

NilRead 4.4.X Release Notes (4.4.17.100452)

Doc #: 971-07163



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1 Introduction

1.1 Purpose

This document provides the release notes for release of NilRead 4.3 (software version 4.4.17.100452). Note this release is for English only installs. For other languages, please contact Hyland.

1.2 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: 4.4.17.100452

1.4 Release Content

The NilRead 4.3 release contains:

- NilRead Installer (includes On-Line Help). Note that there is a separate installer for single tenant (.msi file) and for multi-tenant (.exe file). The NilRead Installer includes version 2.0.1.28270 of NilFeed.
- AcuoStore agent (v1.4.2.95476) for configurations with Acuo VNA (6.0.0 - 6.0.3)
- 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)
- IIS v.7 or later.
- .NET 4.7 or later.
- SQL Server or Express (.NET 4.7 is required for SQL Express)

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.

3 Installation and Support

3.1 Installation

Hyland will install NilRead software v4.3 on customer's site.

3.1.1 AcuoStoreAgent

NilRead 4.x installer will apply the adacomsvr DCOM proxy registry settings.

AcuoStoreAgent:

- can be currently used only with NIL v4.1+. NIL v4.0 update to support for ASA v1.3 is pending
- can be installed on application servers running either 32- or 64-bit ACUO VNA versions
- provides the same performance as adacomsvr DCOM access

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
120 Carlton St, suite 217
Toronto – M5A 4K2

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

Authorized Representative in Europe (Regulatory affairs only)

Emergo Europe
Prinsessegracht 20
2514 AP The Hague
The Netherlands
Web: www.emergogroup.com

Australian Sponsor

Emergo Australia
Level 20, Tower II, Darling Park
201 Sussex Street
Sydney, NSW 2000
Australia

Customer Portal:

<https://www.onbase.com/community>

4 Summary of New Features and Changes

4.1 Workflow Optimizations

Version: 4.4.17.100452

- Additional features in MDT workflow:
 - o Added ability to specify a (meeting) date as part of the folder note and the ability to start a meeting with a subset of studies from the "queue" folder as selected by the organizer (who can filter the queue by meeting date, folder note etc). The ability to add dates with folder notes is optional and controlled by a configuration setting, as well as the name of the date field.
- Added the ability to import/export structured report templates in HTML
- Advanced QC context menu will be available whenever Edit Patient/Study option is displayed
- (RFA 31722; SI 1293406) added ability to display currently logged in user:
 - o NilProductNameSuffix config (default value = empty string)
 - o If set to "user", a current logged in user is appended to the document title
- (SI 1277026) Added the ability to display additional localizer lines to indicate stack start and end:

- Toggle the user preference that controls whether or not the stack extents are shown. It is disabled by default
- Settings > User Preferences > Reference Lines: Show Stack Extents

Version: 4.3.31.99643

- Report Viewer: added date formatting ability
- Report Viewer: added the following Dicom attributes as displayable fields:
 - Patient ID (0010, 0020)
 - Accession Number (0008, 0050)
 - Study Date (0008, 0020)
- (SI 1207771) added support for specific TS UID
- Added support for Leica generated DICOM pathology data
- Added support for native Leica SCN pathology format
- Added support for deferred Wado metadata retrieval
- Added specific text in email when sending links by email
- Added ability to generate Automatic reports (SR/PDF) with the obtained diagnosis from google/verily. Incl visual representation of diagnosis + images with CAD contours. LCM activity to send/query/generate report
- Changes in CAD display in the viewport:
 - 'CAD marks are available' will be displayed when CAD is available
 - Once CAD display is enabled, CAD details would be displayed in the viewport
- Additional improvements in study level attribute reconciliation
- Ability to modify the text in compression label can be addressed by modifying the fmtCompressed resource in App_GlobalResources/Resources.resx:


```
<data name="fmtCompressed" xml:space="preserve">
  <value>Compressed</value>
  <comment>Image Title Term "Compressed" (i.e. lossy image
  compression)</comment>
</data>
```
- Improved handling of switching between ECG and CT protocols
- Security improvements:
 - Changes in the web.config
 - Added ability to prevent IFRAME rendering by adding IIS the custom 'X-Frame-Options' header with 'sameorigin' value
 - Changes in the build script
 - 'Strict-Transport-Security' header has been added to web.config

Version: 4.3.31.98805

- Added ability to drag and drop thumbnails between different windows
- Enhanced the ability to adjust quality of exported videos with the two encoding profiles:
 - mp4, high quality
 - avi, lossless
- Add basic 2D review capabilities for Advanced QC
- Patient search improvements - the 'issuer' or 'pixpdq' patient matching is now engaged in PS, if the query patient ID contains a proper EPID, e.g:

- 'issuer': IHERED-656565^^^IHERED
- 'pixpdq': IHERED-656565^^^&1.3.6.1.4.1.21367.13.20.1000&ISO
- Added the ability to print patient's age and patient's gender in isolation
- Nil to handle gracefully a display of SR data with missing mandatory attributes
- improved handling of invalid flat (all 0's) VOI LUT on mammo data
- SSO issues with NIL multimonitor mode and invoke.aspx:
 - SSO redirects are now performed from the top window restoring the original iframe state on SSO callbacks
 - invoke communication is now based on EventSource (or its polyfills on IE & Edge)
 - new server event mechanism is introduced to enhance and simplify

Version: 4.3.30.98274

- Added support for DICOM multi-plane (optical path/focus plane) pathology images. WsmProtocol now supports multi-plane images. Planes are organized as a matrix by optical path and focal offsets. An optical paths are selected by keyboard shortcuts:
 - num-plus - next optical path
 - num-minus - prev optical path
 - Focus plane can be selected using the plane control (overlay window similar to the one used by the color control), which activated either by ctrl+num-plus or by clicking an icon which appears in BR corner of the viewport if the image is multiplane. The control allows to navigate the plane matrix to preview planes using control buttons. Mouse wheel can be used to change focal planes when the cursor is within the control area.
- DICOM CP-1713 & CP-1740 correction support
- Added "Original" item on the cine speed dropdown to comeback to original cine frame rate (note: custom toolbars will require a manual refresh for this item to appear)
- enhanced the appearance of top-right image titles
- added ability to handle Acuo private tags for patient search display
- improved confidentiality mask fallback for non-dicom images
- New VL WSM Dicom Converter:
 - DLM ConvertToDicom activity has been updated
 - DLM Import TIFF (done for Huron) has been retired
 - NIL Folder importer now supports VIDEO & WL WSM images
- Added ability to create a folder and/or search using a comma or CR\LF separated list of accNo
- Allow user to write a "reason" when they send study to a folder (see "add notes" checkbox when creating a folder). When enabled, the user is asked to enter a note when adding studies to the folder (optional - can leave it blank), and can later edit a folder note using right-click context menu option. Added a new PS column "Folder Note" to show note contents (applicable to folders only)
- Improved OP stats for image measurements
- Added support for annotating on XDS data
- Added Preview support for XDS on the extended patient timeline
- Dump OCT views table content into a special file(s)
- Updated Optos-custom Image Titles definitions
- Added tuning for 6-FILED Grid with offset applied

