NilRead v22 Release Notes (22.0.3.115295)

Doc #: 971-08010

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1 Introduction

1.1 Purpose

This document provides the release notes for release of NilRead v22 (v 22.0.3.115295)
Note this release is for English only installs. For other languages, please contact Hyland.

1.2 NilRead Intended Use Statement

In the U.S.:
The NilRead software application provides desktop and portable access to multi-modality softcopy medical images, reports and other patient related information for conducting diagnostic review, planning, and reporting through the interactive display and manipulation of medical data, including mammography and breast tomosynthesis. NilRead also allows users to collaborate by sharing application sessions.

Lossy compressed mammographic images are not intended for diagnostic review. Mammographic images should only be viewed with a monitor approved by FDA for viewing mammographic images. For primary diagnosis, post process DICOM "for presentation" images must be used.

On mobile platforms, this device is not intended for diagnostic use.

In Canada:
The NilRead software application provides desktop and portable access to multi-modality softcopy medical images, reports and other patient related information for conducting diagnostic review, planning, and reporting through the interactive display and manipulation of medical data. NilRead also allows users to collaborate by sharing application sessions. NilRead is for use with MRI, CT, Ultrasound, Digital Fluoroscopy, Digital Angiography, X-ray, Mammography, DBT, ECG, Dicom RT and Nuclear Medicine Images.

On portable (mobile) platforms, this device is not intended to replace full workstations and should be used only when there is no access to a workstation. It is the user's responsibility to ensure the software is used on appropriate hardware and to verify display image quality is suitable for the clinical application. Mobile use is not intended for diagnostic review of Mammography and DBT.

In all other regions:
The NilRead software application provides desktop and portable access to multi-modality softcopy medical images, reports and other patient related information for conducting diagnostic review, planning, and reporting through the interactive display and manipulation of medical data, including mammography. NilRead also allows users to collaborate by sharing application sessions.

Mammographic Images should only be viewed with a monitor approved by the FDA for viewing mammographic images, or monitors with similar specifications. On portable (mobile) platforms, this device is not intended to replace full workstations and should be used only when there is no access to a workstation. It is the user's responsibility to ensure the software is used on appropriate hardware and to verify display image quality is suitable for the clinical application. Mobile use is not intended for diagnostic review of Mammography and DBT.

NilRead is intended for use by physicians trained in reviewing and interpreting medical images

1.3 Version Identifier

NilRead Build ID: 22.0.3.115295

1.4 Release Content

The NilRead 5.1 release contains:

- NilRead Installers
- AcuoStore agent for configurations with Acuo VNA
- Release Notes (this document)
- Support Documentation

2 Interface Requirements & Dependencies

2.1 Hardware

The system resources required by NilRead depend on several factors including the usage scenario (e.g. 2D, 3D, etc.), resolution of monitors and expected performance (e.g interpretation vs referring physician). For minimum hardware requirements, please contact Hyland.

2.2 Software

Refer to the 'NilRead Installation Instructions' for details (doc # 941-07001)

2.3 Special Notes

2.3.1.1 Internet Explorer 11

MS IE 11 is no longer supported

2.4 Installation

Refer to the NilRead installation Instructions (doc # 941-07001) for more details.

2.5 Support

To report any issues, please contact Hyland's authorized distributor in your area, or:

Hyland Customer Support	Authorized Representative in Europe (Regulatory affairs only)	Australian and New Zealand Sponsor
Customer Support Hyland Software Canada ULC 111 Peter Street, Suite 540	Emergo Europe Prinsessegracht 20 2514 AP The Hague	Emergo Australia Level 20 Tower II, Darling Park

Toronto – M5V 2H1

• U.S. (toll free): 1-877-201-0001
• Direct: 913-227-7030

Customer Portal:
https://www.onbase.com/community
Email: NilRead_info@hyland.com

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(p) +31.70.345.8570
(f) +31.70.346.7299
EmergoVilgilance@ul.com

201 Sussex Street
Sydney, NSW 2000
Australia
AUNZVigilance@ul.com

Emergo- CARSL Consulting
24 Side Road, RD 10
Parkhill Farm, Hastings
4180
New Zealand
AUNZVigilance@ul.com

3 Summary of New Features and Changes

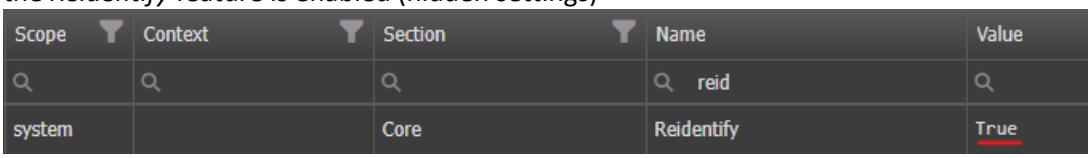
3.1 Workflow Optimizations

Version: 22.0.3.115295

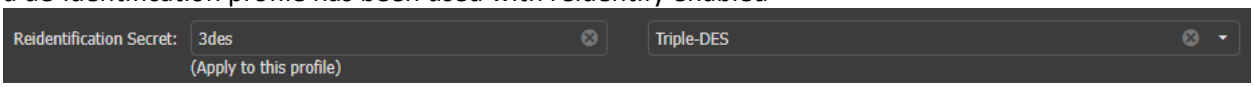
7693 color blending support for epifluorescence pathology images
7754 NilFeed - TLS 1.3
8415 add a button anonymize data to reload an annon
8580 Deidentification requests

NilRead can re-identify (reveal the original attributes) under the following constraints:

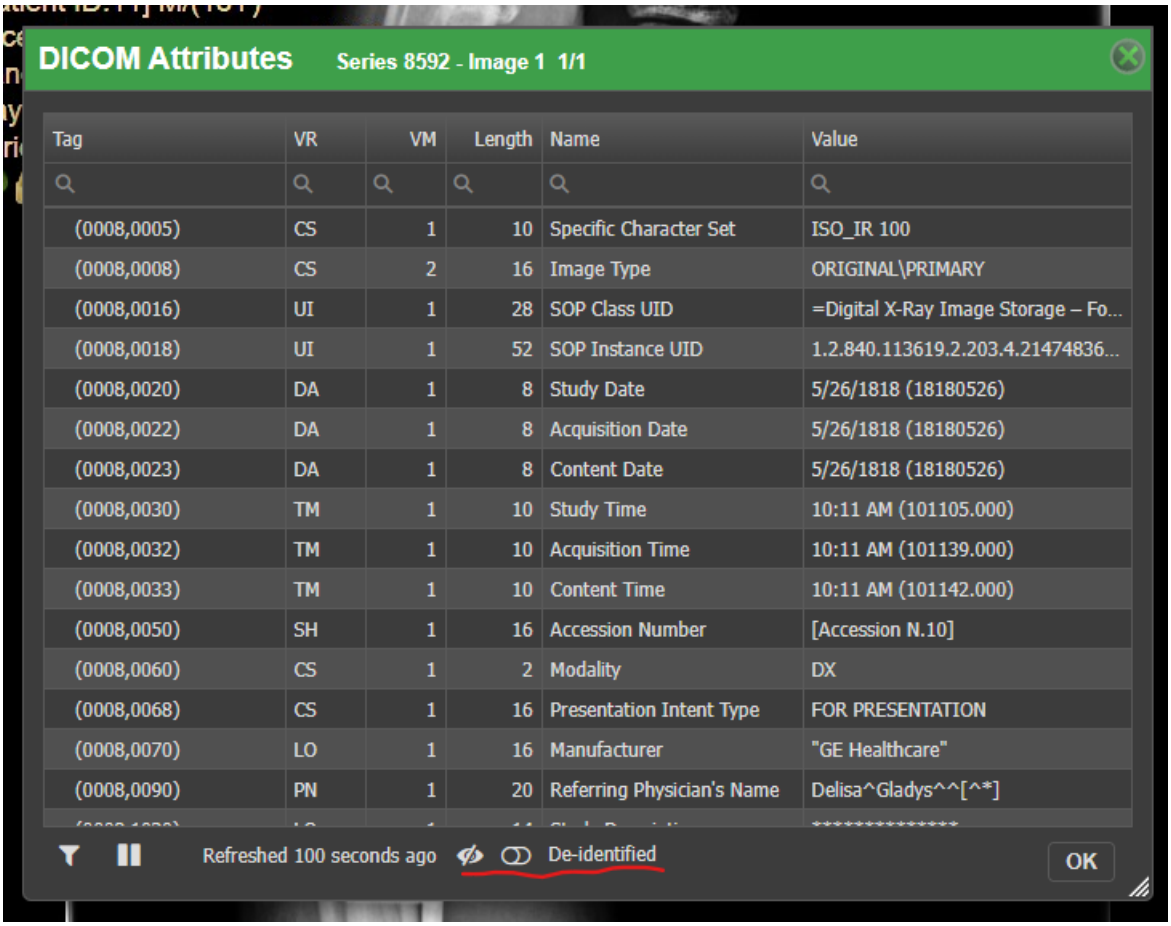
- user is administrator or has been granted the *Reidentify* privilege
- the *Reidentify* feature is enabled (hidden settings)

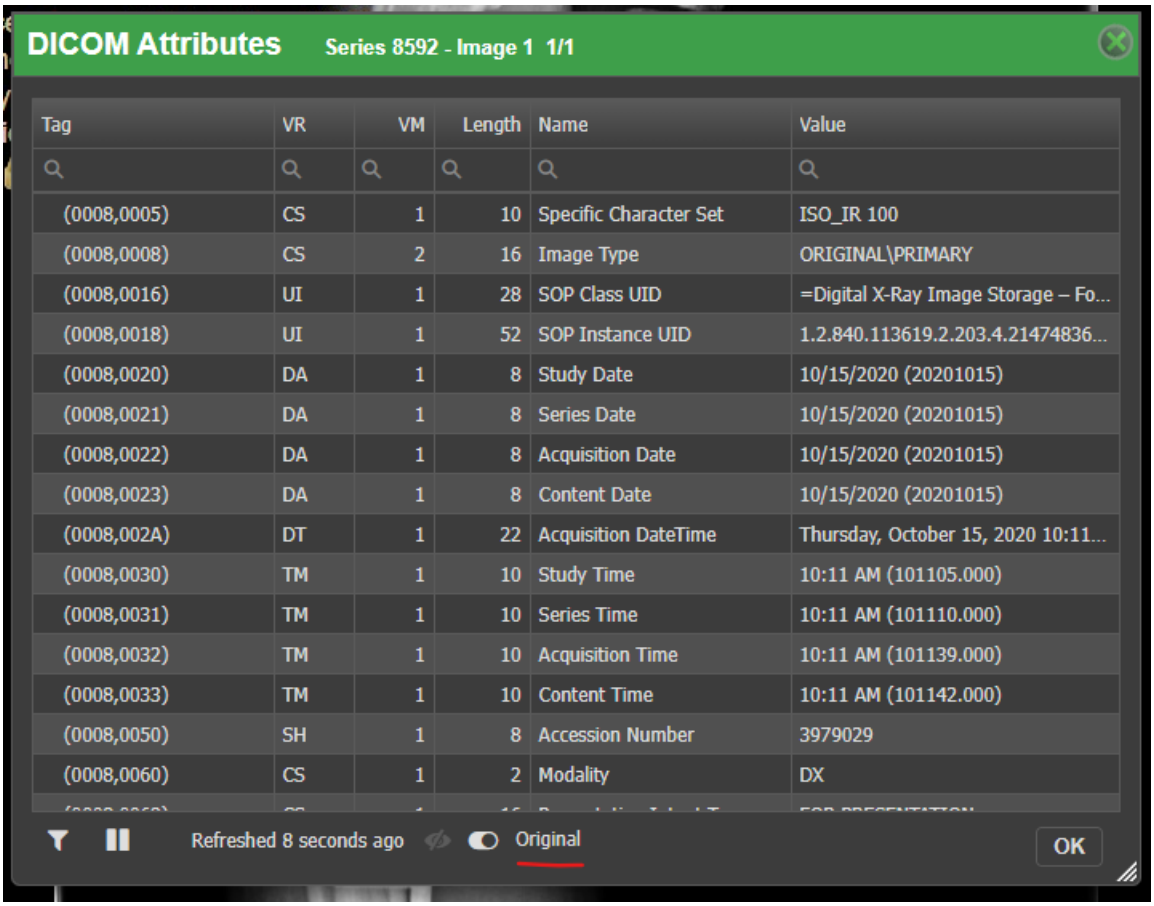


- a de-identification profile has been used with reidentify enabled

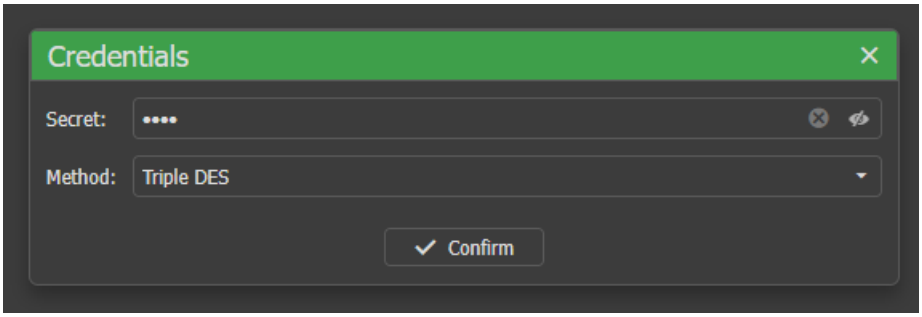


- the IOD is in a de-identified folder or worklist, or has been loaded as anonymized with such a profile
- the IOD has been persisted from such a profile and loaded at a later time
    - the credentials are need to decrypt the original attributes in this scenario
    - n.b. credential management (secret keeping) is performed external to NilRead
- the feature is only available in the viewer using the DICOM attribute popup control


DICOM Attributes
Series 8592 - Image 1 1/1
Tag
VR
VM
Length
Name
Value
(0008,0005) CS 1 10 Specific Character Set ISO_IR 100
(0008,0008) CS 2 16 Image Type ORIGINAL\PRIMARY
(0008,0016) UI 1 28 SOP Class UID =Digital X-Ray Image Storage – Fo...
(0008,0018) UI 1 52 SOP Instance UID 1.2.840.113619.2.203.4.21474836...
(0008,0020) DA 1 8 Study Date 5/26/1818 (18180526)
(0008,0022) DA 1 8 Acquisition Date 5/26/1818 (18180526)
(0008,0023) DA 1 8 Content Date 5/26/1818 (18180526)
(0008,0030) TM 1 10 Study Time 10:11 AM (101105.000)
(0008,0032) TM 1 10 Acquisition Time 10:11 AM (101139.000)
(0008,0033) TM 1 10 Content Time 10:11 AM (101142.000)
(0008,0050) SH 1 16 Accession Number [Accession N.10]
(0008,0060) CS 1 2 Modality DX
(0008,0068) CS 1 16 Presentation Intent Type FOR PRESENTATION
(0008,0070) LO 1 16 Manufacturer "GE Healthcare"
(0008,0090) PN 1 20 Referring Physician's Name Delisa^Gladys^^[^*]
Refreshed 100 seconds ago
De-identified
OK

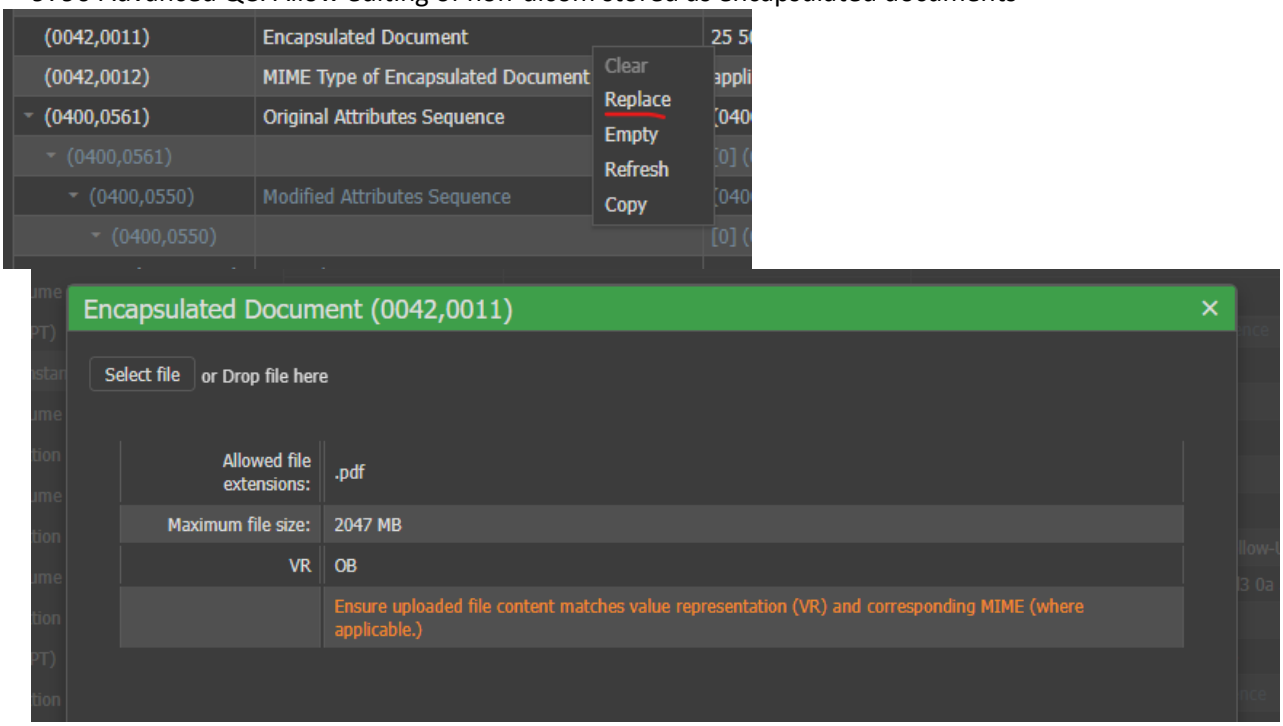


If credentials are required, the following dialog will be presented for authentication before revealing original attribute values:



