborate

- 1 Open the study in the Universal viewer.
- 2 Click **Collaboration** . A list of users currently viewing the study is displayed.
- 3 Select the users to invite and click **Invite to Collaboration**. A dialog opens
- 4 All users selected will be presented with a dialog identifying who sent the invite and the patient name, date of birth, and gender.
- 5 The collaboration session starts when all users have responded to the invite. To start the collaboration without waiting for more attendees, click **Force Start**. To cancel the invitation, click **Cancel**.

Collaborating on Studies

This section describes how to collaborate on studies and pass presenter rights.

To collaborate on studies

- 1 Start or join a collaboration session. When another user invites you to collaborate on a study that you are currently viewing in the Universal viewer, click **Join** to accept the invitation. Click **Ignore** to decline the invitation.

- 2 After the session starts, the host (or presenter) can configure the viewer and viewer panels, and modify the viewports using the tools as necessary. The changes are displayed in real-time on the other participant's sessions.

NOTE: The show/hide state for thumbnails, Exam List History, and rendering features for the presenter are not reflected in the participants viewers. The participants can show/hide these features as desired.

NOTE: If the presenter saves a presentation state (PR) or annotated series during the collaboration session, that series cannot be synced with the participants.

- 3 Both the presenter and participants can and place a cursor on the collaboration session to identify points of interest. To identify a point of interest, do the following:

- Presenter — place the cursor over a viewport. The cursor is displayed on the each participants display using the initials and collaboration highlight color of the presenter. Drag the cursor around the viewport as desired.



- Participants — place the cursor over a viewport and click on a point of interest to make the cursor flash temporarily on the viewport in each participants display using your initials and collaboration highlight color. You can also click and hold while dragging the cursor to keep the cursor displayed.
- 4 To pass presenter rights when you are the presenter, from attendees list in the Collaboration dialog, click the desired user.
 - 5 The exit the session, do one of the following:
 - If you are the host, click **End Collaboration**. The collaboration session is ended for all users.
 - If you are not the host, click **Exit Collaboration**.



Chapter 5 iConnect Access 3D Viewer

iConnect Access 3D provides clinical users with 3D and advanced image processing features for CT, MRI, and PET images. Features include an MPR mode, MIP, MinIP, 3D tissue selection, colon and vessel CT rendering, calcium scoring, curved MPR, and saving images back to the study.

The iConnect Access 3D viewer is available on the Universal viewer for desktop devices and the Enterprise viewer for mobile (iPAD) devices.

NOTE: Mobile (iPAD) devices only support MPR and 3D 4:1 modes. The 3D 6:1, Curved MPR, and Calcium Scoring viewing modes are not supported on mobile devices.

Related topics:

- [Accessing iConnect Access 3D on page 95](#)
- [iConnect Access 3D Viewer Tools on page 96](#)
- [iConnect Access 3D Shortcut Keys on page 102](#)
- [Using iConnect Access 3D Tools on page 103](#)
- [Using iConnect Access 3D Views on page 111](#)
- [Modifying Settings on page 121](#)
- [Saving Images to a Study on page 122](#)

Accessing iConnect Access 3D

For iConnect Access 3D to be available in IBM iConnect Access, the following conditions must be met:

- iConnect Access 3D must be licensed. For information on licensing for iConnect Access 3D, contact your [Customer Support](#) representative.
- iConnect Access 3D must be configured in IBM iConnect Access.
- iConnect Access 3D must be enabled at the domain or role level.

NOTE: If the above conditions are not met, contact your System Administrator.



The IBM iConnect Access 3D Viewer is enabled in the study viewers if the active study:

- modality is MRI, CT, or PET.
- series viewport is not in Global Stack mode.
- contains a series with at least 15 images to be displayed in 3D.

NOTE: If the above conditions are not met, the 3D View button is disabled.

To launch iConnect Access 3D

Open a 3D eligible study in one of the compatible study viewers, select a viewport and do one of the following:

- Universal viewer (desktop) — click the **3D View**  drop-down and select a viewing mode: **MPR**, **3D 4:1 Layout**, **3D 6:1 Layout**, **Curved MPR**, or **Calcium Scoring**. Click **2D** to close the iConnect Access 3D viewer.
- Enterprise viewer (mobile) — click **3D**  in the Review toolbar. Click again to close the iConnect Access 3D viewer.

See [Using iConnect Access 3D Views on page 111](#) for more information on the 3D viewing modes.

iConnect Access 3D Viewer Tools

The iConnect Access 3D Viewer tools are available in the Universal viewer 3D viewer Toolbox for desktop devices and the Enterprise viewer 3D viewer Toolbar for mobile devices. Additional tools are also available on the Universal viewer 3D viewer in the More menu (see [More Menu on page 99](#) for more information).









NOTE: The Toolbox is configurable by the System Administrator. As a result, the contents of the Toolbox and the order of the tools may differ.











The following tools are available:

- [Universal Viewer 3D Viewer Toolbox on page 97](#)
- [Enterprise Viewer 3D Viewer Toolbar on page 100](#)

Universal Viewer 3D Viewer Toolbox

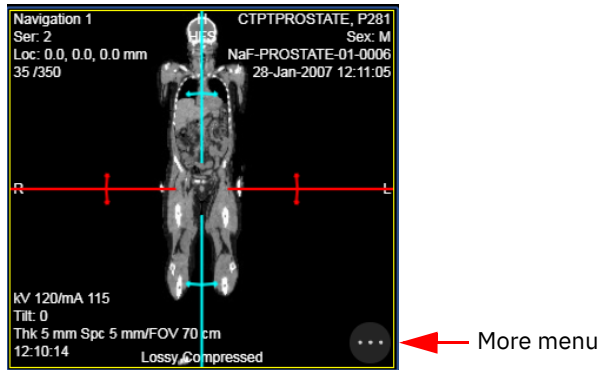
The following tools are available from the Universal viewer 3D viewer toolbox:

Tool	Tool name	Description
	Window-level (MPR) or transformation adjustment (3D)	Manually adjust the window width and level. Width can be wide (many grays, less contrast) or narrow (fewer grays, more contrast). Level can be high (dark) or low (bright).
	Magnification tool	Zoom in and out on a selected image. See Magnification Tool on page 104 .
	Pan	Pan images in the MPR viewpoints. NOTE: This tool is not available in viewing modes 3D 4:1 and Calcium Scoring. See Roaming Tool for MPR on page 104 .
	Measurement tool	Measure an image. See Measurement Tool on page 105 .
	Scroll tool	Scroll through images in a series within a viewport by clicking the left mouse button and moving the mouse pointer up or down. See Scroll Tool on page 104 .
	Rotate Click Center	Set the rotation point to a clicked point on the image. See Rotate Tool on page 104 . CAUTION: If you click outside of the anatomical area in the image, the image will be re-centered around the selected point and the anatomical data may become located outside the viewer.
	Rotate Image Center	Set the rotation point at the center of the image. See Rotate Tool on page 104 .
	Tissue Selection tool	Single out a specific type of tissue, such as a bone or artery. See Selection Tool on page 109 .

Tool	Tool name	Description
 Manual  Vessels  Colon	Curved Drawing tool	Manual or automatic changes to the vessels or colon images. Related topics: <ul style="list-style-type: none"> • Curved Drawing Tool on page 105 • Curved Drawing Tool – Auto (Vessels) on page 107 • Curved Drawing Tool – Auto (Colon) on page 108
 Polygon  Freehand	Sculpt tool for 3D	Remove portions of a 3D image so that only the most relevant anatomy is shown. Y <ul style="list-style-type: none"> • Polygon — allows you to draw a polygon shape around the object. • Freehand — allows you to draw a free form shape around the object. See Sculpt Tool for 3D on page 109 .
	Calcium scoring mode	Display scores per vessel and calcium score totals. See Calcium Scoring Viewing Mode on page 119 .
	Download image	Download an image as a JPEG or PNG to your desktop with a specified file name. See Download Image on page 108 .
	Reset presentation to initial state	Reset your presentation to the initial state.
	Undo segmentation/selection	Undo the previous action. Note: By default, the Undo button is not configured to show in the Toolbox, but is available in the More menu. Contact your System Administrator to enable this button in the Toolbox.
	Redo segmentation/selection	Redo the previous action. Note: By default, the Redo button is not configured to show in the Toolbox, but is available in the More menu. Contact your System Administrator to enable this button in the Toolbox.

More Menu

Each 3D viewport in the Universal viewer 3D viewer contains a More menu icon that is displayed in the lower right corner of the viewport. The tools available in the More menu can vary slightly based on the 3D view selected.






The More menu contains the following tools:




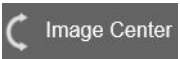






Tool	Tool name	Description
	Undo segmentation/selection	Undo the previous action.
	Redo segmentation/selection	Redo the previous action.
	Save	Save the displayed image to the study.
Sub Volumes	Sub Volumes	<p>If more than a single volume is detected in the selected series, each sub volume is available for selection.</p> <p>Note: An alert indicator is displayed next to the Sub Volumes label if any images in the selected series could not be included in the assembled volume(s).</p>
Result	Result viewport selection	<p>Set the desired result navigation viewport.</p> <ul style="list-style-type: none"> Navigation 1 Navigation 2 Navigation 3 <p>The color around the viewport will correspond to the navigation viewport selected.</p> <p>See MPR Viewing Mode on page 111 for more information.</p>

Tool	Tool name	Description
Preset	Presets	Available Window level (MPR) or 3D presets. See MPR Viewing Mode on page 111 for more information. In modes other than MPR mode, you can select to apply 3D transfer functions. See 3D presets for color volume rendering on page 114 for a list of 3D transfer functions.
Thickness	Thickness	Adjust the slice thickness of the image. Click and type to change the value. NOTE: On the desktop 3D viewer, the increment value is linked and is equal to the thickness value once the thickness value is manually changed. Initially, the increment value is equal to the spacing between slices from the original image stack, which may be different from the slice thickness and the MPR slab thickness. You can restore the initial increment and thickness by using the reset functionality.
Render Type	Render mode for current image	Render mode for this image. <ul style="list-style-type: none"> • MIP • MinIP • AverageIP • 3D Slab (Result viewport)
Flip	Flip image	Flip the path direction.
Toggle 3D/MPR	Toggle 3D/MPR views	Toggle the MPR crosshair and 3D rotation controls on/off.

Enterprise Viewer 3D Viewer Toolbar

The following tools are available from the Enterprise viewer 3D viewer toolbar or panel drop-down on mobile:

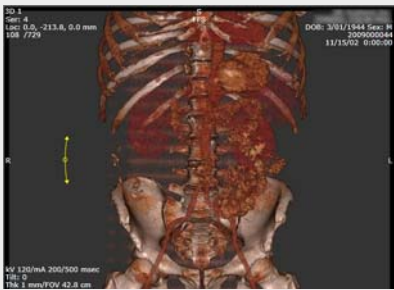

Tool	Tool name	Description
	MPR (multi-planar reformatting) viewing mode	MPR viewing mode. See MPR Viewing Mode on page 111 .
	3D 4:1 Layout viewing mode	3D viewing mode. See 3D 4:1 Layout Viewing Mode on page 115 .
	Sub Volumes	If more than a single volume is detected in the selected series, each sub volume is available for selection.

