



NilRead 5.1 Release Notes (5.1.11.115734)

Doc #: 971-08011



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1 Introduction

1.1 Purpose

This document provides the release notes for release of NilRead v5.1 (v5.1.11.115734)
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: 5.1.11.115734

1.4 Release Content

The NilRead 5.1 release contains:

- NilRead Installers
- AcuoStore agent for configurations with Acuo VNA (6.0.4+)
- 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

The server should be equipped with the following software:

- Windows Server 2012 R2 or later (64bit, US English system locale)
- .Net 4.6.2 or later 4.X - NilRead v5.1+ does not use .Net 4.x anymore, but its installer still relies on it
- .NET Desktop Runtime 6.0.9 or later
- ASP.NET Core 5.0 Runtime 6.0.9 or later - Hosting Bundle
- For more details, refer to the 'NilRead Installation Instructions' (doc # 941-07001)

If Acuo server is configured to use AdaCom Service (DCOM), follow the steps below to register ACUO "adacomsvr" type library on Nil server

- Run 'regedit.exe', in "HKEY_CLASSES_ROOT" search for "DDC774AD-08E1-4A26-9366-A31861F797B4"
- If not found, open PowerShell and execute the script "NilWebsite\App_Data\Setup\adacomsvr.ps1".
- Restart the Nil website.

2.3 Special Notes

2.3.1.1 Internet Explorer 11

MS IE 11 is no longer supported

3 Installation and Support

3.1 Installation

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

3.2 Support

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

Hyland Customer Support

Customer Support
Hyland Software Canada ULC
111 Peter Street, Suite 540
Toronto – M5V 2H1

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

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

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4 Summary of New Features and Changes

4.1 Workflow Optimizations

Version: 5.1.11.115734

- 10544 support patient id query across multiple affinity domains - part 2
- 11047 Add two numeric characters to getNewId function return
- 10843 Audit log study purging and injection events
- 10711 work list is disabled when executing long running queries (XDS)
- 10697 assertion failure with XDS and invalid data with Recently Opened
- 10644 Allow US studies to be splitted into individual images by study description
- 11044 SAML authentication error reporting is confusing
- 11003 Improve metadata retrieval performance for dicom-rs data sources

Version: 5.1.11.115014

- 10831 WS connection request Origin Header tracking support
- 10742 AQC capabilities classifications not preserved across releases
- 10723 PatientDirectory initial load time
- 10668 Allow using 'media' as config name for folder monitoring non-dicom import
- 10605 improve XUA verification
- 10602 explicit workstationconfig not working with encrypted uri
- 10402 Mammo viewport labels
- 10292 if/then login on study notes template
- 10273 Control uploader data type choices (DicomCD , NonDicom etc)
- 9544 configure default checkboxes in edit patient/study window
- 8224 Failed queue - add retry button
- 10918 XCA optimizations and improved usability
- 10752 issue with the use of hypen in database name
- 10262 deployment service Improvements
-

Version: 5.1.11.113528

- Improved display of MIP & MinIP in HPs
- QC: minor study splitting improvements
- Improved the ability to define SCPs available in move request
- Improved auto play capabilities for XC/ES modalities
- added ability to sync SOPs with Acuo VNA ('sync' in Settings\Devices\Dicom\Storage Sop Classes when Acuo is selected from the drop down)
- DICOM activities improvements
- Added Prior scrolling for more modalities (CTRL+MOUSE WHEEL support in the mouse template definition to scroll to the 'same' series in the prior study)
- AQC: added ability to split multi-frame lossy US series
- Memory usage improvements for DICOM storage SCP streaming
- MPI > device configuration improvements
- Added ability to display the value of a voxel as the mouse hovers over the image
- Support DICOM-RS media type changes in DICOM 2021e
- viewing improvements in handling of invalid 16-bit RGB color image
- Auto focus cursor on User Name text box
- Ability to customize download menu

Version 5.1.11.112998:

- XDS-I.b XUA support: subject-role
- Secure link: added additional sharing option with QR Code (required condition: destination email needs to be provided)
- Added DICOM C-GET support - The C-GET operation allows an application entity to instruct another application entity to transfer stored SOP Instances to the initiating application entity using the C-STORE operation.
- Removed the Top, Right location from the drop down list for modalities with laterality
- HP editor terminology improvements: 'bigger than' or 'smaller than' replaced with "greater than" or "less than"
- Study Notes template : added required fields

- The values of the data-field-completion-action attribute shall be interpreted as follows:
 - NONE: The user may modify the field in any way, including deletion, without restriction. If no value for the data-field-completion-action field is specified, NONE is the default.
 - ALERT: If a field with this attribute value is blank or missing, the user is alerted at report completion time. These fields may be deleted by the user, but such a deletion also will cause an alert at completion time.
 - PROHIBIT: A value must be supplied for a field with this attribute value prior to report completion. Deletion is not allowed. If the field is blank, the report completion is prohibited.
- Allow "site admins" to manage groups. Added new ManageGroups privilege. Only Admins can see and can manage admin role groups.
- Add 'Institution Name' as a folder condition for VNA datasources : Institution Name can now be used as worklist criteria or PS association criteria for ACUO sources.
- QIDO enhancement
- Improve cine recording. It is possible now to record multiple cycles of cine and manipulate the image (Window Level and other parameters).
- Improved bitrate calculation for series video export
- study note template editor improvements
- added support for synchronization between local cache & buckets
- Deployment Audit page for admins – Nil performs deployment audit at every Settings page access by admins and displaying a warning in top-right corner. Clicking on the warning will display the details on Deployment Audit page.
- Added support for a system library of keywords which can be manually assigned to studies. Refer to the Appendix B for details.
- Included the DICOM C-MOVE response status code in error message displayed
- Improved configuration UI for wado

