



# NilRead 5.X Release Notes (5.0.4.109441)

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Doc #: 971-07184



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## 1 Introduction

### 1.1 Purpose

This document provides the release notes for release of NilRead v5.0 (v 5.0.4.109441)  
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 NilRead Patient Portal Intended Use Within the US

The NilRead Patient Portal is intended to provide a patient/provider-tethered application that allows patients to access and upload the patient-specific healthcare information and medical images. This Patient Portal is not intended to enable patients to control or perform any actions on medical purposes. Patient Portal can only be activated under the consensus of hospital and/or the healthcare provider, and distributed under this consensus.

### 1.4 Version Identifier

NilRead Build ID: 5.0.4.109441

### 1.5 Release Content

The NilRead 5.0 release contains:

- NilRead Installer (includes On-Line Help).
- AcuoStore agent (v 1.5.4.106902) 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+ 64 bit or higher versions (64bit, US English system locale)
- Web Server (IIS 8.5+) role installed on the server
- ASP.Net and Web Socket features
- Microsoft .Net 4.8 or higher
- Universal C Runtime in Windows (KB3118401) (<https://support.microsoft.com/en-us/help/3118401/update-for-universal-c-runtime-in-windows>)

For the complete list of 3d party software used in NilRead, refer to Appendix A

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 NilRead viewer in iFrame embedded deployments

#### 2.3.1.1 Chrome v80

Starting with v80 (February 4, 2020), Chrome will consider all cookies without a SameSite attribute as having SameSite='Lax'

This will impact customers that are embedding the viewer inside an iFrame, for example 'inside' an EMR window.

If this is the case, the possible approaches are:

- Change web.config to produce 'SameSite=none' and 'Secure' cookies, see yellow highlighted changes.
 

```
<httpCookies requireSSL="true" />
<sessionState cookieSameSite="None" cookieless="false" timeout="20"/>
```

Notes:

- *that such configuration will allow launching the viewer only over a HTTPS connection. If one wishes to connect directly to the servers for troubleshooting (for example localhost) , use IIS UI to add HTTPS bindings to the NilRead website.*
  - *Certain OS (for example iOS12) and browser versions are not compatible with such configuration.*
- See <https://www.chromium.org/updates/same-site/incompatible-clients>

- Upgrade to NilRead v4.4.32.103099, which has ability to produce SameSite None + Secure cookies for web sessions initiated from a particular embedding website, while still producing 'SameSite=Lax' for regular usage

#### 2.3.1.2 Microsoft security updates (Nov/Dec 2019)

Installing these updates on the server is having the same effect on iFrame embedded deployments. This security update will generate SameSite=Lax cookie, for all browsers. See <https://support.microsoft.com/en-us/help/4533010/kb4533010> for details.

Note that certain IE11 versions have printing troubles with SameSite=Lax cookies (see 8373) and require either v4.4.32.103099 or the above described web.config change. Isodose

## 3 Installation and Support

## 3.1 Installation

### 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:

<b>Hyland Customer Support</b>		<ul style="list-style-type: none"> <li>• U.S. (toll free): <a href="tel:1-877-201-0001">1-877-201-0001</a></li> <li>• Direct: <a href="tel:913-227-7030">913-227-7030</a></li> </ul> Customer Portal: <a href="https://www.onbase.com/community">https://www.onbase.com/community</a>
<b>Regulatory affairs only</b>	<b>Manufacturer</b>	Hyland Software Canada ULC 111 Peter Street, Suite 540 Toronto – M5V 2H1 Email: <a href="mailto:NilRead_info@hyland.com">NilRead_info@hyland.com</a>
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## 4 Summary of New Features and Changes