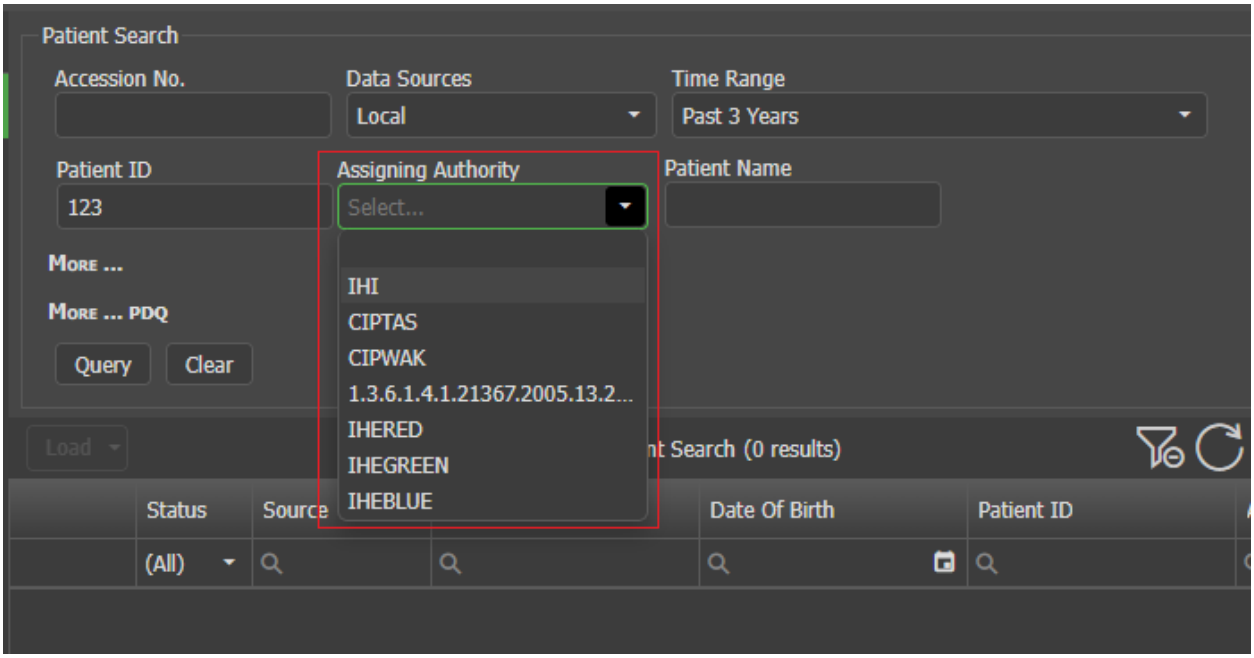
9066 Track how much data is loaded in each particular user session
9085 Allow HP to control cine-play of individual viewports
9160 XDS/XCA configuration improvements
9226 MWL default source
9247 add support for linking of document rendering
9253 Nuance PowerScribe One - FHIRcast
9262 HP enhancement

9315 Add support for downloading large files from XDS
9378 Add support for presentation state annotations on ePDFs
9417 Vessel Tracking
9728 UPS-RS support
9767 Introduce preview mode for quick access to images
(refer to 'Additional Notes' section for more details)
9790 Advanced QC: Allow editing of non-dicom stored as encapsulated documents

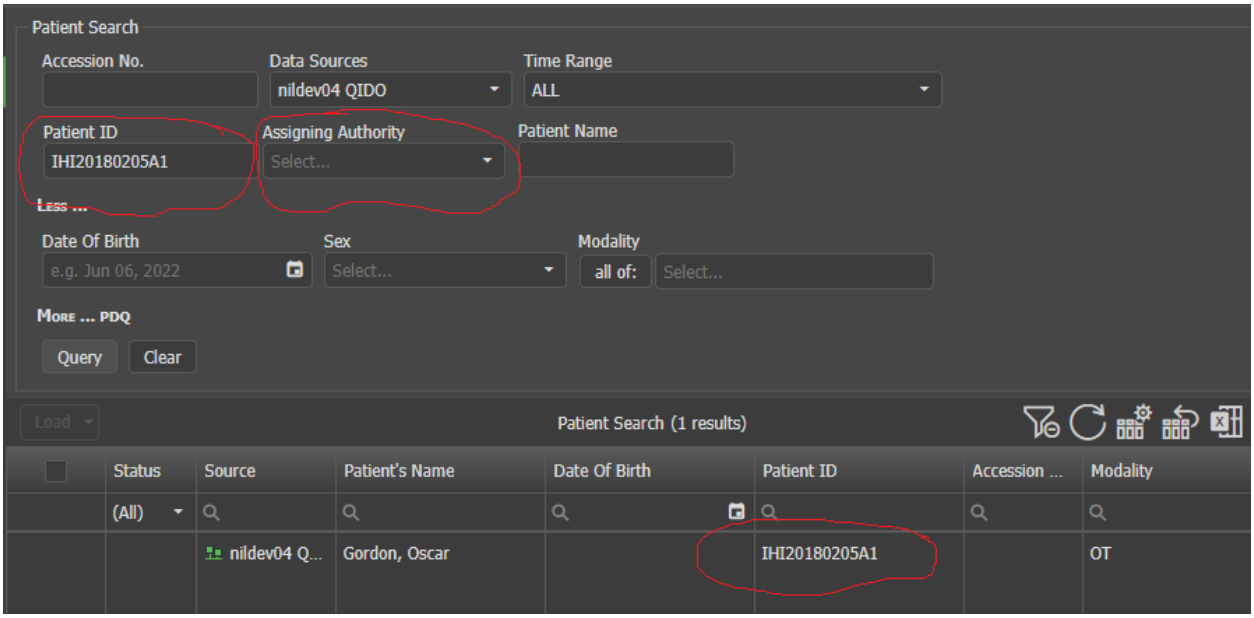


9881 hidden settings: add ability to enable/disable the Q/R in 'Edit Patient/Study'
10133 MPR dynamic localizer lines
Added "InteractiveCrosshair" system setting (False by default).
10148 Study date/time is not displaying the hours
10156 ClearCanvas .net6.0 porting.
10166 Possible viewing improvements in handling of invalid 16-bit RGB color image
10256 Audit log of a search done in Patient Study Directory
10258 MPR layouts
10276 Toolbar icons update
10296 Add support for forcing certain series at the top
10301 Close X in QC module
10304 click & drag titles in config settings
10319 Mammo CAD display in HP
10418 HP edit stage
10468 support patient id query across multiple affinity domains
Added Assigning Authority dropdown to PS query panel, displayed next to Patient ID when eMPI is configured and PixPdq patient matching is enabled. The dropdown is disabled when Patient ID value is

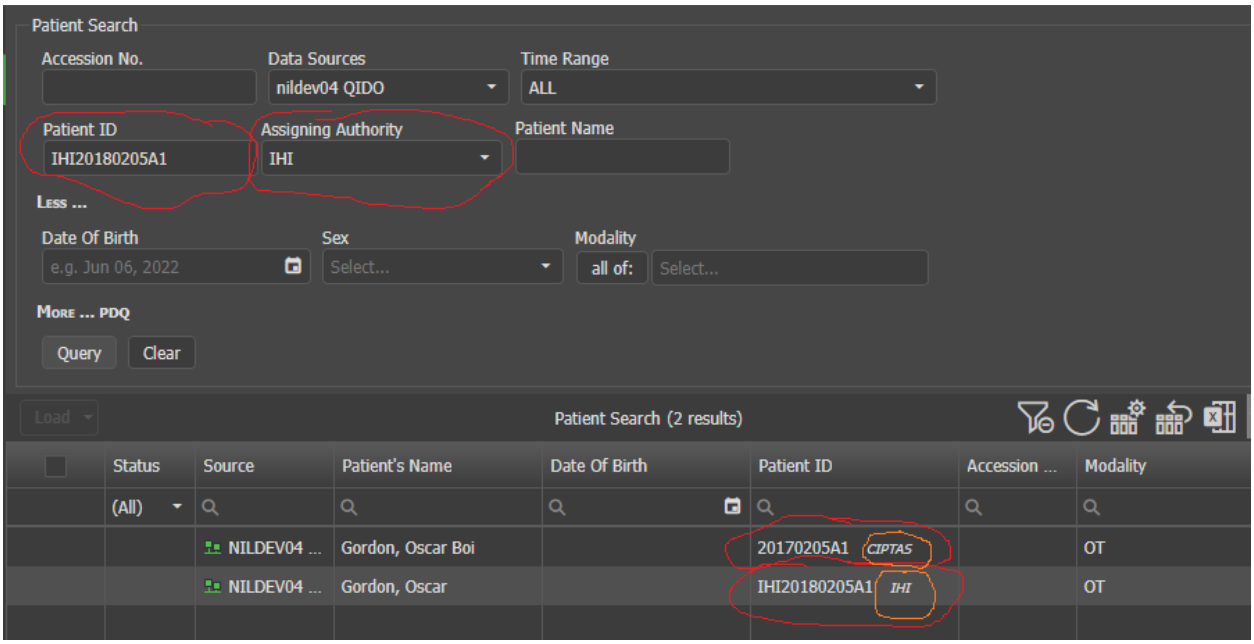
empty and provides an empty option to enable “bare” patient ID queries. Also added Assigning Authority suffix to patient ID column values for studies retrieved via PIX query.



1. If a user doesn’t pick assigning authority, only studies with the specific patient ID are returned, e.g.:



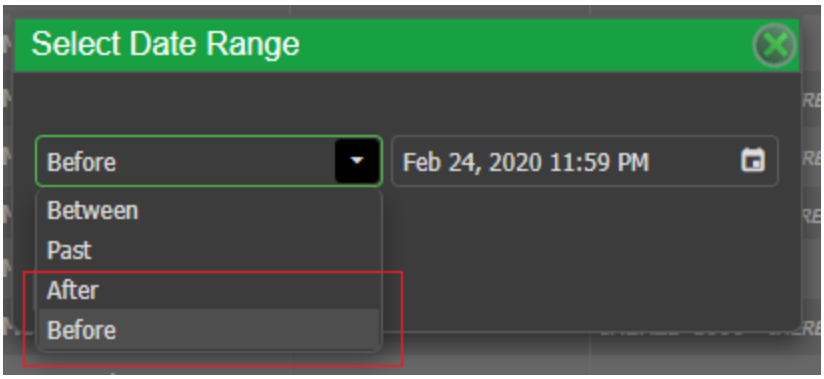
2. If a user picks assigning authority, additional studies are returned with patient IDs as matched by eMPI lookup, with domain names displayed next to patient ID values, e.g.:



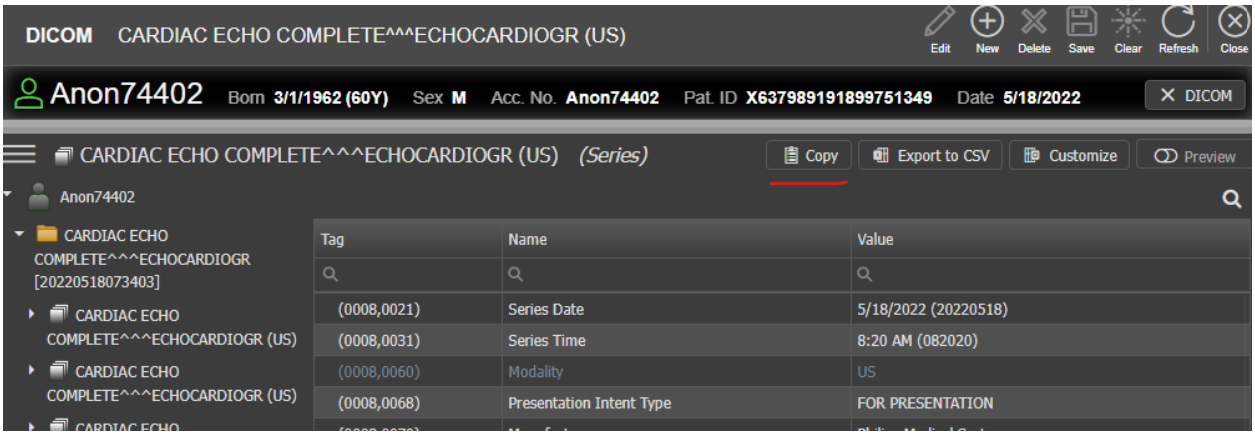
10485 hidden settings add (+) button misleading
10488 persist queued unprocessed HL7 messages
10493 Study notes permissions
10506 HP - chronological order
10511 Non-Symmetric Layouts configurable
10512 Non-Symmetric Layouts defaults
10514 loading animation spinner
10525 Add UI and SQL support for deferredModeConfig
10528 DICOM data morphing improvements
10529 DICOM data morphing configuration tool
10539 It is not possible to know which SopClass is rejected during dicom Q/R load
10540 Settings->Devices->Dicom UI
10562 Optos BP VNA retrieval/deletion error, sql query timeout.
10589 Person Name Display Format
10591 Improvements when SCU sends invalid queries
10604 NilRead v22 help files
10611 Display server name and current time in error messages
10628 add support for 'Radiopharmaceutical Radiation Dose SR IOD'
10636 Extend PD/PS GUI with list of devices where the study has been sent along with the sent date and status
Added "View Study Activity" option to PD context menu, displaying simplified DICOM activity GUI as a pop-up for a selected study.
10637 Logging Enhancements
10638 Improve Study Note editing importing and exporting
10678 Changes in settings are not saved.
10681 Study keywords for patient timeline: improvements

- Introduced “PatientHistoryUseAnchorKeywords” setting (default value is True for backward compatibility, UI in Settings > System > Timeline). This allows using filtered mode ("show only relevant priors") with no keyword filters applied by default. Note that HP template UI now also provides controls for toggling between using anchor keywords or explicitly defined keyword templates (in case of empty keyword template list, no keywords will be preselected as initial filter for relevant priors).
- +1 button is now only visible if there are HP templates with +1 adjacent keywords defined. As before, this button is disabled if adjacency is configured but no seed keywords are available for the first level.
- Keywords multi-select dropdown now stays open after each selection and expands on hover, for ease of use.