- added folder importer support for ED, Video, and WSM
- Enabled XDS to support pathology file surrogates
- ClearCanvas PDataTFSStream is now based on chunked buffering to support C-STORE of the instances larger 2GB
- Stats improvements for image measurements - multiple areas are measured in a given object to sum/average/% of retina the areas
- Support for conditional overlay display for MR
- Added the new replay mode to automatically advance to the next series
- Configure all Optos scanners to use dicom standard yx-ordering for ReferenceCoordinates except a legacy "OCT Ophthalmoscope" model
- SAML2 support for NIL login & invoke

Version: 4.3.27.97685

- Added support for support "ShutterShape.Bitmap" shutter module
- Changed editing behavior of rectangular ROI to allow the use of the central display anchor
- Added the option to add Dicom Attributes pop-up to the custom toolbar
- Added Deidentify option to the 'Edit Patient/Study' menu
- Add support for NYU video files: with transfer syntax indeed Mpeg2, pixelData in AVI format with codec MS Video 1 CRAM
- Added ability to remove duplicates when displaying the search results for VNA AND XDS
- Added new user privilege to allow "Add to folder" for group based worklists
- Added ability for users to change content of public folders and folders assigned to groups of which they are members
- Ophthalmology: added OptMeasurementsStats image title (OP, 2d only) displaying stats for image measurements when multiple areas are measured to display total area/average/% of retina the areas

Version: 4.3.26.97254

- Added ipapi query support for device scope
- Performance improvements in STOW-RS sending/receiving
- Added support for OpenLDAP
- Added a software creation date to the pop-up label
- added openid access_token verification:
The new settings which need to be added to NIL.config (or system bound settings in the NIL UI) to enable OpenId integration:
<setting name="OidcAuthorityUri" serializeAs="String">
<value>https://icare-sandbox.oktapreview.com/oauth2/auserzybakrOdtHee0h7</value>
</setting>
<setting name="OidcClientId" serializeAs="String">
<value>a00aeqmxtqcV8qqapJ0h7</value>
</setting>
<setting name="OidcClientSecret" serializeAs="String">
<value></value>
</setting>
<setting name="OidcAuthorityAlias" serializeAs="String">
<value>okta</value>
</setting>


```
<setting name="OidcFlow" serializeAs="String">
<value>hybrid</value>
</setting>
<setting name="OidcGroupClaim" serializeAs="String">
<value>groups</value>
</setting>
<setting name="OidcScope" serializeAs="String">
<value>openid profile email</value>
</setting>
```

- The OidcAuthorityUri & OidcClientId values are to be provided by OpenId ISS.
- The OidcAuthorityAlias value is the internal 'domain' name for Open ID accounts in NIL
- The OidcGroupClaim value is the claim name, which carries the user group names. ISS should provide a list of its groups to map the matching auto-enroll groups in NIL.
- The OidcFlow value can be either code, implicit, or hybrid. The hybrid flow is preferable, the code one would require you to specify the OidcClientSecret value.
- The OidcScope value should be at least openid

The following information is to be provided to OpenId ISS:

supported flow: Hybrid

NIL Uri: https://<external-NIL-server-and-path>

RedirectUri: https://<external-NIL-server-and-path >/api/.oidc/grant

Once configured:

- NIL will use OpenId as a primary authentication provider bypassing the NIL login page.
 - To enforce access to the NIL login page the user should use the 'https://<external-NIL-server-and-path>/login.aspxlocal=' URI.
 - NIL will accept both encrypted and unencrypted 'direct' links. Unencrypted links will redirect to the OpenId login if the browser is not authenticated yet.
 - To disable encrypted links access completely you can set the NIL AllowAnonymousInvocation setting to false.
- Added ability to manually enter WW/WC
 - Added ability to store (as JPEG) multiple images at once
 - support for MPEG2: accept dicom MPEG2 transfer syntax, transcode non-dicom and dicom MPEG

Version: 4.3.26.96915

- Added support for XDS MPQ search and non-MPI search
- Added support for annotating on XDS data (completed for the local cache, pending implementation for upload to XDS repository)
- Anonymize patient level data on the fly: RMC on a study > select 'Load Anonymized' from context menu
- WL/Folders: have one category per group:

- Reorganized the worktree to simplify and make it more efficient
- All group-assigned workitems are under "Group Worklists" and "Group Folders" categories
- Admins only: all workitems belonging to other groups and users (visibility controlled via Customize option) are under "Assigned Worklists" and "Assigned Folders" category
- Empty categories are not shown
- Completed FHIR support with remote devices:
 - Outbound
 - support querying remote FHIR diagnostic report endpoints with customizable templates to render the reports w/o FHIR narratives
 - support querying remote FHIR patient endpoints for patient demographics reconciliation (as a data correction reconciliation data source)
 - Inbound
 - enabled FHIR token and patient endpoint
 - enabled smart on FHIR authorization (bearer token based) integrated with the nil built-in authentication/authorization:
 - users with '*FhirConfig*' can access FHIR configuration page
 - users with '*FhirAccess*' can access Nil FHIR token and patient endpoint
 - users with '*FhirUpdate*' can update patient demographics using the FHIR interface

- added the attribute Requesting Service (0032,1033) to the QIDO query with DICOM RS

- added openid connect integration

The new settings which need to be added to NIL.config (or system bound settings in the NIL UI) to enable OpenId integration.

```

<setting name="OidcAuthorityUri" serializeAs="String">
<value>https://icare-sandbox.oktapreview.com/oauth2/auserzybakrOdtHee0h7</value>
</setting>
< setting name="OidcClientId" serializeAs="String">
<value>a00aeqmxqtcV8qqapJ0h7</value>
</setting>
< setting name="OidcClientSecret" serializeAs="String">
<value></value>
</setting>
< setting name="OidcAuthorityAlias" serializeAs="String">
<value>okta</value>
</setting>
< setting name="OidcFlow" serializeAs="String">
<value>hybrid</value>
</setting>
< setting name="OidcGroupClaim" serializeAs="String">
<value>groups</value>
</setting>
< setting name="OidcScope" serializeAs="String">
<value>openid profile email</value>
</setting>

```

The OidcAuthorityUri & OidcClientId values are to be provided by OpenId ISS.

The OidcAuthorityAlias value is the internal 'domain' name for Open ID accounts in NIL

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The following information is to be provided to OpenId ISS:

Supported flow: Hybrid

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RedirectUri: <https://<external-NIL-server-and-path >/api/.oidc/grant>

Once configured:

NIL will use OpenId as a primary authentication provider bypassing the NIL login page.

To enforce access to the NIL login page the user should use the 'https://<external-NIL-server-and-path>/login.aspxlocal=' URI.

NIL will accept both encrypted and unencrypted 'direct' links. Unencrypted links will redirect to the OpenId login if the browser is not authenticated yet.

To disable encrypted links access completely you can set the NIL

AllowAnonymousInvocation setting to false.