Version: 5.1.10.112258

- completed porting of NilRead to .NET 6.0
- completed porting ClearCanvas to .NET 6.0
- completed support of Azure deployment
- Edge rendering improvements
- Added Finnish and Norwegian translation
- Improved FHIR redirect URL security:
 - the url should return 404 if the FHIR service is disabled
 - the url should return a generic 'contact admin' error rather than the error details, e.g. "FHIR redirect code flow authorization state not found!" - the error details should only be logged in the log files for troubleshooting purposes
- Added FHIR JSON Web Key Sets support for EPIC integration (RFC7517)
- Log calling stack on value en/decryption errors - Improve the ValueEncryptor logging to log the caller that passes the invalid encrypted string for easier troubleshooting
- removed "RT Template" and "View Key Images" buttons from default toolbar templates
- group settings UI improvements
- XDS configuration: added upload, download and cross-site transfer capabilities to make replication easier to manage

- XDS-I.b send to device support
 - o Note: XUA capabilities will be added in the future release. Currently WS-TRUST libraries are not readily available to port the .net framework implementation to the .net core 6 release
- Added ability to copying the attribute tag path from DICOM viewers
- QC RIS reconciliation improvements
 - o Added a new option to System Settings> Quality Control: Disable input on reconciliation.
 - o If administrator chooses to disable the inputs, whenever reconciliation is done through Advanced QC or through Edit Patient/Study
 - o If the user opens the dialog where there is a radio selection between Series, Study, and Patient, once the Reconciliation is done through one then the inputs are disabled for the others. (Reconciliation is turned off for Series by default)
 - o All inputs are enabled once the user saves, cancels, or closes any of the dialogs. The user can enable after reconciliation by unchecking the "Disable inputs on reconciliation" in Quality Control.
- FHIR API improvements - when passing invalid json object using FHIR API, Nil should return 400 (bad request)
- Added ability to trigger ILM policy from icon
- Added support for LVOT, Stroke Volume and Cardiac Output measurements
- Added easier force of inactivity timeout for surgery: stm=TIMEOUT_IN_SECONDS parameter at the first request will overwrite any existing value. In case of encrypted launch API it has to be inside the encrypted part.
- Lifecycle configuration settings improvements: added Settings button to the Data Lifecycle to configure Retry Period, Reconcile Period, Allow Concurrent Workflow.
- Added support of the keywords - 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.
 - o Users with a privilege StudyKeywordEdit can add, remove, edit, as well as import/export keyword terms in CSV format.
 - o 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.
 - o Users with a privilege StudyKeywordQuery can view study keywords assigned by others, as well as search studies by specific keywords .
- Allow Timeline to show configurable XDS field
- removed ^^^&OID&ISO from the patient ID display for XDS objects

Version: 5.1.7.111637

- Improved validation of AcuoMed integrity check of extensible storage associations
- added tenant counter during database upgrade

Version 5.1.5.111284:

- Azure deployment support: AD, VM, and Azure SQL ML DBMS
- added installer support for Azure Sql MI & Azure AD environment
- Nuance PowerScribe One – FHIRcast integration
- Support of studies with the same Acc No
- Key Image Navigator: added toolbar button and context menu item
- Added ability to send outgoing HL7 messages as a data lifecycle step
- Added configuration setting preventing auto-redirect to the login page on logoff (default False):


```
<setting name="RemainOnLogoffPage" serializeAs="String">
  <value>True</value>
</setting>
```

- support IWA & CAC single-site logoff behavior
- added tenant counter indicator during DB upgrade