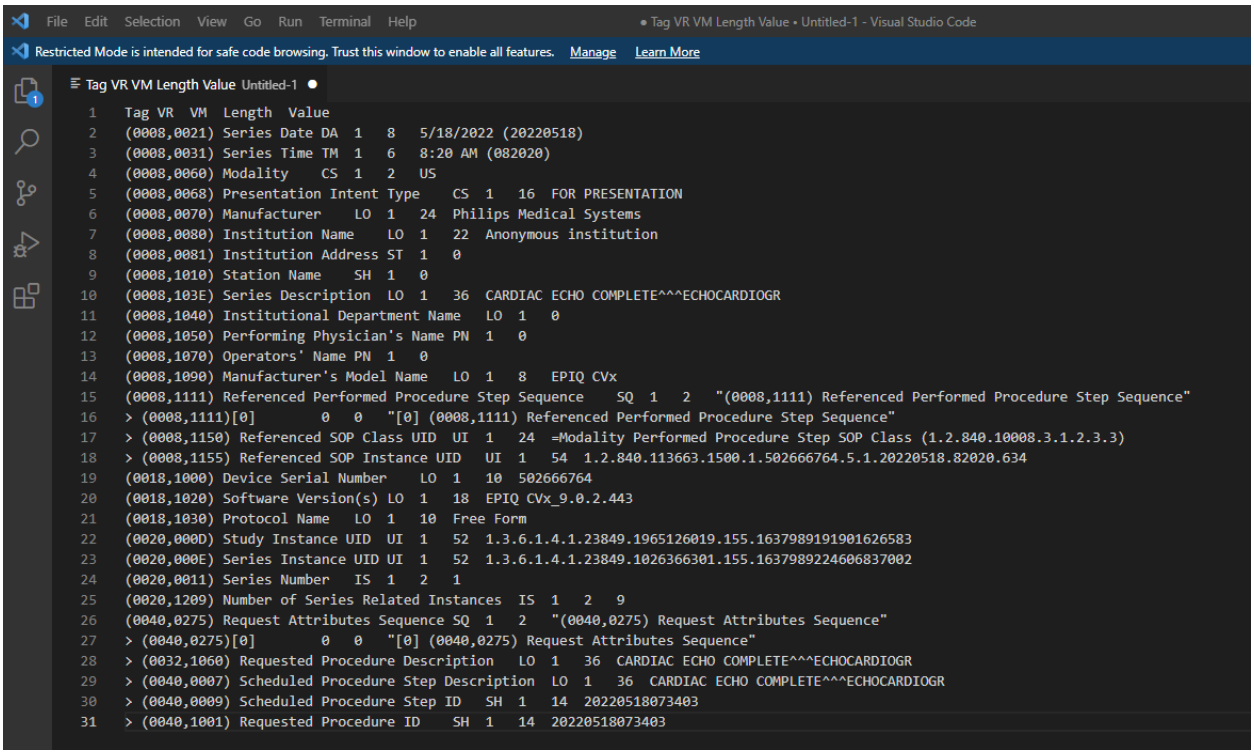
10689	Remote AE Configuration Issues
10697	assertion failure with XDS and invalid data with Recently Opened
10699	Drop "per server" license support
10704	PD column config pop-up
10705	improve Settings > System > Patient Search Study Table configuration
10709	BPPC troubleshooter for XPATH evaluation
10710	date range picker simplification Added “Before” and “After” options to custom date range popup:



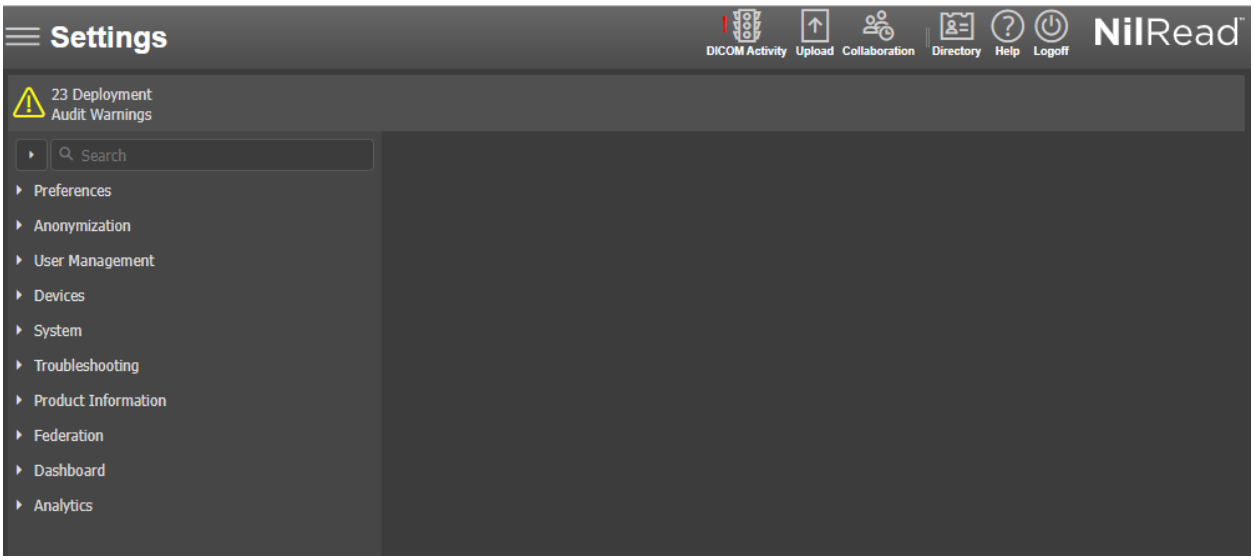
10711	work list is disabled when executing long running queries (XDS)
10712	DICOM Activity page
10715	Log thread id for thread pool workers (log4net)
10716	DICOM print improvements
10718	AQC DICOM missing copy-to-clipboard



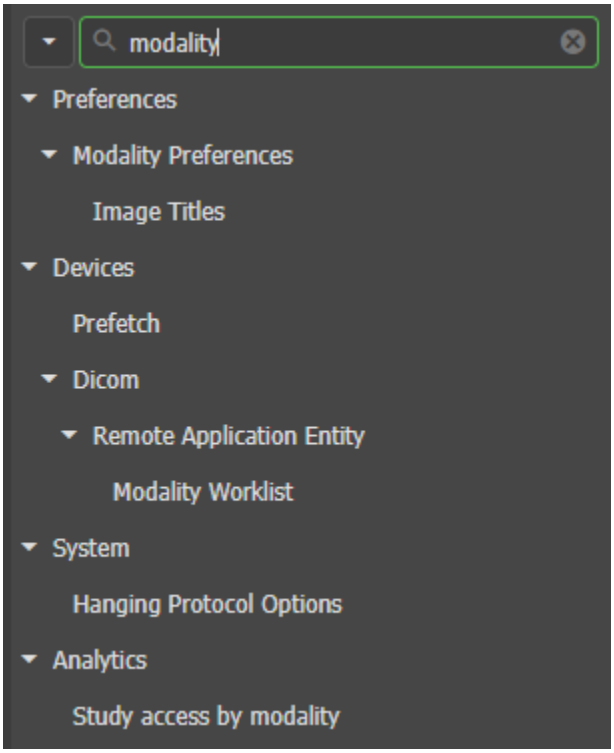
Paste to your favorite editor:



10720	HP editor - edit phrasing
10721	Settings screen defaults to all menus expanded

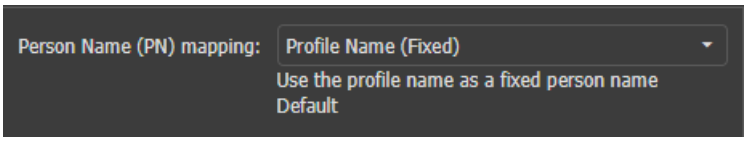


- Settings tree has been moved to an expandable/collapsible drawer panel to the left of the page (use “hamburger” button next to the Settings title to toggle visibility, similarly to the Patient Directory’s worktree).
- Settings tree is collapsed by default (use button to expand/collapse all nodes). Click on a parent node to show/hide its children. Click on a leaf node to display its settings page to the right of the settings tree.
- Users can search for specific content using Search text box:



- Search value, node selection (currently selected settings page), and the tree's expanded/collapsed state are remembered during user session.

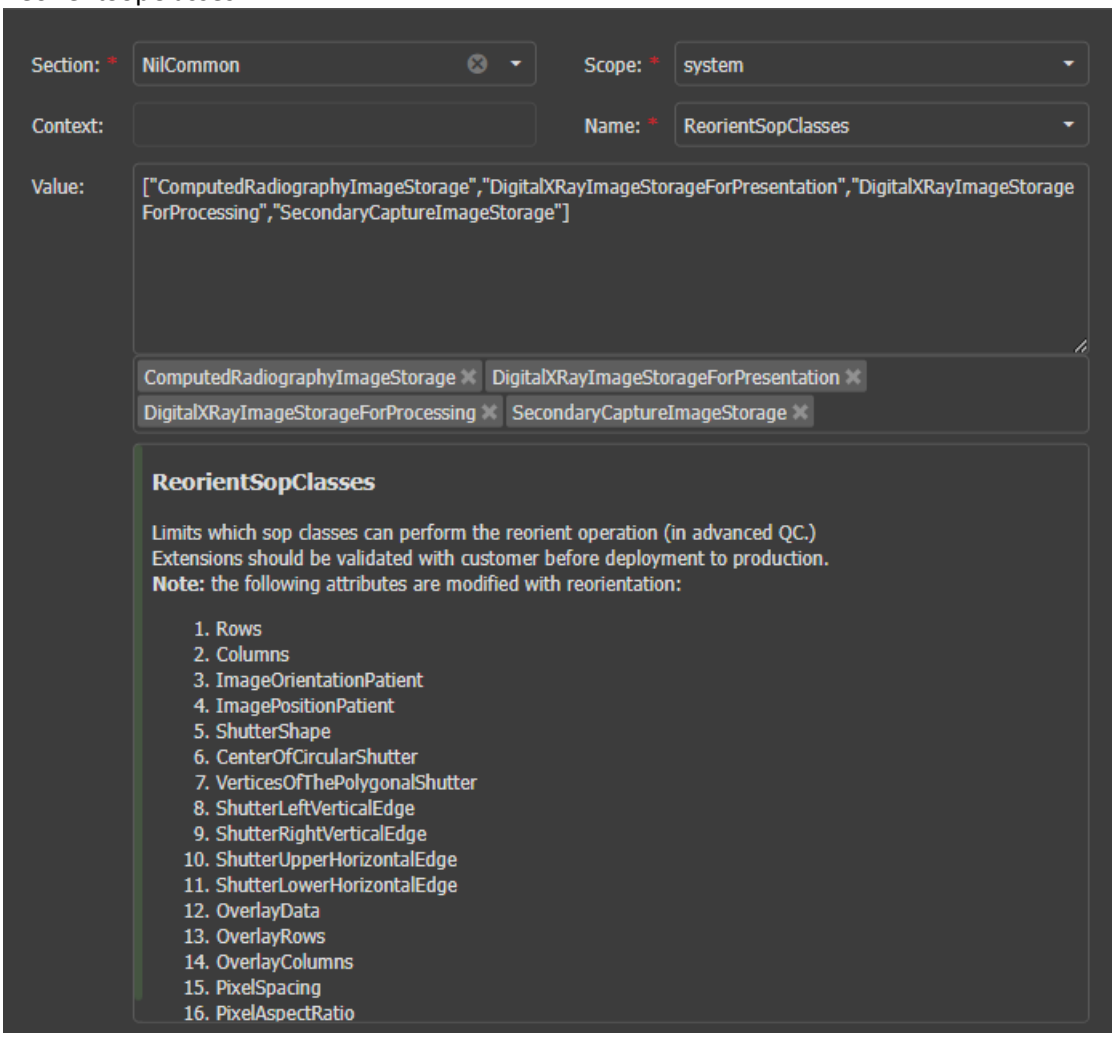
10724 Confidentiality Profileuse profile name in pseudonymization
Settings > Anonymization > Confidentiality Profiles | Options > Person Name (PN) mapping



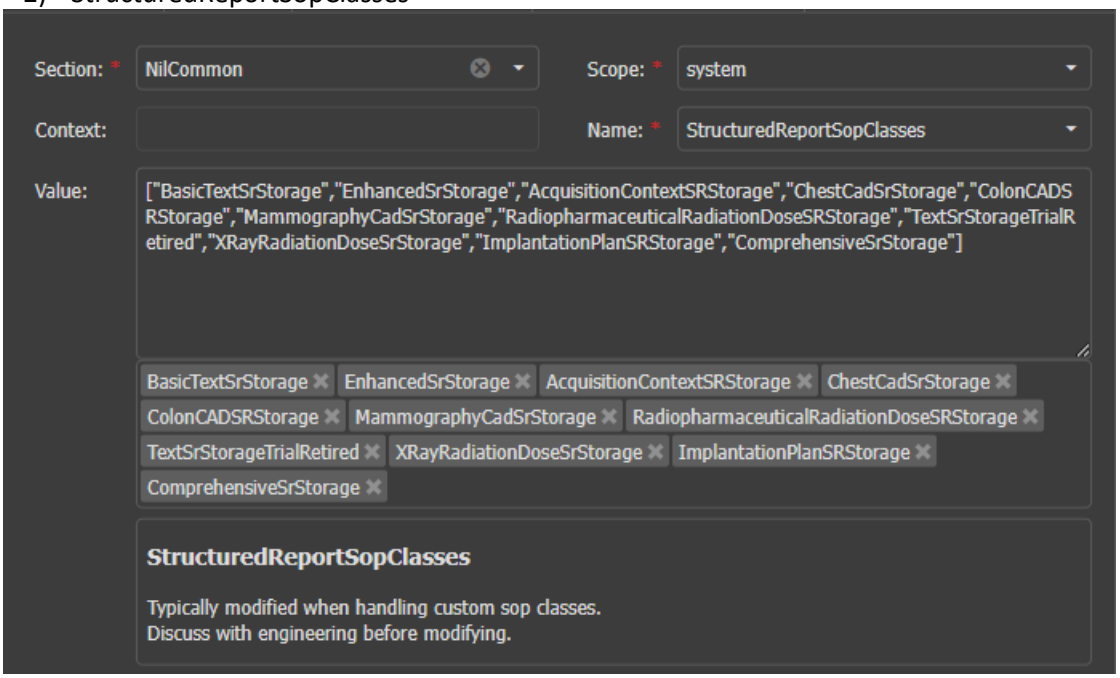
10741 Upgrade Mainconcept library
10742 AQC capabilities classifications not preserved across releases

Friendlier configuration management for two advanced QC features are now exposed in hidden settings:

1) ReorientSopClasses



2) StructuredReportSopClasses

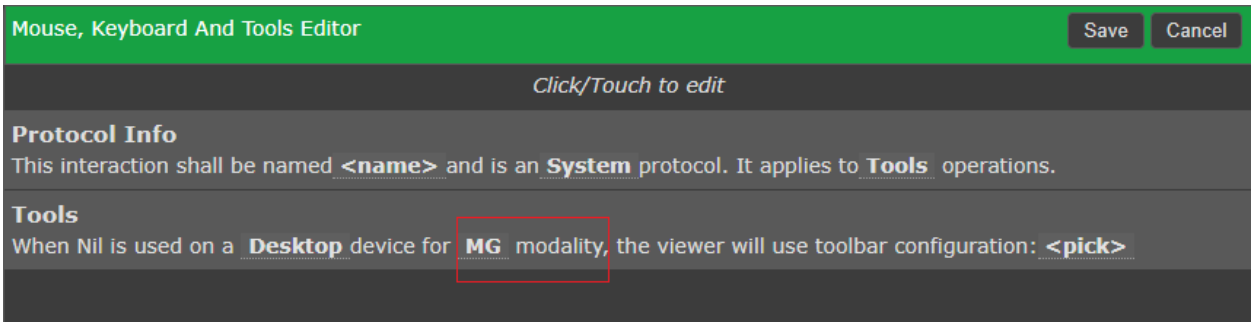


10744 advanced QC from viewer

Users may now navigate from the series menu to advanced QC directly:

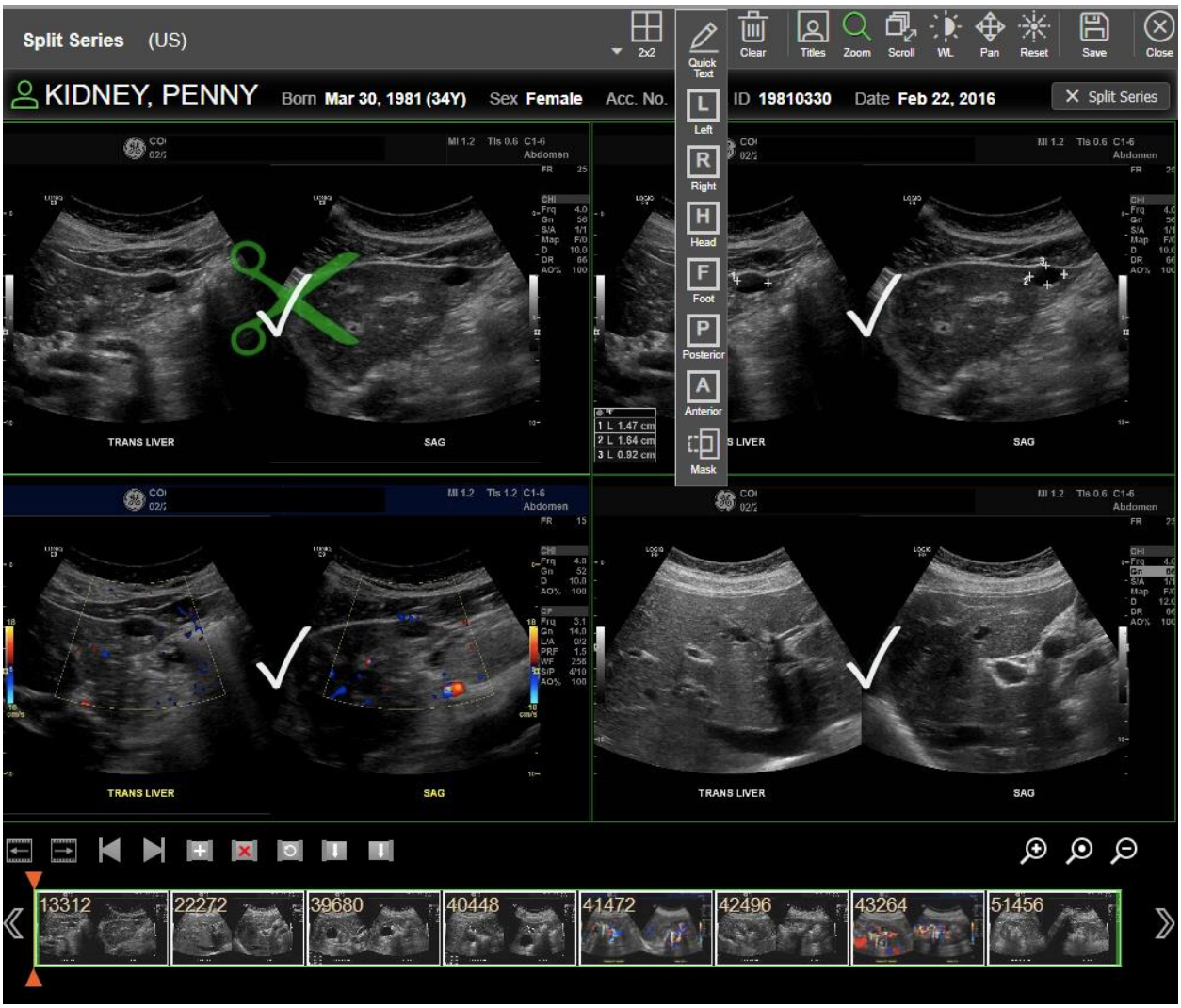
10756 Display QR code
10763 When turning off titles the patient banner should toggle off as well.
10764 modality specific toolbar

Added optional modality specification for viewer toolbar rule, for both primary and secondary viewers. Toolbar and context menu are now initialized after first image is available, so that best match can be selected considering modality of anchor study. Note that all applicable toolbar rules regardless of modality are still available in the dropdown menu so that manual switching is possible if a different modality toolbar is desired (particularly for multi-modality studies and multi-study layouts). Scope takes priority over modality match (i.e. user-defined rules for unspecified modality are selected over modality-specific system rules).