- MR Double Echos: Added support to split by Echo Number
- Prevent new users in an load balancer environment to inherit another users workstation config
- Added ability to create new WL presets for modalities with no predefined presets (e.g. MR)

Version: 4.3.26.96507

- Added an option to load a study in the selected monitor preserving the current layout. The option is available from:
 - o timeline thumbnail's context menu
 - o extended timeline grid
- Add support for custom NxN Study layout to HP definition
- Added support for GE universal cardiology viewer in Nil
- Added support for "direct-read" to image preview API when WADO is configured to use private API (accept headers: application/json-unc)
- Added the ability to add/remove the existing WL presets
- Added the ability to enter a custom Fusion color map
- Improved CPU usage in 3D shaded mode
- Added hub data access using proxy adapters that offers hub/spoke configuration for remote reading over low bandwidth connection. A spoke NIL will require a proxy adapter with support for at least hub cache, hub VNA, and Q/R
- Added ability to display PDF thumbnails on the extended timeline
- Added "Pdf As Reports" config to the UI Settings page
- Added report selection when launching from extended timeline
- Added ability to include Storage Commitment endpoints in ILM and IOCM
- Further improvements in drag and drop functionality from extended timeline:

- When an thumbnail drag operation is started, the extended timeline window gets more and more transparent until it disappears
- When over an correct drop area (viewport) the cursor is normal and the border is green
- when over an invalid drop area, the cursor is 'no-drop' and the thumb being dragged has an reddish border
- Added the ability to automatically show the report pane when launching studies via direct link that contain reports only
- Added support for download and dicom print from Dicom RS source
- Added Q/R endpoint support for study related instances and series by default
- Further improvements in reactivating a spoke site with different UID
- Further improvements in FHIR support with remote devices: enforce FHIR authorization policies, checking license, user privileges and group
- Added ability to export OCT views table content into a special file(s)
- Added ability to prevent non-admin users to access patient directory, study access list and recently viewed studies when viewer re-directs page due to session timeout or image launch error
 - In Nil.config:


```
<setting name="HidePatientDirectory" serializeAs="String">
<value>False</value>
</setting>
```
- Improved support of Acuo query while one of the databases is offline
- FHIR report count: added support for the new private tag (2019, 1600)
- Improvements for annotation text and control points
- Remove color map from ONH View (except for RNFL layer)
- Integrate with new version of Google/Verily API (v1.Alpha) for UWF diagnosis, Update of Google/Verily libraries
- Added support for Cup Segmentation in ONH View
- Further improvements in DLC – added new site level setting:
 - ```
<setting name="FaultyActivityToleranceHours" serializeAs="String">
<value>-1</value>
</setting>
```

 when a positive value is specified it defines how many hours an activity can remain in faulty state before workflow is suspended
  - ```
<setting name="TrackRouteActivities" serializeAs="String">
<value>False</value>
</setting>
```

 when the False value is specified no route activity related task info will be generated and present in the dicom activity page
- Viewer's context menu is to reflect customization of Window/Level presets
- Added ability to add/remove existing WL presets
- ability to enter color maps for Fusion

Version: 4.3.26.95965

- Ability to “Drag and drop” images from the local source (cache, Acuo) from the Extended Patient Timeline into the viewport. Not available for Dicom Q/R , Acuo Long term storage, etc.

- Added new type of annotations without measurements – Circle, ROI, rectangle, etc
- Rebranding of NilRead for Hyland
- Nil Spoke database disaster recovery support from backups maintained by Hub
 - o The '--restore' command line option has been added to Claron.Nil.DicomBE.DicomService.exe:
 - o Claron.Nil.DicomBE.DicomService.exe --restore <site-name> <hub-url> <hub-uuid> <password> [<backup-date> [<audit-days>]]
 - o where
 - <site-name> - local site name
 - <hub-url> - Hub url
 - <hub-uuid> - spoke activation uuid
 - <password> - spoke activation password
 - <backup-date> - optional backup data in yyyyMMdd format or 'last'. 'last' is used by default
 - <audit-days> - optional audit trial days computed from <backup-date>
- additional SR sorting Improvements based on the fields in DICOM header
 - o Tag: 0x00080012 VR: DA Instance Creation Date
 - o Tag: 0x00080013 VR: TM Instance Creation Time
- Allow sites to display a notice to users that the site will be down for maintenance, etc.
 - o Added in Settings->System->General "Display viewer notice" input field.
 - o If there is text inside, it will be displayed in the usual alert (exclamation mark in the top center of the viewer layout)
- Dicom RT improvements: Implement the computation on the fly of DIFFERENTIAL DVH histograms; Improve the computation on fly of the Cumulative DVH; lesser clicks to allow structure to appear; provide a mechanism to browse visually the structures/isodoses; structures, isodoses and beams selection
 - o For structures the focus point will move to the first location along z that contains the structure
 - o For isodoses the focus point will move to the centroid of the isodose (3d) region.
 - o For beams, the focus point will move to the coordinate of the current control point
- added Advanced QC copy series into new study
- Ability to modify timeout counter for the "logout due to inactivity" warning:
 - o Added SessionTimeoutWarningDuration config (available in System Settings > General).
 - o Default value is 45 seconds
- ECG color scheme improvements:
 - o Defined default annotation color in the ECG color schemes: Dark - yellow, Traditional - red
 - o Added support for overriding default annotation color by the protocol
- added "print all" option for key images:
 - o added print 'current series', 'current study'
 - o by default shown an warning message when there are more than 50 images to preview - configurable using MaxPreviewImagesDisplayed in nil.config
 - o Added 'current image' as a separate option instead of having this inside the 'resolution' drop down (some users found it difficult to understand - now is obvious)

- Add support for QPD-8: What domains returned in PDQ
- added the ability to customize the “plaunch” columns
- XDS support for MPQ
- ability to auto rotate flipped mammo data without dependency on HP
- Ability to display new Series as they arrive
 - study update tracking is enabled by session bound setting


```
<setting name="StudyTrackingPeriod" serializeAs="String">
<value>00:00:15</value>
</setting>
```
 - when it set to a positive value - 15:30 sec is recommended value
- Dicom Activity improvements:
 - o if dicom service is down, a red exclamation mark will show up on the dicom activity button for all users
 - o if there are failed dicom tasks, a yellow exclamation mark will show up for the current user
 - o number of running tasks and failed tasks will show in the dicom activity button tool tip
 - o users will only see their own tasks unless they have admin rights
 - o admin will see all tasks and warnings
- added automatic update deployment – allows the software deployment to be pushed to the site
- Improvements in WL on mammo images with multiple LUT
- Allow NilFeed uploads to be listed in a queue/log within the application
- Hub: added the ability to clone tenants to avoid repetitive steps in configuring new user groups, user privileges, Dicom setting, etc
- Implemented multi-monitor support for bookmarks
- XDS add RAD-16 (C-MOVE) support
- Persistent RT Plan setting when switching the viewport
- Added the ability to rotate data using reference lines
- User Manual for ZillionRead 4.3

Version 4.3.23.95405:

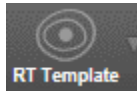
Structured Reports

- Requires new *DicomSrCreation* license
- Allows user to produce DICOM structured reports for the study reviewed
- SR Templates are based on DICOM Basic Text SR IOD
- Allows selecting template to produce DICOM structured report
- Allows automatically filter available report templates based on the current study attributes
- Allows user to create new report templates
- Allows user to delete existing report template (Note: deleting report template will not affect reports that already created using this template)
- Templates can be assigned to user, group or system (Note: the assignment shall be used to filter available templates during report creation)
- Allows to editing, clone, import, export of report templates

