



MODALIZER+ V7.0.0.122

Release Notes

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New Features

Corporate Edition

MPLUS-290 Corporate edition with Active Directory integration

MODALIZER+ V7 Corporate edition is now offered for site and organization licensing. This edition is intended for organization wide deployments and integrates with Microsoft Active Directory (AD) for easy deployment, simple activation and user user group permissions that allow the network administrator to enforce MODALIZER+ user and device permissions.

MPLUS-302 Volume Licensing

A new licensing model for corporate customers using an AD stored license certificate.

MPLUS-298 Check if the network port is in use and by which process

Before starting the DICOM listener. Check what process holds the port to know if it's us or not. This is important in multi-user setup when MODALIZER+ can run simultaneously in other users accounts on the same computer.

MPLUS-270 DICOM Listener behavior when two instances are running simultaneously on the same computer

MODALIZER+ V7 was designed to operate on multi-user computers where constant user switching happens. To overcome such events it applies the following flow:

1. Catch the User switch event
 - a. When user locks (WIN+L)
 - i. If the listener is running:
 1. if DICOM Listener's "keep running ..." flag is on
 - a. leave it running.
 2. else
 - a. stop the listener

2. when starting the listener
 - a. if the port is taken by another process display a message:
“The listener port is taken by another process. Clicking OK will attempt to take the port from MODALIZER+ that runs from a different user.”
 - b. If the user clicks OK the other instance listener is stopped and when the other user logs back in a message is displayed: “listener of another user started” (if user clicks cancel don’t).
 - c. When receiving this message:
 - i. Stop the listener if it was running.
 - ii. Keep the status (listener stopped by another instance)
3. When an instance comes back to focus (user came back, System Unlock event) and the listener is off and the listener was stopped by another instance
 - a. If the listener “keep running” is on,
 - i. try start the listener back (with no message)

else display a message: “The listener was stopped because another user was running modalizer+ do you want to start it? (Yes/No).

DICOM Q/A

MPLUS-310 DICOM Q/A - Apply edits to Study or Series

Customer feature request.

MODALIZER+ V7 features an enhanced DICOM Editor and can now be used as a DICOM Q/A workstation. Users can apply edits to the Study and Series level.

The DICOM editor got a major facelift and redesign. The major changes are:

1. New data element search bar with tag number, tag name and value search option.
2. New “Review” screen to verify the edits before applying them to the DICOM files. Edits can be modified directly from the review screen allowing to change value and change edit level (Instance/Series/Study).
3. Apply to Study and Apply to Series options in the data element edit form.
4. Edited, new and deleted data elements are highlighted.

To enter edit mode in the DICOM viewer click CTRL-H or select “Show Header” from the right click button context menu. Then click “Edit” on the header display search bar (at the top of the DICOM header display panel in the main screen area).

To change a Data Element value double click on the data element row to open the edit form.

Use the right click button to show context menu with Edit/New/Delete data element options.

When using the search bar, if a data element is not in the object an “Add” button will show on the right side (MPLUS-371)

MPLUS-330 Review Changes Form

The DICOM Editor now has a review form where the user can review all the edits and make changes to the edited values and their application level (Instance/Series/Study).

MPLUS-329 Study Save Form Changes and Apply changes to original files

When adding annotations and/or editing DICOM instances, the user is asked to confirm what to do with the modified and added items.

The updated form displays patient name and ID, Study ID, Study Date and Study Description.

The user has the following options: Add the items to the local archive, save in folder, send to one of the storage servers or discard the changes.

For edits the user can decide if to create new instances with references to the originals and Key Object Selection according to DICOM Image Object Change Management (IOCM) specifications or to overwrite the original and not track the changes. If the Overwrite checkbox is marked a warning is displayed asking the user to confirm this action.

MPLUS-332 After adding a data element display the Edit Tag Form to allow setting value and apply to higher level

When the user adds a data element the Edit Tag Form is displayed allowing the user to set the value and select the level to apply the addition.

MPLUS-333 Add 'Delete' to the Edit Tag Form

Data elements can be deleted also from the Edit Tag Form and not only from the context menu.