Tool	Tool name	Description
	Magnification tool	Zoom in and out on a selected image. See Magnification Tool on page 104 .
	Rotate tool	Rotate an image. See Rotate Tool on page 104 .
	Rotate Click Center	Set the rotation point at a clicked point on the image. See Rotate Tool on page 104 . CAUTION: If you click outside of the anatomical area in the image, the image will be re-centered around the selected point and the anatomical data may become located outside the viewer.
	Rotate Image Center	Set the rotation point at the center of the image. See Rotate Tool on page 104 .
	Roaming tool for MPR	Pan images in the MPR viewport. NOTE: This tool is disabled in 3D Viewing Mode 4:1. See Roaming Tool for MPR on page 104 .
	Scroll tool	Scroll through images in a series within a viewport by clicking the left mouse button and moving the mouse pointer up or down. See Scroll Tool on page 104 .
	Window-level (MPR) or transformation adjustment (3D)	Manually adjust the window width and level. Width can be wide (many grays, less contrast) or narrow (fewer grays, more contrast). Level can be high (dark) or low (bright).
	Reset presentation to initial state	Reset your presentation to the initial state.
	Settings	Adjust the values for the interactive and final quality/size of images displayed in iConnect Access 3D. See Modifying Settings on page 121 .
	About Box	Information about the product, such as the version and copyright information.

iConnect Access 3D Shortcut Keys

The following table lists IBM iConnect Access 3D orientation shortcuts available in the desktop 3D viewer, as well as general shortcuts for IBM iConnect Access:

Key	Name	Sample Image
3D Orientation Shortcuts		
H	Superior	
F	Inferior	
R	Right	
L	Left	

Key	Name	Sample Image
A	Front (anterior)	
P	Back (posterior)	
General Shortcuts		
T	Toggles image annotations on or off.	
X	Toggles all MPR crosshairs and 3D rotation controls on or off.	
R	Flips the view direction along curved path (Curved MPR viewing mode 6:1 only).	
Delete	Deletes selected measurement.	

Using iConnect Access 3D Tools

The following topics describe each of the iConnect Access 3D tools available in the Toolbox and Toolbar:

- [Magnification Tool on page 104](#)
- [Rotate Tool on page 104](#)
- [Roaming Tool for MPR on page 104](#)
- [Scroll Tool on page 104](#)
- [Measurement Tool on page 105](#)
- [Curved Drawing Tool on page 105](#)
- [Curved Drawing Tool – Auto \(Vessels\) on page 107](#)
- [Curved Drawing Tool – Auto \(Colon\) on page 108](#)

- [Download Image on page 108](#)
- [Sculpt Tool for 3D on page 109](#)
- [Selection Tool on page 109](#)

Magnification Tool

The magnification tools allows you to zoom in and out on an image.

To use the magnification tool

- 1 Click and hold the left mouse button.
- 2 Move the pointer up to zoom in or move the pointer down to zoom out.

Rotate Tool

The rotate tool allows you to rotate an image.

To rotate an image

- **Click Center** sets the rotation point at a clicked point on the image.
- **Image Center** sets the rotation point at the center of the image.

Roaming Tool for MPR

The Roaming tool for MPR allows you to pan and move around the image in the viewport which correlates with all of the other viewports of the MPR.

Scroll Tool

Using the Scroll tool, you can hold down the left mouse button down and scroll through the images. The image will click forward and backwards based on the specified increment. You can click on the increment window to change the increment value.

Measurement Tool

The Measurement Tool allows you to measure an image.

NOTE: Linear measurements are reported with precision to the tenth of a millimeter (0.1 mm) with an error of ≤ 0.1 mm. However, the total measurement precision is limited by the acquisition pixel and slice spacing and is likely a larger value.

To measure an image

Click a point and drag the pointer to the end of the area to be measured. The viewer displays a line with the measurement in millimeters.

- 3D measurement endpoints — Rays are cast from the endpoints of the measurement line to find the 3D points of intersection with the body under the current transfer function. Both endpoints must intersect with the body for the measurement to be calculated.
- MPR measurement endpoints — Rays are cast from the endpoints of the measurement line to find the 3D points of intersection with the current MPR slab. For rays that hit the body, the intersection point is the 3D point corresponding to the voxel that resulted in that pixel in the MIP or MinIP image. For example, for MIP images, it is the maximum intensity voxel along the ray. If there are multiple voxels with the same intensity, the first voxel hit is used. For rays that do not hit the body, the 3D point in the middle of the MPR slab along the ray is used.
- For both types of measurements, the returned measurement is the 3D distance between these intersection points. The measurement remains visible when other tools are applied as long as neither endpoint is occluded (within a tolerance).

NOTE: 2D and 3D measurements are computed in inherently different ways so cannot be assumed to be equal when viewed as a captured 2D image or compared with a 2D image.

Curved Drawing Tool

The Curved Drawing Tool allows you add points on an image, and the system analyzes and renders the path between points. There are three modes available:

- Manual — You can click the curve drawing tool and add points to form a path.
- Auto (Vessels) — You can track and analyze vessel paths. The system automatically finds the vessel path between two points.
- Auto (Colon) — You can display the colon CT in various ways, including scrolling perpendicular to the curved path of the colon with camera angle and direction controls.

NOTE: The Curved Drawing Tool is only available in the Universal viewer 3D viewer.

To access the curved drawing tool

- 1 Click the **Curved MPR** icon, and the Curve drawing tool is enabled.
- 2 Right-click a viewport, right-click the **Curve drawing tool** icon, and select either **Manual**, **Auto (Vessels)**, or **Auto (Colon)**.

Curved Drawing Tool – Manual

In manual mode you can click the curve drawing tool and add points. The system analyzes and renders the path between the points.

NOTE: The system automatically generates a path in all three MPR windows.

To use the curved drawing tool in Manual mode

- 1 Click to add a point. Add at least two points.
 - Click and drag to move a point.
 - Right-click a point and select **Delete Control Point** to delete a point.
- 2 In a Path Navigation window, use the middle mouse button to scroll through the path of the structure.
- 3 Rotate around the structure to quickly view variations.

You can rotate the Curved MPR window by right-clicking and dragging any window except for 3D Path navigation. If you right-click and drag on the 3D Path navigation window, the window performs rotation along the center of the displayed 3D Curved image. Furthermore, the Curved MPR window image rotates when the right mouse button is pressed and moved horizontally for the vertically-oriented path, and it rotates with the vertical movement of the mouse for the horizontally-oriented path.

Navigational shortcuts

Key or Action	Function
X	Toggles all MPR crosshairs and 3D rotation controls on/off
Scroll off the curved path	Press the left and right mouse buttons and vertically drag.

Curved Drawing Tool – Auto (Vessels)

The Auto (Vessels) mode allows you to track and analyze vessel paths. The system automatically finds the vessel path between two points.

NOTE: The system automatically generates a path in all three MPR windows.

To use the curved drawing tool in Auto (Vessels) mode

- 1 In navigation window 1, 2, or 3, click to add two points. The path is automatically rendered between the two points.
- 2 In a Path navigation window, use the middle mouse button to scroll through the path of the structure.
- 3 Rotate around the structure to quickly view variations.

You can rotate the Curved MPR window by right-clicking and dragging any window except for 3D Path navigation. If you right-click and drag on the 3D Path navigation window, the window performs rotation along the center of the displayed 3D image. Furthermore, the Curved MPR window image rotates when the right mouse button is pressed and moved horizontally for the vertically-oriented path, and it rotates with the vertical movement of the mouse for the horizontally-oriented path.

Navigational shortcuts

Key or Action	Function
T	Toggles annotation on/off.
R	Flips the view direction along a curved path.
Left-click	In navigation window 1, 2, or 3, adds a point. Left-click and hold. Move the mouse to rotate around a drawn point.
Right-click	In the 3D Path Navigation window, right-click and hold. Move the mouse to freely rotate around the structure.
Scroll off the curved path	Press the left and right mouse buttons and vertically drag.

Curved Drawing Tool – Auto (Colon)

The Auto (Colon) mode allows you to display the colon CT in various ways, including scrolling perpendicular to the curved path of the colon with camera angle and direction controls.

NOTE: You do not need to draw points in the same window.

To use the curved drawing tool in Auto (Colon) mode

- 1 In navigation window 1, 2, or 3, click to add two points. The path is automatically rendered between the two points.
- 2 In a Path Navigation window, use the middle mouse button to scroll through the path of the structure.
- 3 Rotate around the structure to quickly view variations.

You can rotate the Curved MPR window by right-clicking and dragging any window except for 3D Path navigation. If you right-click and drag on the 3D Path navigation window, the window performs *look-around off-path*. Furthermore, the Curved MPR window image rotates when the right mouse button is pressed and moved horizontally for the vertically-oriented path, and it rotates with vertical movement of the mouse for the horizontally-oriented path.

Navigational shortcuts

Key or Action	Function
Scroll off the curved path	Press the left and right mouse buttons and vertically drag. NOTE: This navigation shortcut ONLY applies to Colon CT Rendering.

Download Image

The Download Image tool allows you to download an image as a JPEG or PNG to your desktop with a specified file name.

NOTE: The Download Image tool is only available in the Universal viewer 3D viewer.

To download an image

- 1 Right-click on the viewport with the image you want to download.
- 2 From the Toolbox, click the **Download Image** tool.
- 3 Click on the image. The Download Image dialog is displayed.
- 4 Enter a filename and select an image format, **jpg** or **png**:
- 5 Click **Save** to save the image.

Sculpt Tool for 3D

Tissue selection is often used for the removal of bones to allow visualization of vessels that are otherwise obscured. You can use the sculpt tool for 3D to remove portions of a 3D image so that only the most relevant anatomy is shown.

WARNING: The density of bone and vessels are often very similar; therefore when you are selecting bone removal, make sure that vessel segments are not inadvertently removed as well.

NOTE: The Sculpt Tool for 3D is only available in the Universal viewer 3D viewer.

To use the sculpt tool

- 1 From the Toolbox, right-click the **Sculpt tool for 3D** icon.
- 2 Click **Sculpt tool for 3D - Polygon** or **Sculpt tool for 3D - FreeHand**.

The Sculpt Tool Instructions dialog box opens, which guide you on how to draw the shape.

Selection Tool

The Selection tool enables you to single out a specific type of tissue; for example, a bone or artery.

NOTE: The Selection Tool is only available in the Universal viewer 3D viewer.

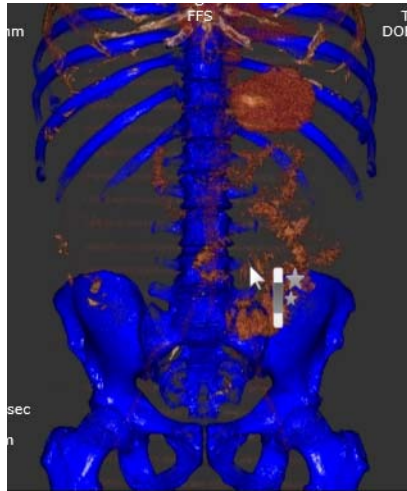
NOTE: If the Selection tool does not select the tissue well, adjust the window/level and try again.

To use the selection tool

- 1 Click the Selection tool. The 3D Tissue Selection Instructions dialog opens.
- 2 Select a **Preset** (Bone, Large vessels, Small vessels), **Threshold** similarity level, and **Radius** size, and click **Apply New Settings**.

- 3 Click a section of the selected preset.

In the following example, the preset selected is **Bone**:



The next example shows the bones removed and just the vessels remaining:



- 4 Click any part of the bone and the selected tissue is displayed in blue.

Using iConnect Access 3D Views

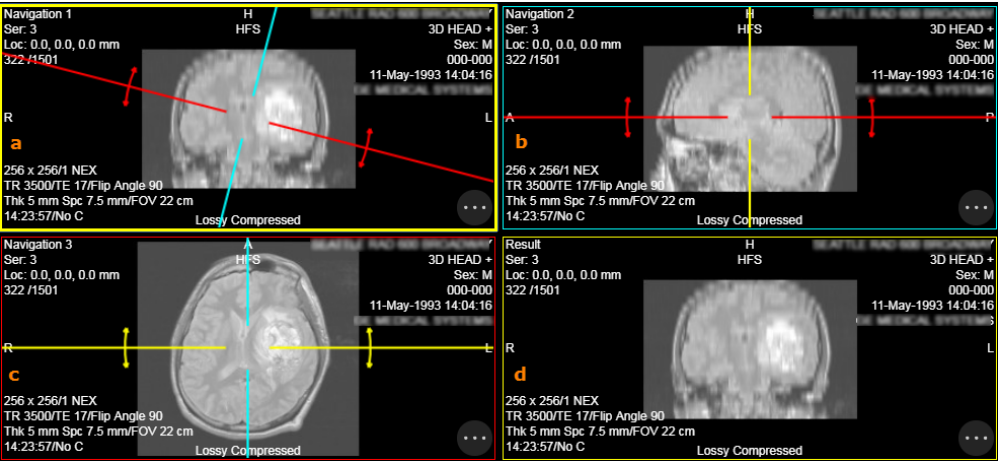
iConnect Access 3D provides the following viewing modes:

- [MPR Viewing Mode on page 111](#)
- [3D 4:1 Layout Viewing Mode on page 115](#)
- [3D 6:1 Layout Viewing Mode on page 116](#)
- [3 MPRs + MPR Path Navigation Control + 3D Path Navigation Control + Curved MPR on page 118](#)
- [Calcium Scoring Viewing Mode on page 119](#)

MPR Viewing Mode

Each navigation window is color-coded. For example, the yellow box shows images that correspond with the yellow lines of the orthogonal planes in the other viewpoints.