### 4.1 Workflow Optimizations

Version: 5.0.4.109441

- Added Referential Pathology option for US region
  - o Requires referential pathology license
- Added ability to send link using the SMTP server instead of the users native email system
- Added ability to provide multiple secure links in an email
- Added an option to provide a full URI for standalone servers serving links
- launch API: added support for upload link creation
- added ability to support failed jobs in Data LifeCycle in hidden config
  - o LifecycleFailureEmailSend by default set to 'False'
  - o LifecycleFaultingRetriesMax by default set to 5
- HP: added ability to skip stage
- Third Party launch improvements
- Document Filters update (v21.2.0)
- Added Regulatory page (Settings > Product Information)
- IPAPI: extended support for image thumbnail, including key images for a Foxo patient card
- added shortcuts for all overlays and new buttons (timeline, etc)
- improvements in burn-in labels on advanced QC
- added ability to redact encapsulated PDF in advanced QC using mask/shutter, label, reorient
- improved Confidentiality Masks > Advanced workflow
- added support for XDS metadata image titles (support xpath syntax to display any element or attribute value from the XML meta-data)
- XDS report improvements:
  - o XDS document review from patient search has been harmonized to the non-XDS document workflow. The Status column provides an icon for displaying the report in a document viewer. Clicking the row outside of the status column has one of the following configured behaviors:
    - displays the report in the document viewer
    - loads the report in the image viewer
  - o This depends on the choice made in settings (Settings > System Settings > Image Display) for *Display documents as a regular 2D image series*.
  - o As part of this change:
    - *View Extrinsic Object* presents meta-data in an easy to read table format with the option to toggle to the classic XML unfiltered display
- XDS: improved handling of invalid KOS documents on timeline completion
- added Security Audit page
- Improvements in cleanup of the temp files

Version: 5.0.1.107848

- Added new vertebrae labels for veterinary use
  - o Requires additional user privilege 'VeterinarySciences'

Version: 5.0.1.107328

- Additional support for HL7 messages: ADT A40,A31,A18,A34

- Added ability to Restart/recover local cache streaming
- Document Filter update to v11.4.20
- Added UI for Epic AES-256 encryption (EPIC.256)
- Mammo CAD: Have an option to show/hide CAD outlines
- Bookmark notification
- Enhancements for DICOM attributes viewer - Added copy attribute feature Advanced QC (DICOM) that copies attribute key/path and values (as text) using the context menu in the DICOM attribute value table. The key is useful for DICOM morphing, hanging protocols and image titles (family=dicomPattern.)
- Added ability to launch with XDS document uid and federate across all domains
- DicomRT: RT Template for Isodose should allow setting which isodoses are initially selected ( i.e. displayed)
- DICOM service startup sanity check improvements
- MR: have an ability to apply WL on the entire series

Version: 5.0.1.106915

#### **NilRead Viewer** –transition to ASP.NET Core

- viewer Logs are in the <installDir>/Viewer v5.0.1.X/Logs folder

#### **Dicom RT improvements:**

- added ability to display Rtstructure of a single point
- added ability to view Isodose colourwashes as continuous spectra of colours
- added ability to show a hint on series thumbnail if it has associated RT data
- When selecting an RTPLAN, should load the RTDOSE with DoseSummationType = PLAN that links to the RTPLAN if any
- An RTPLAN can have multiple RTDOSE data associated and NilRead allows selecting any of them
- If Study can have multiple series, NilRead will indicate which series have associated RTSTRUCT->RTPLAN->RTDOSE
- allow User to have the option to set value which corresponds to the 100% of the absorbed dose (ability to change the Prescription Dose)
- For RT Doses with Summation type = BEAM added ability to compute the “Composite Dose” (type = PLAN) by adding all the doses for all the beams when available
- added ability for DVH graph to show the information on which doses was used for the graph
- The beam display is now independent of the dose display; i.e. a user can deselect all beams but turn the dose on
- When selecting an RTDOSE, the UI is now able to display the correspondent beams
- DicomRT: display the beams initially only when there is isodose displayed
  - o The setting DicomRtShowBeamsOnInit controls the initial display of the beams
  - o The default value is "true" meaning that when an RT series is loaded, the Viewer will display the beams associated to the current dose, if any
- added support for Elekta Mosaic RT
- Added the option to select the current structureSet in the DRR and RtGraph Views
- added the option to display the isocenter associated with any control point of each beam
- DVH Chart: support the addition of multiple hit points on the curves



- Added the option to select a colormap for the dose colorwash - allows a user to select one colormap to use from a set of available colormaps
- DicomRT: By default enable the option to load plans without dose