Version: 5.1.2.109902

Completed porting to ASP.NET Core

4.2 Closed Issues

| Defect ID | Description | Version |
|-----------|---|---------------|
| 10089 | Duplicate workitem nodes possible in the worktree when using custom categories | 5.1.5.111284 |
| 9972 | Large ROI annotations cause draft PR corruption | 5.1.5.111284 |
| 9943 | NilRead error - viewing multiple patients on separate windows | 5.1.5.111284 |
| 9662 | Generate encryption key doesn't work | 5.1.5.111284 |
| 9809 | Unable to load study using UriEncryptionMethod 'SYNAPSE' | 5.1.5.111284 |
| 10061 | Log error: ViewportDisplayShutterMulticaster - System.DivideByZeroException: Attempted to divide by zero. | 5.1.5.111284 |
| 10060 | Failed to initialize performance counter error message in the log | 5.1.5.111284 |
| 10057 | ACUO studies are missing time values in Patient Search post-ClearCanvas upgrade | 5.1.5.111284 |
| 10023 | XDS RAD-69 protocol error | 5.1.5.111284 |
| 10022 | Sporadic web socket connect connection termination | 5.1.5.111284 |
| 10021 | Auto-login on NIL logout on a SSO configured site | 5.1.5.111284 |
| 10019 | SAML SLO POST binding is not supported in v5.X | 5.1.5.111284 |
| 9934 | Dicom page redirects to logoff ending session | 5.1.5.111284 |
| 10118 | Regression in ClearCanvas: Loading a 8bit grayscale image with odd columns and rows throws "array not long exception" | 5.1.5.111284 |
| 10155 | Send multiple links separately sometimes does not work | 5.1.7.111637 |
| 10151 | HP does not apply for local studies loaded from timeline | 5.1.7.111637 |
| 10141 | Cursor value does not show flow speed on some Doppler images | 5.1.7.111637 |
| 10123 | improve time to first image performance | 5.1.7.111637 |
| 10096 | collaboration does not work via IE11 in load balanced environment | 5.1.7.111637 |
| 10090 | Report viewer crashes occasionally | 5.1.7.111637 |
| 10027 | SameAccNoRequest: Limit to combining studies from single device | 5.1.7.111637 |
| 9446 | Exception thrown if you do not enter name while joining collaboration | 5.1.7.111637 |
| 9970 | SameAccNo: When loading from timeline, the first image is selected from the newest study and not form oldest | 5.1.7.111637 |
| 10146 | SameAccNo: Occasionally clicking on a timeline study does nothing | 5.1.7.111637 |
| 10138 | Site admin can elevate role to admin | 5.1.7.111637 |
| 10290 | CSP (Content security Policy) setting is not considered | 5.1.10.112258 |

| Defect ID | Description | Version |
|-----------|---|---------------|
| 10282 | Issue with importing study note templates | 5.1.10.112258 |
| 10271 | AcuoStore Agent Error | 5.1.10.112258 |
| 10269 | Printing a report in Nil: Only print the first page is printed, second or following pages are always empty. | 5.1.10.112258 |
| 10263 | Copylink is not working when AllowAnonymousInvocation= Flase | 5.1.10.112258 |
| 10261 | potential de-identification exposure in Settings > Preferences > Worklist | 5.1.10.112258 |
| 10255 | Unable to load XDS documents in viewer when AutoLoadAndMergeSameAccNoStudies is enabled | 5.1.10.112258 |
| 10251 | "Unauthorized user role" error for non-admins when accessing Modality Preferences | 5.1.10.112258 |
| 10250 | Error when trying to load "As anonymized" | 5.1.10.112258 |
| 10248 | Exception in the DICOM service log | 5.1.10.112258 |
| 10244 | advanced QC launch regression | 5.1.10.112258 |
| 10243 | log API | 5.1.10.112258 |
| 10238 | Inconsistent treatment of incomplete criteria while editing worklists | 5.1.10.112258 |
| 10232 | Most of api/settings/\$/page API methods do not check user privileges | 5.1.10.112258 |
| 10229 | hidden settings confusing behavior | 5.1.10.112258 |
| 10227 | HL7 data lifecycle policy - potential invalid configuration | 5.1.10.112258 |
| 10222 | XDS View Extrinsic Object doesn't work for KOS documents | 5.1.10.112258 |
| 10218 | XDS worklist query hangs after XDS provider is disabled | 5.1.10.112258 |
| 10216 | XDS report viewing with multimonitor fails after study is launched | 5.1.10.112258 |
| 10211 | Wrong behavior of w/l tool for secondary captures | 5.1.10.112258 |
| 10209 | Study DateTime in database missing milliseconds part | 5.1.10.112258 |
| 10206 | Open redirect vulnerability on Login page | 5.1.10.112258 |
| 10205 | Cannot set the min slab thickness for some data sets | 5.1.10.112258 |
| 10204 | AQC edit dialog throws exception | 5.1.10.112258 |
| 10203 | Cine restarts after pause | 5.1.10.112258 |
| 10201 | Analytics API/pages do not check privileges | 5.1.10.112258 |
| 10200 | Problems with UI translation in PD | 5.1.10.112258 |
| 10199 | assets text area is non-responsive | 5.1.10.112258 |
| 10198 | Can not Reset Settings->System->Website option | 5.1.10.112258 |
| 10194 | Encode series as video fails when frame size is odd | 5.1.10.112258 |
| 10190 | Retire "rUrl" parameter | 5.1.10.112258 |
| 10189 | User Disclosure and Enumeration: Get All Skype Users | 5.1.10.112258 |
| 10186 | Patient Search Send Study context menu regression | 5.1.10.112258 |
| 10177 | misconfigured CORS policy | 5.1.10.112258 |
| 10167 | Reconcile does not work from AQC | 5.1.10.112258 |
| 10160 | XDS unable to play AVI video file | 5.1.10.112258 |
| 10119 | Logoff button non-functional from session expiry countdown | 5.1.10.112258 |
| 10081 | CORS configuration settings are not used in the code | 5.1.10.112258 |
| 10069 | STOW-RS content type request header string is not correct | 5.1.10.112258 |
| 10011 | Collaboration: viewer context menu should be disabled for participant | 5.1.10.112258 |
| 9451 | Can not mark more than one frame for KO for multi-frame images | 5.1.10.112258 |

