

NilRead 4.3.X Release Notes

Doc #: 971-07138



Contents

1	Introduction	3
1.1	Purpose	3
1.2	Intended Use Statement	3
1.3	Version Identifier	4
1.4	Release Content	4
2	Interface Requirements & Dependencies	4
2.1	Hardware	4
2.2	Software	4
3	Installation and Support	4
3.1	Installation	4
3.1.1	AcuoStoreAgent	5
3.2	Support	5
4	Summary of New Features and Changes	5
4.1	Workflow Optimizations	5
4.2	Closed Issues	10
5	Outstanding Issues & Warnings	10
a.	Known Issues	10
b.	Warnings	12

1 Introduction

1.1 Purpose

This document provides the release notes for release of NilRead 4.3 (software version 4.3.23.95405). 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: 4.3.23.95405

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 (v 1.4.1.94344) 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 4.5 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 4.3.23.95405:

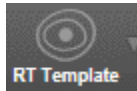
Structured Reports

- 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

This is the first release of Nil 4.3

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
6957	Thumbnail scrolling issues in MS Surface
6955	HealthEast IOCM failure with studies that have more than 2100 images.
6953	IE prints only the first page from report
6952	Enabling operations on Mouse/Keyboard templates
6948	Wrong entries in the patient timeline in certain conditions
6939	DRR view: When I resize the window the WL changes

Hyland Defect ID	Description
6935	Can define an RT template with 2 Max isodoses
6920	Date and time format is inconsistent in Image Viewer
6898	SR templates can be created with Duplicate names
6890	Crash when you try to change the layout of SEG CT studies
6887	Image Place holder for SR template is not working
6882	Skype feature in collaboration is broken
6875	DOB is not getting picked up from MWL during reconciliation
6851	SR template : Image place holder cannot be adjusted in Chrome
6831	SR Template: uncheck in Enabled column is unresponsive
6828	OPTOS study not working with hanging protocol in streaming mode from Acuo
6824	Reset on a SC brings the image titles on them
6821	Curved Reformat view: misc issues on the RibbonViewport
6811	WebView initial toolbar is empty to Android WebView initial display on the load
6807	Curved Reformat and Vessel Tracer: Ribbon image is not centered and I can't scroll on the Axial outside the lumen's centerline
6754	DRR View automatically changes the WL interaction mode to Zoom after 1 WL interaction
6736	HP zoom setting does not work well when combined with the zoom from Presentation State
6699	IE: Not all pages are printed when PDF report has more than one page
6678	Optos: Display proper message in the viewport when HP is not supported
6660	issue with Lifecycle
6658	3D multi-dimensional switching
6653	Bookmarks created in MPR views appears to be shifted when opened from link in a different browser
6639	Uploader on chrome
6632	Switching to ECG CT study after loading ECG study would mess up CT series scrolling
6612	incorrect series is selected
6591	Annotations applied in 3D/Slab reformat view doesn't appear in fusion reformat view
6539	case 02334596: jpeg codec issue on specific CT data
6525	Reference lines are not displayed in OCT view after copy to a new study
6524	issue with loading a specific MR study from Remote
6477	IE MM 1+2: Bookmarks are not displayed on the secondary monitor
6469	Session Timeout on Print Cancel occurring repeatedly
6465	US, XA: Inconsistent behavior after configuring Cine AutoPlay option and enabling HP
6460	Nil uploader: Unable to select multiple files to upload
6429	Fusion Procotol : zoomed images when changing Study layout
6424	Viewer stuck at loading screen if the study can not be loaded
6397	MM window number keeps populating when you load as batch and navigate using the arrow
6389	Nil will crash because possible to use 3d segment tool on 2d view

Hyland Defect ID	Description
6381	NFL gets disappeared and unchecked when you drag the lines in OCT viewport
6373	Dicom RT Performance improvement : rewrite the display pipeline for 2D, slab and 3D
6362	Messages are displayed on the reformat view when slices are missing in a series
6358	DicomRT Beams : Nil always uses the first control point and ignores the selection from the UI
6351	HP: Modality from priors rules is still displayed in the HP list modality column even if the priors are not enabled
6350	Change the tissue handling in Nil
6338	Key images : When you remove key from a key image series, viewport appears blank
6313	ONH/MACULA/RFNL views: Bookmark thumbnails doesn't stay in position after you click on it
6298	ONH view: Cursor values are not displayed properly after modifying the ILM lines and then switching to NFL
6277	Predefined square tool appears as a circle while dragging to a different location
6260	No response when you click on the thumbnail of icon image
6258	With Force Isotropic =True , aNormal CT crash when loaded into Curved, vessel Tracer (Addison Barry, Cardiac CT, etc)
6242	Vessel analysis fails with error
6143	RT- Changing control point rests the zoom level
6060	Something is wrong when delete a study of AcuoMed in QC
6036	6000 overlay disappears after flip
5991	Deleting study from Acuo after IOCM fails
5984	Grouping issue with specific multi-dimensional data
5951	Collaboration - occasionally missing updates from participant
5563	session logout Feature Request
5426	Clinical: mammo is displayed in HD
5388	Cannot delete series and image in its prior study
5106	Issue with restoring from bookmarks
5057	Case 01972215: NilFeed - Issue with processing a large number of incoming images
4975	XDS: Blank screen when multiple integration configurations exist for the same Endpoint
4635	Delay in displaying the timeline when one of the endpoints is 'dead' when loaded as batch
4633	NilFeed: File up/down buttons work not properly in Upload page
4124	Loading 100 studies as prior: 100th study is not listed properly in timeline and viewport
3635	support 827162: Manually adjust fusion blend
2660	Refresh problem in RT Graph view

b. Warnings

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