### Misc improvements

- One click timeline filtering: +1 for relevant priors
- DocFilters Integration - Integration of Hyland Document Filters (version 11.4.19) to allow for in browser viewing of non-image documents (Word, PPT, Excel, etc.)
- added ability to display creator of PR in viewport labels
- added ability to cache the last few frames when scrolling with mouse wheel
- Added support for Nifti file format (neuroimaging)
- Added support for tenant specific encryption keys
  - o The NIL>Settings>System>Launch URI encryption settings are applied to the current site only if the NIL UriEncryptionBySite settings is set to True value
- Added support for SSO configuration per tenant. An identity provider including:
  - o NIL
  - o IWA
  - o CAC
  - o SAML SSO
  - o OIDC SSO
  - o can now be configured per site using the HUB>Settings>Identity Provide section
- Added support for SAML2 SLO
- Added SAML2 support for NilRead login & invoke
  - o OIDC & SAML2 configuration is now supported on NilHub settings page
- Added HL7 support:
  - o support mllp protocol for accepting HL7 requests
  - o accept HL7 ADT-A08 message and update patient demographics (name, data of birth gender) in Nil cache
  - o support HL7 v2.x, ER7 encoding
  - o support TLS connection, server/client certificates
  - o support dynamically loaded plugins for site require customization
  - o controlled by new Nil HL7 license
- added ability to show/hide Mammo CAD outlines
- added support for OIDC custom username claim (default preferred\_username)
- Secure Links: Allow the sending user to control the privileges of the recipient
- XDS - View My Own Restricted Content
  - o Expanded the concept of Study Associations to include both Patient Search Associations and XDS Confidentiality Associations.
  - o The latter implement department-based segregation of XDS sensitive content: if such association is defined, users with ViewRestrictedContent privilege can only see sensitive content within their department.
  - o Either facility or practice code can be used to define a departmental association.
  - o Confidentiality associations can be defined for XDS sources in the same place PS associations are defined.
- Spine Labels enhancements
  - o added ability to support text shifting when they applied on top of anatomy

- Added labels for sacrum and Coccyx
- Added ability to have links on login screen
  - Settings > System> Third Party Applications > Launch URL
- Changes in Reset behavior – added ability to select scope
- STL data support:
  - Added ability to ingest and display STL data in the viewer
  - Added ability to ingest and display non-Dicom STL data in the viewer
  - STL files: add ability to download in original format
- added ability to import/export confidentiality masks
- added ability to import/export Confidentiality Profiles
- added ability for SecureLink to translate device id to AE Title
  - the new setting UseTitleAsDeviceId is controlling the behavior
  - by default it is false
- added support for Canon Dicom data
- added Velocity time integral on US data
- Patient Directory improvements
  - New config PreferredLoadStudiesMode (priors or batch, default batch). Saved as user setting when the user picks it from "Load" button dropdown. Dropdown only available if multiple studies are selected
  - context menu makeover - now organized into sections: viewing, qc, folder management and data transfer.
- added ability to flip/rotate images in Advanced QC
  - new tool - reorient
  - currently configured to be available for images that typically require correction e.g. DX, CR
- Added 2x1 in View
- Added support for video editing to Acuo XDS servers where direct file access is available
- added ability to reorder data sources
  - added FederatedSearchDataSourceOrder config (tenant scope) to be able to reorder data sources in PS query panel dropdown
  - Config UI is available in Settings > System > Patient Search Query Panel, to configure both the order of data sources (use up/down buttons) and which are default (FederatedSearchDefaultDataSources)
- Mammo data display - added ability to disable automatic zoom when displaying mammo data with keeping data displayed back to back
  - new settings:
    - DisableMGAutoPan
    - DisableMGAutoZoom
- added ability to view 'my own restricted content' in XDS - sensitive data from a given department should only be available to users of that department
  - Expanded the concept of Study Associations to include both Patient Search Associations and XDS Confidentiality Associations. The latter implement department-based segregation of XDS sensitive content: if such association is defined, users with ViewRestrictedContent privilege can only see sensitive content within their department. Either facility or practice code can be used to define a departmental association.