| Defect ID | Description | Version |
|-----------|--|---------------|
| 9451 | Can not mark more than one frame for KO for multi-frame images | 5.1.10.112258 |
| 9446 | Exception thrown if you do not enter name while joining collaboration | 5.1.10.112258 |
| 9295 | Stored Cross-Site Scripting - Study Note Template | 5.1.10.112258 |
| 9215 | The 3D preset in HP editor can not be changed and the list does not match the viewer | 5.1.10.112258 |
| 8974 | Penetration Test - CLICK JACKING | 5.1.10.112258 |
| 8926 | J2K YBR_RCT image loaded by frame from DICOM-RS becomes purple. | 5.1.10.112258 |
| 9374 | Can not respond to qido request if particular patient name is included in the response | 5.1.10.112258 |
| 9560 | HP image orientation no longer applies | 5.1.11.112998 |
| 10228 | Message to Add Group pops up when you try to group icons of third party applications | 5.1.11.112998 |
| 10247 | Settings > System - Selecting a new system setting from the dropdown list will result in an error | 5.1.11.112998 |
| 10295 | XDS video editing issues | 5.1.11.112998 |
| 10307 | appError page is not protected and can display any message from URL | 5.1.11.112998 |
| 10317 | Dicom attributes popup > Export to CSV has malformed attributes | 5.1.11.112998 |
| 10333 | Default image title settings are overriding modality specific settings | 5.1.11.112998 |
| 10337 | blank page when attempting to load Diagnostic Dashboard in image viewer | 5.1.11.112998 |
| 10338 | Hide APIs on the NilWebsite that are automatically added by framework | 5.1.11.112998 |
| 10339 | Anon Templates regression for policy overrides | 5.1.11.112998 |
| 10340 | Non-admin can change site configuration for image titles | 5.1.11.112998 |
| 10342 | Confidentiality profiles confusion with private tags | 5.1.11.112998 |
| 10343 | Make 'local' connection profile the default. | 5.1.11.112998 |
| 10344 | client pdf rendering setting has unreliable behavior | 5.1.11.112998 |
| 10345 | advanced masks crashes when client pdf is enabled | 5.1.11.112998 |
| 10347 | Inconsistent labeling of "generic" modality in image titles configuration | 5.1.11.112998 |
| 10349 | OIDC configuration is hard to troubleshoot | 5.1.11.112998 |
| 10352 | Image titles missing on Slab- and Volume-type viewports | 5.1.11.112998 |
| 10353 | Can not query studies from Acuo datasource under specific conditions | 5.1.11.112998 |
| 10355 | Sign-in HUB API is not checking LoginBlocker or IP | 5.1.11.112998 |
| 10357 | Confidentiality profiles confusion with private tags - 2nd stage | 5.1.11.112998 |
| 10360 | Currently loaded status of timeline bar icons occasionally out of sync with extended patient timeline | 5.1.11.112998 |
| 10365 | patient search shows -1 as the total count transiently | 5.1.11.112998 |
| 10369 | Patient Name in SR Header of Acuo-generated SR will not display correctly if created with the ISO 8859-1 Character Set | 5.1.11.112998 |
| 10370 | Simplify troubleshooting of SameSite None | 5.1.11.112998 |
| 10371 | AQC: patient details popup should only show when clicking patient name | 5.1.11.112998 |
| 10373 | STOW provider response status codes compliance | 5.1.11.112998 |
| 10374 | HUB site clone does not work in v5.1 | 5.1.11.112998 |
| 10375 | Diagnostic Dashboard compare results is not displaying custom range | 5.1.11.112998 |
| 10376 | SSO 'local' bypass should be constrained | 5.1.11.112998 |

| Defect ID | Description | Version |
|-----------|--|---------------|
| 10389 | anonymization masking - System.InvalidOperation | 5.1.11.112998 |
| 10390 | "Recently Opened" showing an error message | 5.1.11.112998 |
| 10393 | Acuo XDS:- Error message while selecting XDS domain names | 5.1.11.112998 |
| 10397 | ImageNext integration issues on Vidant | 5.1.11.112998 |
| 10400 | Ophthalmology HP: different HP is selected if loading from PD or from timeline | 5.1.11.112998 |
| 10401 | load as batch fails | 5.1.11.112998 |
| 10403 | orientation selector in HP builder | 5.1.11.112998 |
| 10404 | Unable to load J2K multiframe images over webDicom using "metadata" mode | 5.1.11.112998 |
| 10406 | masking hangover: viewer > settings > masking > back to viewer | 5.1.11.112998 |
| 10410 | demographics preview only updates after save | 5.1.11.112998 |
| 10412 | Issue with advanced QC deletes | 5.1.11.112998 |
| 10413 | Anonymized video study shows incorrect mask in patient timeline | 5.1.11.112998 |
| 10415 | crash in annotation>View when running in other languages | 5.1.11.112998 |
| 10422 | XDS More... confusion on initial setup | 5.1.11.112998 |
| 10423 | Every render makes an SQL call to collaboration store | 5.1.11.112998 |
| 10424 | AQC DICOM preview thumbs never complete | 5.1.11.112998 |
| 10425 | Slow mouse wheel scroll performance in multimonitor - multiple viewports | 5.1.11.112998 |
| 10426 | 3D viewports interaction is no longer interactive | 5.1.11.112998 |
| 10427 | worklist dangling references: improve robustness | 5.1.11.112998 |
| 10478 | Study note template editor - Can not edit header | 5.1.11.112998 |
| 10550 | Scroll bar not working on 5.1.11.112998 in HP tab | 5.1.11.113528 |
| 10542 | IOCM page javascript error when advancedDataQualityControl license is absent | 5.1.11.113528 |
| 10536 | RFA# 00632578, failed loading DICOM 6000 overlay with a specific width | 5.1.11.113528 |
| 10526 | Random duplicate instances when loading OP data from Acuo | 5.1.11.113528 |
| 10524 | Multi-frame secondary captures are removed during load from deferred data source | 5.1.11.113528 |
| 10509 | DICOM QR streaming hangs on loading 4K+ studies | 5.1.11.113528 |
| 10494 | Slice thickness tool is missing form 3D views | 5.1.11.113528 |
| 10571 | AcuoStore Agent issue with Acuo v6.0.3 extensible storage | 5.1.11.113528 |
| 10568 | XDS configuration exception when upgrading XUA endpoint | 5.1.11.113528 |
| 10566 | Client Certificate Authentication | 5.1.11.113528 |
| 10535 | HUS regression in SAML2 parsing | 5.1.11.113528 |
| 10905 | Study annotations dialog crash in Spanish | 5.1.11.115014 |
| 10904 | IPAPI queries fail when encryption by site is enabled | 5.1.11.115014 |
| 10898 | Custom layouts cannot be added to a HP | 5.1.11.115014 |
| 10897 | FHIR: CareEvolution requires "kid" header in the JWT requests | 5.1.11.115014 |
| 10895 | DICOM upload filtering does not work on modern browsers | 5.1.11.115014 |
| 10892 | Assets cannot be inserted to SR templates | 5.1.11.115014 |
| 10890 | Missing images on Optos' reports rendered in Viewer | 5.1.11.115014 |
| 10881 | Incorrect timeline size in certain configuration | 5.1.11.115014 |