- Allows user to enable/disable existing report templates
- Allows the basic HTML text editing functionality in template (Change font type, size, accent and color; Change text alignment and indent)
- Template editor allows user to insert DICOM study data placeholders into report template
- Supports single/multiple line text field type in Report Template
- Report Template supports drop down list field type, checkbox field type
- Report template editor allows user to insert Images placeholder into report template
- Template editor allows user to insert assets in the report (logo, headers, footers, etc)

Dicom RT enhancements

- Performance improvements in Dicom RT protocols
- Allows to changing the Isodose levels
- Allows adding/deleting isodoses
- Allows switching from Absolute and % isodose value
- Allow changing color, opacity and line thickness of isodose
- ROI structures: Allow changing the color and opacity of the structures
- DVH graph: Allow computing the Differential histogram on the fly
- Configuration changes:
 - o Added configurable templates for RT settings, based on a set of DICOM rules
 - o Templates allow configuring the same RT settings as in modality preferences
 - o When determining current settings for RT study, Nil will use most specific applicable RT Template (by the number of specified DICOM rules). If no RT template is applicable – the default settings from modality preferences will be applied
 - o Added a button on toolbar that shows list of applicable RT templates and allows choosing current template



- o Added line thickness in pixels (1 - 10)
- o Added the option to use continuous color picker with ability to specify transparency

ECG Enhancements

- New ECG layouts for 12-lead ECG:
 - o 3x4 (12 leads)
 - o 3x4+1 (12 leads + Lead II expanded)
 - o 3x4+3 (Lead II, V1, V5 expanded)
- Added the to display the following image titles on the dedicated informational viewport:
 - o Vent. Rate: (BPM)
 - o PR interval (ms)
 - o QRS duration: (ms)
 - o QT/QTc: (ms)
 - o P-R-T axes
 - o QRS electrical heart Axis interpretation (calculated)
 - o automatic interpretation/comments/remarks of the end-user
 - o paper stats: gain, timescale
- added the ability to select Paper Gain (5-40 mm/mV) and Time Scale (5-50 mm/s)
- added the ability to apply any combination of the following signal filters:

- Low Pass
- High Pass
- Powerline Noise
- Added the ability to provide following ECG-specific measurement tools:
 - Linear/area measurements for time (horizontal), signal strength (vertical)
 - QT/QTc interval (based on the Bazett's formula)
 - Heart Rate - interval variance over the ECG
- added an extra labeling on the screen when signal filter (high/low/powerline) has been applied

Multihost licenses and central license management

- added support of central storage licenses – the same set of licenses is shared by all front-ends (load-balanced web sites) of the same NilRead deployment
- added support licenses with multiple MAC addresses. Such license are used with multiple front-ends of the same NilRead deployment
- added support of multiple licenses with different set of features
- added support for default license – will be applied to all users
- added support for add-on licenses - assigning one or more additional licenses to any NilRead user group
- user that belongs to one or more user groups, NilRead will use a default license plus a set of all add-on licenses assigned to all groups of this user
- added ability to assign to a user a superset of all features from all licenses applicable to a user (default license + all add-on licenses assigned to groups of the user)

ROI Threshold measurement for Nuclear Medicine

- To create ROI Threshold measurement, the user defines a free-hand ROI on the image and provides threshold value in units of modality values. NilRead automatically detects regions on the image, within the ROI, that have modality values higher than or equal to the specified threshold and displays detected regions and statistics for the detected areas.
- Default configurable value of threshold. The value can be configured under Settings > Preferences > User Preferences
- modality units displayed in the prompt

Study Notes

- Allows to select the pre-defined notes for Key Image Selection
- Allows to add the notes to the image (Key Image Selection>Show KO description window)

1:1 mode

- Allows to display 1 image pixel to 1 monitor pixel display
- Refer to User Manual for the instructions on how to configure and use

Timeline visibility by group/user

- Added ability to configure data source per group in the 'group' editing UI (Settings > User Management > Groups)
- The effective permissions are displayed in the group editing UI, in the 'Profile' page and in the 'Edit User' page

FHIR

- allow to view reports from a FHIR diagnostic report server
- allow user to manage and verify FHIR server configurations
- support of SMART-On-FHIR confidential application and backend service profile
- support of the Basic, Post-Form, symmetrically and asymmetrically signed JWT bearer token client authentication scheme
- allow user to authenticate with FHIR server and grant the resource access to NilRead
- allow user to monitor the FHIR server access status
- provide a general FHIR report rendering template as default FHIR report template
- allow user to customize the FHIR report rendering template on a per site bases

Annotation Navigator

- allows to display a list of annotations from applied presentation states
- allows to navigate to an annotation selected from the list
- the option is available from Annotations menu > View

Configurable PD/PS auto refresh

- Added config *PatientSearchAutoQuery* (default value True, site bound, configurable via System Settings > Patient Search Query Panel).
- Controls whether auto-refresh of PS query is performed when the page is reloaded (e.g. returning from image viewer or settings page, explicit page refresh).
- Note: that PS search is not performed until Query button is clicked
- Note: navigating the worktree does not reload the PS page, therefore it does not affect this auto-refresh scenario

Custom Study Layout

- Available from Study Layout>Custom
- Allows to define custom number of rows and columns

'Sensitive' workflow enhancements from XDS

- Added new privilege *EmergencyOverrideRestrictedContent* that will allow users to brake glass to view sensitive content from XDS
- Users with this privilege but without *ViewRestrictedContent*
 - o If displayed in a viewport, user will have ability to r-click on sensitive image and choose "Emergency unlock sensitive content". A keyboard mapping should be present.
 - o Upon choosing this option, a user will be presented with additional warning message
 - o If user chooses to proceed, the sensitive content is displayed
 - o The event is logged in Audit Log

'Encounter' grouping by Acc #, date/time

- Allows to group by accession number or date/time
- Configurable using *TimelineGroupingPolicy*
- All possible values are: SingleStudy, AccNo,Time, AccNoAndTime,AccNoOrTime (by default AccNoAndTime)
- Grouping by time is controlled by *TimelineGroupingTimespan* with a default value of 6 hours ("06:00:00")

Example:

```
<setting name="TimelineGroupingPolicy" serializeAs="String">
  <value>AccNoAndTime</value>
</setting>
<setting name="TimelineGroupingTimespan" serializeAs="String">
  <value>06:00:00</value>
</setting>
```

Dicom TLS

- NilRead to support the DICOM Basic TLS Secure Transport Connection Profile as both SCP and SCU roles

Confidentiality masks improvements

- When viewing images while in an anonymization workflow, images with "burned in annotations" will be completely obscured if no confidentiality mask is defined

Hiding Reports on the Timeline

- Added the ability to hide the report icon on the timeline
- Go to Settings > System > Timeline
- Disable 'Display reports alongside studies'

Purging enhancements

- hub > settings > cache section now allows to select either @all or specific site settings scope
- The cache storage manager now uses site settings to perform purging/watermarking

Ratio measurement enhancement

- Improved the ratio measurement display to show the ratio of shorter line to the longer line

Disable Default toolbar

- Added new setting in nil.config: *EnableDefaultToolbar*
- Default it True. When set to False, hides default toolbar from dropdown menu