10776 image titles toolbar doesn't sync during collaboration
10778 customize download menu
10783 Clone multiple HPs
10788 HP documentation/manual
10791 expanded monitor support
10793 document update
10807 Settings tree view improvement
10808 new study arrival
10820 Consider adding tooltips for different report statuses
10822 Save recon as new series
10823 Patient Directory series preview enhancement
(refer to 'Additional Notes' section for more details)
10826 AQC Splitting + Labeling in one step

There's a common workflow where it would be desirable to be able to split and label in one task. The labeling feature is now available when splitting series:

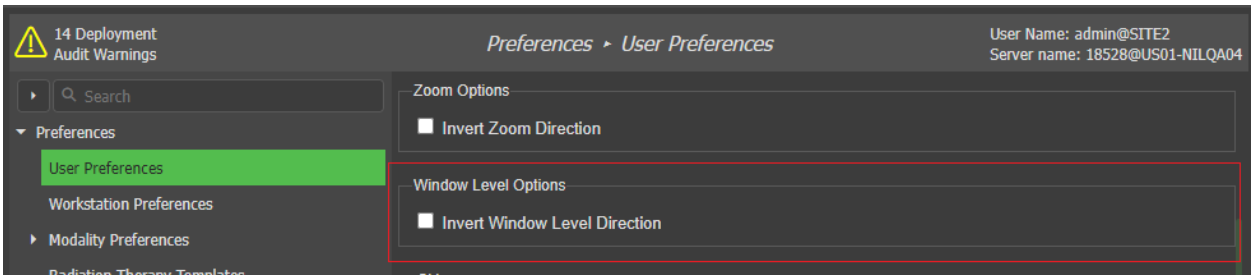


10827 RAD notification for un-viewed images

10828 Add ILM "Route series to tenant" activity to support inter-tenant routing.

10829 W/L mouse direction

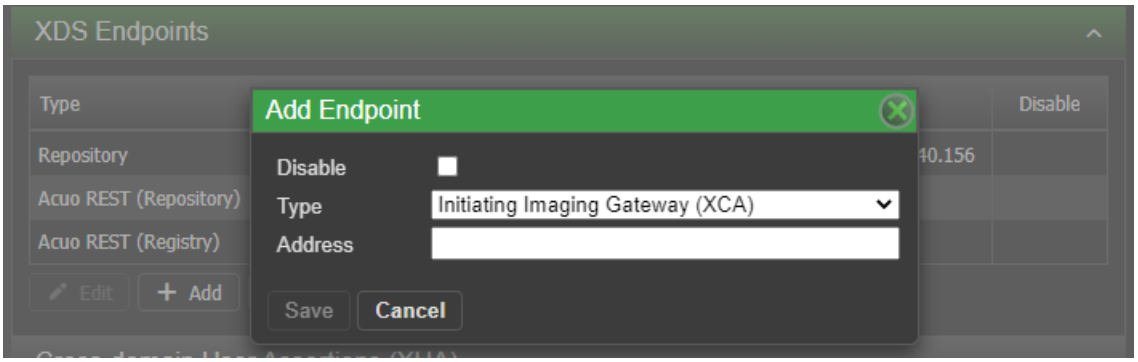
Added as a user preference:



10835 improved user experience: avoid download flash

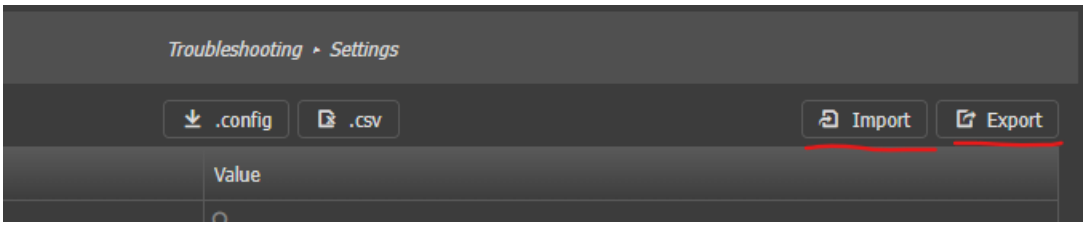
10841 control 3D rotation axis
10845 Making DICOM tag dictionary exclusions configurable
10846 Remove private tag extension dependency from NilRead dicom service
10849 User Interface size options
10852 XCA configuration: Initiating Imaging Gateway (IIG)

XCA configuration: Initiating Imaging Gateway (IIG)
For XDS cross-community access, the initiating imaging gateway may be configured explicitly (Settings > Devices > XDS | XDS Endpoints)



10861 Add ability to import system and tenant SQL based nil.config settings (HubDb.SharedConfig)

When managing multi-tenant sites, especially in edge deployments, it can be convenient to share all configuration options across tenants.
An export/import feature is now supported (Settings > Troubleshooting > Settings):



10872 Add vertical/horizontal radio group option for Study Note Template Editor
10882 Body Part & Current Patient Location

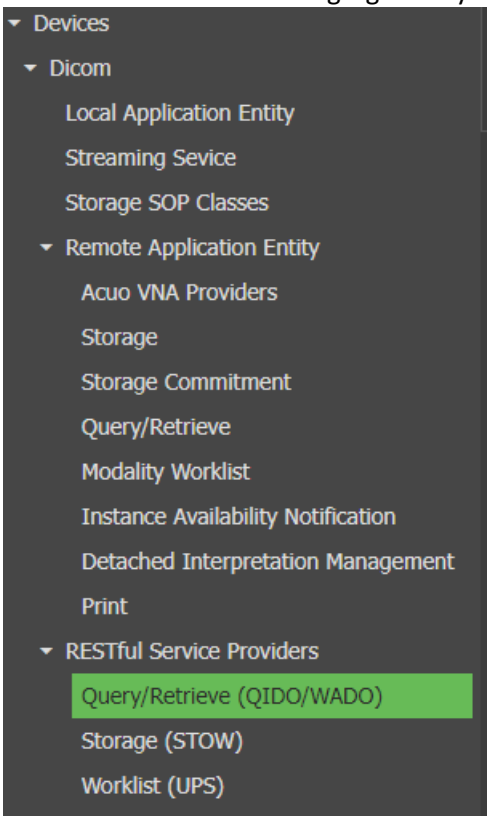
Added “Body Part Examined” and “Current Patient Location” columns for local cache studies. Values are filled in upon ingestion as follows (per Dan’s comments):

- 1) Current Patient Location 0038,0300: the last imported instance wins;
- 2) Body part:

a. Body part field is first attempted to be filled with Anatomical region Sequence -> Code meaning (0008,2218).(0008,0104)
b. If the anatomical region does not exists or empty, we fall back to 'body part' (0018,0015)

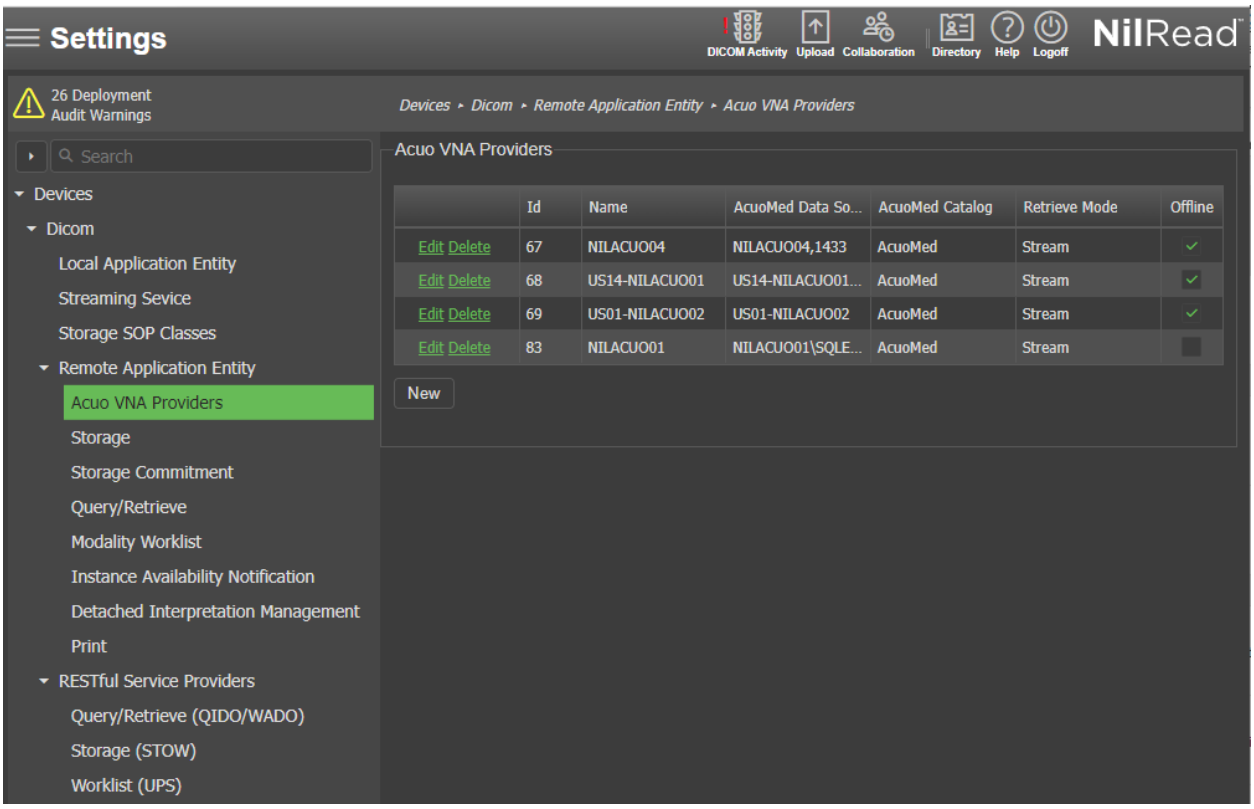
Each instance in a study may have different values. All different values should be concatenated, up to 128 chars, just like the classic custom attributes handling.

10896 Add local lag/remote lag period properties to data lifecycle settings
10909 Remote device configuration new layout: one panel per service (easier navigation)
Remote devices have been segregated by service type



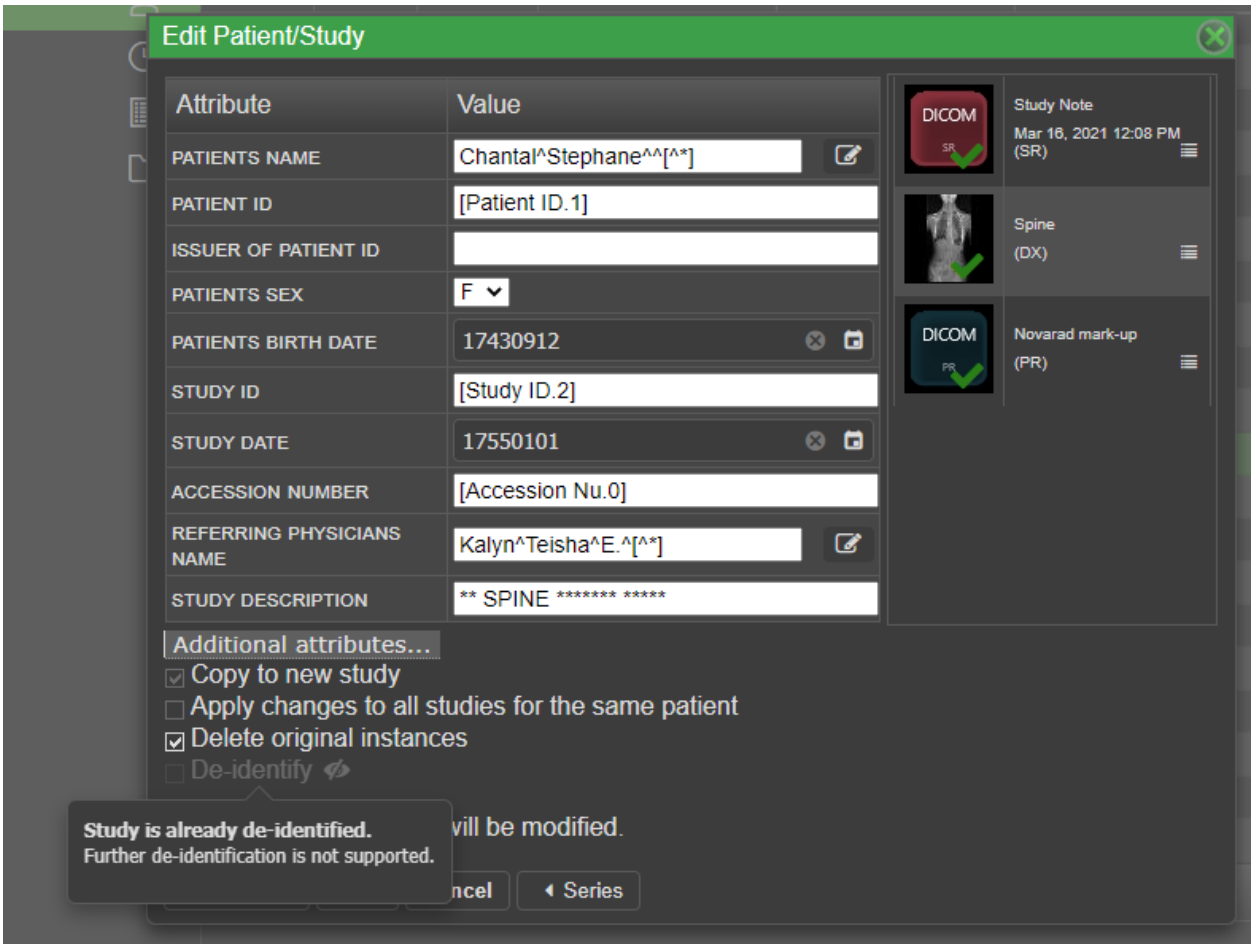
Settings > Devices ... remote device configuration navigation difficult to use

Remote devices have been segregated by service type, eliminating the need to navigate the zippy container presented in prior releases for *Remote Application Entity.*



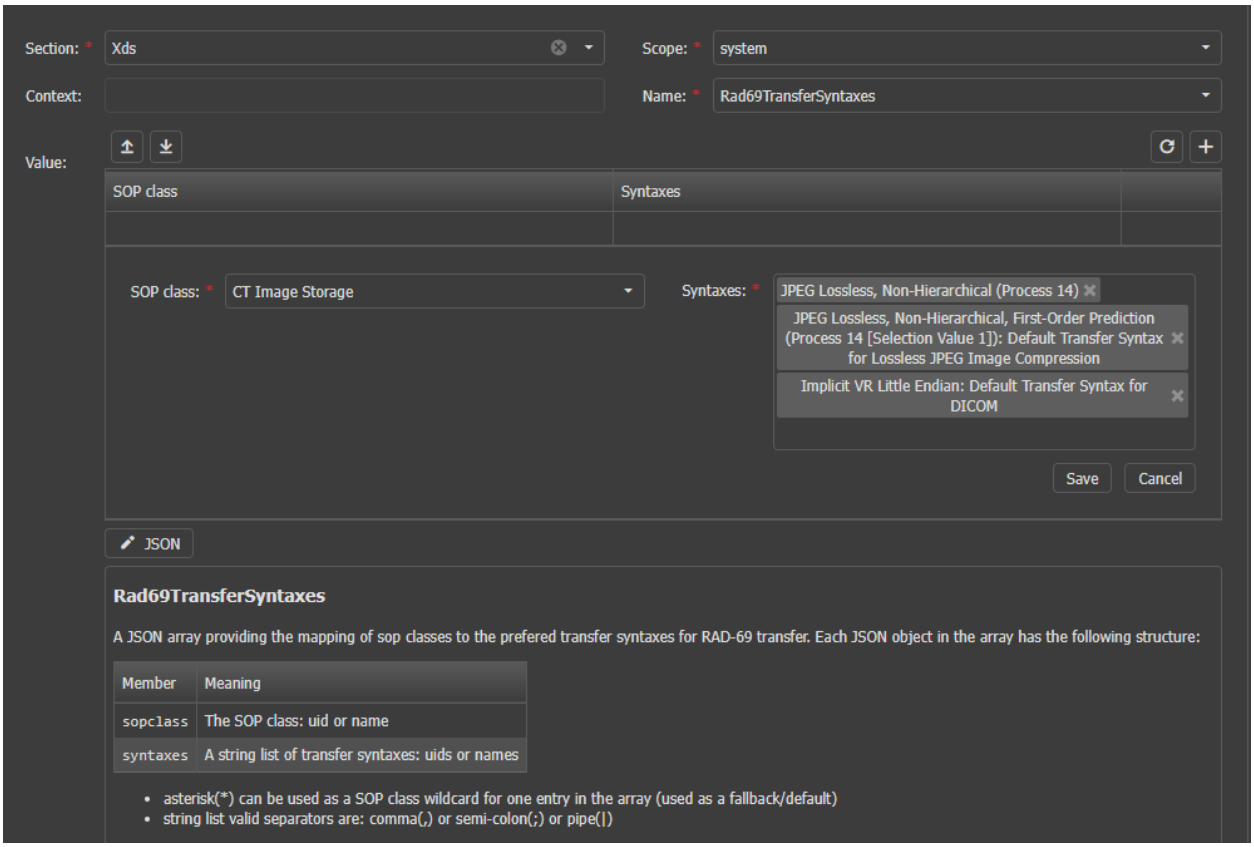
10913 QC - missing user feedback when de-identification is not applied