- Confidentiality associations can be defined for XDS sources in the same place PS associations are defined.
- Notes:
  - EmergencyOverrideRestrictedContent is a global breakglass. Users with this privilege will be able to see data outside their department, once glass is shattered.
  - Currently ViewRestrictedContent privilege is tied to BPPC (basic patient privacy consent). If patient does not provide consent, data is treated as restricted for users without ViewRestrictedContent privilege.
- Improved Extended Patient Timeline performance with XDS data
- Improved Mouse and Keyboard editing privileges
  - Added new "EditSystemTemplates" privilege which is used for MKT, RT and SR templates. For HPs, "EditSystemHangingProtocols" is still used
  - privileged user can delete other users' and system or group templates
  - privileged user can create system templates
  - privileged user can edit others' and system templates
  - other non-privileged users can still edit/delete their created templates after privileged user has edited them
  - non-privileged users can clone others' templates - cloned templates should be assigned to users who cloned them
- added ability to configure patient banner (Settings > System > General)
- FHIR: added sanity check the access token even a FHIR token endpoint returns 200 (Success)
- Added ability to remember report position per user (Configs are saved and applied per user except for smartphone devices and QC report viewer)
  - ReportDisplayPatientDirectory (default value {"Orientation":"vertical","SizePercent":50})
  - ReportDisplayImageViewer (default value {"IsMaximized":true})
- PDF files: support for display in the browser, copy, navigation, search, etc
  - Classic server-side rendering is the default behavior, but the site may choose to change the default (Settings > System > General: Document Rendering) or the user may change the settings themselves (Settings > Preferences > User Preferences: Document Rendering (User))
  - Users should exercise standard security practices to ensure any imported PDF content is secure and comes from trusted sources
  - NilRead integrates PDF.js for client side rendering of documents (transformed to PDF using Hyland Document Filters.) (<https://mozilla.github.io/pdf.js/> 2.5.207 stable)

## 4.2 Closed Issues

Defect ID	Description	Version
9040	WS message bus /api/ws/pull request leakage	5.0.1.106915
9033	RealTimeLogger version tooltip issue	5.0.1.106915
9025	Smart zoom is not working as expected	5.0.1.106915
9020	Missing DICOM RT payload info from EPT series drag and drop in multi-monitor	5.0.1.106915

Defect ID	Description	Version
9019	Including image assets in SN shows the data path instead of actual image	5.0.1.106915
9018	Study note takes too long to save or cannot be saved properly when you include either KO, SC or all images	5.0.1.106915
9016	DicomRT:Computed Beam is displayed when DicomRTAlwaysComputeSumDoseBeams isFalse	5.0.1.106915
9015	ECG study - Hitting Reset will clear existing annotations on a study, but double clicking on that study will still show annotation	5.0.1.106915
9014	remove cached settings from AcquisitionSet	5.0.1.106915
9012	Upload > Link - Pasting the link in another browser will bring an unhandled problem error	5.0.1.106915
9009	Decrypted links work when encryption is enabled	5.0.1.106915
9008	Random uploader failures	5.0.1.106915
9006	Index out of range error displayed when loading IHEMammoTest, Four view with CAD	5.0.1.106915
9005	Bookmark - Pasting bookmark link in another will prompt user to login again and not display bookmark	5.0.1.106915
9004	5.0: Advanced QC split is broken	5.0.1.106915
9003	Enhance tool - Different images when switching back and force between series	5.0.1.106915
9000	Login failed message will not allow user to re-enter login and password	5.0.1.106915
8999	Copy Link no longer works	5.0.1.106915
8993	CHOP needs a worklist based on invalid modality CS	5.0.1.106915
8992	Language in login screen inconsistent with user preferences (in some cases)	5.0.1.106915
8983	DRR Protocol: When not all the beams have the same number of control points, I may not be able to select certain beams	5.0.1.106915
8965	TissueHandlingProtocol sets tissues on cameras != inCamera that have SliceStack's with Grid != Tissue.Grid	5.0.1.106915
8955	some text annotations are not displayed when Text Bounding Box is of size 0	5.0.1.106915
8950	IPAPI rejects requests from within Nil when not using URL encryption	5.0.1.106915
8941	image titles in bottom blocks wrap in the wrong direction	5.0.1.106915
8936	Error when trying to split layout with video study	5.0.1.106915
8933	Encryption troubleshooting code is broken	5.0.1.106915
8930	Forced reload settings for the first viewer session	5.0.1.106915
8928	ImageNext - interruption workflow issue	5.0.1.106915
8922	Exception thrown for settings of type System.Drawing.Size in shared configuration	5.0.1.106915
8918	DicomRT: Improve the viewing orientation of the Viewport that renders a DRR image	5.0.1.106915
8909	Import failed when you try to upload zipped NIFTI-2 dataset	5.0.1.106915
8908	Issues with auto-selection of first row in template editors	5.0.1.106915
8907	Unable to edit keywords for relevant priors in HP protocol editor	5.0.1.106915