Misc enhancements

- Ruler measurement enhancement: added the ability to show the angle between two rulers
- "Always show viewer controls" is split into separate sidebar and timeline options
- Added warning message about failure to load the content when Dicom SR cannot be loaded
- Added a check to make sure the end user cannot create duplicate W/L preset names
- Expanded health check email alerts alternative - "dashboard-able" - on HUB
- "NilInsight" - Feedback statistics - tools/features usage, study types, crashes/exceptions, site targeted statistics (who is using nil, how often and how is used)
- "NilInsight" - Troubleshooting Statistics - historical per hour counters: dicom activity, studies viewed, instances loaded, render times, logins, sql query timings, etc
- Improved ability of handling invalid US data with mismatched of Dicom attributes
- video transcoding enhancement - Nil no longer requires to install and configure ffmpeg
- Reduce time to first image to 1 second in ideal conditions
- Added monitoring analytics on Hub > Telemetry:

- scope: Front end, Back end, Dicom
- stats for the CPU Usage, Memory usage, Paging Rate, Network Usage, User Sessions
- Audit Log enhancements: Added login and study review distribution over time audit reports
- Nested Folders - added ability to create sub-folders within Nil
- Re-organization of Preferences screen
- Support gathering info tools
 - Added config download (Settings > Troubleshooting)
 - Added Settings and Logs download in Settings > Troubleshooting section
- Toolbar: Full screen and docking - Toolbar is docked and visible in F11 fullscreen mode
- improve handling of data with inversed VOI LUT - correct the computation of the value over the VOI LUT range
- added the ability to enable/disable endpoints for data sources
- Send notification when breaking the Glass
Added configuration to send email to admin on audit events
For example, in security.config:

```
<setting name="AuditAlerts" serializeAs="Xml">
<value>
<ArrayOfString xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<string>EmergencyOverride</string>
</ArrayOfString>
</value>
</setting>
```
- Added the ability to rotate reformat image using the reference lines

4.2 Closed Issues

Defect ID	Description	Version
7103	Image Viewer localization inconsistencies	4.3.26.95965
7100	Cursor value on MPR is not correct for overlapping slices	4.3.26.95965
7093	Upload is always working even though no Upload feature in License	4.3.26.95965
7092	Patient banner is gone	4.3.26.95965
7091	Archiving and backup doesn't work according to the time period in Federation settings	4.3.26.95965
7087	Nil Spoke database disaster recovery support	4.3.26.95965
7085	Cursor values changes when Relate is activated	4.3.26.95965
7083	Nil hangs when trying to load next HP stage	4.3.26.95965
7081	Inconsistent results of measurement values	4.3.26.95965
7079	Timeout issue at Deventer site - partner API	4.3.26.95965
7076	crash when selecting fixed rotate with no active viewport	4.3.26.95965
7073	Create one study note : Multiple copies are listed in the drop down	4.3.26.95965
7066	Issue with auto start in replay mode	4.3.26.95965

Defect ID	Description	Version
7060	Masking issue on specific datasets	4.3.26.95965
7059	MG Export with titles minimal/light: message "Not for Diagnostic Use" is not displayed	4.3.26.95965
7055	Not allowed to load study into QC with direct link	4.3.26.95965
7054	Hyland NilRead logo is cut in upload dialog	4.3.26.95965
7052	Interactive MPR Reference lines are incorrect in multiple layout after rotating reference line	4.3.26.95965
7051	Spinal labels are not shown in 3D and slab	4.3.26.95965
7047	Possible Bug with Relate Function (support case 1062089)	4.3.26.95965
7043	Dicom RT: The list of control points is too long and the scrollbar extends past the browser's window	4.3.26.95965
7039	Spine Labels cannot be edited on the viewport which is not original	4.3.26.95965
7035	Cannot query study in AcuoMed	4.3.26.95965
7034	Study Notes are not displayed when r-click view reports on study icon in timeline	4.3.26.95965
7033	Degenerate angle annotation	4.3.26.95965
7025	1066208 PR, KO created in NIL for studies in VNA partitions are missing group 0033 tag for storing back to VNA	4.3.26.95965
7024	Left title shift up and overlapped with timeline sometimes in the viewer	4.3.26.95965
7022	License manager issues	4.3.26.95965
7021	Cannot propagate annotations in the view	4.3.26.95965
7020	Enhancement tool is not working properly for specific Xrays	4.3.26.95965
7012	DicomRT: On a dicom study without plan and 1 Structure set the server crashes when I change the display properties of a structure	4.3.26.95965
7010	DicomRT: in a 2x1 Study Layout [RtGraph, 2D] the graph does not update when I turn on/off structures while the 2D View has the focus	4.3.26.95965
7008	CR display has some artifacts on specific data	4.3.26.95965
7007	plaunch redirect loses username resulting in anonymous user privileges context	4.3.26.95965
7004	full-fidelity restore of headers is not guaranteed when using zipped headers	4.3.26.95965
6978	ECG: Layout improvement	4.3.26.95965
6966	Dicom SR: Cannot swap between templates in study editor	4.3.26.95965
6963	Exception when adding extended inputs in System Settings > Patient Search Query Panel	4.3.26.95965
6962	Dicom RT: performance improvement	4.3.26.95965
6957	Thumbnail scrolling issues in MS Surface	4.3.26.95965
6955	HealthEast IOCM failure with studies that have more than 2100 images.	4.3.26.95965
6920	Date and time format is inconsistent in Image Viewer	4.3.26.95965
6898	SR templates can be created with Duplicate names	4.3.26.95965
6875	DOB is not getting picked up from MWL during reconciliation	4.3.26.95965
6851	SR template : Image place holder cannot be adjusted in Chrome	4.3.26.95965
6843	ROI threshold: Cursor values are less than threshold towards the border	4.3.26.95965

Defect ID	Description	Version
	region	
6831	SR Template: uncheck in Enabled column is unresponsive	4.3.26.95965
6811	WebView initial toolbar is empty to Android WebView initial display on the load	4.3.26.95965
6699	IE: Not all pages are printed when PDF report has more than one page	4.3.26.95965
6678	Optos: Display proper message in the viewport when HP is not supported	4.3.26.95965
6525	Reference lines are not displayed in OCT view after copy to a new study	4.3.26.95965
6469	Session Timeout on Print Cancel occurring repeatedly	4.3.26.95965
6465	US, XA: Inconsistent behavior after configuring Cine AutoPlay option and enabling HP	4.3.26.95965
6397	MM window number keeps populating when you load as batch and navigate using the arrow	4.3.26.95965
6358	DicomRT Beams : Nil always uses the first control point and ignores the selection from the UI	4.3.26.95965
6281	Clear Canvas Storage SCU does not propagate failure C-STORE-RSP properly	4.3.26.95965
6277	Predefined square tool appears as a circle while dragging to a different location	4.3.26.95965
6143	RT- Changing control point rests the zoom level	4.3.26.95965
6060	Something is wrong when delete a study of AcuoMed in QC	4.3.26.95965
6036	6000 overlay disappears after flip	4.3.26.95965
5804	Bookmark doesn't retain pan, zoom, and rotation applied to MG	4.3.26.95965
5563	session logout Feature Request	4.3.26.95965
5377	iPhone: artifacts on the image while editing annotation	4.3.26.95965
2660	Refresh problem in RT Graph view	4.3.26.95965
7188	issue with WL icon	4.3.26.96507
7184	Upload option is not available with Clinical license Enable upload based on either "upload" or "uploadshare" features	4.3.26.96507
7180	Regressions in Report Viewer Fixed regressions in report viewer (zoom, download, hyperlink). Fixed regressions in report viewer (zoom and download)	4.3.26.96507
7179	timeline is missing in the viewer	4.3.26.96507
7172	Series thumbnails are not displayed in the extended timeline when ACUO encryption is enabled	4.3.26.96507
7168	Problem with Settings - System - Launch	4.3.26.96507
7167	random image loading error occur while running Rogan's test	4.3.26.96507
7165	unable to open extended timeline from 2d monitor	4.3.26.96507
7164	unable to load PX data in Slab and 3D	4.3.26.96507
7162	Javascript caching	4.3.26.96507
7160	switching to non-image study with partner API does not refresh patient banner	4.3.26.96507
7157	images shift when switching Fusion protocols	4.3.26.96507
7149	unable to load MR data from Rogan production server (WADO)	4.3.26.96507