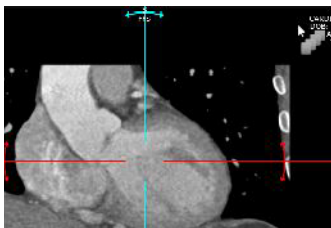
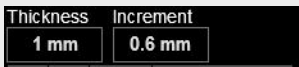


NOTE: The Sculpt tool for 3D, Undo/Redo segmentation, and Selection tools do not function in Curved MPR mode.



The following table describes the sections displayed in the image.

a, b, c	d
MPR windows This viewing mode contains three MPR windows.	Results window The results window copies the same plane and view position as one of the navigation windows, but the results window can show an independent window/level, color, and slice thickness.

The following tables describes different functionality in MPR Viewing Mode

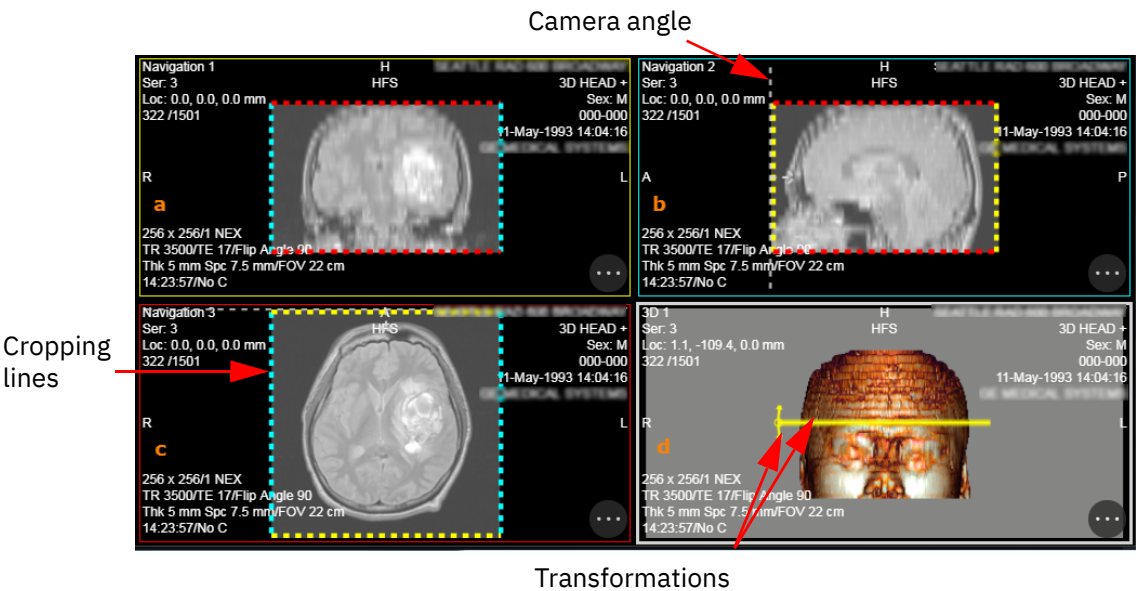
Tool	Function	Description
	MPR orthogonal reference lines	Drag the blue, red, and yellow orthogonal reference lines around the images. You can hover over the intersecting lines in any window, and the cursor changes to a crosshair icon
	Thickness and Increment text boxes	Click a text box to adjust the slice thickness(0.1–500 mm) or slice increment (0.1-100 mm) of the image. Type a different value in the box. NOTE: The increment control is only available on the Enterprise viewer 3D viewer on mobile devices. The increment value is linked and is equal to the thickness value for the desktop 3D viewer.
 – Universal viewer  – Enterprise viewer	Save	Click to save the displayed image.
Render Type	Render mode for current image	Click select a render mode for this image: <ul style="list-style-type: none"> • MIP • MinIP • Average
Result	Result viewport selection	The Result viewport displays the tissue plane of one of the other three navigation viewports. Click to select the desired Result viewport. <ul style="list-style-type: none"> • Navigation 1 • Navigation 2 • Navigation 3 <p>The color around the viewport will correspond to the Result viewport you selected.</p>

Tool	Function	Description
<div><div>Preset</div><div><div>Abdomen</div><div>Bone</div><div>Bone (body)</div><div>Brain</div><div>Bronchial</div><div>Liver</div><div>Lung</div><div>Mediastinum</div><div>P Fossa</div></div></div>	Preset selection	<p>In MPR mode, click Preset and select an available window level preset.</p> <p>Note: MPR window level presets are applicable only for CT studies.</p>

Tool	Function	Description
<div> <div>Bone & Lung</div> <div>Bone & Minimal Vessels</div> <div>Bone & Vessels Bright /MRA-CTA</div> <div>Bone & Vessels-Dark Background A</div> <div>Bone & Vessels-Dark Background B</div> <div>Bone & Vessels Orange /MRA-CTA</div> <div>Bone & Vessels Red /MRA-CTA</div> <div>Bones Transulent & Metal</div> <div>Cardiac /MRA-CTA</div> <div>MRA-A</div> <div>MR-B</div> <div>Organs & Lung</div> <div>PET</div> <div>PET B</div> <div>Skin & Monochrome Sharp</div> <div>Skin & Monochrome Soft</div> <div>Soft Tissue Orange</div> <div>3D Colon, Trachea, Colon Outline</div> <div>3D MIP A</div> <div>3D Translucent Red</div> <div>3D X-ray A</div> <div>3D X-ray B</div> </div>	3D presets for color volume rendering	<p>In modes other than MPR mode, you can apply 3D presets. Click the More menu and select an rendering preset.</p> <p>Note: When 3D Slab is selected for Render Type in the Result viewport, the Preset selection tool displays the color volume rendering options.</p>

3D 4:1 Layout Viewing Mode

The 3D 4:1 Layout shows you the navigation window and the 3D window.



The following table describes the sections displayed in the image.

a, b, c	d
MPR Clipping windows This viewing mode contains three MPR windows to allow clipping of the 3D viewer.	Results window Each viewing mode presents different options for navigation windows. This example shows three MPR and one 3D window.

NOTE: Many of the iConnect Access 3D image color presets use a gray background rather than a black one. In many 3D renderings, iConnect Access 3D uses black edges to enhance anatomical structures. A gray background helps make these black edges more visually distinct. If requested, [Customer Support](#) can change the background color from gray to black.

The following tables describes different functionality in MPR Viewing Mode:

Item	Function
Cropping lines	Click and drag the lines to crop the image.
Camera angle	The white dotted line and arrow represent the camera view.
Transformations	<p>The 3D image displays a default transformation based on modality. You can change the transformation.</p> <p>Enterprise viewer — Tap and hold the viewport labeled “d” and select from the Preset menu.</p> <p>Universal viewer — Click the More menu in the viewport labeled “d” and select from the Preset menu</p>

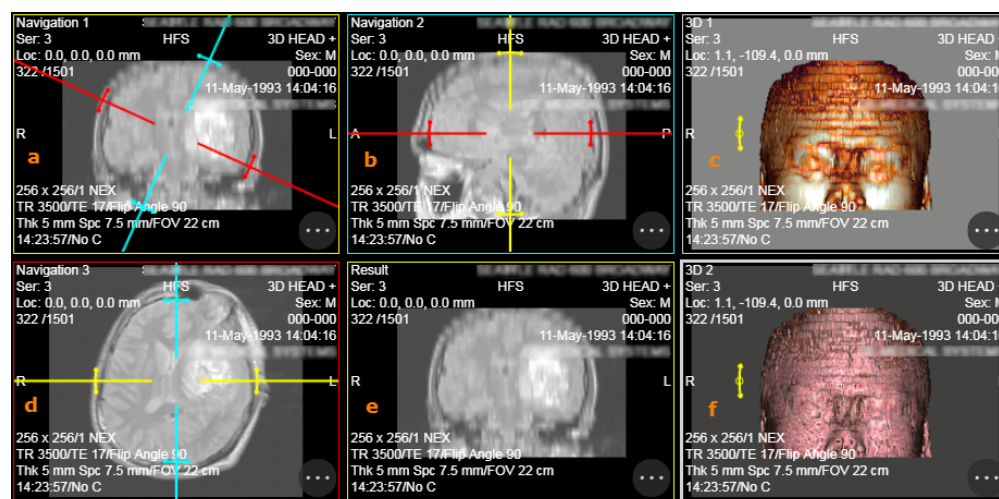
3D 6:1 Layout Viewing Mode

3D 6:1 layout shows you six 3D windows.

NOTE: The 3D 6:1 viewing mode is only available in the Universal viewer 3D viewer.

To use the 3D 6:1 Layout

Click the **3D 6:1 Layout** button from the Universal viewer Study Panel toolbar.

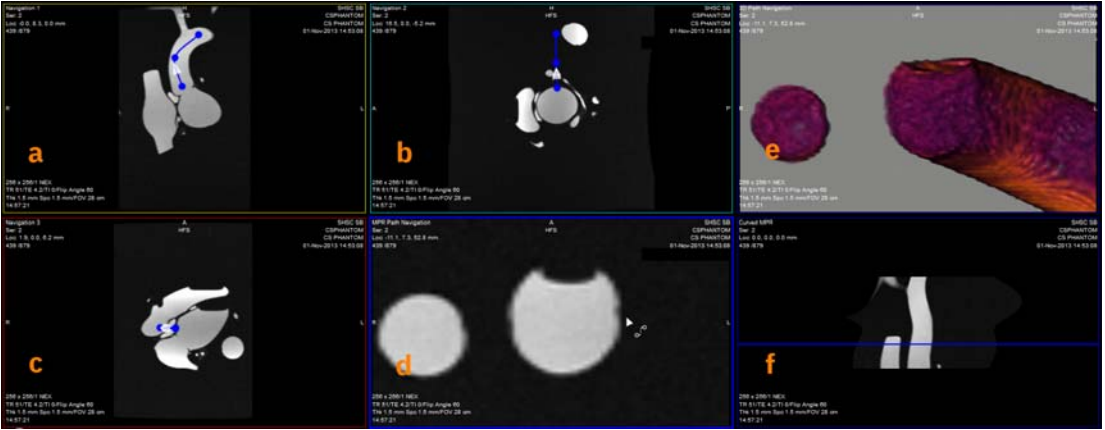


The following table describes the sections displayed in the image.

a, b, c	d	e, f
MPR windows This viewing mode contains three MPR windows which may contain Navigation controls or Clipping controls.	Results window This viewing mode contains one results window.	2 others These two windows display the same image, but with two different transfer functions. A different transfer function may be selected from the Preset selection.

NOTE: Many of the iConnect Access 3D image color presets use a gray background rather than a black one. In many 3D renderings, iConnect Access 3D uses black edges to enhance anatomical structures. A gray background helps make these black edges more visually distinct. If requested, [Customer Support](#) can change the background color from gray to black.

3 MPRs + MPR Path Navigation Control + 3D Path Navigation Control + Curved MPR



The following table describes the sections displayed in the image.

a, b, c	d	e	f
MPR windows This viewing mode contains three MPR windows.	MPR Path Navigation This window is used to scroll through the path created in the MPR windows. This window is synchronized with the 3D Path Navigation window.	3D Path Navigation This window is used to scroll through the path created in the MPR windows. This window is synchronized with the MPR Path Navigation window.	Curved MPR This window is generated by straightening the curve drawn in windows 1-2. The straightened curve allows you to quickly view variations in the diameter.