Defect ID	Description	Version
8898	DRR Protocol: The Viewport does not always update when I change the current Beam	5.0.1.106915
8897	Toolbar template does not support context submenu customization	5.0.1.106915
8896	Study Annotations dialog does not work well with Spine Labels	5.0.1.106915
8884	Missing colormaps definition - after new server install	5.0.1.106915
8875	DicomRT: Can't load the second StructureSet of a Study with only 2 Structure Sets and No Plans and Doses	5.0.1.106915
8874	DicomRT Isodoses UI : The scrollbar hides some UI controls in Firefox	5.0.1.106915
8867	issue with loading on a slow connection	5.0.1.106915
8862	Allow using the SslStream built-in TLS certificates verification process	5.0.1.106915
8834	NIL GaussianFilter It's only filtering along the Y direction.	5.0.1.106915
8830	FHIR: reconcile query of patient resource return limited results	5.0.1.106915
8817	QC - Copying existing study includes bookmarks	5.0.1.106915
8486	certain combinations of download options result in error (corner cases)	5.0.1.106915
8310	DicomRT: MAASTRO Data includes RTDoses with no PixelData, RtDoses with only 1 plane	5.0.1.106915
8128	No timeout in the viewer	5.0.1.106915
9044	error when loading specific OP data	5.0.1.106915
9037	SR reports cannot be loaded from Q/R sources	5.0.1.106915
9010	Acuo XDS with direct patient indexing does not filter by accession number	5.0.1.106915
8982	mixed culture displayed in ImageView	5.0.1.106915
8980	No timeline when loading from dicom-rs	5.0.1.106915
8979	Error trying to login after 20 min or so	5.0.1.106915
8977	report viewer drag and drop inconsistent behavior	5.0.1.106915
8975	EnableOverlayTextButton setting works incorrectly	5.0.1.106915
8963	download from ACUO WADO doesn't work	5.0.1.106915
8949	report viewer sticky highlights	5.0.1.106915
8934	displaying large NM studies over QIDO/WADO is too slow	5.0.1.106915
8847	video doesn't play with hanging protocol	5.0.1.106915
9038	Some image handlers on core viewer do not provide content length header	5.0.1.106915
9036	Redirect from viewer to PD or Settings shall be without using HTTPSYS	5.0.1.106915
8969	Some studies with multiple Mammo CAD do not allow CAD selection	5.0.1.106915
8825	Uploading a zipped DICOM file containing special characters will generate an error	5.0.1.106915
9024	IE MM throws error when you choose different views after resizing the windows	5.0.1.107328
9152	Value of cursor on the same slice will change when relate is applied	5.0.1.107328
9119	masking code path missing for RGB triplet	5.0.1.107328
9118	Issue with Presets	5.0.1.107328
9114	DicomRT: Color of DVH marker and its annotation is not changing	5.0.1.107328
9113	Redirect URL has been sanitized	5.0.1.107328
9111	Cleanup of full stack traces in error messages	5.0.1.107328

Defect ID	Description	Version
9103	Stored XSS	5.0.1.107328
9102	Reflected XSS All Clients	5.0.1.107328
9101	Second Order SQL	5.0.1.107328
9075	Cleanup of query parameters in our API	5.0.1.107328
9098	Download ED as anonymized deidentifies meta-data but leaves content untouched	5.0.1.107328
9095	Download Series - not working when series has more than one image	5.0.1.107328
9091	OP study - error occurred when opening Key Image study containing annotations	5.0.1.107328
9090	Premature NilWebsite.Global.Session_End received from IIS kills viewers	5.0.1.107328
9089	AcuoXdsRegistryWebClient errors reported for HTTPS connections - codes don't sync	5.0.1.107328
9079	XDS default layout does not show specific document as current when multiple documents are grouped	5.0.1.107328
9077	QC: burn-in labels appear blank after first one on load balanced environment	5.0.1.107328
9074	AQC + EPT exceptions raised with ApiViewer when studies span multiple partitions in Acuo VNA	5.0.1.107328
9069	Once ECG is displayed, scrolling frame rate drops significantly	5.0.1.107328
9060	First keep-alive timing issue affecting study load statistics availability	5.0.1.107328
9059	Issue with invalid rectangle annotation	5.0.1.107328
9058	Wrong starting point for annotations after pinch-zoom on touch devices	5.0.1.107328
9040	WS message bus /api/ws/pull request leakage	5.0.1.107328
8997	Nilread Qido SCP does not respond properly to qido queries containing multiple includefield	5.0.1.107328
8994	XDS advanced settings (Shit + Edit) text inputs overflow their container	5.0.1.107328
8990	Multiple extended patient timeline window appears with multiple clicks	5.0.1.107328
8974	Click jacking	5.0.1.107328
8973	Loggin page	5.0.1.107328
8571	Clean up of ActiveDirectory connection	5.0.1.107328
8357	Auto cleanup the orphan study records (RFA 33288)	5.0.1.107328
7813	Improve memory usage when loading large studies	5.0.1.107328
9159	QC - multiple burn-in labels all show currently selected option	5.0.1.107328
9149	Nilfeed - uploading a video to nilqa04 will not display nor play video	5.0.1.107328
9137	Unable to scroll to OPT Key Image in a series containing a combination of OP/OPT key images	5.0.1.107328
9086	DICOM streaming (port 1104) service failed to start after IIS app pool recycling	5.0.1.107328
9155	Secure Link: When "Show Password Clue" is disabled, breaks sendlink functionality	5.0.1.107328
9125	Specifying an explicit address in NIL binding breaks WS messaging	5.0.1.107328
9197	Insecure Direct Object Reference (IDOR)	5.0.1.107848
9193	Cannot Query/Retrieve From VNA Getting Invalid Colum Name Error	5.0.1.107848