Defect ID	Description	Version
7148	shifting data in viewports	4.3.26.96507
7143	route activity with deidentification issues	4.3.26.96507
7142	Firefox: Cannot navigate through the studies in the timeline using mouse wheel or navigation arrow	4.3.26.96507
7141	Load study as prior: Study Description is missing in the Timeline	4.3.26.96507
7139	context menu is not available while editing annotation	4.3.26.96507
7137	Calibrator tool is broken	4.3.26.96507
7133	error message when trying to update Dicom AE titles	4.3.26.96507
7131	Spinal labels not saved if they are not shared	4.3.26.96507
7127	Workstation ID is lost if passed in encrypted URI	4.3.26.96507
7120	Ambiguous values of auto angle	4.3.26.96507
7117	Image Assets : Better error handling when the DB is full	4.3.26.96507
7116	Tool templates are not refreshed when switching between multiple definitions	4.3.26.96507
7111	cine does not keep configured size	4.3.26.96507
7110	Download button not working when UI size is at 150%	4.3.26.96507
7109	Patient Details pop-up date format and physicians reading study	4.3.26.96507
7107	OptomapNonprojectedMeasureInUnits setting is not giving expected results	4.3.26.96507
7105	XDS direct access to KOS manifest sop instances do not display	4.3.26.96507
7103	Image Viewer localization inconsistencies	4.3.26.96507
7096	Collaboration: Keyboard shortcuts are not responding	4.3.26.96507
7081	Inconsistent results of measurement values	4.3.26.96507
7077	Unable to propagate encryption changes	4.3.26.96507
7074	Zillion: issue with new report icon	4.3.26.96507
7072	Ensure correct product name is displayed	4.3.26.96507
7070	RT plan date in Image Viewer	4.3.26.96507
7069	Fusion Views scrolling through the fusion axial series requires to turns using the mouse wheel	4.3.26.96507
7013	Enhancing the wordings of certain areas	4.3.26.96507
7006	Crash occurs when load studies as batch from Nil server Dicom RS	4.3.26.96507
6983	Dicom SR: workflow improvement	4.3.26.96507
6935	Can define an RT template with 2 Max isodoses	4.3.26.96507
6865	Help file is kept in English after changed to another language for UI	4.3.26.96507
6653	Bookmarks created in MPR views appears to be shifted when opened from link in a different browser	4.3.26.96507
6477	IE MM 1+2: Bookmarks are not displayed on the secondary monitor	4.3.26.96507
6460	Nil uploader: Unable to select multiple files to upload	4.3.26.96507
6429	Fusion Protocol : zoomed images when changing Study layout	4.3.26.96507
6362	Messages are displayed on the reformat view when slices are missing in a series	4.3.26.96507
6260	No response when you click on the thumbnail of icon image	4.3.26.96507
6258	With Force Isotropic =True , aNormal CT crash when loaded into Curved,	4.3.26.96507

Defect ID	Description	Version
	vessel Tracer (Addison Barry, Cardiac CT, etc)	
5983	case 02242008: data shifting in viewport while scrolling	4.3.26.96507
5956	Spinal Label annotations not working in slab or 3D	4.3.26.96507
5857	Nil crashes sometimes when draw arrows and highlight in meeting after saved bookmark which propagated annotations	4.3.26.96507
5709	DicomRT DVH display and calculation should support arbitrary bin (width) sizes	4.3.26.96507
4775	Skipping frames when decoding from OPT multiframe (JPEG encoded)	4.3.26.96507
4124	Loading 100 studies as prior: 100th study is not listed properly in timeline and viewport	4.3.26.96507
7210	no option to retrieve Dicom Studies	4.3.26.96507
7208	no warning message when some images cannot be loaded	4.3.26.96507
7177	Inconsistent zoom when applying BrestMapper	4.3.26.96507
7185	Inconsistent zoom on mammo images	4.3.26.96507
7204	When applying an HP on OCT Views that fail to load into that HP it should switch to Empty protocol instead	4.3.26.96507
6636	Preset names should not be translated	4.3.26.96507
7192	slab /fusion protocols: Changing Study layout triggers image shift if the user changes the focus location	4.3.26.96507
7175	No longer able to save curves or vessel in Curved Reformat view	4.3.26.96507
7170	Persist the zoom of 3D and slab viewports in bookmarks and for layout changes	4.3.26.96507
7166	StudyNote is not properly rendering when printed	4.3.26.96507
7161	DicomRT DRR Protocol should not create a Wif pipeline when the acquisition does not have an RT plan (i.e. beams)	4.3.26.96507
7067	Thread unsafe access to acquisitions	4.3.26.96507
7156	Prefetch rules crash parsing AE Title with underscore	4.3.26.96507
7154	CurvedReformatProtocol does not check for a null instance when restoring CenterlineCoreData from serialization	4.3.26.96507
7152	MultiStudy Layout with one curved reformat: the client may send relay messages which are not needed and the server cannot resolve	4.3.26.96507
7140	DLM fails when used from NIL launched using parent API	4.3.26.96507
7118	DicomRT: Switching from the RtGraphProtocol to another protocol triggers an exception in the server	4.3.26.96507
7218	Cannot delete a "split series" acquisition from the Series tab	4.3.26.96507
7144	Empty viewports when launching data via partner API	4.3.26.96507
7205	WL parameters do not change with different Presets	4.3.26.96507
7243	Hyland Spoke restoration cmd not working	4.3.26.96507
7277	Dicom Alert on multiple back ends	4.3.26.96507
7279	Internet explorer 11: Pressing the Study button in the viewer may show session timeout messages when loading from slow Acuo long term archive	4.3.26.96507
7275	Series loading progress appears stuck for particular US study loaded over slow Acuo streaming	4.3.26.96507