Calcium Scoring Viewing Mode

Cardiac calcium scoring displays scores per vessel and calcium score totals. This information includes:

Field	Description
Volume	The calcium volume. This value is computed by multiplying the number of voxels included in the Agatston score by the volume of a single voxel.
Score	The calcium threshold is 130HU, and only lesions with an area greater than 1mm^2 are included in the score. The score for a lesion is the area of the lesion multiplied by a scaling factor based on the maximum HU value within the lesion: 1 for 130 - 199, 2 for 200 - 299, 3 for 300 - 399, and 4 for 400+.
CA Threshold	130 HU as defined by Agatston. This is the minimum HU number for a pixel to be included in the Agatston score.
Percentile	The percentile score takes into account the gender and age of the patient. For example, if a male of age 60 receives a percentile score of 70, that means that his score is higher than 70% of male patients in his age range.

*The basis of Calcium scoring is the following Agatston paper:

Agatston AS, Janowitz WR, Hildner FJ, Zusmer NR, Viamonte M Jr, Detrano R. Quantification of coronary artery calcium using ultrafast computed tomography. J Am Coll Cardiol 1990;15(4):827-832

NOTE: The Calcium Scoring mode is only available in the Universal viewer 3D viewer.

To perform calcium scoring

- 1 Select the **Calcium Scoring Viewing Mode**.
- 2 On the Calcium Scoring Tool dialog, select a region and slice type.

Region options (select one):

LM Left main
 RCA Right coronary artery
 LAD Left anterior
 CX Descending circumflex
 PDA Posterior descending artery

Calcium Scoring Tool

Region
 Select a region of interest by clicking on a row...

Region	Volume [mm ³]	Score
LM	0.00	0.00
RCA	0.00	0.00
LAD	0.00	0.00
CX	0.00	0.00
PDA	0.00	0.00
Total	0.00	0.00

Selection
 Select the target, then click and draw the area in the image to score...

☒ Select this slice ☐ Select all contiguous
☐ Deselect this slice ☐ Deselect all contiguous

Score Type: Agatston equivalent
 CA Threshold: 130HU
 Patient Age: 0
 Percentile: Unknown. Patient age absent in DICOM header.
 Hoff J.A. et al., AJC, 2001 (USA, 35,246 patients)

Copy to Clipboard

Slice options (select one):

Select this slice: Selects and scores the drawn highlighted region on the current slice ONLY.

Select all contiguous: Scores calcium selected on the current slice and, based on the current slice, automatically scores calcium on contiguous slices (10 slices on either side of the initial slice for a total of 21).

Deselect this slice: Clears calcium selected from the current slice and subtracts the score from the total.

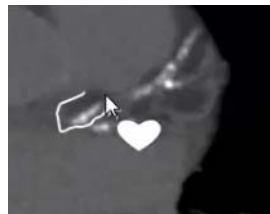
Deselect all contiguous: Clears calcium scored in all contiguous slices and subtracts the scores from the total.

- 3 Adjust the image using the window/level tool and page tool.

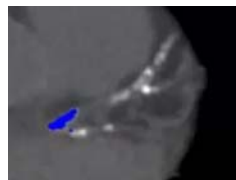
NOTE: To quickly page, use the mouse wheel and scroll. To quickly window/level, click the left and right mouse buttons simultaneously and move the mouse vertically and horizontally.

- 4 Draw around the calcium.

You do not need to draw the region precisely. If you do not close the drawn region, the last point automatically connects to the first point and closes the region.



The calcium is automatically highlighted and color-coded based on the selected vessel.



NOTE: If the calcium area is not highlighted, try again. The system may not highlight if the calcium area is not dense or large enough.

Region volumes, calcium scores, and the total score appear in the Calcium Scoring Tool dialog.

- 5 Copy the findings and paste it into the report.

At the bottom of the Calcium Scoring Tool dialog, click **Copy to Clipboard**.

Paste the copied information into the report.

NOTE: Volume measurements are reported with precision to the hundredth of a mm³ (0.01 mm³) and calcium measurements (reported as Agatston scores) with an error of < 4%.

NOTE: If you switch to another 3D viewing mode and use the Undo Segmentation tool, the calcium scoring region highlight is removed.

Modifying Settings

The Settings option on the Universal viewer toolbar allows you to adjust the values for images displayed in IBM iConnect Access. A value of 100 produces lossless PNG images. Setting the sliders to lower values produces JPG compressed images with the specified quality level.

NOTE: iConnect Access 3D supports both lossless (PNG) and lossy (JPG) compressed images.

The following settings are available:

Setting	Description
MPR Interactive Quality / MPR Final Quality	The image quality for MPR when performing interactive actions, such as scrolling, and the image quality when user interaction has completed.

Setting	Description
3D Interactive Quality / 3D Final Quality	The image quality for 3D images when performing interactive actions, such as scrolling, and the image quality when user interaction has completed.
Interactive Image Size/ Final Image Size	The transmitted image size for images when performing interactive actions, such as scrolling, and the transmitted image size when user interaction has completed.
Display Annotations	When selected, annotations are displayed. You can also use the T keyboard key to switch annotations on or off. The position markers on all images are retained at all times even when annotations are toggled off.
Flip	Select check box to allow the view direction along the curved path to change automatically. Use the R key to manually change the view direction. NOTE: The Flip check box applies to the manual curved MPR modes as well as the vessel mode and colon mode.

In iConnect Access 3D, irreversibly compressed images are labeled **Lossy Compressed**.

Saving Images to a Study

To save images to the study

- 1 In the viewport that contains the image that you want to save to the study, do one of the following:

- On the desktop 3D viewer, click the **Save** icon from the More menu.



- On the mobile 3D viewer, click the **Save** icon from the associated viewport.





Chapter 6 Patient Records

The Patients window enables you to search for patient records. The Patient Record window displays search results and enables you to view all records for a selected patient and select documents to view in the Document Viewer.

NOTE: The availability of this feature depends on your site's configuration. Contact your System Administrator.

NOTE: If integrated with a Master Patient Index (MPI), when you select a patient from the search results, the Patient Record window lists all records associated with the same patient regardless of different patient IDs.

- When integrated, IBM iConnect Access can receive patient search criteria from a third-party application. Depending on your configuration and the amount of information provided, IBM iConnect Access can display all records found for the specified patient in the Patient Record window (see [Viewing Patient Records on page 124](#)).

Searching for Patient Records

The Patients tab enables you to locate patient records in the configured data sources. The following procedure describes how to search for patients within the data source based on patient attributes (such as patient name, patient ID, date of birth).

To search for patient records

- 1 Click the Patients tab. The Patient Record tab opens.
- 2 If Basic Patient Privacy Consent is enabled select **Custom** or **Emergency** search. Otherwise, proceed to the next step. See [Basic Patient Privacy Consent Support on page 124](#) for more information.
 - Custom (default) — the patient search results include only specified categories of XDS records.
 - Emergency — the patient search results include every XDS record category. If you select Emergency, you are required to acknowledge you are accessing sensitive patient data and that your search will be audited and logged.
- 3 Type search criteria in the fields provided.

NOTE: For the **ID** field, the application only returns search results with an exact match.

NOTE: Depending on the MPI system used, some of the search fields may require an exact match. Contact your system administrator for more information.

NOTE: The **Domain** drop-down displays a list of entities, such as hospitals and clinics. You can select a domain to restrict your search to a particular institution.

4 Click **Search**.

5 When the application displays the search results, double-click the desired patient to display the patient's records (see [Viewing Patient Records on page 124](#)).

NOTE: The External Applications and Transfer Studies features are accessible from the Studies and XDS pages in the Patient Record. For details on using these features, see [Patient Studies on page 16](#).

Basic Patient Privacy Consent Support

Basic Patient Privacy Consent (BPPC) allows XDS records to be classified into different sensitivity categories based on confidentiality code associated with each record. With BPPC supports, if enabled, XDS records are filtered using confidentiality code setup in domain/role policy.

If your site supports BPPC, you will be setup for access to pre-defined categories of XDS records based on privileges. In addition, your domain or role management may be setup to perform an Emergency session (or Break Glass).

In a typical scenario, you are only allowed to access specified XDS record categories. However, in an Emergency session (or Break Glass), after acknowledgment of a popup dialog, you will be allowed to access all XDS record categories. Your emergency session will be audited and all searches will be logged.

Viewing Patient Records

When you select a patient, the Patient Record window displays all records associated with the selected patient. Depending on your site's configuration, the Patient Record window may display any or all of the following three categories:

- Studies — DICOM and XDS studies, including any of their attachments or XDS documents, associated with the selected patient.
- XDS — records associated with the selected patient from an XDS source.
- Other Docs — records associated with the selected patient (but not attached to DICOM studies).

If BPPC is enabled (see [Basic Patient Privacy Consent Support on page 124](#)), you can Break Glass for emergency access so you can access all XDS record categories.

You can also filter the list of records displayed by a date range or by records associated to patient visits, folders or documents.

To view a patient record


- 1 From the Patient Record window, select a category of patient records to view (for example, Studies, XDS, or Other Documents).
- 2 If BPPC is enabled, if you have not already selected Break Glass and accepted the acknowledgment during the patient search, you can select **Break Glass** to view all XDS record categories. You are required to acknowledge that you are accessing sensitive patient data and that your search will be audited and logged.
- 3 You can filter the list of records by specifying a date range. From the **Date** drop-down, select a time frame (for example, Last 7 Days). To specify an exact date range, select **Custom Date Range**, then select the From and To dates using the calendar.

NOTE: If you have selected the Studies tab, the date range applies to the study date, not the document date. If you have selected the Other Documents tab, the date range applies to the document date.

- 4 When viewing records in the XDS tab (that is, from XDS sources), you can further organize the list of records using the sub-tabs:
 - Visits — Displays only the records associated with patient visits (such as annual physical exams or radiology exams).
 - Folders — Displays only the records saved in folders. Patient records not saved in a folder do not appear in this panel. You must access those records from the Visit button.
 - Docs — Displays all records associated with the patient (that is, not filtered by visits or folders).
- 5 Double-click a patient record to load it into your default study viewer.

When reviewing patient records, the viewers provide basic tools that are native to the file format of the patient record. For example, when viewing a Microsoft Word document, the viewer provides the application's basic tools so you can edit the document. However, you can only save your changes locally.

NOTE: For some documents, the study viewers can only display documents whose application is already installed on your workstation. For example, to load and review a Microsoft Word document, the application must already exist on your local workstation. If the application is not already installed, the application asks if you want to save the document locally.

- 6 Click **Close Viewer**  to return to the Patient Record window.



Chapter 7 Image Sharing

When a site has enabled Image Sharing, both guests and registered users can upload studies to share with others. Users who do not have an IBM iConnect Access user account can upload studies from their PACS, or route studies received from IBM iConnect Access to an end point destination, using an installed PACS Gateway. Alternatively, users can upload studies from their local client by using either the Exam Importer or Web Uploader. IBM iConnect Access registered users have the same study upload options as guest users, but can also receive studies and perform various tasks such as viewing, reconciling, and archiving studies.

NOTE: Image Sharing may not be enabled on your site's configuration. Contact your System Administrator.

Related topics:

- [Downloading and Installing the Exam Importer on page 126](#)
- [Exam Importer Settings on page 128](#)
- [Uploading Studies on page 129](#)
- [Adding Additional Details to an Uploaded Study on page 135](#)
- [Routing Studies to an External PACS/Route Destination on page 136](#)
- [Inbound Studies on page 136](#)
- [Outbound Studies on page 143](#)

Downloading and Installing the Exam Importer

When you use the Exam Importer desktop client for the first time or if it has not already been installed by an Administrator, you must download and install it.

NOTE: If your institution prevents the download of executable files or prevents executables from running, consult with your IT department to install the software for you, or to make it available site-wide.