For Patient Search > Edit Patient/Study one could select the de-identify option but no de-identification would be applied when the study was already de-identified. In these use cases, the option is now disabled with popover guidance:

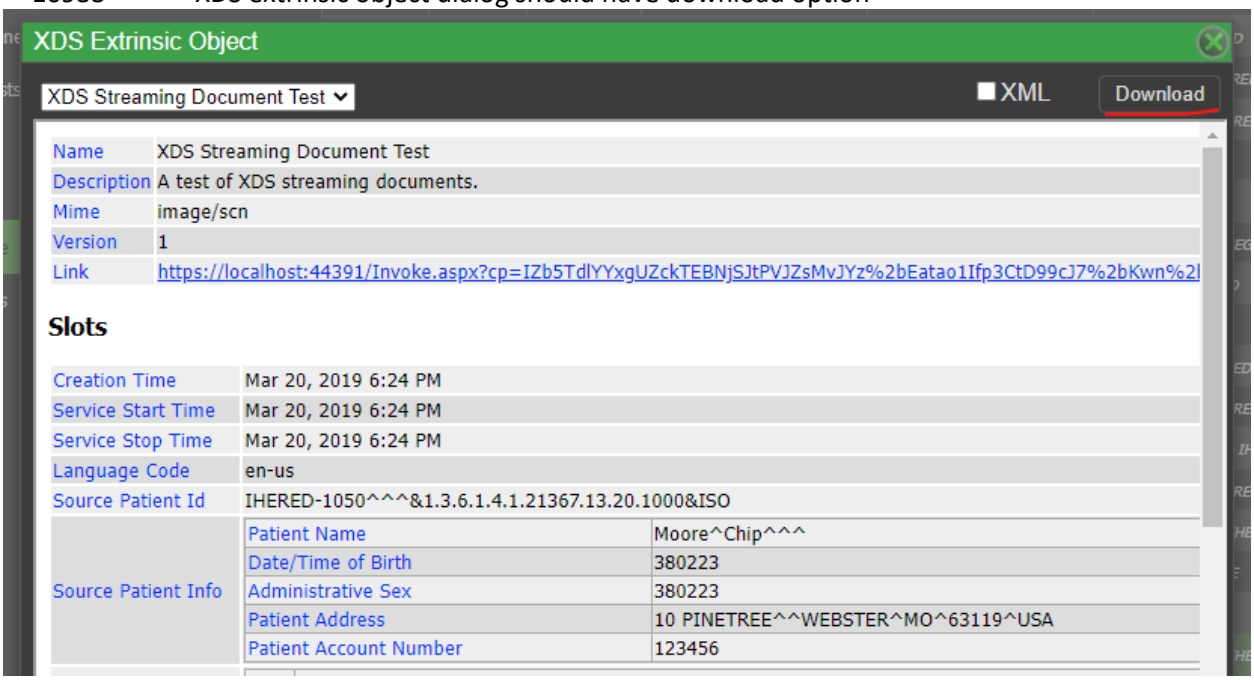


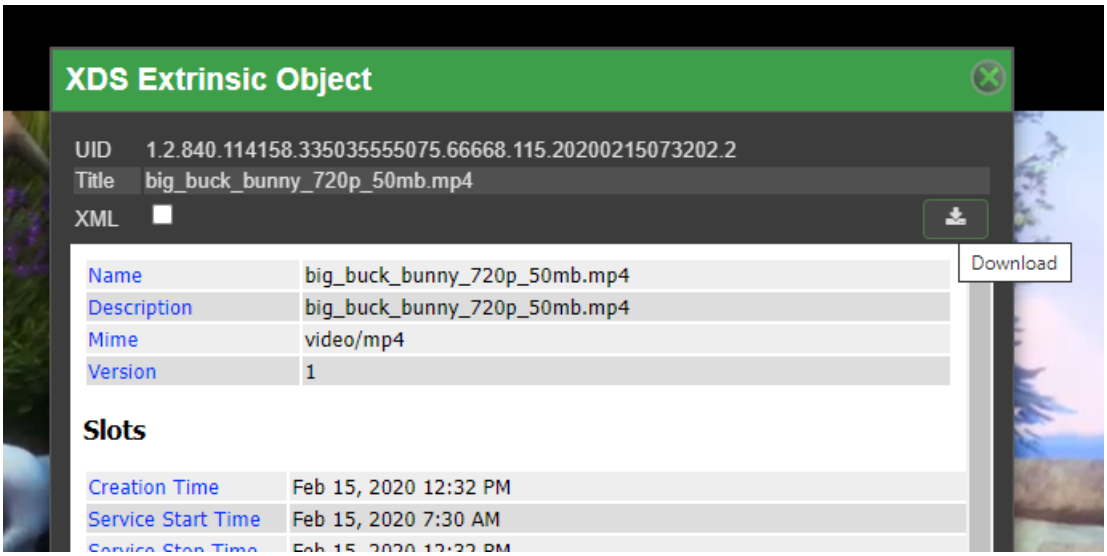
10916 New logo
10919 XCA MUMC investigation
10923 RAD-69 tuning configuration for transfer syntaxes

For XDS transactions involving RAD 69 (Retrieve Image Document Set) the consumer adds a list of SOP classes it can support. This list can be fine tuned and ordered through configuration. Search for *Rad69TransferSyntaxes* in hidden settings:



10933 XDS extrinsic object dialog should have download option





10936 XDS series preview - unexpected results

3.2 Closed Issues

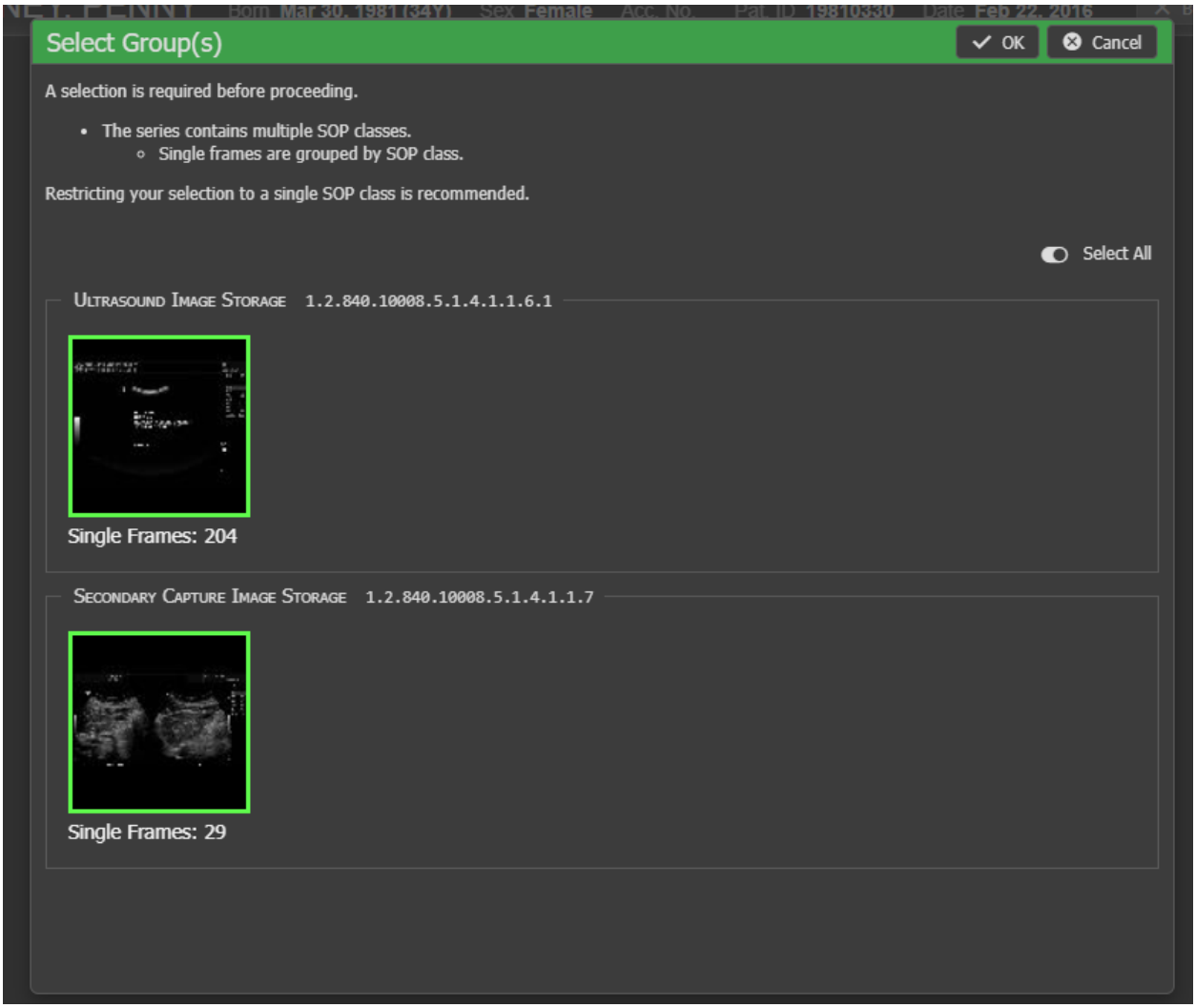
Version: 22.0.3.115295

8288 Applying annotation outside of a 3D image will return a critical error
8643 Modality Preferences: 'Create Combine series' is not working for the second time.
10207 Presentation state issue in bookmark
10284 Viewport image does not change if requested for an incompatible protocol
10336 video editing will not view in QC mode
10530 IIS side of NotifySiteSettingsChanged does not know context
10546 Hanging protocol settings for non symmetric study layouts
10547 Custom symmetric layout not working in Hanging Protocol Editor
10549 Uploader remains disabled after license updated
10554 toolbar bleed through: especially for high res monitors
10555 scrub bar appears dashed
10556 minor glitch on troubleshooting > XDS codes
10558 LVOT measurement issues
10560 Nil Feed security improvments
10563 dicom attributes popup context menu errors
10564 Sticky report viewer handle in vertical orientation when displaying report in iframe
10567 image titles drag-and-drop for single row inconsistency
10573 overflow issues with image titles configuration
10576 crypto-js 3.1.2-1
10586 AQC Shutter: Entering invalid values throws error
10592 Null object reference in System > Patient Search > Data Source Models

10596 v22 - option to download .Net package available by default
10598 AQC reorient hint icon is incorrect for some operation combinations
10599 UserIdentity troubleshooting title is exposed in stock list by default
10600 Disable unsupported transfer syntax in NilRead default transfer syntax list.
10610 XDS GetDocuments query is malformed
10612 QC adding labels/shutter/mask does not remove previous bookmarks
10616 website options > Allow on mobile doesn't reflect state
10617 Settings > Folder Notes validation alert throws exception
10618 Gamma & Enhance tools disappear from toolbar while switching from 2d to Slab or 3D
10620 Settings > Image Display > Medium magnify glass size: invalid value "breaks" Smart Zoom
10621 Study Note Template Editor: UI error
10622 Study Note Template Editor: Values cannot be added or deleted from the Header columns
10623 Pathology: Specimen UID is no longer displayed on the titles in Viewport
10626 Annotations: Curvature Tool is unresponsive
10627 NilRead Chrome extension warning displayed even after adding extensions to Chrome
10629 Settings>Devices>eMPI: UI Issues
10631 Image Stitching - 'Zoom on stitch' is not always moving to next fragment
10633 Copy/paste is blocked in many pages
10641 Series selector dissapears for small size series preview dialog
10642 Upload Study - Create link encountered a problem with the below steps
10643 Unable to see 'Study Upload Link' in Settings->Shared Link section
10646 Invalid MWL host configuration causes MWL/PD page crash
10649 DICOM configuration returns HTTP 500 error when the user has no DicomConfigEdit privilege
10650 Annotation text often cannot be moved
10651 Warning message inappropriate when you try to delete stuyd note associated with a study
10661 Accented characters are shown as escaped HTML
10666 AQC initial size regression
10669 PDFs can no longer be interacted with
10670 AQC DICOM edit Body Part Examined CS null dropdown
10674 unable to login to Nil
10675 AQC: Errow window pops up after you close the AQC window after performing an operation
10676 AQC Shutter: Shapes are missing
10677 LVOT tool is not protected by license
10679 Image display setting cine rate requires input validation
10682 Troubleshooting > XDS Codes layout issues
10684 Settings > System > Patient Search Study Table drag reorder rows on mobile broken
10685 Settings > System > Patient Search Query Panel drag reorder rows on mobile broken
10687 Annotating a study without a PS throws errors
10688 Image Stitching- Unable to delete the first fragment from Stich Editor
10691 study note template editor double-click guard needed
10707 image titles margins cease to recalculate
10728 PD drawer button no longer works on mobile
10730 UNC high memory consumption issue
10731 MPR view default
10733 MG - relate tool not working
10758 Exception when reusing viewer process

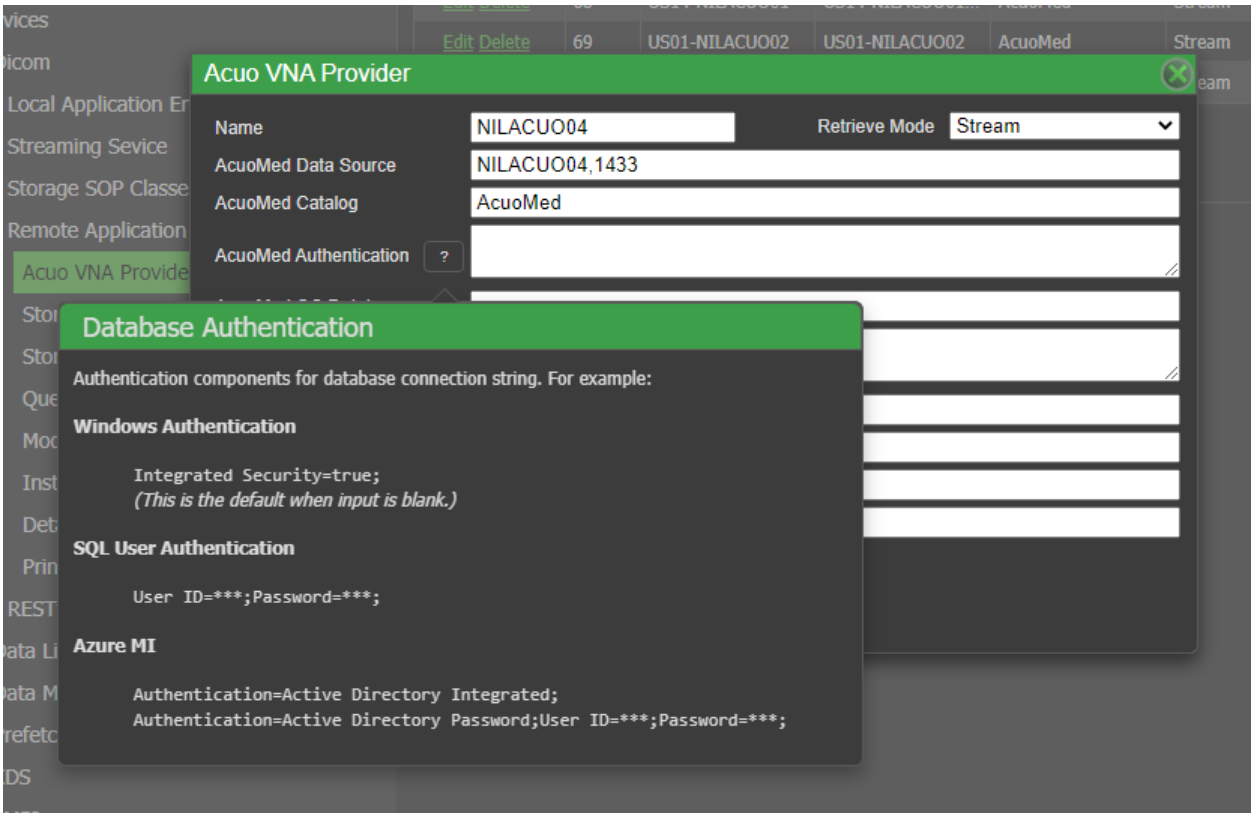
10761 Error occured while deleting Worklist and folders
10765 Background AutoPurge task counter and state are not set properly
10769 DICOM print should use darkened background as default.
10770 Edit Series menu available on devices that aren't capable of editing
10774 Unable to load Mp4 files on a specific site
10781 MG viewport titles config not working
10784 colormap editor help section needs to be resource strings
10785 Settings > Troubleshooting > Settings - download configuration files content is missing
10794 Error when creating collaboration annotation on Tablet
10797 Settings > Devices > HL7 section can overflow without user able to scroll content
10799 Anonomized study note copies to original study
10805 Reconciliation window search indicator
10812 Wrong parameters in lifecycle editor for activity "Reorganize WSM series"
10813 Settings > Devices > Data Lifecycle - strange grid behavior with resize cursor
10814 FactoryPolicy.TranscodeVideo - invalid configuration
10815 Settings > Devices > Data Lifecycle - double-click is broken
10819 reportsViewer log messages
10824 US splitting issue