Defect ID	Description	Version
7145	Previous study is shown when launching a new study	4.3.26.96507
7276	Inconsistent session timeouts	4.3.26.96507
7189	Toolbar shrinks/expands on different DPI or browser zoom setting	4.3.26.96915
7295	Modifying study level attribute in advanced QC changes study date -1 day when client and server are on different time zones	4.3.26.96915
7276	Timeout issue during session: additional fixes	4.3.26.96915
7308	Partner API: Issue with extended patient timeline	4.3.26.96915
7314	Partner API: previous exam of a different patient is shown	4.3.26.96915
7310	partner API: timeline is sometimes not completely loaded	4.3.26.96915
7321	Entire Patient Directory is anonymized	4.3.26.96915
7323	Extended timeline does not show preview images with new Infinitt metadata	4.3.26.96915
7309	VesselTracer and Curved reformat bookmark throws error when loaded in a different browser	4.3.26.96915
7307	pLaunch no longer honors wsld parameter	4.3.26.96915
7090	QR SCP issues reported by Optos, series/instance level move returns the entire study, retrieve AE title missing from the find response	4.3.26.96915
7284	no thumbnails on extended timeline for Key Images	4.3.26.96915
7298	regression loading folder	4.3.26.96915
7214	Vessel tracer: Cannot insert new seeds when bookmark is loaded in a different browser	4.3.26.96915
7283	Extended Patient timeline :Preview support for ECG	4.3.26.96915
7332	anon loading selection is cached	4.3.26.96915
6140	Curved Reformat and Vessel Tracer restore bookmark should preserve the focus point	4.3.26.96915
6338	Key images : When you remove key from a key image series, viewport appears blank	4.3.26.96915
6754	DRR View automatically changes the WL interaction mode to Zoom after 1 WL interaction	4.3.26.96915
7305	Name and PID change for PDF report does not reflect in Report Viewer until re-login	4.3.26.97254
7360	studies from XDS (direct) data source missing in query for all sources	4.3.26.97254
5920	Issue consistency display when moving between different layouts	4.3.26.97254
7335	studies filed in ImageView cannot be deleted from Patient Search	4.3.26.97254
7347	ROI: max value is less than Avg value for a particular study	4.3.26.97254
7325	Study bringing back measurements after deleting them	4.3.26.97254
7312	unable to keep dropped series in specific viewport when exiting full screen	4.3.26.97254
7324	Cannot load non square pixels OCT study in the viewer	4.3.26.97254
5388	Cannot delete series and image in its prior study	4.3.26.97254
7071	Print feature issues with multi-dimensional series	4.3.26.97254
7338	In a MultiMonitor setup, the view tools of the protocol in the Main Monitor are also visible in the Secondary Monitor	4.3.26.97254
7182	Streaming service AE Title does not reflect true value	4.3.26.97254

Defect ID	Description	Version
7222	different zoom factors during DBT replay	4.3.26.97254
7289	Fusion view: Crash when you scroll the empty viewport	4.3.26.97254
7342	Exception when loading license	4.3.26.97254
7316	Study number on folders remain the same even when study no longer exist in remote archive	4.3.26.97254
7370	plaunch invocation ignores the username associated with the URL	4.3.26.97254
7369	Unable to Load Study From Rogan RS	4.3.26.97254
7377	the user with not PD access privilege is exposed to full local DB content	4.3.26.97254
7375	custom authentication is not protected from spoofing attack	4.3.26.97254
7373	Crash when loading a specific multi-dimensional data	4.3.26.97254
7372	SiteMembership provider initialization failures	4.3.26.97254
7378	OP: Key images appears with multiple key image Objects in one click	4.3.26.97254
7381	direct XDS query doesn't work with only time range specified	4.3.26.97254
7385	XDS: issue with grouping by series	4.3.26.97254
7387	XDS direct query with patient id ignores any configured patient identity domains	4.3.26.97254
7388	DirectLink with XDS document reference (study=doc:) skips HP matching	4.3.26.97254
7370	plaunch invocation ignores the username associated with the URL: - plaunch now maintains the session using KeepAlive support for encrypted blank= & close= (screw Epic)	4.3.27.97685
7412	Unassigned Control for toolbar cannot scroll further	4.3.27.97685
7405	Domain users are unable to change key shortcuts	4.3.27.97685
7421	Crash when you try to change the layout of certain studies	4.3.27.97685
7423	magic glass with drag-and-drop doesn't work when loading anonymized studies	4.3.27.97685
7425	Cannot link OCT series	4.3.27.97685
7302	unable to see approved PS on Dicom multi-image	4.3.27.97685
7411	XDS direct does not handle SQL unavailability gracefully	4.3.27.97685
7414	Selecting the CurvedReformat and VesselTracer protocol should display the first lumen available, if any, in the ribbons and MPRs	4.3.27.97685
7435	WADO client does not set the required Accept header	4.3.27.97685
7429	Unable to download Anon studies from Acuo	4.3.27.97685
7418	Partner API fails to clear in LB environment	4.3.27.97685
7416	Not possible to export a 'doc' Acuo dicom file to PDF	4.3.27.97685
7461	issue with HP whilst using shortcut keys	4.3.30.98274
7519	NIL fallbacks to anonymous user when invoked from Epic	4.3.30.98274
7513	ipad/iphone Loading thumbnail from extended patient timeline throws error	4.3.30.98274
7510	The SeriesDataLife Cycle and the Nil Viewer don't generate SliceStacks consistently	4.3.30.98274
7134	Area Ratio (OP cup to disk) annotation: text is unreadable	4.3.30.98274
6389	Nil will crash because possible to use 3d segment tool on 2d view	4.3.30.98274
7494	by default admin has all Privileges revoked	4.3.30.98274

Defect ID	Description	Version
7485	Issue with the XdsAcces user privilege	4.3.30.98274
7428	Titles (Overlays) drop down menu not working after switching toolbars	4.3.30.98274
7426	When loading OCT from Acuo in stream mode the SLO view is not available	4.3.30.98274
7484	crash when loading a single image into multi view	4.3.30.98274
6669	case 24036607: Shortcut in toolbar Axial/Coronal/Sagital view not working	4.3.30.98274
7479	regression in OP Masks/Contours	4.3.30.98274
7456	Recycle container auto purging not working	4.3.30.98274
7466	NilHub Telemetry query editor fails on Chrome, FF, and Edge	4.3.30.98274
7465	Spoke service remains passive even if federation is enabled	4.3.30.98274
7459	Manually adjusted column width in PD is not persistent	4.3.30.98274
7446	attributes used to encode LayerSurface object use wrong private group block	4.3.30.98274
7458	Missing SNR title in Retina/ONH views	4.3.30.98274
7454	Edit Header is not available for Wide Field Ophthalmic Photography (supplement 173) images	4.3.30.98274
7439	Editing study in QC page, does not prompt warning on save	4.3.30.98274
7433	Aperio SVC rendering issues	4.3.30.98274
7449	Crash when viewing ONH or Retina and MPR view side by side	4.3.30.98274
7480	Zoom in 3D viewport is not working for an-isotropic OCT data	4.3.30.98274
7502	Area Ratio (OP Cup To Disk) not updated after any of its ROI's is moved	4.3.30.98274
7357	Admin privileges not populating	4.3.30.98274
6939	DRR view: When I resize the window the WL changes	4.3.30.98274
7373	Crash when loading a specific multi-dimensional data	4.3.30.98274
7506	Address issues of VNA Tech Workflow Use Cases	4.3.30.98274
7559	issue with AD users login	4.3.30.98394
7564	issue with plaunch	4.3.30.98394
7629	launch QC with embedded flag doesn't hide master toolbar	4.3.31.98805
7628	ST attribute with embedded CR+LF display issues	4.3.31.98805
7619	Extended patient timeline has empty thumbnails in some load balancer configurations	4.3.31.98805
7615	Seattle's Bookmark issue	4.3.31.98805
7583	Loss of precision of circle and ellipse control points, and shape of the circle	4.3.31.98805
7613	XDS URI Slot zombies	4.3.31.98805
7629	launch QC with embedded flag doesn't hide master toolbar	4.3.31.98805
7597	Support 1191251 - Cannot use "Blend" to adjust the red-green balance on the Optos-color images when loading from Acuo	4.3.31.98805
7595	support 1192083 - Error when reconciling patients via keyboard	4.3.31.98805
7588	image retrieval/display issue	4.3.31.98805
7544	US study in 1x1 layout and scrolling between a single image series into a multi-frame series, the multi-frame doesn't auto-play	4.3.31.98805
7507	inconsistent colors on slab protocol	4.3.31.98805
7665	Unable to download US study from Acuo	4.3.31.98805
7524	issue with video download	4.3.31.98805