NOTE: Exam Importer requires Microsoft .NET 3.5.1 or .NET 4.0 installed and activated on the client prior to installation.

NOTE: If you are an administrator and are installing the Exam Importer for all users on the current computer, and user account control (UAC) is enabled, disable UAC and restart system before proceeding.

The following procedure describes how to download and install the Exam Importer.

To download and install the Exam Importer

- 1 Do one of the following:
 - Click **Upload** from the Inbounds or Outbounds tab.
 - From the IBM iConnect Access Login screen, click **Exam Importer**.
 - 2 If more than one domain has image sharing enabled, the Choose a Domain dialog opens. From the Choose a Domain dialog, select the domain on which images are to be shared and click **Go**.
 - 3 The Exam Importer download starts. Follow the browser prompts and allow the installer to download. Click **Run** on the corresponding dialog to run the Setup Wizard.
 - 4 When the Setup Wizards opens, accept the license agreement and click **Next**.
 - 5 If you have administrator rights, the Installation Scope dialog allows you to choose whether to install for the administrator or to install for all users. Do one of the following:
 - Select **Install just for you (Administrator)**.
 - Select **Install for all users of this machine**.
- NOTE:** If you have administrator rights and the Installation Scope dialog is not displayed, you need to run the Exam Importer installer from an elevated Command Prompt to get the Installation Scope dialog to display,
- 6 In the Destination Folder window, keep the default installation folder, or change the path to the location you want Exam Importer installed. Click **Next**.
 - 7 Do one of the following:
 - Select **Registered User** and enter your Username and Password.
 - Select **Unregistered User** and enter your Email address.
 - 8 Click **Install**.
 - 9 When the Setup Wizard completes the Exam Importer installation, click **Finish**.
 - 10 Clear **Launch application when setup exits** if you do not want to launch the application when closing the Setup Wizard.

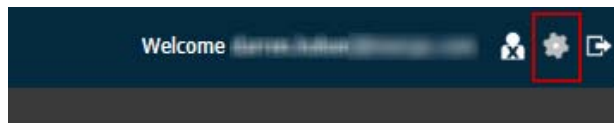
Exam Importer Settings

This section describes the settings available in the Exam Importer.

NOTE: It is recommended you use the default settings. Settings should only be modified by advanced users.

To modify the Exam Importer settings

- 1 From the Exam Importer, click the Open Settings Dialog icon in the top right corner.



- 2 Modify the following settings as required:

Setting	Description
General Settings	
Idle Timeout	Time, in minutes, of inactivity until system logs current user out.
Number of retries	Number of times to attempt a retry when the upload operation is unsuccessful.
Retry Interval	Interval, in seconds, to delay before attempting a retry.
Max Outgoing Connections	Maximum number of concurrent connections to the IBM iConnect Access server. This configuration cannot exceed the limit the server sets.
Chunk Size	The byte size of each chunk.
Destination List	Displays a list of available data sources for the selected institution. NOTE: The Destination List is a reference of available destinations and can only be modified by an administrator from within IBM iConnect Access.
Sync Settings	Synchronizes the settings between the server and Exam Importer.
System Settings	
Launch Port	Port used by the Exam Importer to communicate with IBM iConnect Access. This port must be the same as the Launch Port identified in the Edit Domain Settings dialog. For more information, refer to the IBM iConnect Access Administrator's Guide. If you choose to override the launch port identified in the domain settings, you must change it in both your user preferences and the Exam Importer.

Setting	Description
Local Cache Path	Indicates where the Exam Importer keeps a temporary local cache. It is recommended you use an encrypted storage path since the Exam Importer temporarily stores DICOM files (PHI data) on this path during transfer.
Click here to view logs	Opens the log file for the Exam Importer.
Associate Institution	
Institution	The name of the sending institution. NOTE: The sending institution can only be configured once.
Institution Name	Used to create a new sending institution name.
Issuer of PID	Issuer of the patient ID to be associated with the sending institution.

3 Click **Save**.

Uploading Studies

Studies can be uploaded to IBM iConnect Access from the following sources:

- a local media device such as a CD
- a network location using the Exam Importer upload devices
- a PACS

Study recipients can view uploaded studies in the Inbounds tab of IBM iConnect Access. A registered user who sent the study can view and manage the uploaded studies in their Outbounds tab. The Inbound and Outbound tabs are similar to an email Inbox and Outbox. The Inbounds tab lists studies that have been received and the Outbounds tab lists studies that you sent.

Refer to the following sections for information on uploading studies:

- [Uploading Studies Using the Exam Importer on page 130](#)
- [Uploading Studies Using the Web Uploader on page 133](#)

For information on uploading studies from your PACS to a remote device such as the IBM iConnect Access destination, refer to your PACS user documentation. See the following table for PACS Gateway hardware requirements.

Component	Minimum Requirement	Recommended Configuration
Processor	Xeon CPU- E5-2680 (2.4GHz 2 Processors)	Xeon CPU- E5-2680 (2.4GHz 2 Processors)
Memory	8 GB RAM	16 GB RAM or higher
Operating System	Windows Server 2012 R2 Standard	Windows Server 2016 Standard or later

Uploading Studies Using the Exam Importer

This section describes how to upload studies using the Exam Importer desktop client.

NOTE: Some Web browsers may display warning messages when opening the Exam Importer in HTTPS only mode. If this occurs, follow the prompts to continue opening the Exam Importer.

To upload studies using the Exam Importer

- 1 Do one of the following to open the Exam Importer:
 - Click **Upload** from the Inbounds or Outbounds tab. You are logged directly into the Exam Importer.
 - From the client desktop, double-click the **Send Exam to <receiving institution name>** icon. The Exam Importer login screen opens.
- 2 If you are a registered user, type your username and password. If you don't have a username and password, you can upload studies as a guest user by entering your email address.
- 3 Click **Sign In**.
- 4 The first time you open the Exam Importer, a Settings dialog opens, requesting that you select a sending institution or create a new one. Select an **Institution** from the drop-down or type a new institution name and corresponding Issuer of PID (issuer of patient ID). If you leave the **Issuer of PID** field blank, a value is generated. Click **Save** to save your selection and close the Settings dialog.

NOTE: The institution and Issuer of PID are used to identify the institution or user that uploaded a study. These and other settings can be changed at any time using the Settings dialog. See [Exam Importer Settings on page 128](#) for more information.

The Exam Importer opens with the configured default destination selected, as well as the default recipients for that destination. A destination is data source within the domain where studies are sent.

- 5 From the **To:** drop-down, select a new a destination if you want to send studies to a different destination within the institution. Optionally click the refresh button to update the list.
- 6 In the **Cc:** field, start typing the name of any additional recipients at the receiving institution that you want to receive the studies and be notified when the studies are uploaded. As you type, matching recipients are displayed. Select the recipient you want to add. Repeat for each additional receiver.
- 7 Select a **Priority** from the drop-down.
- 8 Using the **Studies From** icons, click the media (USB, CD, local network) you want to upload studies from. If you are loading images from a USB or CD, insert it into your computer before selecting the corresponding icon.
- 9 Browse to and select the folder containing studies you want to upload. Click **OK**.
- 10 The application searches the selected location for DICOM studies and loads the results per patient. For each patient you want to upload studies for, select the patient from the **Select Patient** drop-down. You can also select **Select All Patients**.

NOTE: If you encounter a CD or USB that cannot be read, navigate to the appropriate drive and select the folder that contains the images that you need to upload.

- 11 If no DICOM data is found, a dialog opens requesting confirmation that you want to create a patient record and upload associated non-DICOM data. Perform the following.
 - a To create a patient and upload non-DICOM data, click **Yes**; otherwise click **No** and return to [Step 8](#) to try again using another source. The Create Patient Record dialog opens.
 - b Type the desired patient record information in the available fields. The **MRN** and **Description** fields are mandatory. The rest of the fields are optional. Special characters other than spaces are not permitted.
 - c Click **Save**. The record is saved and the dialog closes.
- 12 For each patient for whom you want to upload studies, select the patient from the **Select Patient** drop-down. If images exist for the patient, series thumbnails for the selected patient load in the Studies area.
- 13 If you are a registered user you can create a new MRN. Type a new MRN in the **New MRN** field. The MRN helps the receiving destination reconcile the studies against an order and associate it with a patient record.

NOTE: If the “Show reminder message for new MRN” setting is enabled by the System Administrator and a New MRN is not entered into the Exam Importer when uploading, you are prompted to confirm if the New MRN is to remain empty.

- 14 Select the checkbox next to each study you want to upload. When studies are selected, the patient name displays a checkmark icon in the **Select Patient** drop-down.

15 If you want to attach an additional image or a report to a study, click the paper clip icon for the corresponding study below **Attach Image** or **Attach Report** and do one of the following:

- For images, the Attach Image dialog opens. Click **Browse**. A browse dialog opens. Browse to the images folder and select the images to add. Repeat to add more images. Each added image is displayed in the area on the left of the Attach Image dialog with a corresponding checkbox for each. If you click on an image name, a thumbnail of the image is displayed in the area on the right. Select the checkbox for each image you want to include in the study series. When you have added each image for the series, click **Attach**. Selected images are added as a series and appear in the Studies area of the Exam Importer. Repeat these steps to create another series.
- For reports, a browse dialog opens. Browse to the file location, select the PDF report to attach, and click **Open**. Repeat for each report you want to add.

NOTE: The supported file types are BMP, JPEG, PNG, and TIFF for images and PDF for Reports.

16 Type any comments that you want to include, such as clinical history, in the **Comments** text box.

17 Click **Send**. The Importing Exams dialog opens detailing the progress.

18 Click **OK** when complete.

19 The selected recipients receive a notification via email that a study has been sent to them. The email includes a link that the receiver can click to launch the study in a study viewer.

NOTE: If the link is to use HTTPS, then the email notification base URL must be set to HTTPS in the service tool. Alternatively, the Use SSL option can be selected. For both of these options, refer to the IBM iConnect Access Installation Guide.

Uploading Studies Using the Web Uploader

This section describes how to upload studies using the Web Uploader as either a guest or a registered user.

The following table lists the supported Web browsers for the Web Uploader and the available features for each:

Web Uploader Feature	Internet Explorer 11	Edge	Mozilla 50+	Chrome 13+	Safari
File Selection	✓	✓	✓	✓	✓
Multi File Selection	✓	✓	✓	✓	✓
Folder Selection		✓	✓	✓	
Files Drag and Drop	✓	✓	✓	✓	✓
Folder Drag and Drop		✓	✓	✓	
Web socket	✓ (only 6 socket connection)	✓	✓	✓	✓

To upload studies using the Web Uploader

- 1 From the IBM iConnect Access login screen, click **Web Upload**.
- 2 If more than one domain is enabled for image sharing, the Choose a domain dialog opens. From the Choose a domain dialog, select the domain on which images are to be shared and click **Go**.
- 3 Accept and run any prompts presented by the browser. When complete, the Web Uploader login page opens.
- 4 If you are a registered user, select **Registered User** Login Mode, and then type your **User Name** and **Password**. If you don't have a user name and password, you can upload studies as a **Guest User** by entering your contact **Email** and **Phone Number**. From this page you can also download the Exam Importer.

NOTE: The guest user login is only available only if it has been enabled by the System Administrator.

- 5 Click **Log In**.
- 6 Accept the HIPAA Compliance agreement and click **Continue**. The Upload page opens.

- 7 Select or drag and drop your files or folders for upload. The file(s) will start uploading when selected or dropped added. The upload is grouped into a single job task with each job listed on the left.