Defect ID	Description	Version
	Reverted the default AcuoMed schema mapping to the lowest supported version which does not contain the current patient location column. This column is required to restricting user access to patient study search based on locale. For sites with a more recent AcuoMed installation which includes this column, and who need to be able to perform search and filtering of AcuoMed studies based on current patient location, the installation steps must include updating the mapping to the correct version.	
9191	Patient Search: Unable to query by modality from Local Data Source	5.0.1.107848
9179	HL7 A34 not enabled	5.0.1.107848
9177	Unable to edit imported Hanging protocols in IE	5.0.1.107848
9172	DevExpress upgrade - v20.2.4	5.0.1.107848
9180	HTTPS XDS regression	5.0.1.107848
9534	importing anon profiles with code options set to K can't be changed	5.0.4.109441
9520	Deidentification Keep override ignored for private attribute when Retain Safe Private option selected	5.0.4.109441
9516	NIL SAML RP metadata is rejected by ADFS	5.0.4.109441
9512	iOS: Patient Directory is blank	5.0.4.109441
9501	deidentification uses Path.GetTempFileName which fills up windows temp folder	5.0.4.109441
9493	Inconsistent de-identification mappings	5.0.4.109441
9490	Pathology labeling change	5.0.4.109441
9486	NLRD-61: patient launch with multi-monitor results in blank black window	5.0.4.109441
9485	MPR horizontal reference line is broken	5.0.4.109441
9481	report viewer shows wrong save button for SR reports	5.0.4.109441
9480	ImageNext integration fixes	5.0.4.109441
9467	Load anonymized doesn't preserve de-identification mappings in 5.0	5.0.4.109441
9463	Replace ZedGraphControl with a GraphPane in RT protocol	5.0.4.109441
9462	Replace ZedGraphControl with a GraphPane in Oct RNFL protocol	5.0.4.109441
9461	Replace ZedGraphControl with a GraphPane in EcgProtocol	5.0.4.109441
9457	template/mask import no longer works	5.0.4.109441
9455	only basic profile is shown in confidentiality profile UI	5.0.4.109441
9453	Filtering broken for Worklists and Confidentiality Profiles tables	5.0.4.109441
9406	some images appear washed out	5.0.4.109441
9402	De-anonymization loophole: drag and drop	5.0.4.109441
9398	De-anonymization loophole: report info	5.0.4.109441
9372	PEN en francais	5.0.4.109441
9358	Delete in mouse and keyboard 'definition' tab is not working	5.0.4.109441
9341	Slice position not displaying correctly when Query/Retrieve is set to stream mode	5.0.4.109441
9334	Problems with XDS KOS containing SR references	5.0.4.109441
9328	issues with filing XDS studies to folders	5.0.4.109441