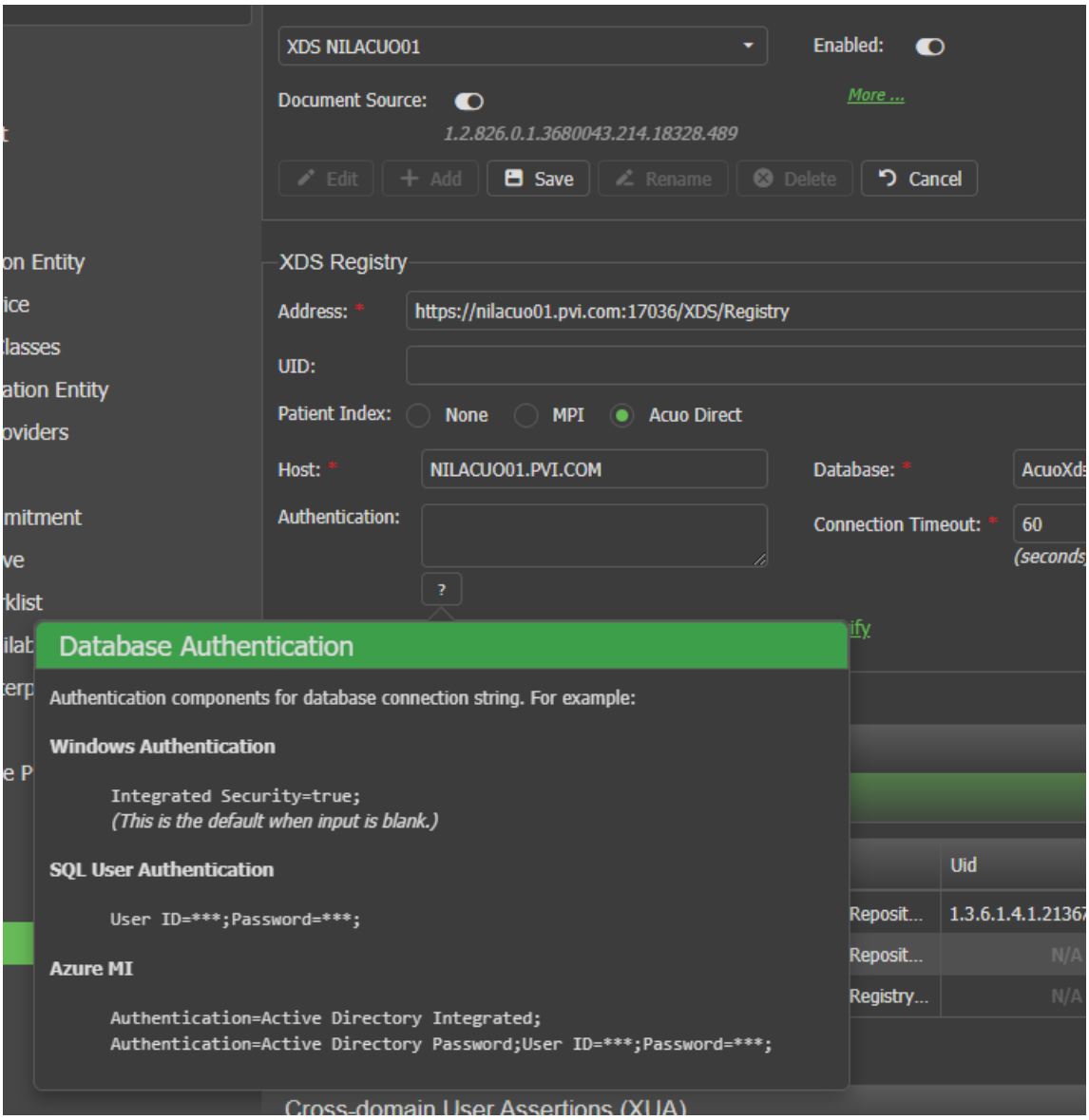
Advanced QC performs instance grouping for series containing mixtures of modalities/SOP class, typically encountered with some US modalities. Additionally single frame instances and multi-frame instances are grouped separately. When performing tasks like series splitting, masking/shuttering or burned-in labels, a selector dialog is presented to provide the user with a choice of groups to perform the task. For example:



10825 US splitting issue: multi-frame selector doesn't have choice to select all single-frames as a splittable series.
10832 Study Note date/time is not respecting user language settings
10833 Large URLs traces in the log when going to the settings and back.
10857 Settings > Deployment Audit warnings...
10864 NilSite Creation w/AzureSQLMI

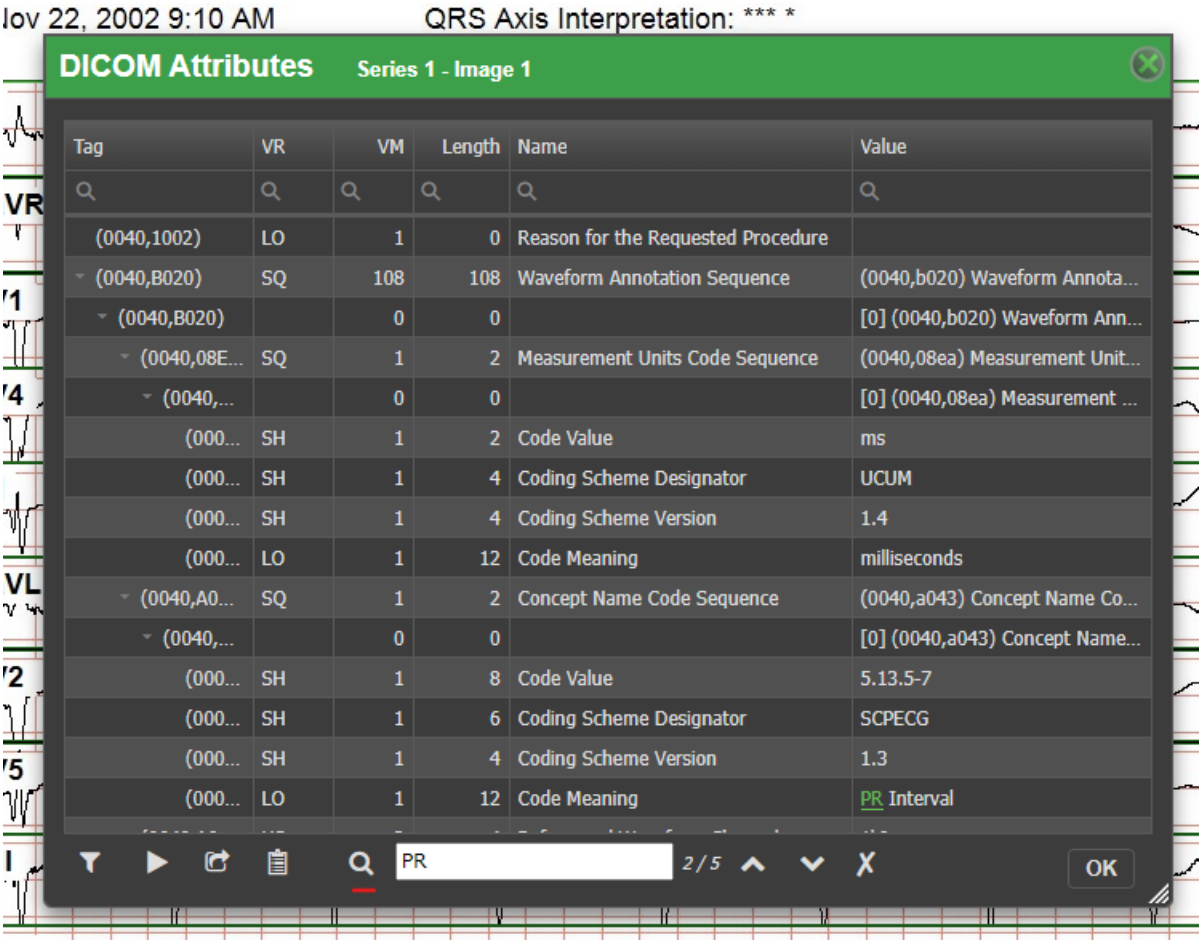
XDS direct patient indexing and Acuo VNA configurations now offer a means to enter custom parameters to the database connection string. Typically this is used for authentication parameters, but is not limited to this usage. A popover is provided for guidance e.g.


Edit Delete
69
US01-NILACUO02
US01-NILACUO02
AcuoMed
Stream
Acuo VNA Provider
Name
NILACUO04
Retrieve Mode
Stream
AcuoMed Data Source
NILACUO04,1433
AcuoMed Catalog
AcuoMed
AcuoMed Authentication
?
Database Authentication
Authentication components for database connection string. For example:
Windows Authentication
Integrated Security=true;
(This is the default when input is blank.)
SQL User Authentication
User ID=***;Password=***;
Azure MI
Authentication=Active Directory Integrated;
Authentication=Active Directory Password;User ID=***;Password=***;



10868 XDS delete series doesn't work
10869 confusing tally results in Recently Opened
10870 Position Defect in Study Note Editor Radio Button Popup
10871 Date type fields are not updated in BQC when applying Reconciliation.
10873 RFA# 00709293, explicitly serialize the dates in BQC at the server side without timezone
10874 XDS/eMPI issues
10875 Settings > Devices > XDS: Patient Identify Domain can't be disabled
10878 Radio button properties not saved
10886 DICOM CD Upload without drag and drop show wrong message
10888 Fix grouping syntax/dropdown behavior for radio button group in study note editor
10891 start of day custom date range is off-by-one day
10900 Certificates with two or more ssl policy errors cannot be trusted (hl7/dicom)

10903 consecutive launch crashes
10912 First page of some structured reports with images can be almost empty
10921 Slow preferences pages
10922 PDF reader on older browsers - no longer supported (IE11 end-of-life)
10924 SQL MI integration
10931 Inconsistency in annotation mode after switching toolbars
10932 Error dialog shown when attempting to view extrinsic object for XDS video
10935 unexpected duration changes when editing video selection
10938 Adding a new configuration in Settings > Remote Application Entry will not automatically refresh to reflect the new configuration once Save button is clicked
10939 When Pix/pdq matching found, then the "Recently Opened" will show only XDS studies
10940 Cursor annotation - hovering over the cursor and dragging it will occasionally create a ghost text which you will be unable to delete
10941 Collaboration - Clicking on Share will lead to critical error
10942 collaboration causes critical error when started
10943 Pathology - Error encountered when loading any study
10944 Sending a secured bookmark link will lead to no user session message in the other browser
10945 Angle annotations - degree sign in study becomes a question mark inside a diamond annotation
10947 ECG View Tools - Both None and All buttons are not working
10949 hidden settings: name isn't populated when editing existing setting (regression)
10951 Phone device - Menu option is not scrollable, unable to add annotations nor change view layout
10953 Download dialog take a very long time to display
10956 ECG - rectangular annotation will be re-loaded in a zoomed/enlarged state after reloading study from PD
10957 Folders/Worklist throws warning message when loading a PR with no images with other studies
10958 Searching DICOM attributes for an ECG study
The tree list used to present DICOM attributes uses a virtual loading mechanism to improve responsiveness. Not all rows are loaded into the browser DOM up front which makes using the browser Find feature difficult to use since that search can only look for elements in DOM. A custom find control has been added to the attribute browsers that will search for values in the tag, name and value columns comprehensively.



10960 Hub/Spoke Federation: settings not backed up
10961 XDS reports in Recently Opened can't be viewed in report viewer
10962 Vessel View: Crash when you edit the position of seeds
10964 Dicom RT: Reset is not working
10969 XDS Sensitive reports: emergency override restricted content button missing
10970 Shared Link: error no user session
10971 ImageNext App does not retain previous study state
10975 Ruler annotation cannot be applied in some cases when it is the first annotation applied
10976 Timeline disappears when a particular study is loaded
10977 dropdown embed list defected in study note editor
10979 Isotropic display mode: Bookmarks opened from link appeared to be shifted compared to original bookmark
10980 AnonTemplates/AnonMasks import can cause page to hang
10981 Collaboration panel appears to be mostly hidden in invitees screen
10982 Refresh issues for the patient titles to reappear after collaboration
10983 Study Note Editor Radio Button window resize issue
10984 Context menu is missing after you load video
10985 Keywords column in PD no longer populated
10986 SameAccno: Same patient timeline warning is not shown in certain conditions

10988 Wrong study date for 'attach to study' non-dicom instances
10989 Series preview: inconsistent presentation for CDA (XDS)
10994 Wrong label on cine 'Speed' toolbar button
11007 user profile improper authorization
10973 images with existing tag 0033,1013 having VR=OB that are archived in Acuo fail to load
10997 XDS Settings are available for users

4 Outstanding Issues & Warnings

4.1 Known Issues

The following are known moderate and higher severity issues in Nil 22.X

Hyland Defect ID	Description	Impact on device effectiveness
9349	Support marking rasterized PDF images as KO	Does not affect typical user workflow. To be resolved in the future release
10341	Improve configuration UI for wado - separate phase 2	Does not affect typical user workflow. To be resolved in the future release
10561	Waiting room toolbar - help button not working	Does not affect typical user workflow. To be resolved in the future release
10585	Issue with MG implant masks on some data	Limited to specific data. To be resolved in the future release
10634	remove IE cursor 404 messages visible in F12	Does not affect typical user workflow. To be resolved in the future release
10665	FileUpload settings is bound only to a single language	Does not affect typical user workflow. To be resolved in the future release
10732	unable to unlink when using preset views	Does not affect typical user workflow. To be resolved in the future release
10757	Random LicenseContext error when loading viewer	Does not affect typical user workflow. To be

		resolved in the future release
10760	Edit Patient/Study - possible inconsistencies when the same studyInstanceUid is present in multiple partitions.	Does not affect typical user workflow. To be resolved in the future release
10787	Settings > Devices > Prefetch has strange resize behavior for larger browser widths	Does not affect typical user workflow. To be resolved in the future release
10834	ClearCanvas (SSM) parsing error, SQ (2001,105F) PIIMStackSequence	Does not affect typical user workflow. To be resolved in the future release
10837	Patient list filter drop-down items are cut-off	Does not affect typical user workflow. To be resolved in the future release
10838	Device name "Local" needs translation	Does not affect typical user workflow. To be resolved in the future release
10847	XDS reports no data when service is not running	Does not affect typical user workflow. To be resolved in the future release
10848	"Nominal" is missing translations in French	Does not affect typical user workflow. To be resolved in the future release
10853	AQC Labeling: confusion on label scope during editing	Does not affect typical user workflow. To be resolved in the future release
10887	ILM Route Series Activity terminates the transfer on SCP failure C-STORE response.	Does not affect typical user workflow. To be resolved in the future release
10914	Occasionally SessionExpired error page is shown after login	Does not affect typical user workflow. To be resolved in the future release
10925	progress updates not shown when patient history is disabled	Does not affect typical user workflow. To be resolved in the future release

10929	MIP/MPR tools section show when selecting video editor protocol	Does not affect typical user workflow. To be resolved in the future release
10934	exception thrown on video playback	Does not affect typical user workflow. To be resolved in the future release
10937	enhance input validation on data lifecycle settings ui (regex pattern)	Does not affect typical user workflow. To be resolved in the future release
10946	set min attribute to hanging protocol custom layout dialog	Does not affect typical user workflow. To be resolved in the future release
10952	stow SCP is size limited	Does not affect typical user workflow. To be resolved in the future release
10954	RadReport are not supported	Does not affect typical user workflow. To be resolved in the future release
10955	Live session crashes when you open another NilRead session from the same browser	Does not affect typical user workflow. To be resolved in the future release
10965	Dicom RT: Bookmark is not showing Structures, Isodoses or beams when opened from link in a diferent browser	Does not affect typical user workflow. To be resolved in the future release
10974	Download dialog shows an error when downloading an anonymized study from a QIDO DS	Does not affect typical user workflow. To be resolved in the future release
10991	Is View Study Activity expected to work for remote studies (XDS in particular)	Does not affect typical user workflow. To be resolved in the future release
10992	Series Preview: full screen sometimes fails for large images (XDS)	Does not affect typical user workflow. To be resolved in the future release
10993	unresolved message seen in network debugger for XDS view extrinsic object	Does not affect typical user workflow. To be

		resolved in the future release
11000	AQC: Blank label on second instance in the series	Does not affect typical user workflow. To be resolved in the future release
11001	Issue with File upload	Does not affect typical user workflow. To be resolved in the future release
11006	inconsistent PDF transformation w/ Document Filters	Does not affect typical user workflow. To be resolved in the future release
11014	NilHub can't create a new site in a second attempt when password was too short the first time	Does not affect typical user workflow. To be resolved in the future release
11015	federated data provider errors don't follow new "best practice"	Does not affect typical user workflow. To be resolved in the future release
11017	Send series to dicom not working in certain conditions	Does not affect typical user workflow. To be resolved in the future release
11020	dicom attributes popup context menu does not show NIL tags correctly	Does not affect typical user workflow. To be resolved in the future release
11026	XDS "Verify" Acuo REST (Registry) and (Repostiory) hang	Does not affect typical user workflow. To be resolved in the future release
11027	AQC burn-in label mode state is not reset	Does not affect typical user workflow. To be resolved in the future release
11029	Light Skin User Preferences - Collaboration screen shows dark-skinned setting	Does not affect typical user workflow. To be resolved in the future release
11030	AQC label - client controls don't revert	Does not affect typical user workflow. To be resolved in the future release

11031	Settings search reorders nodes	Does not affect typical user workflow. To be resolved in the future release
11032	hub/spoke federation - archive site dbo.aspnet_membership table is cleared	Does not affect typical user workflow. To be resolved in the future release

4.2 Warnings

Please see the Warnings and Precautions in the On-line help file. Please zoom-out the window to ensure the full information has been displayed. This issue will be fixed in the next release.