The screenshot displays the IBM iConnect Access web interface. At the top, the title 'IBM iConnect Access' is visible on the left, and 'Welcome [username] | Log Out' is on the right. Below the title bar, there is a blue button labeled 'UPLOAD FILE(S)' and a help icon (question mark). A large central area is designated for file uploads, with the text 'DRAG AND DROP YOUR FILES HERE FOR NEW UPLOAD'. On the left side, a panel titled 'JOB #1' contains a '+ Add Files' button and the text 'Or Drag-Drop'. To the right of this panel, a detailed view for 'V2008 SR' is shown, including a 'Delete' link. This view is divided into 'Patient Info' and 'Study Info' sections. The 'Patient Info' section includes fields for Birth date (unknown), Sex, MRN (41200920070905), and IPID. The 'Study Info' section includes fields for Description, Modality (SR,DOC,US), Date (05-Sep-2007 9:20:41 AM), Series (3), and Image Count (3). To the right of these fields are input boxes for Phone, Email, and New MRN, each with an 'Add' button. At the bottom of the job details panel is a '+ Attachment' button.

- 8 Optionally, enter a **Phone** and **Email** address. If you are a registered user you can create a new MRN. Type a new MRN in the **New MRN** field. The MRN helps the receiving destination reconcile the studies against an order and associate it with a patient record.

NOTE: If the “Show reminder message for new MRN” setting is enabled by the System Administrator and a New MRN is not entered into the Exam Importer when uploading, you are prompted to confirm if the New MRN is to remain empty.

- 9 Optionally, when a job has completed uploading, you can add more files or folders. Click one of the available job options or drag and drop the files/folders to the job.
- 10 If non-DICOM files are uploaded with more than one study, a dialog opens requesting confirmation to add the attachments to an existing patient study. Click **Yes**, select the **Patient** and **Study** to attach to, and then click **Attach**.
- 11 To add attachments to a job, click **+Attachment**. A browse dialog opens. Select the attachment and click **Open**. The attachment is added to the Job. Repeat to add more attachments.

- 12** When all files/folders have been added and the job is ready to upload, click **Share Job #<>**. The Job submission confirmation pages opens.

The screenshot shows the 'IBM iConnect Access' interface. At the top right, it says 'Welcome [username] | Log Out'. Below the header, it says 'JOB #1'. There are two dropdown menus: 'To' with 'D1' selected and 'Priority' with 'ROUTINE' selected. Below these is a 'Contents' section showing 'V2008 SR' and counts: 'Studies: 1', 'Images: 3', and 'Attachments: 0'. There is a 'Comments' text area with a scroll bar. At the bottom, there are two buttons: 'CANCEL' and 'SUBMIT'.

- 13** Select the recipient from the **To** drop-down list, add a comment, and click **Submit**.

Adding Additional Details to an Uploaded Study

When you upload a study using the PACS Gateway, you are sending the exam directly from your PACS to the IBM iConnect Access application. This workflow doesn't allow you to edit details that you can change when using the Exam Importer or Web Uploader. The following procedure describes how to add those additional details to studies you have uploaded.

To add additional details

- 1 Open your Web browser.
- 2 In the **Address** field, type the URL of the IBM iConnect Access server.
- 3 In the Login screen, click **Go** below Add Additional Details to a Study. The following screen opens.
- 4 In the dialog that opens, type your email address in the Contact information **Email Address** field.
- 5 In the Study Information box, enter the search criteria for the study you want to add details to. All fields are mandatory and need to be an exact match.
- 6 Click **Show me the Exam**. The Search Results page displays the matching study and a box to add additional details.
- 7 Enter one or more of the following details:

- Priority — Modifies the priority assigned to the study
- Comments — Information you want to send to the receiver(s)
- Receiver — Adds additional receivers

8 Click **Apply the Changes**.

9 A confirmation page displays the requested changes.

Routing Studies to an External PACS/Route Destination

PACS Gateway device generated in IBM iConnect Access 7.2 or later can route studies, i.e. send studies to a PACS Gateway from where the PACS Gateway can transfer them to a registered external facility PACS system.

To send studies to a route destination registered with IBM iConnect Access

- 1 From the Studies tab, search for the study you want to route. See [Performing Searches on page 17](#).
- 2 Select the study to be routed and click **Transfer**. The Transfer dialog opens,
- 3 From the **Transfer To** drop-down, select the route destination listed below the institution for which the PACS Gateway is registered.
- 4 Click **Transfer**.

NOTE: Alternatively, the route operation can also be performed for Enterprise viewer, Universal viewer, Inbounds tab, and Outbounds tab.

- 5 The status of the route operation can be viewer from the Outbounds tab.

Inbound Studies

The Inbounds tab displays a list of all new studies sent to you. Each study lists information such as the date sent and the current status. When a sender uploads a study and you are set as a receiver, you will receive an email notification with the study context. Study senders can be either registered or non-registered users. Uploaded studies can be from either a PACS Gateway or a user's local machine.

From the Inbounds tab, you can:

- Search inbound studies. The Inbounds tab provides the following search parameters:

Field	Description
Last Name	The patient's last name.
First Name	The patient's first name.
Patient ID	The patient's identification number.
Referring Physician	The name of the referring physician.
Accession No	A unique examination accession number generated by the Radiology Information System (RIS). It is used by the RIS system to track the radiology order, scan, and report.
Study Performed	The date and time on which the study was created. The date format displayed is determined by the configuration used by the IBM iConnect Access Web server and not the configuration used by your client workstation. For more information about the date and time format, contact your System Administrator.
Modality	The source modality (or modalities) of the series within the study.
My Patients Only	Limits the results to your patients.
Study Received	The date and time on which the study was received by IBM iConnect Access. The date format displayed is determined by the configuration used by the IBM iConnect Access Web server and not the configuration used by your client workstation. For more information about the date and time format, contact your System Administrator.
Status	The status of requested transfers.
Data Source	The name of the data source (or data sources) where the study is located. This column appears only if multiple data sources are configured and available to the user.
Master Patient ID	Only available if MPI is configured. If IPID and PID are provided in the search fields, IBM iConnect Access will query the MPI for other identifiers that are mapped to the holding pen and use the results to find inbound studies matching those identifiers.

- View inbound studies in the study viewer. See [Study Viewers on page 32](#) for more information on opening and viewing studies.
- Upload studies. See [Uploading Studies on page 129](#).
- Add registered users as receivers. See [Adding Recipients on page 138](#).

- Grant study access to other users. See [Managing Access to Studies on page 27](#).
- Delete studies. See [Deleting Studies on page 142](#).
- Transfer studies to another data source. See [Transferring Studies to a Configured Data Source on page 28](#).
- Download studies to your local system. See [Downloading Studies to a Local System on page 29](#).
- Email Studies. See [Emailing Studies on page 87](#).
- Nominate studies for archiving. See [Nominating Studies for Archiving on page 139](#).
- Denominate studies for archiving. See [Denominating Studies for Archiving on page 139](#).
- Archive studies to PACS. See [Archiving Studies on page 140](#) for more information.
- Change a study destination within the institution. See [Changing a Study Destination on page 140](#).
- Reconcile Exams. See [Reconciling Exams on page 141](#).
- Send upload invitations. See [Inviting to Upload on page 142](#).
- View Order Notes containing reconciliation instructions.

Adding Recipients

Perform the following procedure to add other registered users as recipients. You can add one or multiple recipients at the same time.

To add recipients

- 1 Select a study from the Inbounds list.
- 2 Click **Add Receiver** located at the bottom of the screen. The Add Additional Details dialog opens.
- 3 Start typing the first name, last name, or email address of the registered user to add, and then select the user from the list displayed. Repeat for each additional receiver.
- 4 Click **Apply the Changes**.
- 5 A confirmation dialog will open. Click the 'X' icon to close.

Nominating Studies for Archiving

Receivers can nominate studies for archiving to a PACS. Users who are granted archivist privileges within the system are notified when studies are uploaded to a destination they have been associated with.

To nominate studies for archiving

1 Do one of the following:

- Select a study from the Inbounds or Outbounds tab. Click **Nominate for Archive**.
- With a study open in a study viewer, click **Nominate for Archive**.
 - Enterprise viewer — from the Review toolbar.
 - Universal viewer — from the Study Action drop-down in the Study Panel toolbar.

The Confirm Study Archive Nomination dialog opens.

- 2** Select a reason for archive nomination from the **Reason for Archive** drop-down.
- 3** If you want to include any notes for the order, type the notes in the **Order Notes** field.
- 4** Click **Nominate**. An email notification is sent to the archivist directing them to the nominated study. The study status changes to “Nominated For Archive”.

Denominating Studies for Archiving

Users with archivist, receiver, and updater privileges can denominate studies that have been nominated for archiving to a PACS.

To denominate studies for archiving

1 Do one of the following:

- Select a study from the Inbounds or Outbounds tab with a status of “Nominated for Archiving”. Click **Denominate Study**.
- With a nominated study open in a study viewer, click **Denominate Study**.
 - Enterprise viewer — from the Review toolbar.
 - Universal viewer — from the Study Action drop-down in the Study Panel toolbar.

The Confirm Study Denomination dialog opens.

- 2** Enter a **Reason for Denomination**.
- 3** Click **Denominate**. The study status changes back to its status prior to being nominated.

Archiving Studies

Users with archivist privileges can archive nominated studies (see [Nominating Studies for Archiving on page 139](#)) to a PACS. Studies that are nominated for archiving display “Nominated For Archive” in the status column on the Inbounds and Outbounds tabs. When archiving studies, they can be matched to existing studies and reconciled.

The following procedure describes the steps to archive studies.

To archive studies

- 1 From the Inbounds or Outbounds tab, select a study that has been nominated for archiving.
- 2 Click **Reconcile Exam**. The Reconcile/Archive Study dialog opens.
- 3 Change the **Destination** and modify the **Archive Order Notes** if required.
- 4 Search results with possible best matches are added to the Matching Patient column. Click the arrows to page through the matching orders. Click **Show All** to view a list of all the matches to select one.
- 5 If you do not see a matching order, you can perform a manual search. Select either **Search Order** or **Search Patient** and enter the search parameters. Click **Search** when you are ready. Click **Clear** to clear the current search parameters.
- 6 From the results, choose which criteria you want to use. The boxes selected determine which details are reconciled into the final details. When an original field value is different from the matched result, a question mark displays identifying that there is a conflict. To resolve the conflict, select the correct value or edit the value as required.
- 7 When you are finished selecting the criteria for the final details, click **Archive**.

Changing a Study Destination

If you want to change the destination of an inbound or outbound study within a receiving institution, perform the following procedure.

To change a studies destination

- 1 Do one of the following:
 - Select a study from the Inbounds or Outbounds tab. Click **Change Destination**.
 - With a study open in a study viewer, click **Change Destination**.
 - Enterprise viewer — from the Review toolbar.
 - Universal viewer — from the Study Action drop-down in the Study Panel toolbar.

The Reroute Study to New Destination dialog opens.

- 2 Select a destination from the **Select Destination** drop-down.
- 3 Click **Change Destination**.

Reconciling Exams

Users with updater privileges can reconcile exams without the need for archiving.

NOTE: Reconcile Exams can only be performed for studies on a destination that is not set to "Route without Reconciliation".

To reconcile exams

- 1 Do one of the following:
 - Select the required study from the Inbounds or Outbounds list. The application highlights the selected study. Click **Reconcile Exam**.
 - With a study open in a study viewer, click **Reconcile Exam**.
 - Enterprise viewer — from the Review toolbar.
 - Universal viewer — from the Study Action drop-down in the Study Panel toolbar.

The Reconcile/Archive Study dialog opens.

- 2 Change the **Destination** and modify the **Archive Order Notes** if required.
- 3 Search results with possible best matches are added to the Matching Patient column. Click the arrows to page through the matching orders. Click **Show All** to view a list of all the matches to select one.
- 4 If you do not see a matching order, you can perform a manual search. Select either **Search Order** or **Search Patient** and enter the search parameters. Click **Search** when you are ready. Click **Clear** to clear the current search parameters.
- 5 From the results, choose which criteria you want to use. The boxes selected determine which details are reconciled into the final details. When an original field value is different from the matched result, a question mark displays identifying that there is a conflict. To resolve the conflict, select the correct value or edit the value as required.
- 6 Click **Update/Reconcile** to apply the changes. If a study viewer is open, it will close and you are returned to the study list.