| Defect ID | Description | Version |
|-----------|--|---------------|
| 10880 | AQC: the Burned-in Labels functionality is erring out every time | 5.1.11.115014 |
| 10851 | EnableReportViewer = false causes an exception in Patient Search | 5.1.11.115014 |
| 10850 | Hidden settings: it is not possible to add user 'scope' setting | 5.1.11.115014 |
| 10844 | Confidentiality Profiles > More, Less buttons for Japanese are not displayed correctly | 5.1.11.115014 |
| 10818 | incorrect validation message when editing w/l presets | 5.1.11.115014 |
| 10817 | non-existent endpoint completes in DLC | 5.1.11.115014 |
| 10816 | No longer possible to create AD user assigned worklists | 5.1.11.115014 |
| 10811 | No provider found for device error | 5.1.11.115014 |
| 10810 | SSO: after (force) login for encrypted URL redirects to incorrect invoke URL | 5.1.11.115014 |
| 10809 | SSO/CAC Login loop if group membership can not be resolved | 5.1.11.115014 |
| 10803 | Cutoff text in some of the languages in login page and lifecycle manager | 5.1.11.115014 |
| 10802 | Some lifecycle activities are not editable in Japanese, Chinese or Korean | 5.1.11.115014 |
| 10786 | Email and HL7 templates are not preserved after upgrade | 5.1.11.115014 |
| 10777 | http.sys.exe no longer performs urlacl registration | 5.1.11.115014 |
| 10773 | delete folders from settings page raises exception with legacy SQL server | 5.1.11.115014 |
| 10766 | Batch load hangs | 5.1.11.115014 |
| 10755 | patient banner mayday notification | 5.1.11.115014 |
| 10754 | basic QC exception raised on series menu when storage device and VNA share same name or AE title | 5.1.11.115014 |
| 10753 | issue with LogOffThankYou page | 5.1.11.115014 |
| 10743 | basic QC - unable to select series from VNA data source | 5.1.11.115014 |
| 10708 | Misleading name for Norwegian language in user settings | 5.1.11.115014 |
| 10683 | Case 661170 - Series linking of CT studies no longer works | 5.1.11.115014 |
| 10672 | Application lock-up | 5.1.11.115014 |
| 10671 | NLB healthcheck HEAD /status call is creating new sessions | 5.1.11.115014 |
| 10661 | Accented characters are shown as escaped HTML | 5.1.11.115014 |
| 10652 | Old study warning not displayed in certain workflow | 5.1.11.115014 |
| 10647 | Login: Domain list is not available if only one tenant is configured | 5.1.11.115014 |
| 10614 | HP will not select priors based on Study level attributes when loading from Acuo | 5.1.11.115014 |
| 10607 | XDS send to device regression | 5.1.11.115014 |
| 10606 | Session timeout when going to Settings from the viewer | 5.1.11.115014 |
| 10553 | ClearCanvas FindScu hangs on windows 2012 R2 VM | 5.1.11.115014 |
| 10552 | QC mask US image deletes PR instance | 5.1.11.115014 |
| 10236 | XDS View Extrinsic Object Link is no longer valid | 5.1.11.115014 |
| 9227 | Incorrect Zoom at cursor center for MG secondary capture | 5.1.11.115014 |
| 10917 | Invocation API problems | 5.1.11.115014 |
| 10911 | Unable to reconcile patient info during non-dicom upload | 5.1.11.115014 |
| 10910 | Hub/Spoke sync operation fails with duplicate key errors | 5.1.11.115014 |
| 10899 | Proxy adapter fails on a Q/R source device | 5.1.11.115014 |
| 10879 | Hub/Spoke restore function not working | 5.1.11.115014 |
| 10876 | CAC auto-enroll is not working in DoD | 5.1.11.115014 |