MPLUS-334 Update the database after editing study from local archive

After editing, if one of the values that are stored in the local archive database changed and the change is overriding the values in the existing files, update the database to reflect the new values.

MPLUS-335 Add edited icon to thumbnail

The thumbnails of studies, series and instances that were edited now have a pencil icon on the upper left corner indicating that there are edits to this item (if one of the files in the study was edited the study and series thumbnails are also marked).

MPLUS-343 Enable editing of the DICOM element value in the review form

All edited, deleted and added DICOM Data Elements can be edited in the new review form by clicking on the value and changing it in the grid control. The level of change (Apply to Study/Series/Instance) can also be changed.

MPLUS-36 Enable setting SOP Class UID for Image Template

The default SOP class for converted images (JPEG, BMP, PNG, TIFF) is Secondary Capture.

Using the 'Override DICOM Attributes' in the settings the user can now set a different SOP class for the converted DICOM images.

MPLUS-365 Extended Characters Set Support

MODALIZER+ V7 supports display and creation of DICOM instances with extended character sets and multiple character sets. MODALIZER+ identifies the default character set from tag (0008,0005) and the escape sequences for character sets switching in text data elements. For a complete list of supported character sets please refer to the latest MODALIZER+ V7 DICOM Conformance Statement.

MPLUS-324 Non-DICOM Image Viewer - Drag and Drop files to view and convert

MODALIZER+ V7 can display not only DICOM files but also 'regular' image, video and PDF files. Simply drag and drop non-DICOM files on the desktop icon or on the application window to display them, to start the DICOM converter wizard or to add them to existing studies.

When the user drags and drops non-DICOM files on the application window or the desktop icon, the files are displayed and added to the studies panel (at the top below the toolbar) as "NON-DICOM". Clicking the "NEXT" button in this mode will show a menu with options:

1. New patient - to start a new patient workflow for the new files. The next screen will be the new patient screen
2. Local Archive - to add the files to a study in the local archive. The next screen will be the local archive where a line can be selected to continue.
3. Worklist - to use the new files as input for a new scheduled procedure. The next screen will be a worklist query where a line can be selected to start a procedure for the new files.
4. Currently open ... - This option is enabled only if there's already an opened study that is displayed in the DICOM viewer. Add the files to one of the opened studies in the viewer. Clicking this option shows a sub-menu with the list of the currently opened studies. Selecting one will add the new files to that study.

If one or more files are not supported a warning will be displayed: "One or more files are not supported for display/conversion and will be ignored" (ok/cancel).

If the user clicks the "BACK" button no action will be taken.

Annotations Tools

MPLUS-28 New GSPS Annotations Tools

New GSPS (Grayscale Softcopy Presentation States) annotation tools in MODALIZER+ DICOM Viewer. All the annotation tools from the DICOM standard are now implemented. The DICOM Viewer now has the following annotation tools:

- **Distance:** measure length in mm (or pixels for non calibrated images)
- **Angle:** measure an angle between two lines
- **Optical Density:** Hounsfield Units On CT images with Modality LUT

New tools in version 7:

- **Text:** text annotations/labels. New in version 7.
- **Circle:** diameter in mm and area in cm² (or pixels when not calibrated). **Ellipse:** major and minor axes diameter in mm and area in cm² (or pixels when not calibrated).
- **Polyline:** Multiple points line.
- **Interpolated:** Multiple points interpolated line passing through all marked points.

Annotations are saved in a separate standard DICOM Presentation States Object (MODALITY: PR, SOP CLASS UID: 1.2.840.10008.5.1.4.1.1.11.1).

MPLUS-313 Improved annotations tools usability

1. Annotation tool should not stick: Clicking a tool starts tool insert/edit mode. When completed, unselect the tool. So adding the same type of annotation requires clicking the tool again.
2. It is now possible to hover and edit any tool (not just the one that is highlighted).
3. The annotations context menu item now has a submenu of all tools.
4. Click ENTER to save and exit the tool mode.
5. Click ESC to exit tool edit/insert.