5 Troubleshooting

5.1 Troubleshooting video encoder errors

On some installations saving edited video in video editor or re-encoding video using Lifecycle task may fail with following error shown in the log file:

> System.DllNotFoundException: Unable to load DLL 'NilMainConceptWrapper.dll': The specified module could not be found. (Exception from HRESULT: 0x8007007E)

To fix this problem, please install latest Visual Studio 2015 C++ Runtime on the Nil server. The runtime can be downloaded at:
https://support.microsoft.com/en-ca/help/2977003/the-latest-supported-visual-c-downloads
The redistributable of the runtime should match server's hardware – most servers use 64-bit processor architecture, and the name of compatible redistributable file is: vc_redist.x64.exe

6 Additional Notes

6.1 Study Keywords

This enhancement provides support for a system library of keywords which can be manually assigned to studies. This feature can be useful for example to label studies for teaching files workflow, using a predefined set of common terms such as anatomical parts.

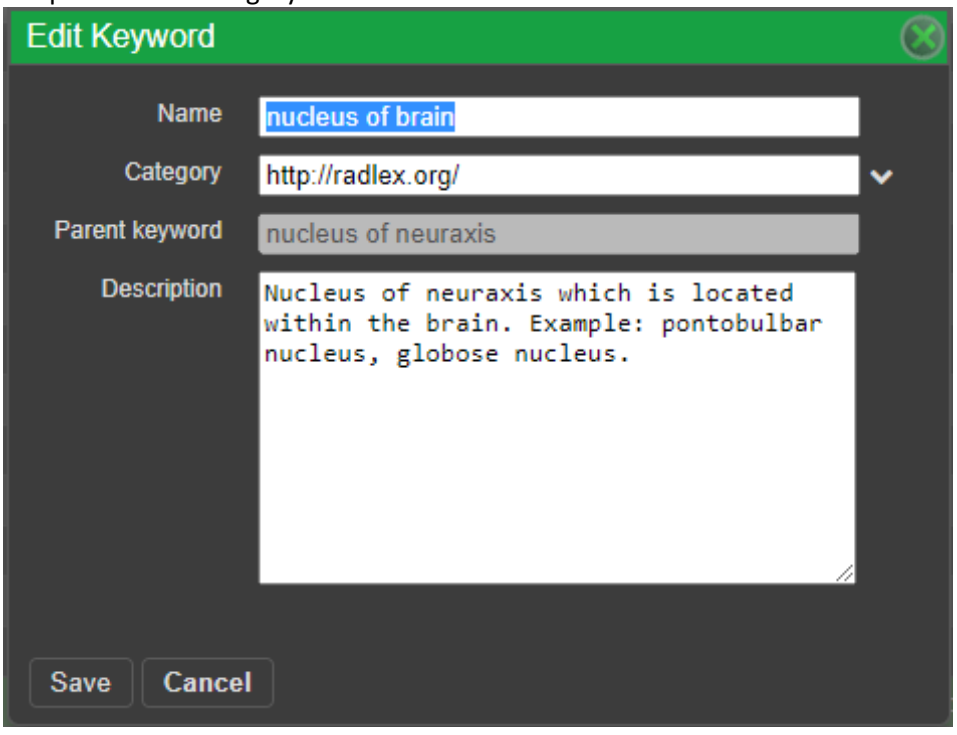
- Users with a privilege *StudyKeywordEdit* can add, remove, edit, as well as import/export keyword terms in CSV format.

- Users with a privilege *StudyKeywordAssign* can decorate a study with one or more keywords and remove existing keywords from a study that were assigned by themselves or others.
- Users with a privilege *StudyKeywordQuery* can view study keywords assigned by others, as well as search studies by specific keywords[1].

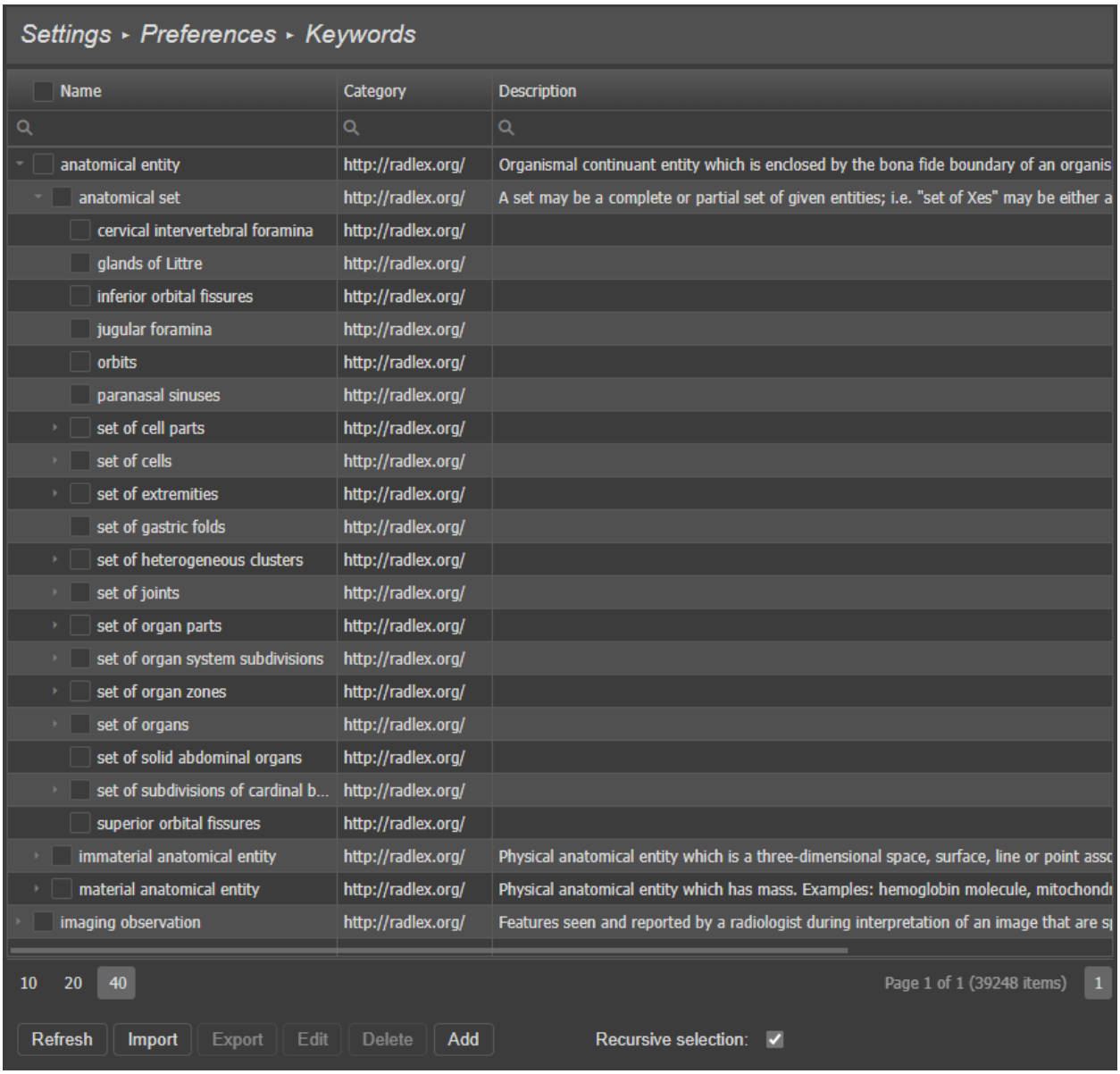
All keywords are currently global and stored in the Hub database. They are assigned to studies based only on study instance UID, regardless of study location. Keyword assignments are available for anonymized studies (with Retain Safe Private Attributes option enabled in confidentiality profile) and are retained for studies that are moved between tenants or providers. To avoid indefinite accumulation of study keyword references, a custodian service is provided to delete all such references older than a configurable time period (default is 365 days; setting it to 0 will allow study keyword records to never expire).

Managing keywords

Keywords manager page is found in Settings > Preferences > Keywords. NilRead supports hierarchical presentation of keywords (e.g., RadLex terms), as well as keyword descriptions for details and categories for grouping. Sorting and filtering (including filter operators) is supported by the DevExtreme treelist widget. For convenience, recursive selection can be turned on to automatically select all descendant keywords when selecting parents, if an action such as delete or export needs to be applied to selected hierarchies. Editing and adding a descendant requires a single selection. Names are required to be unique within a category.



[1] To avoid adding unnecessary complexity to SQL queries for obtaining keyword information, this privilege should only be granted to users who require study keywords feature. Without this privilege, study keyword references will not be queried for performance reasons.

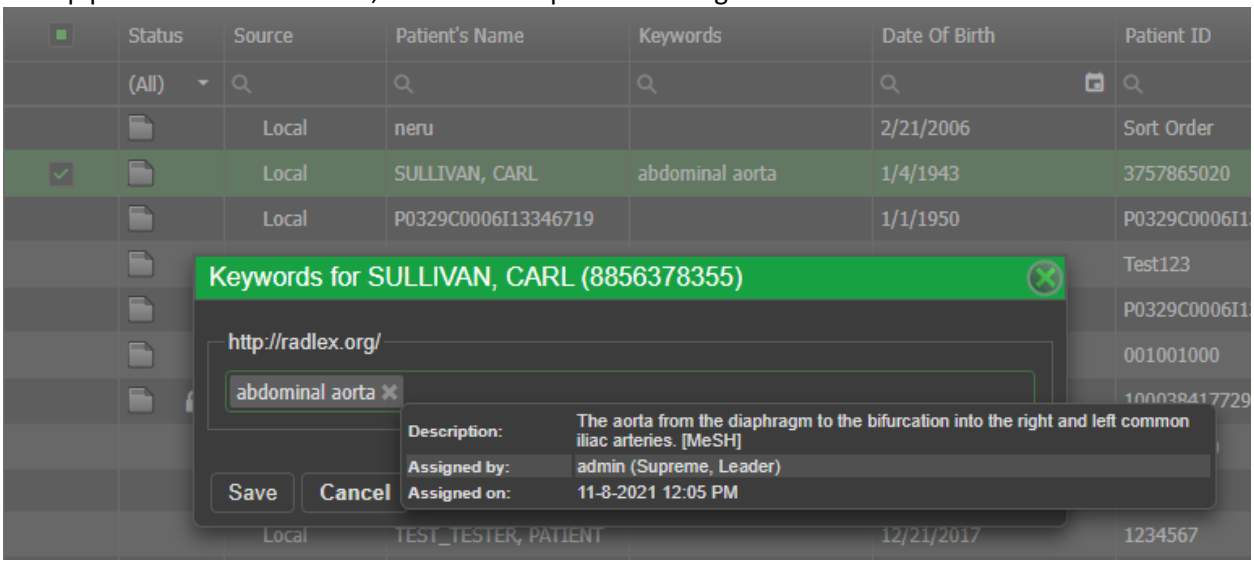


Keywords can be imported in bulk, using CSV file format, with column order being name, description, category, code, parent category, parent code. The first row is reserved for the column headers. Codes are string identifiers and are required to be unique within a category but can be omitted (in which case new keywords will be automatically assigned unique codes during import). The minimum required input for import is the name column, other columns are optional.

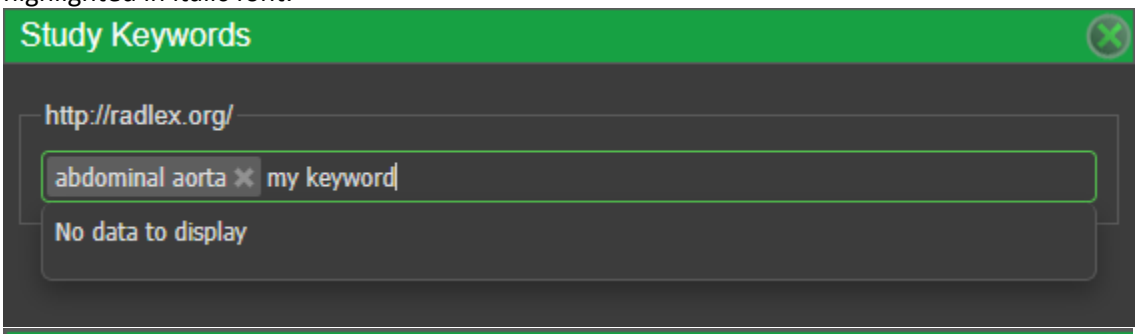
Assigning keywords to studies

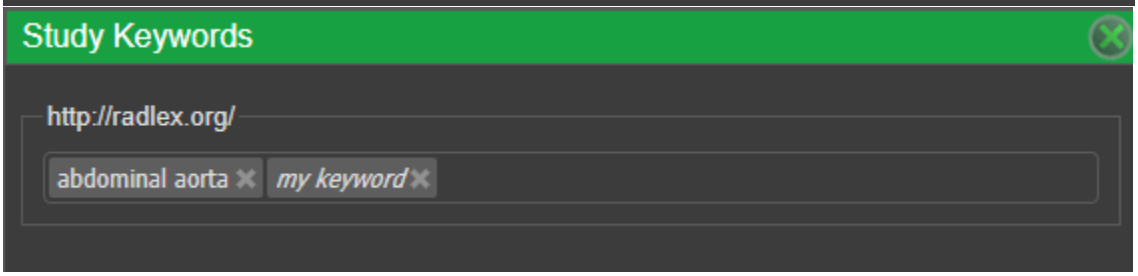
Keywords can be assigned to studies in both patient directory and image viewer, via “View study keywords” context menu option. Note that in image viewer this option is not available by default and must be added to the context menu using MKT customization.

The pop-up dialog shows assigned keywords grouped by categories, each with a DevExtreme tagbox widget[2] for adding, removing and searching available keywords using auto-complete feature. A keyword tooltip provides additional info, such as description and assignment details.



For convenience, users with *StudyKeywordEdit* privilege can also use this dialog to create new keywords on the fly if no suitable keywords are currently found. They can type in a desired keyword and (after auto-complete search yields no results) press Enter key to add the value as a new entry, which will be highlighted in italic font:



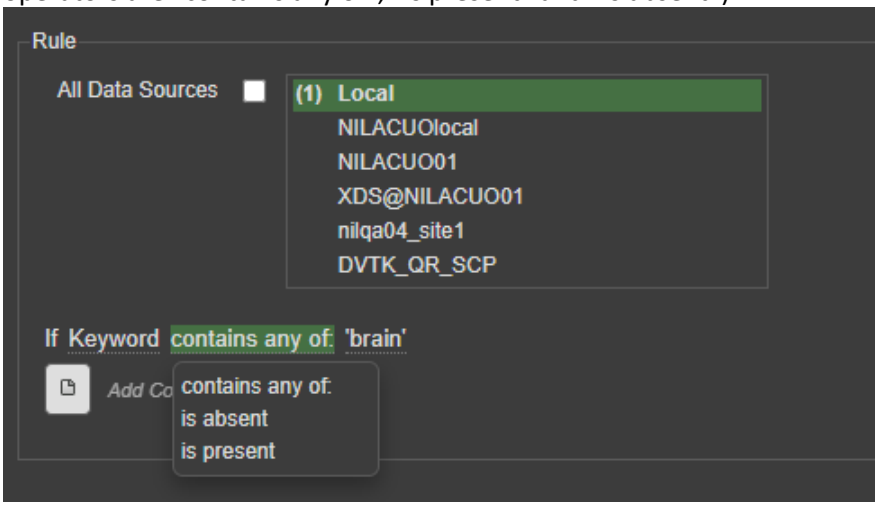


Note that description values and hierarchical editing for new keywords is not supported in this dialog – keywords management page in the settings provides a full set of tools for this purpose.

To users with *StudyKeywordQuery* privilege patient directory provides a Keywords column which will show any assigned study keywords separated by commas (if the column width does not accommodate the entire length of keywords text, a tooltip is provided). A filter search on this column will trigger a

[2] In image viewer the dialog's content, which also includes DevExtreme controls, is hosted inside an iframe.

server-side query. Study keywords can also be searched using “Keyword” worklist criteria (supported operators are “contains any of”, “is present” and “is absent”).

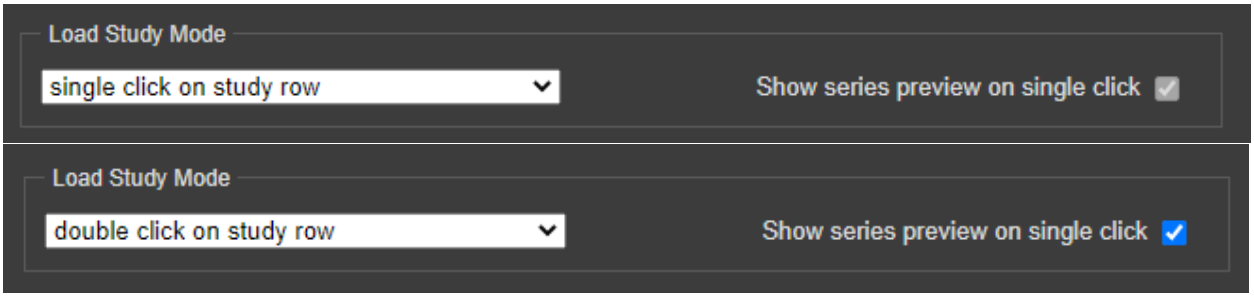


It is important to note that for performance reasons[3] study keyword search is currently supported only for local studies, as well as ACUO providers that are deployed on the same SQL server as HubDb, which hosts keyword data. During search, ACUO database is queried for HubDb access, and any keyword criteria are ignored (and a warning message is logged) if the database is not found. “View study keywords” context menu option will only be available for studies arriving from supported data providers.