| Defect ID | Description | Version |
|-----------|--|---------------|
| 10871 | Date type fields are not updated in BQC when applying Reconciliation | 5.1.11.115014 |
| 10864 | NilSite Creation w/AzureSQLMI | 5.1.11.115014 |
| 10893 | HTML tag displayed while creating custom template | 5.1.11.115014 |
| 10885 | NotifySettingsChanged called with invalid scope: user | 5.1.11.115014 |
| 10997 | XDS Settings are available for users | 5.1.11.115734 |
| 10973 | images with existing tag 0033,1013 having VR=OB that are archived in Acuo fail to load | 5.1.11.115734 |
| 10977 | dropdown embed list defected in study note editor | 5.1.11.115734 |
| 11075 | study note: Patient age is not populated for some studies | 5.1.11.115734 |
| 11068 | Error when you try to create a new account | 5.1.11.115734 |
| 11061 | AQC: DC: failed loading per-study sample dataset error | 5.1.11.115734 |
| 11059 | Can not save some XML hidden settings | 5.1.11.115734 |
| 11052 | Cine option - Speed label is showing as IFps | 5.1.11.115734 |
| 11043 | DICOM upload showing series description instead of study | 5.1.11.115734 |
| 11042 | Viewport click does not activate/deactivate a viewport during Cine play | 5.1.11.115734 |
| 11013 | error when modifying user account details | 5.1.11.115734 |
| 11010 | Improved access control | 5.1.11.115734 |
| 11007 | Improved user profile authorization | 5.1.11.115734 |
| 10986 | SameAccno: Same patient timeline warning is not shown in certain conditions | 5.1.11.115734 |
| 10976 | Timeline disappears when a particular study is loaded | 5.1.11.115734 |
| 10964 | Dicom RT: Reset is not working | 5.1.11.115734 |
| 10962 | Vessel View: Crash when you edit the position of seeds | 5.1.11.115734 |
| 10939 | When Pix/pdq matching found, then the "Recently Opened" will show only XDS studies | 5.1.11.115734 |
| 10935 | unexpected duration changes when editing video selection | 5.1.11.115734 |
| 10920 | Memory leak when loading ophthalmology data in multiple review sessions | 5.1.11.115734 |
| 10912 | First page of some structured reports with images can be almost empty | 5.1.11.115734 |
| 10809 | SSO/CAC Login loop if group membership can not be resolved | 5.1.11.115734 |
| 11089 | PatientLaunch: breakglass behavior incorrect | 5.1.11.115734 |
| 11086 | Acuo Direct Host is missing after switching patient Index to a different option | 5.1.11.115734 |
| 11079 | FileCache cleaner may leak some temporary files | 5.1.11.115734 |
| 11067 | PatientSearch sporadically retains the blocked state after loading completion | 5.1.11.115734 |
| 11057 | issue in ClearCanvas with DBT images | 5.1.11.115734 |
| 11045 | Issue loading ILE/ELE multi-frame instances when not using StorePixelDataReferences option | 5.1.11.115734 |
| 11006 | inconsistent PDF transformation w/ Document Filters | 5.1.11.115734 |
| 10952 | stow SCP is size limited | 5.1.11.115734 |
| 11053 | Add XSS protection for HTML template editor | 5.1.11.115734 |
| | | |

5 Outstanding Issues & Warnings

5.1 Known Issues

The following are known moderate and higher severity issues in Nil 5.X

| Hyland Defect ID | Description | Impact on device effectiveness |
|------------------|---|---------------------------------------|
| 9962 | PT/NM color map edits don't preserve changes | Does not affect typical user workflow |
| 10312 | Dicom attributes do not work for video (XC) series | Does not affect typical user workflow |
| 10332 | XDS edited video series are not updating series menu automatically | Does not affect typical user workflow |
| 10648 | siteHeader.js override is not available for Login and PD | Does not affect typical user workflow |
| 10804 | Large number of errors in the log when the viewer is closed while a study is loading from dicom | Does not affect typical user workflow |
| 11037 | support eMPI without XDS configuration (5.1) | Does not affect typical user workflow |
| 11080 | Dicom service status shows failed for new sites | Does not affect typical user workflow |
| 11081 | Slow SR loading | Does not affect typical user workflow |

5.2 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.

6 Troubleshooting

6.1 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

7 Appendix A

7.1 Build Environment

| Software | Version |
|---------------------------------|----------------|
| Windows | 10.0.17763 |
| Microsoft .NET Core | 7.0.0 |
| Microsoft .NET Core SDK | |
| Visual Studio Professional 2022 | 17.4.33103.184 |
| Java Runtime Environment | 1.8 |
| Google Closure Compiler | 20160315.2.0 |