MPLUS-264 Native Image, Video and Scanner acquisition application

MODALIZER+ V7 features native capture applications for UVC (Universal Video Class), TWAIN and WIA. These are alternatives to the now retired Dynamsoft .NET TWAIN that was used in previous versions for image and video capture and scanners. The native windows Scanner and Camera capture applications are now always available. The 3rd party component is still available as it is functional though out of support.

MPLUS-267 WIA Scanning

MODALIZER+ V7 Image Capture applications (Two concentric red circles button) utilizes WIA (Windows Image Acquisition).

MPLUS-337 HEVC Video conversion

MODALIZER+ V7 Video to DICOM converter supports all the video formats defined in the DICOM standard (Revision 2026a) including all HEVC video formats.

MODALIZER+ utilizes HRZ MODALIZER-SDK Video-to-DICOM capabilities and can create up to 4GB long DICOM video files (on x64 version, x86 version is limited to 2GB max). The conversion does not require large RAM to hold the entire video stream and can be done even on limited hardware with memory resources smaller than the video file size.

MPLUS-369 Identify Video format and set Transfer Syntax Automatically

MODALIZER+ automatically identifies the video encoding and determines the correct DICOM Transfer Syntax to use in the generated DICOM Encapsulated Video.

MPLUS-346 MODALIZER+ V7 Updated User Interface

MODALIZER+ V7 features a new, improved and modern user interface.

Improvements and feature requests

MPLUS-291 Indication of remote store location

When a study is stored remotely (in the convert form the action is convert and send or if sent to from the local archive context menu) the AE Title, Host and Port of the remote server where the study was sent to can be found by hovering over the status column. The information is displayed in the tooltip. Also when “Committed” the destination where it was committed, the date and Transaction UID are displayed in the tooltip.

MPLUS-293 Inverse taken images option

Customer feature request.

A new “Invert Images” checkbox in the convert screen. When scanning papers the scan is white and creates too much light in the reading room. This option intends to prevent this by inverting the scanned papers.

MPLUS-317 New “View” button in Completed Screen

In the last wizard screen when the procedure is completed, if the study is available locally a “View” button will appear to open the study in the DICOM Viewer.

MPLUS-372 Import to Local Archive from DICOM Viewer

The user can now import studies to the local archive directly from the DICOM Viewer. Clicking on the study row in the viewer upper panel (above export) if not in local archive (dragged, opened)

MPLUS-280 Don't hide images panel (bottom thumbnails) when there's a single file

Customer feature request.

The image comments are displayed on the image thumbnail caption and if there's a single thumbnail and it's hidden the image comments are hidden too.

MPLUS-281 Display image time in image overlays

Customer feature request.

Instance Creation Date and Instance Creation Time to bottom left corner overlays (bellow frame number).

MPLUS-282 Add Occupation to worklist advanced search fields

Customer feature request.



In the advance search of the Modality Worklist Query there's a new field for Occupation (0010,2180). The results are not displayed.

MPLUS-288 Add current patient location to generated instances

Customer feature request.

In the Worklist flow add the current patient location (0038,0300) to the generated instances.

MPLUS-278 License file location has changed

The license file location in version 6.1 and earlier was in %ProgramData%\HRZ. The new location is %ProgramData%\HRZ\MODALIZERPLUS

The same goes to contrastpresets.xml and the config file

MPLUS-186 Portable Distribution

In addition to the MSI Installer ZIP file, MODALIZER+ V7 x64 and x86 portable packages are available. This enable using MODALIZER+ without installation, simply by extracting the files from the portable package and running MODALIZERPLUS.EXE.

Bug Fixes

MPLUS-251 CameraExap click Capture when no sources - crash

Fixed crash condition when starting CameraExap and there's no capture source (Camera, Scanner or other) .

MPLUS-259 Unnecessary files in DICOMViewer folder when exporting to a DICOMDIR

Removed redundant files that were saved in exported DICOM Viewer folder when using the Export (Create DICOMDIR) workflow.

MPLUS-277 Mutual auth checkbox in DICOM Listener doesn't catch

Fixed issue in Settings -> DICOM Listener → Use secure network Request for Client Certificate (Mutual Authentication).

When setting to true and coming back to the settings after going out the value is false.