Users with *StudyKeywordQuery* privilege who do not have *StudyKeywordAssign* privilege are still able to view study keywords and tooltip details, but not modify existing assignments (keyword UI widgets are in read-only mode, with dashed outlines):

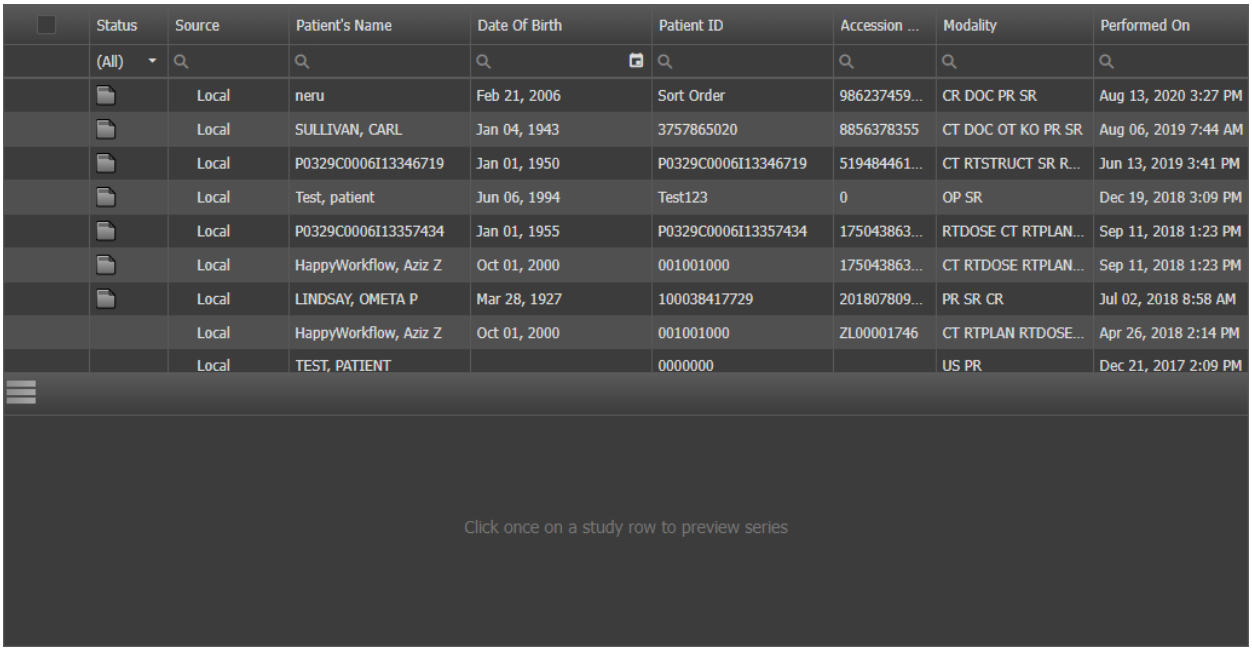
6.2 Series Preview in Patient Directory

Series preview mode can be enabled in Settings > System > Patient Search Study Table. Series preview for a study is activated by a single click on a study row and is not available if a single click is chosen instead as an action to load the study in the image viewer.



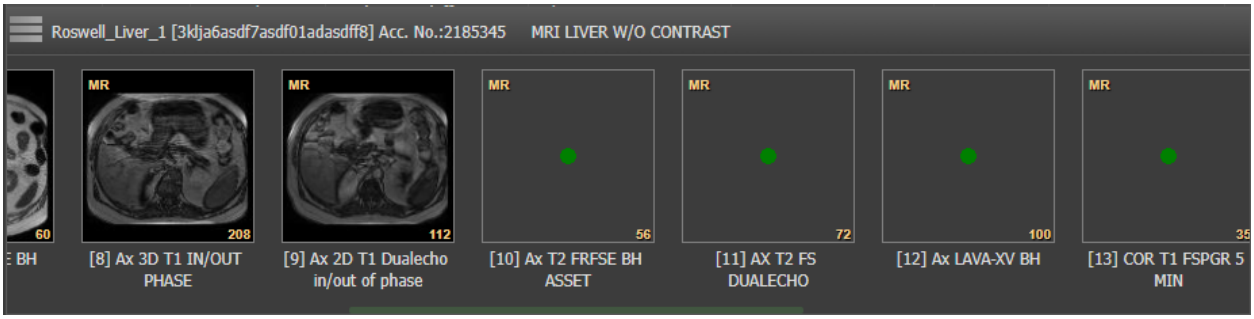
[3] A performance test was conducted using a local cache of 1155 studies and more than 40,000 keywords, with each study having between 1 and 5 randomly assigned keywords. An average time to retrieve all studies excluding keyword info was measured at 158.8ms, while an average time for the same query with keyword data was 402.1ms.

A scrollable series preview panel is positioned horizontally at the bottom of the study table:

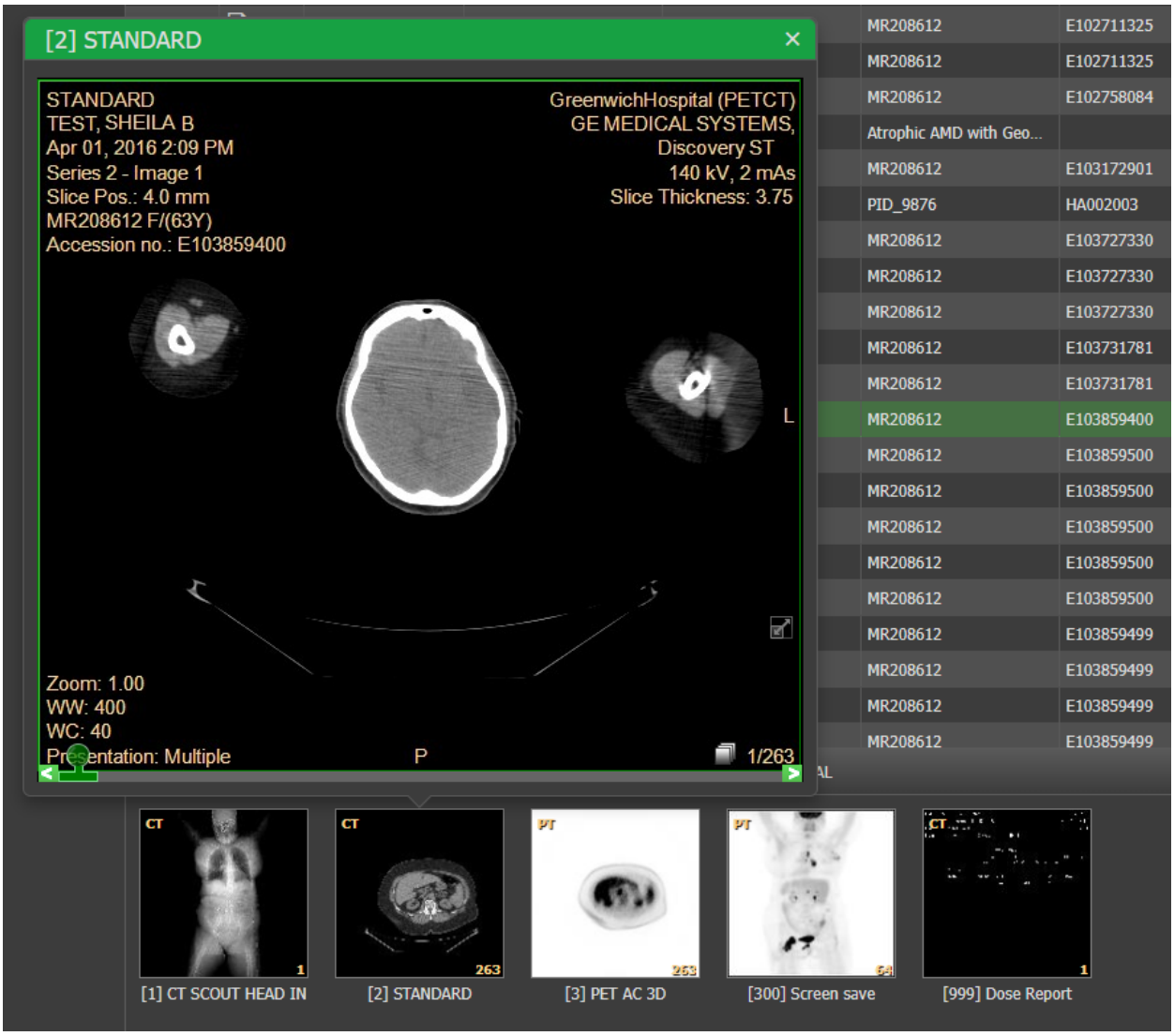


After the user clicks once on a study row, that study's image series thumbnails are shown in the preview panel and the panel's header bar displays study info as PatientName [MRN] Acc.No: Acc# StudyDescription. For consistency, this is the same study info format as the one used for the report viewer. The user can continue browsing through other studies' series previews by clicking once on different study rows.

Series preview content and styling are like those of a single study row in the extended patient timeline. Another similarity is on-demand thumbnail loading as the user scrolls through the preview and new thumbnails come into view. Green circles indicate the next thumbnails to be loaded in the queue:



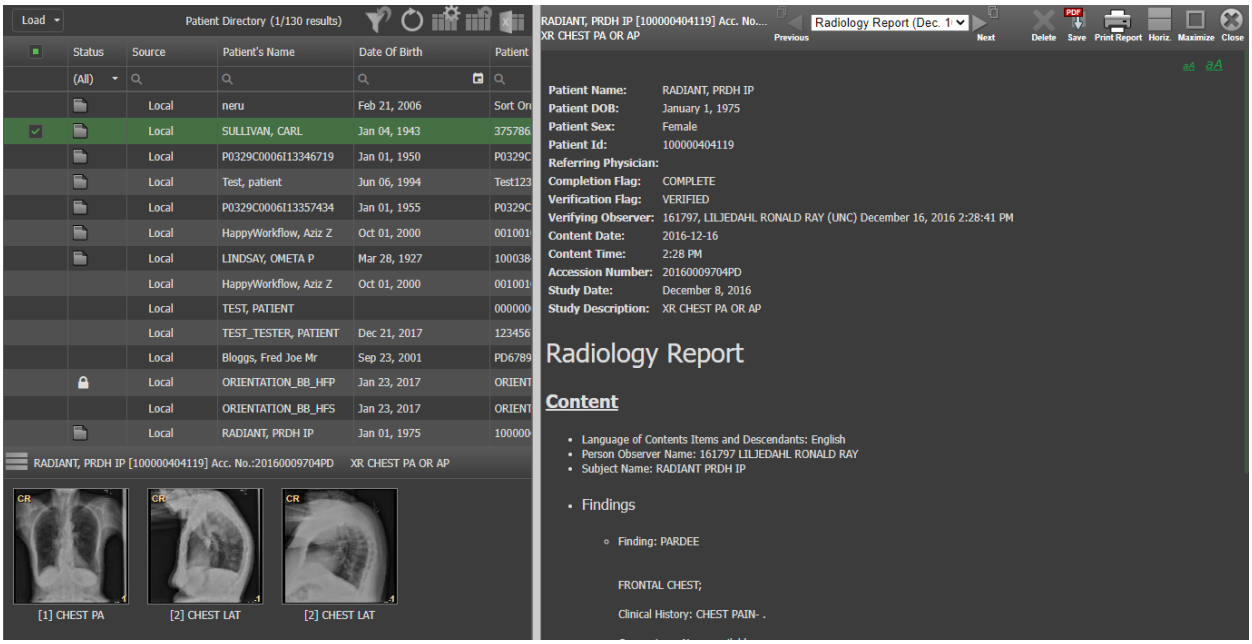
A single click on a series thumbnail will open a draggable and resizable popup containing a lightweight image viewer with that series loaded in a 1x1 layout. The popup closes automatically on outside click so that the user can navigate between multiple series previews with minimal clicks.



The user has the option of expanding/collapsing the series preview panel by clicking on the toggle button on the left:

The toggle state of the preview panel is remembered as the user preference (just like the toggle state of the worktree panel to the right of the study table). When the series preview panel is collapsed, its header continues to be updated with the relevant study info as the user single-clicks on different study rows, but for efficiency considerations series info is not retrieved from the server and thumbnails are not loaded until the user expands the panel.

To maintain consistent study presentation, report viewer and series preview are synchronized: whenever both are displayed, clicking on a study row will update both series preview and load that study's report in the report viewer; clicking on a report icon in a different study row will update report viewer and load that study's series preview:



7 Appendix A

7.1 Build Environment

Software	Version
Windows	10.0.17763
Microsoft .NET Core	6.0.10
Microsoft .NET Core SDK	
Visual Studio Professional 2022	17.3.32929.385
Java Runtime Environment	1.8
Google Closure Compiler	20160315.2.0

7.2 WIF Dependencies

Software Version

7.3 3rdParty Dependencies

Software	Version
ADACOMSRVLib	1.0.0.0
ClearCanvas.Common	2.2.20.0
ClearCanvas.Desktop	2.2.20.0
ClearCanvas.Dicom	2.2.20.0
ClearCanvas.ImageViewer	2.2.20.0
DevExpress.AspNetCore.Common.v20.2	20.2.4.0
DevExpress.AspNetCore.Core.v20.2	20.2.4.0
DevExpress.AspNetCore.Reporting.v20.2	20.2.4.0
DevExpress.Data.v19.1	20.2.4.0
DevExpress.Data.v20.2	20.2.4.0
DevExpress.DataAccess.v20.2	20.2.4.0
DevExpress.Printing.v20.2.Core	20.2.4.0
DevExpress.XtraCharts.v20.2	20.2.4.0
DevExpress.XtraReports.v20.2	20.2.4.0
DevExpress.XtraReports.v20.2.Web	20.2.4.0
DevExtreme.AspNet.Core	21.2.5.0
DevExtreme.AspNet.Data	2.8.2
Google.Apis.LifeScienceComputerAutomatedDiagnosis.v1	1.44.1.2330
Google.Apis.LifeScienceComputerAutomatedDiagnosis.v1alpha	1.37.0.1
HtmlRenderer.Core	1.0.0.0
HtmlRenderer.WinForms.Core	1.0.0.0
Hyland.DocumentFilters	22.3.0.4436
log4net	2.0.12.2
Optos.Registration	3.2.0.14
PngCs	1.1.4.2
protobuf-net	2.0.0.640
System.Data.SqlServerCe	3.5.8080.0

ZedGraph	5.1.5.0

7.4 NuGet Packages

Software	Version
AWSSDK.Core	3.7.13.20
AWSSDK.S3	3.7.9.69
Azure.Storage.Blobs	12.14.0
coverlet.collector	3.1.2
DiscUtils.Iso9660	0.16.13
DocumentFormat.OpenXml	2.18.0
Google.Apis.Auth	1.57.0
Google.Apis.Core	1.57.0
Google.Apis.Storage.v1	1.57.0.2742
Google.Cloud.Storage.V1	4.1.0
Hl7.Fhir.R4	4.3.0
HtmlAgilityPack	1.11.46
ITfoxtec.Identity.Saml2	4.8.2
jose-jwt	4.0.1
Microsoft.AspNet.WebApi.Client	5.2.9
Microsoft.AspNetCore.Mvc.NewtonsoftJson	6.0.10
Microsoft.CSharp	4.7.0
Microsoft.Data.SqlClient	5.0.1
Microsoft.EntityFrameworkCore	6.0.10
Microsoft.EntityFrameworkCore.Proxies	6.0.10
Microsoft.EntityFrameworkCore.Relational	6.0.10
Microsoft.EntityFrameworkCore.SqlServer	6.0.10
Microsoft.IdentityModel.Tokens.Saml	6.24.0
Microsoft.NET.Test.Sdk	17.3.2
Newtonsoft.Json	13.0.1
NUnit	3.13.3
NUnit3TestAdapter	4.2.1
protobuf-net	3.1.22

QRCoder	1.4.3
Sprache	2.3.1
System.ComponentModel.Composition	6.0.0
System.Data.DataSetExtensions	4.5.0
System.DirectoryServices.Protocols	6.0.1
System.Management	6.0.0
System.Runtime.Caching	6.0.0
System.ServiceModel.Federation	4.10.0
System.ServiceModel.Http	4.10.0
System.ServiceModel.NetTcp	4.10.0
System.ServiceModel.Primitives	4.10.0
System.ServiceProcess.ServiceController	6.0.0
UAParser.FormFactor	3.0.4

7.5 CSS/Javascript Dependencies

Software	Version
Google Closure Library	20160315.0.0
qwest	4.5.0
AngularJS	1.8.0
angular-ui-router	1.0.28
bootstrap	3.3.7
ChartJS	2.9.3
ui-grid	4.8.3
underscore	1.8.3
ui-bootstrap-tpls	2.5.0