Deleting Studies

Perform the following procedure if you no longer require a study and want to remove it from your Inbounds or Outbounds study lists.

NOTE: This procedure does not delete studies from the archive.

To delete a study

- 1 Select the required study from the Inbounds or Outbounds list. The application highlights the selected study.
- 2 Click **Delete**. The Confirm Study Deletion dialog opens.
- 3 Click **OK** to perform the deletion or **Cancel** to abort the study deletion.

Inviting to Upload

When Image Sharing is enabled, users who are granted invite to upload privileges can send an upload invitation link for unregistered users to upload studies using the Web Uploader. Perform the following procedure to send upload invitations.

To send upload invitations

- 1 Do one of the following:
 - From the Inbounds tab, click **Invite to Upload**.
 - In the Enterprise viewer, from the Review toolbar, click the **Invite to Upload** icon.

The Invite to Upload Study dialog opens.

- 2 In the **To Email** field, type the email address of the recipient.

CAUTION: Ensure the correct email address is entered otherwise the recipient may not receive the email.

- 3 In the **To Name** field, type the name of the recipient.
- 4 In the comments section, keep the default message or type a new one.
- 5 From the **Destination** drop-down, select a destination for the upload.
- 6 Click **Send Email**. And email is sent to the recipient with a link for uploading
- 7 A system generated PIN is displayed. Send the PIN to the recipient using a separate form of communication. The recipient can then use the link and PIN to access the Web Uploader to upload studies.

Outbound Studies

In the Outbounds tab, registered users can view and manage the studies they have uploaded and sent to other users. The Outbounds tab displays a list of all new studies that you have sent to other users. Each study lists information such as the date sent and the current status.

From the Outbounds tab, you can:

- Monitor status of the studies you have uploaded.
- Search the outbound studies. The search features are the same as when searching using the Studies tab. See [Performing Searches on page 17](#) for more information on searching studies.
- View outbound studies in a study viewer. See [Study Viewers on page 32](#) for more information on opening and viewing studies.
- Upload studies. See [Uploading Studies on page 129](#).
- Add a registered user as a receiver. See [Adding Recipients on page 138](#) for information on adding another a receiver.
- Grant study access to other users. See [Managing Access to Studies on page 27](#).
- Removing access to shared studies. See [Removing Access to Studies on page 144](#).
- Delete studies. See [Deleting Studies on page 142](#).
- Transfer studies to another data source. See [Transferring Studies to a Configured Data Source on page 28](#).
- Download studies to your local system. See [Downloading Studies to a Local System on page 29](#)
- Email Studies. See [Emailing Studies on page 87](#).
- Nominate studies for archiving. See [Nominating Studies for Archiving on page 139](#) for more information.
- Denominate studies for archiving. See [Denominating Studies for Archiving on page 139](#).
- Archive studies to PACS. See [Archiving Studies on page 140](#) for more information.
- Change a study destination within the institution. See [Changing a Study Destination on page 140](#) for more information.
- Reconcile Exams. See [Reconciling Exams on page 141](#).
- Send upload invitations. See [Inviting to Upload on page 142](#).
- View Order Notes containing reconciliation instructions.

Removing Access to Studies

If you have granted study access to another user (see [Managing Access to Studies on page 27](#)), you can revoke access to that study. The study may have been granted in error or is no longer required. The following procedure describes how to remove that access.

To remove access to studies in the list

- 1 Select one or more studies from the Outbounds tab.
- 2 Click **Remove Access**. The Remove Access dialog opens.
- 3 In the studies list, select the study to which you want to remove access.
- 4 To remove access to the selected study for individual users or groups, select the user(s) or group(s) in the **Select Users To Remove** group box and/or **Select Groups to Remove** box.

To remove access to the selected study for all users or groups, click **Select All** in the Select Users to remove group box and/or Select Groups to remove group box.
- 5 Repeat [Step 3](#) and [Step 4](#) to remove access for other studies displayed in the study list.
- 6 Click **OK**. The application removes access to the study for the selected users and groups.



Chapter 8 Using the Application on an iPad, iPhone, or iPod Touch

This chapter describes how to use IBM iConnect Access on an iPhone, iPod touch, and iPad. The iPhone and iPod Touch feature a scaled-down patient list, viewer and basic image review tools including contact list features. The iPad features the Enterprise viewer and supports the same review functionality.

Related topics:

- [Starting the Application on page 146](#)
- [Selecting Patient Studies on page 146](#)
- [Using the Viewer on page 149](#)
- [Reading Reports on page 154](#)
- [Using the Contact List \(iPod and iPhone only\) on page 155](#)
- [Using the Express Help \(iPod and iPhone only\) on page 155](#)
- [Starting the Application on page 146](#)
- [Logging Off on page 156](#)

WARNING: NOT FOR DIAGNOSTIC USE ON A MOBILE DEVICE SUCH AS AN iPad, iPhone, OR iPod TOUCH.

NOTE: The iPhone and iPod touch support integrated configurations of IBM iConnect Access.

Starting the Application

Use the steps below to start IBM iConnect Access on your iPhone, iPod touch, or iPad.

NOTE: When using the Safari browser on iPad or iPhone with iOS 13 or later, the default browser behavior sets “Request Desktop Website” to “On” in order to always impersonate a desktop Mac. This setting is not supported in IBM iConnect Access. See [Disabling Request Desktop Website for iOS 13+ on page 156](#) for details on setting it to “Off”. If you cannot disable the setting, it is recommended you use a different browser such as Chrome.

To start the application

- 1 Open a Web browser (for example, Safari).
- 2 Tap the **Address** field.
- 3 Type the URL of the IBM iConnect Access server.

NOTE: If your server uses an encrypted or secure connection, use **https://** instead of **http://**.

- 4 Tap **Go**. The application displays the Log In page.
- 5 Log on as follows:
 - Tap the **User ID** field and type your user ID.
 - Tap the **Password** field and type your password.
 - Tap **Done** to close the keyboard.
 - Tap **Log In**.

Selecting Patient Studies

When you log on to the IBM iConnect Access Web server on your iPhone, iPod touch, or iPad, you can search for and load a patient study.

Searching for Patients

You can search the patient list using a free-text search or patient attributes.

Free Text Search

In a free text search, the application matches the characters typed in the **Patient Name** field with patient names in the database. For example, if you type:

ab b

The system returns any patient whose first name or last name begins with an “ab” or “b”, such as Abraham Bernstein or Beatrice Abel.

Patient Attribute Search

In a patient attribute search, the system presents the following attributes:

- Last Name
- First Name
- Patient ID
- Accession No.
- Study Description
- Modality
- Referring Physician
- Study Date
- Briefcase (iPad only)

For more information on using the briefcase feature, see [Viewing Your Briefcase on page 23](#).

Supply values for one or more attributes before invoking the search.

You can also filter the list using the predefined filters (for example, most recent 100 studies, studies acquired in the last two months, and studies acquired in the last two years).

To search for a patient using free-text search

- 1 In the Patient List, tap the **Search** button.



- 2 Tap the **Patient Search** field and type one or more characters.
- 3 Tap **Search**. The application displays the search results and the number of patients returned.

To search for a patient by attribute

- 1 In the Patient List, tap the **Search** button.



- 2 Tap the appropriate field and type one or more of the following: patient's name, patient ID, accession number, study description, modality, or study date range.
- 3 Tap **Search**. The application displays the search results and the number of patients returned.
- 4 If using an iPad, you can click the **Search** button to return to the search that generated the displayed results.

To filter the Patient List

In the Patient List, tap the desired button.

- To display the most recent 100 studies of the last 2 *days*, tap the **Most Recent** button.



- To display studies acquired in the last *week*, tap the **Recent** button.



- To display studies acquired in the last *month*, tap the **Least Recent** button.



Using My Search (iPad Only)

The iPad enables users to invoke the My Search feature. The My Search feature performs a default search that has been defined in the Studies tab. See [Using and Managing Saved Searches on page 22](#).

NOTE: You cannot define a My Search using the iPad. The search attributes for My Search are defined in the Studies tab.

To invoke My Search, press the button.



The search results appear in the Patient List.

Selecting and Loading Patients for Review

When you select a patient in the Patient List, the application displays the studies available for the selected patient.

To select a patient

- 1 In the Patient List, select the patient. The application displays the Study List.
- 2 Select a study to load it into the viewer.

Using the Viewer

Loaded images are displayed in the viewer. This section describes how to return to the Patient List, use the review tools to view an image, select a different series and reset the image display parameters.

NOTE: To avoid confusion where different patients have the same name, and where patients have the same ID but different names, the viewer always displays both the patient name and ID in the viewport.

NOTE: When you close the viewer when using an iPad, you are returned to the search page that displays the results of the previous search.

NOTE: If you are using iOS 8.x:

- when the Express Help or another tab is opened, some objects may not function correctly. If this occurs, rotate the iPad to a different orientation and then return to the previous orientation to resolve it.

- when launching the viewer from the home screen, touch gestures do not work in the viewer.

Accessing the Patient List (iPhone and iPod only)

This section describes how to access the Patient List from the viewer (that is, during a review session).

To access the Patient List during a review session

From the viewer, tap **Patient List**.

Scrolling Images

You can scroll through all the images in a series using a touch gesture or the scroll bar.

To scroll an image

In the viewport:

- swipe your finger right to left to scroll to the next image
- swipe your finger left to right to scroll to the previous image
- drag your finger over the scroll bar to scroll through the images
- tap the scroll arrows to scroll to the next or previous image

Zooming Images

You can zoom the images to more closely examine them.

To zoom images (iPhone and iPod only)

In the viewport:

- Move your fingers apart to zoom in.
- Pinch your fingers together to zoom out.

To zoom images (iPad only)

In addition to the pinch movement, you can zoom images using the **Zoom** button.



To zoom 200% (iPhone and iPod only)

In the viewport:

- Double-tap the viewport to zoom two times the original viewport size.
- Double-tap the viewport to zoom back to the viewport size.

Panning Images

You can pan or reposition the images within a viewport.

To pan an image

1 Do one of the following:

- For iPhones and iPods, if the **Pan** button is not selected and does not display the hand symbol as shown here, tap it.



- For iPads, tap the following:



- 2 The Pan tool remains active until you tap it again to toggle to the Window/Level tool (see [Changing the Window Settings on page 151](#)).
- 3 Drag your finger in any direction to move the image.

Changing the Window Settings

You can change the window width (contrast) and level (brightness) of an image.

To change the window settings

- 1 Do one of the following:

- For iPhones and iPods, if the **Window** button is not selected and does not display the brightness symbol as shown here, tap it.



- For iPads, tap the following:



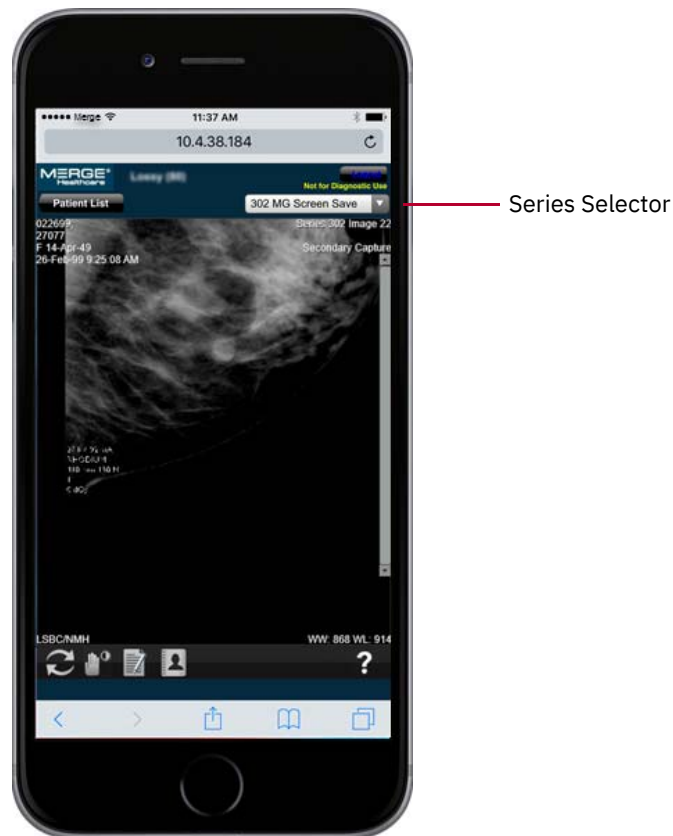
- 2 The Window/Level tool remains active until you tap it again to toggle to the Pan tool (see [Panning Images on page 150](#)).
- 3 Do the following:
 - Drag your finger *vertically* over the image to adjust the window level.
 - Drag your finger *horizontally* over the image to adjust the window width.