Defect ID	Description	Version
7668	issue with AppPool after the install	4.3.31.98805
7738	RFA ID = 30789, Support Issue # 1210198; Issue with loading a specific dataset that is stored as ELE	4.3.31.99643
7735	Invalid study reference raises 500 error but should raise 410 according to PAPI protocol	4.3.31.99643
7734	Annotations are not always synchronized between different viewports	4.3.31.99643
7733	Hyland SI # 1197655, RFA #29941 Load Prior option not available when using Invoke or Partner API	4.3.31.99643
7729	issue with measurement values on specific data types when displayed side by side	4.3.31.99643
7727	RFA 30670, SI# 1208612 handle FileNotFound gracefully when archive has moved a file	4.3.31.99643
7726	RFA 30670, SI# 1208612 error log pollution due to message loop (busy loop, PAPI)	4.3.31.99643
7723	Duplicate secondary captures created if StudyTracking is enabled	4.3.31.99643
7718	RFA 30587, SI 1210310 Window Freezing in 1x2 Study Layout	4.3.31.99643
7715	ProxyAdapters are claimed to be slow in CRL	4.3.31.99643
7713	RFA 30591, SI Issue 1209618 Issue with loading specific MR dataset	4.3.31.99643
7701	Acuo QIDO issues	4.3.31.99643
7694	RFA 30391; SI 1201406 Multi-dimensional image not handled properly	4.3.31.99643
7689	Edit Patient/Study shows up with XDS studies	4.3.31.99643
7674	Cannot download video series	4.3.31.99643
7673	VisioPharm API fails due to session expiration	4.3.31.99643
7638	Reference lines: Inconsistent colors on 2D+slab	4.3.31.99643
7637	Real time Log Error While Loading Studies -CR Modality	4.3.31.99643
7431	RFA 29830, SI 1148861 Window level presets in context menu does not match custom values in Modality Preferences	4.3.31.99643
7212	Blank viewport appears as soon as you delete image from context menu of a SC series	4.3.31.99643
6524	issue with loading a specific MR study from Remote	4.3.31.99643
6351	HP: Modality from priors rules is still displayed in the HP list modality column even if the priors are not enabled	4.3.31.99643
7706	RFA 30085, SI 1197833 NilFeed getting 403 error when configured for TLS 1.2	4.3.31.99643
7730	RFA #30542 - SI# 1212029; Smart Zoom Lag/Freezes on Edge of Image	4.3.31.99643
7739	no sync between image preview from extended timeline and the main viewer	4.3.31.99643
7513	ipad/iphone Loading thumbnail from extended patient timeline throws error	4.3.31.99643

Defect ID	Description	Version
7763	The Patient Orientation (0020,0020) attribute value is invalid in data retrieved from ACUO VNA	4.3.31.99643
7757	Issue with text annotation	4.3.31.99643
7730	RFA #30542; SI# 1212029 Smart Zoom Lag/Freezes on Edge of Image	4.3.31.99643
7964	PID query in PS finds no matches when PixPdq matching policy is enabled	4.4.17.100452
7938	issue with AD Account user login	4.4.17.100452
7777	(RFA 31071 - SI 1221279) 150% magnification causes Cine drop down unusable	4.4.17.100452
7908	Launch URL not loading a dicom Q/R study after users creates annotations	4.4.17.100452
5991	Deleting study from Acuo after IOCM fails	4.4.17.100452
7927	Distorted image in 3D Viewport with ForceDisplayToIsotropic = true	4.4.17.100452
7925	Applying filter to folder studies results in "missing studies" warning	4.4.17.100452
6651	Dicom RT: can't show RT structures on PET CT studies	4.4.17.100452
7917	(RFA 32044, SI 1202634) Masking occurs in de-identification even if the profile has disabled masks	4.4.17.100452
7883	Dicom RT: DRR Button in the RtViews is always enabled	4.4.17.100452
7900	Mammo CAD outlines logic does not work with all manufacturers	4.4.17.100452
7916	obsolete the "genera rejection notes on study deletion" option in IOCM configuration page	4.4.17.100452
7919	Extra calls to server during scrolling	4.4.17.100452
7508	toolbar selection available to participant user in collaboration	4.4.17.100452
7910	Secure links admin page does not allow to select upload links	4.4.17.100452
7719	(SI 1176239) ClearCanvas DicomReadOptions.UseDictionaryForExplicitUN flag does not work	4.4.17.100452

5. Outstanding Issues & Warnings

a. Known Issues

The following are known moderate and higher severity issues in Nil 4.3.X

Hyland Defect ID	Description
7966	Upload link created from Virtual Directory throws an error page once the upload is complete
7962	crash when propagating measurements on ECG study
7956	Copy Series Link no longer appear
7943	ISO 2022 IR 100 character set is displayed incorrectly in Nil
7941	Load button still enabled when selected items are filtered out of view by unbound column
7924	overlay visibility state is unintentionally reset on switching series
7921	Document number discrepancies

Hyland Defect ID	Description
7915	Handle the case where RequestedProcedureID is too long
7898	The DICOM patient root C-FIND not working properly
7896	Shared Link issues
7879	Korean language characters not displaying properly on uploader
7866	revisit report handling under anonymization
7857	License Usage report does not reflect recent use in Nil
7828	iPad/iPhone: Close button is hidden when you load series from extended patient timeline
7824	'KeepAliveTimeout' does not work
7721	DICOMRT: Can't load \\officeserver.clarontech.com\Projects\Nil\TestData\DicomRT\TCGA-CV-A6K1
7716	The "Select Tissue Properties" Dialog sometime does not show or disappear
7655	Nil DICOM Q/R response identifier does not include the "Attribute Specific Character Set (0008,0005)"
7654	BaseProtocol.SetRenderingMode() : investigate if we can remove vp.ResizeGrids()/vp.Collage.ViewportsSaveResizingData()
7546	Handling the 3D rendering pipeline for Tissues, Visible Surfaces, Masks
7523	I can edit a Tissue's color only when the view has 3D + MPRs (i.e. Segment Mode) and not with MPRs-only View or one 3D-only View
7068	Fusion Views sometimes offset the axial images in the allocated viewport
6824	Reset on a SC brings the image titles on them
5984	Grouping issue with specific multi-dimensional data
3635	support 827162: Manually adjust fusion blend

b. Warnings

Please see the Warnings and Precautions in the On-line help file.

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