7.2 WIF Dependencies

| Software | Version |
|--------------------------------|----------------|
| AngioEngine | 5.2.0.1 |
| BreastMapper | 5.2.0.1 |
| CardiacMapper | 5.2.0.1 |
| CardiacMapper | 5.2.1.0 |
| ClearCanvas.Common | 2.2.15.1 |
| ClearCanvas.Desktop | 2.2.15.1 |
| ClearCanvas.Dicom | 2.2.15.1 |
| ClearCanvas.ImageViewer | 2.2.15.1 |
| Hyland.Gpu | 1.0.0.0 |
| LicenseManager | 5.2.0.1 |
| log4net | 2.0.12.1 |
| SurfaceSegmentationEngine | 5.2.1.0 |
| SurfaceSegmentationEngineLiver | 5.2.0.1 |
| VesselTracer | 5.2.0.1 |
| WifBase | 5.2.1.0 |
| WifDataTypes | 5.2.1.0 |
| WifDicom | 5.2.1.0 |
| WifEngineBase | 5.2.1.0 |
| WifOperators | 5.2.1.0 |

| | |
|-----------------|---------|
| WifRegistration | |
| WifSegmentation | 5.2.1.0 |
| WifUiBase | 5.2.1.0 |
| WifUiFormsAuto | 5.2.1.0 |

7.3 3rdParty Dependencies

| Software | Version |
|---|-------------|
| ADACOMSRVLib | 1.0.0.0 |
| 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 |
| Optos.Registration | 3.2.0.14 |
| ZedGraph | 5.1.5.0 |

7.4 NuGet Packages

| Software | Version |
|---------------------|------------|
| AWSSDK.Core | 3.7.100.15 |
| AWSSDK.S3 | 3.7.101.15 |
| Azure.Storage.Blobs | 12.14.1 |

| | |
|--|-------------|
| coverlet.collector | 3.2.0 |
| DiscUtils.Iso9660 | 0.16.13 |
| DocumentFormat.OpenXml | 2.18.0 |
| Google.Apis.Auth | 1.57.0 |
| Google.Apis.Core | 1.57.0 |
| Google.Apis.Oauth2.v2 | 1.57.0.1869 |
| Google.Apis.Storage.v1 | 1.57.0.2742 |
| Google.Cloud.Storage.V1 | 4.1.0 |
| HL7.Fhir.R4 | 3.8.3 |
| 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.Newtonsoft.Json | 6.0.11 |
| Microsoft.CSharp | 4.7.0 |
| Microsoft.Data.SqlClient | 5.0.1 |
| Microsoft.EntityFrameworkCore | 6.0.11 |
| Microsoft.EntityFrameworkCore.Proxies | 6.0.11 |
| Microsoft.EntityFrameworkCore.Relational | 6.0.11 |
| Microsoft.EntityFrameworkCore.SqlServer | 6.0.11 |
| Microsoft.IdentityModel.Tokens.Saml | 6.25.0 |
| Microsoft.NET.Test.Sdk | 17.4.0 |
| Newtonsoft.Json | 13.0.1 |
| NUnit | 3.13.3 |
| NUnit3TestAdapter | 4.3.0 |
| protobuf-net | 3.1.25 |
| QRCode | 1.4.3 |
| Sprache | 2.3.1 |
| System.ComponentModel.Composition | 6.0.0 |
| 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 |

8 Appendix B – 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 keywords¹.

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.

Edit Keyword ✕

Name

Category ▼

Parent keyword

Description

Settings > Preferences > Keywords

| <input type="checkbox"/> Name | Category | Description |
|---|--------------------|---|
| <input type="checkbox"/> anatomical entity | http://radlex.org/ | Organismal continuant entity which is enclosed by the bona fide boundary of an organism |
| <input type="checkbox"/> anatomical set <ul style="list-style-type: none"> <input type="checkbox"/> cervical intervertebral foramina <input type="checkbox"/> glands of Littre <input type="checkbox"/> inferior orbital fissures <input type="checkbox"/> jugular foramina <input type="checkbox"/> orbits <input type="checkbox"/> paranasal sinuses <input type="checkbox"/> set of cell parts <input type="checkbox"/> set of cells <input type="checkbox"/> set of extremities <input type="checkbox"/> set of gastric folds <input type="checkbox"/> set of heterogeneous clusters <input type="checkbox"/> set of joints <input type="checkbox"/> set of organ parts <input type="checkbox"/> set of organ system subdivisions <input type="checkbox"/> set of organ zones <input type="checkbox"/> set of organs <input type="checkbox"/> set of solid abdominal organs <input type="checkbox"/> set of subdivisions of cardinal b... <input type="checkbox"/> superior orbital fissures <input type="checkbox"/> immaterial anatomical entity <input type="checkbox"/> material anatomical entity <input type="checkbox"/> imaging observation | http://radlex.org/ | A set may be a complete or partial set of given entities; i.e. "set of Xes" may be either a |