Selecting a Different Series (iPhone and iPod only)

The Series Selector is a drop-down that presents the loaded series and provides study navigation. It allows you to keep track of the series being displayed and to quickly select different series for review.

To select another series

- 1 Tap the Series Selector.



- 2 When the Series Selector expands, tap the desired series from the list.

The application loads the selected series into the viewport. The Series Selector displays the name of the series currently displayed in the viewport.

Selecting a Different Series (iPad only)

The iPad enables you to view loaded series and navigate to studies. It allows you to keep track of the series being displayed and to quickly select different series for review.

To select another series

1 Do one of the following:

- Tap **Show Menus**.
- Tap and hold within the study viewer.

The study viewer appears as follows:



2 Open the Patient History tab.

3 Select a related study. The study opens in a separate study viewer. For instructions on using review tools, see [Study Viewers on page 32](#).

Resetting Image Display Parameters

You can reset the image display parameters (such as window width and level, zoom, and pan) to the settings applied when the study was first loaded. When you reset the image display parameters, the application only resets the current image.

To reset the image display parameters

If you are using an iPod or iPhone, tap the **Reset** button.



If you are using an iPad, tap the following button:



The application resets the image display parameters for the current image.

Viewing Conference Folder Studies

Perform the following procedure to view studies that have been saved to a conference folder. For more information on conference folders, see [Working with Conference Folders on page 88](#).

To view studies from conference folders

- 1 In the Study Viewer, tap the Conference Studies button and navigate to the child subfolder that contains the study that you want to view.
- 2 Select the study and click the HTML4 button to open the study in the viewer.

Reading Reports

If a study contains a report, you can access it from the viewer. When you first open a study with a report, the application displays the report before displaying the patient images. After you close the report, you can open it from the viewer and toggle between the report and the images without losing your changes in the viewer.

To read a report (iPod and iPhone only)

- 1 Select and load the desired study (see [Selecting Patient Studies on page 146](#)).
- 2 The application displays the report. If there is more than one report available, select the appropriate report from the drop-down.
- 3 You can do the following:
 - Review the report — Move your fingers apart or pinch them together to zoom in and out. Swipe your finger up and down to scroll through the report.

- Dismiss the report — Tap the **Image** button to close the report and review your images.



4 At any time, you can toggle between the report and the patient images:

- To view the report, tap the **Report** button.



- To view the images, tap the **Images** button.



To read a report (iPad)

- 1 In the Patient History tab of the Enterprise viewer, tap **Report**.

Using the Contact List (iPod and iPhone only)

The application provides a Contact List that lists the available contacts on your IBM iConnect Access Web server. You can make a phone call directly from the Contact List after reviewing patient images. The Contact List is only available from the viewer and the Consultation Notes feature.

To make a phone call from the Contact List

- 1 Tap the **Contact List** button.



- 2 Tap the desired contact.
- 3 The application automatically dials the number for the selected contact.

Using the Express Help (iPod and iPhone only)

The express help is a task-based quick reference to get you started quickly.

To use the express help

- 1 Tap the **Help** button.



- 2 The application displays the express help in the same browser. Tap **Back** to return to the application.

Logging Off

This section describes how to log off from IBM iConnect Access on your mobile device.

To exit the application

- 1 Tap **Logout**.
- 2 When prompted, tap **Yes** to log out of the application.
- 3 The application closes and returns you to the Log In screen.

Disabling Request Desktop Website for iOS 13+

The following describes how to disable Request Desktop Website on an iPad or iPhone using Safari 13 or later.

To disable Request Desktop Website

- 1 On the device, open the device **Settings**.
- 2 Tap **Safari**. The Safari settings are displayed.
- 3 Scroll down to **Settings for Websites** and tap **Request Desktop Website**. The Request Desktop Website settings are displayed.
- 4 Tap **All Websites** to set the option to **Off**.



Chapter 9 User Preferences

Managing user preferences encompasses the following:

- [Configuring User Preferences on page 157](#)
- [Authenticating External Applications on page 161](#)
- [Managing Your User Profile on page 161](#)

Configuring User Preferences

User preferences can be accessed from the application Options menu, Enterprise viewer review toolbar, or Universal viewer toolbar. The following options are available when you set your own preferences or when the administrator sets preferences for a role. In the latter case, all members of the role inherit the same preferences unless they are overridden at the personal level.

Setting	Description
Image Format	Image format for non-transient (i.e. non-thumbnail) images. <ul style="list-style-type: none">• JPEG (lossy)• PNG (lossless) The default format is JPEG.
Default Viewer Setting	Configures which viewer opens when you double-click a study to open. <ul style="list-style-type: none">• Enterprise viewer• Universal viewer
Load Study in Full Screen	Configures the Enterprise viewer to open in Full Screen mode. See Using Full Screen Mode on page 67 . NOTE: This option only affects the desktop version of the software. The tablet version is set by the Administrator in Domain Management.
Theme Name	Sets the default skin brightness, dark or gray, in the Universal viewer.

Setting	Description
Cine	
Cine Default Frame Rate	Number of frames per second (FPS) that the cine displays. This default frame rate only applies if the study data does not contain a recommended cine frame rate. If it does contain a recommended frame rate, the application uses this frame rate to play the cine.
Cine and Scroll Maximum Memory to Use	Maximum amount of memory (in MBs) that is allocated to viewing the cine. The amount chosen depends on your computer's memory specifications. If the value is "0", the computer uses as much memory as needed.
Cine Action When More Frames than Window Size	<p>System response when frames are loaded that exceed the computer's window size.</p> <ul style="list-style-type: none"> • Skip Frames – The application skips frames that exceed the computer's window size. • Continuous Buffering – The application continues loading images while playing the cine. <p>For Continuous Buffering, the application uses the calibrated frame rate to display the cine. The adjusted frame rate (i.e., adjusted using the cine speed slider) is not used.</p>
Cine Single Frame Delay Time	<p>If set to On in user preferences, cine pauses for the specified number of seconds if the series consists of a single frame before proceeding to the next series.</p> <p>If set to Off, there is no frame delay.</p>
All-In-One Tool (Enterprise viewer only)	
Mouse button functions for the all-in-one tool.	Assigns Window Level, Zoom, and Pan functions to left, middle, and right mouse buttons.
Mouse Configuration (Universal viewer only)	
Mouse button functions for the Universal viewer.	Assigns Window Level, Zoom, and Pan functions to mouse buttons and button combos including support for five buttons.
Default Settings Per Modality	
Modality	Modality for which default settings are being defined.
Layout	Layout determines the number of viewers to display (i.e., one, two, four or six) when you load a study for the selected modality.

Setting	Description
Thumbnail Splitting	<p>Identifies whether thumbnails for the selected modality represent a single image (such as a CR, DR, or ultrasound) or a series (in the case of a slice stack of MR or CT images). Thumbnails allow you to quickly select different series for review. Each thumbnail displays one image from the series it represents.</p> <p>For example, you can choose to have a CR series of three images represented by a single thumbnail (Series option) or by three thumbnails (Image option). If Image is selected, each viewport that corresponds to such a thumbnail displays a single image.</p>
Viewing Scope	<p>Scope is the range of displayed images to which the application applies your changes (such as window settings, zoom, pan, orientation and grayscale inversion). There are two scope settings: Image and Series. When you apply a scope, the setting applies to all viewers during a review session.</p> <p>For PR and KO modalities or if the viewer has global stack enabled, the default scope is set to Image. Otherwise, the scope setting is set to Series. If both scope options are configured on the toolbar, the system highlights the option that is applied.</p> <p>When you first load a study, the viewer displays the images using the last saved presentation state (in other words, the images do not share the same image settings). For example, if you had previously set your scope setting to Image and saved your review parameters, when you reload the study, the viewer displays your images as they were last saved. If you do not change the scope setting back to Image, when you apply any changes to the review parameters, the application applies those changes to every image in the series.</p>
Automatically Start Cine	If set to On, cine starts automatically in viewports that contain modalities for which auto play is enabled.
Exam Mode	<p>If set to On, enables exam mode buttons, including zoom, pan, and window settings (global stack will be disabled). As well, enabling exam mode causes cine to play through the entire study (plays the entire clip and subsequent clips thereafter until it returns to the first clip and repeats) instead of just playing through the current clip.</p> <p>If set to Off, exam mode buttons are disabled.</p>
Localizer Line	If set to On, when a study is loaded into the viewer, localizer lines will be displayed automatically (if applicable).
Preset	Preset name under which the default setting is saved. Select an available preset to apply.

Setting	Description
Name	Preset name (for example, Bone or Tissue).
Width	Preset window width value.
Level	Preset window level value.
<p>The Default Setting Per Modality section contains the following buttons:</p> <ul style="list-style-type: none"> • Clear – Clears the Name, Width, and Level fields. • Add/Modify – Saves the Name, Width, and Level field values for a new preset or an existing preset. • Remove – Deletes the preset selected from the Presets drop-down. 	
Print Preferences	
Standard Paper Size	The standard paper size for the configured printer.
Paper Orientation	Portrait or landscape orientation.
Miscellaneous Preferences	
Receive Email Notification when Permissions to Access a Study are Granted to Me (or my group)	An email notification is sent when access to a study is granted to you, or your group (if permissions are assigned at the group level). Select Yes to receive email notifications and No to receive no notifications.
Email Format	<p>The format in which emails are received.</p> <ul style="list-style-type: none"> • HTML – send emails formatted in HTML. • Text – send emails in plain text.
Default Start Page	The start page that opens when you or members of the group open the application.
Auto Query of Study List	Identifies whether to run an automatic study list query when loading the Study List page.
Enable Connection Test Tool	Enables the connection test tool. For more information, refer to the iConnect Access Installation Guide.
Exam Importer Port	<p>The port used by the Exam Importer to communicate with the IBM iConnect Access application.</p> <p>Note: If this port is changed, you must also update it within the Exam Importer settings.</p>
Select Default Uploader	The default uploader to be used when launching the uploader.
Patient Record Live Search	Enables live search when searching for patient records in the Patient Record window. When enabled, the application displays and updates the search results as you type. At least two characters must be typed before the application starts displaying search results.

To configure user preferences

- 1 From the **Options** menu, select **User Preferences**. The User Preferences dialog opens.

NOTE: User preferences can also be accessed from **User Preferences** in the Enterprise viewer and **User Settings** in the Universal viewer.

- 2 Modify the user preferences as needed.
- 3 Click **OK**. A dialog opens to indicate the changes have been applied.
- 4 Click **Close**.

Authenticating External Applications

When using the External Applications feature, you can define login credentials that external applications use to authenticate users when launched from IBM iConnect Access.

To authenticate external applications

- 1 From the **Options** menu, select **User Preferences**.
- 2 From the **Select Applications** drop-down, select the required application.
- 3 Type a **User ID** and **Password** in the respective fields and click **Commit**.
- 4 Click **OK**.
- 5 Click **Close**.

Managing Your User Profile

If your user account does not already have an email address or password, you can set them from the **Options** menu. You can also use the **Options** menu to change your email address and password at any time. The updated information takes effect immediately after saving.

To manage your profile

- 1 From the **Options** menu, select **My Profile**. The Update Profile dialog opens.
- 2 Change one or more of the following:

Name	The name associated with your user ID.
Email Address	The email address to which email notifications are sent.
Password	Your system password. If you change your password, ensure that you retype it in the Confirm Password field.

- 3 Click **Save**.