MPLUS-285 Using arrows to browse through thumbnails of multiple files series not working properly

Fixed right/left and up/down arrows functionality in the DICOM viewer.



MPLUS-286 Videos from CameraEXAP are not imported to Images Form

Fixed a bug where video that were captures using the Camera Exap were not added to the study.

MPLUS-299 MODALIZER+ keeps running when user signs out

When the user signs out MODALIZER+ stops.

MPLUS-311 When uninstalling with Keep Data License is deleted

The license file is now kept when Keep Data option is selected when uninstalling.

MPLUS-312 Wrong error message when activating used license

When trying to activate a license with no more installations left, incorrect error message: "Activation service is not accessible" instead of "No more activations left for this serial number" or similar.

MPLUS-314 Local archive is read only for user that didn't install

For other users the local archive is not working. No errors, only read access.

MPLUS-315 Deleting the study from the no installer package fails

Fixed a bug when the study is not deleted when using the portable distribution.

MPLUS-318 Edit Image Comments throws exception Object reference not set when clicking save

Fixed a bug showing unhandled exception in such case.

MPLUS-319 Measurement tools Dragging is Lagging

Improved performance of measurement tools.

MPLUS-320 Open in Local Archive and Open in Viewer cause Done button to be skipped

Fixed a bug when clicking the Done button is skipped if the user clicks Open in Local Archive or Open in viewer in the last wizard screen.

MPLUS-321 Annotations can't be fully out of the image frame

When adding an annotation it can't be located outside the image.

When the user creates or moves an annotation outside of the image frame, stop moving it when it hits the border (leave it selected) so that he has to either leave it on the border (inside) or move the mouse back.

MPLUS-322 Can't Save GSPS

Fixed a bug that caused the GSPS not be saved.

MPLUS-325 Acquisition Time parsing caused images not to display

Fixed a bug where specific samples with non standard image acquisition time value caused the images not to open in the DICOM Viewer.

MPLUS-327 MODALIZER+ license expires before customer in Australia gets a renew event

Fixed a bug where Customers in Australia had their subscription expiring before they were able to renew the subscription.

MPLUS-336 The thumbnails are not the same for all items

Fixed a bug where some of the thumbnails were different from others.

MPLUS-338 J2K images fail to display

Fixed a bug where Jpeg 2000 encoded images failed to open.

MPLUS-341 When clicking back in viewer to any grid view go back to the same line if possible

For example when user clicked a line in the Local archive and then clicks back from the viewer go back with the line clicked selected (i.e. remember the line).

MPLUS-344 In MWL Clicking ESC while query is running should cancel the query

Clicking ESC in MWL or Q/R screen while the query is running cancels the operation. Fixed a bug where in MWL it didn't work..

MPLUS-345 2nd and onwards thumbnails are not centered and miss-zoomed

See MPLUS-336.

MPLUS-352 Crash when attempting to delete study that is not found from local archive

If the DICOM files were not found on the disk because they were deleted manually there was a crash.

MPLUS-355 Can't open a GSPS that was saved as on desktop

Fixed a bug where GSPS that was exported (Saved in a folder instead of added to the local archive) couldnt be opened.

MPLUS-375 Can't attach .MOV files

Fixed. Adding MOV files (Apple Mac OSX and iOS video files) is now supported

MPLUS-380 Modalities in Study Query filter is not passed to DICOM Query

The filtering by Modalities in Study in Study level query was not set in the query identifier. Instead it was done on the results. Now the keyed in value is set in the query identifier data element (0008,0061).

MPLUS-381 Schedule Procedure Step Description and ID are also inserted in requested procedure level

Not changed. This behavior is by design in order to better integrate with non conforming PACS that utilize this method. These elements are also set in the correct location inside the scheduled procedure step sequence.

MPLUS-296 Double click on a row in local archive to open the study in the DICOM viewer

Missing in version 6, this functionality is now the same as in all grid screens.

MPLUS-357 Improved application start time

MODALIZER+ V7 opens faster than prior versions.

MPLUS-370 Prevent Image preview panel in Acquisition screen from changing sizes and flickering

The acquisition window layout now stays exactly as the user has set it and does not change between procedures and application operation unless the user has changed it.