10 20 40 Page 1 of 1 (39248 items) 1

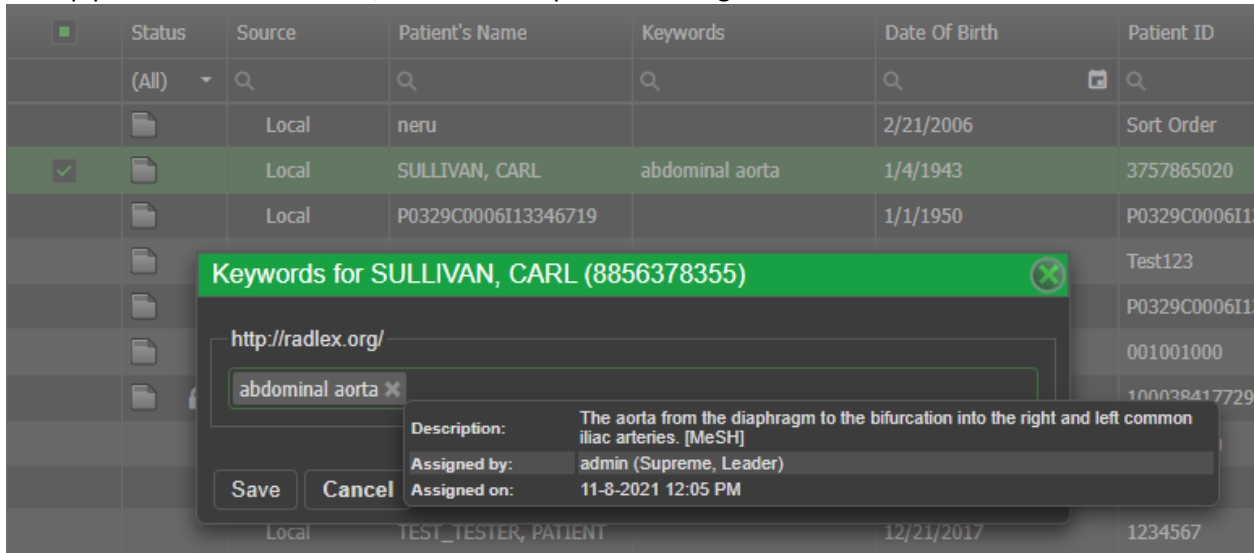
Refresh Import Export Edit Delete Add Recursive selection:

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.

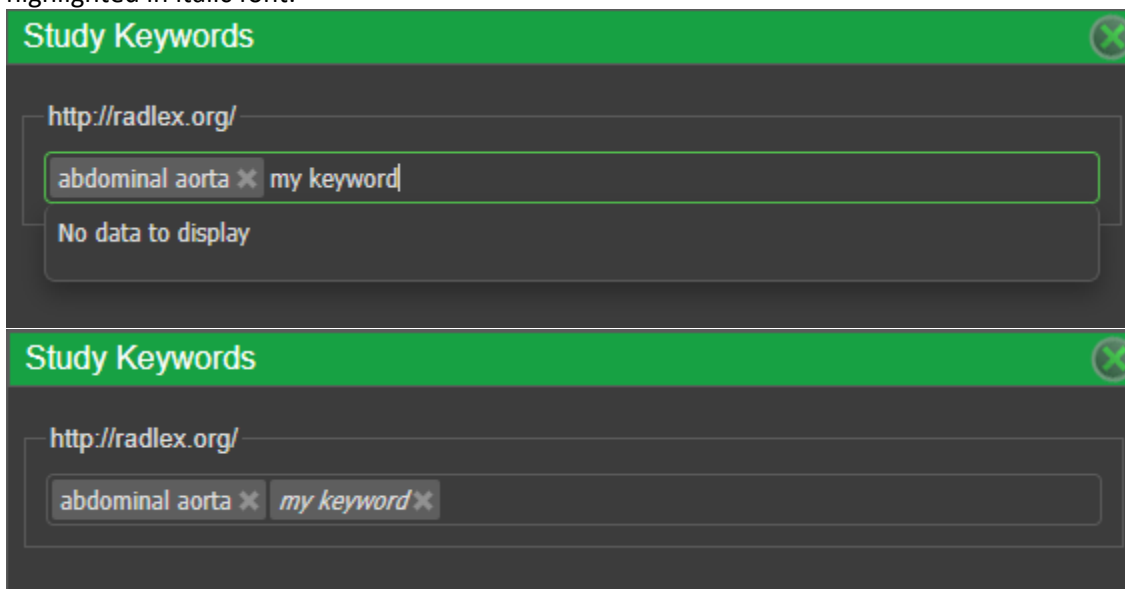
Assigning keywords to studies

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 widget² 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:

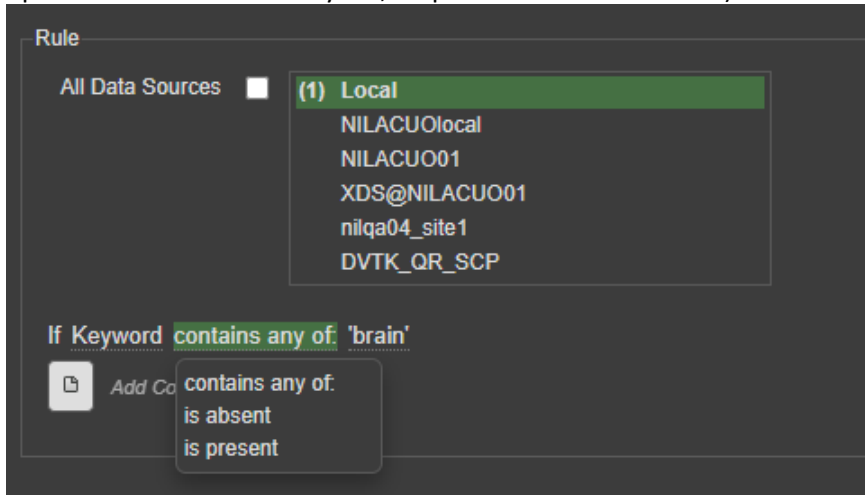


Note that description values and hierarchical editing for new keywords is not supported in this dialog – keywords management page in the settings provides a full set of tools for this purpose.

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 reasons³ 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):

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.