Defect ID	Description	Version
9325	Images from Nilread (data source VNA) are intermittently failing to send	5.0.4.109441
9321	Exception thrown during MPR slab rendering of anonymized study	5.0.4.109441
9314	Secure link not working for anonymous and password protection access	5.0.4.109441
9311	Authorization Bypass – Create Secure Link	5.0.4.109441
9310	Insecure Random ID - Collaboration	5.0.4.109441
9307	SQL crash when filing a study to folder with notes	5.0.4.109441
9301	Stored Cross-Site Scripting - DefaultSkin Cookie	5.0.4.109441
9300	Authorization Bypass - Third Party Applications	5.0.4.109441
9299	Authorization Bypass - Create Collaboration Meeting	5.0.4.109441
9298	Authorization Bypass - Read User Data	5.0.4.109441
9297	Cross-Site Request Forgery - Create Asset	5.0.4.109441
9296	Open Redirect - Login	5.0.4.109441
9295	Stored Cross-Site Scripting - Study Note Template	5.0.4.109441
9294	Stored Cross-Site Scripting - Shared Link	5.0.4.109441
9293	Stored Cross-Site Scripting - Third Party Applications	5.0.4.109441
9292	Stored Cross-Site Scripting - File Upload Settings	5.0.4.109441
9291	Stored Cross-Site Scripting - Patient Search	5.0.4.109441
9290	Stored Cross-Site Scripting - Work Item (Group)	5.0.4.109441
9289	Stored Cross-Site Scripting - Work Item (User)	5.0.4.109441
9288	Stored Cross-Site Scripting - Customize (Group)	5.0.4.109441
9287	Stored Cross-Site Scripting - Customize (User)	5.0.4.109441
9286	Authorization Bypass - Remove Account Restriction	5.0.4.109441
9285	Authorization Bypass - Reset User Associations	5.0.4.109441
9284	Authorization Bypass - Confidentiality Profile Export	5.0.4.109441
9283	Reflected Cross-Site Scripting - File Upload	5.0.4.109441
9282	Reflected Cross-Site Scripting - Image Close	5.0.4.109441
9281	Authorization Bypass – File Download	5.0.4.109441
9280	Authorization Bypass – Delete User Account	5.0.4.109441
9271	Download anonymized keeps remapping pseudonymization	5.0.4.109441
9250	XDS: (https)SSL could not be established when launching MP4 via XDS Direct	5.0.4.109441
9249	Unable to edit existing mask	5.0.4.109441
9229	Prevent SecureLink password protection brute force attempts	5.0.4.109441
9228	Add X-Content-Type-Options: nosniff	5.0.4.109441
9223	Cardiac MRI Hanging Protocol Yo-Yo cine when set to replay	5.0.4.109441
9216	MR study - Unable to delete extra annotations made by ROI-Free	5.0.4.109441
9108	NRE thrown from NilFhirStateSessionKeyStore.GetKey()	5.0.4.109441
8705	IE Patient Search flickers while polling	5.0.4.109441
8638	exception raised while downloading anonymized study	5.0.4.109441
8509	Incorrect HP behaviour with studies loaded as Priors	5.0.4.109441
8330	Penetration Test – broken Authorization	5.0.4.109441
9437	issue with loading RT data from Acuo	5.0.4.109441



Defect ID	Description	Version
9420	PD: extended properties are not retained for anonymized studies	5.0.4.109441
9313	IHE Connect-a-thon 2021	5.0.4.109441
9254	PS: XDS query by document UID doesn't find match when used with date range	5.0.4.109441

## 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
8286	Study Note Templates HTML button inconsistency	Does not affect typical user workflow
8507	DICOM image saving does not preserve multi-bytes character set	Does not affect typical user workflow
8643	Modality Preferences: 'Create Combine series' is not working for the second time	Does not affect typical user workflow
8765	MG Implant masking not working for all images	Specific to particular dataset
8870	final render never completes while scrolling	Does not affect typical user workflow
8880	Move messages from LogoffThankYou to Error.aspx	Does not affect typical user workflow
8938	freehand clip tool rotate not working as expected	Does not affect typical user workflow
9026	review RenderDicomFile.ashx usage - missing support for src/partition specification	Does not affect typical user workflow
9071	The 'horizontal' reference line is not working in any MPR views	Does not affect typical user workflow
9139	Unable to select/highlight the next Key Image thumbnail when a study containing KO series had been sent to another NIL viewer (Acuo)	Does not affect typical user workflow
9153	System will let you create multiple study note templates with duplicate names	Does not affect typical user workflow
9215	The 3D preset in HP editor can not be changed and the list does not match the viewer	Does not affect typical user workflow
9349	Support marking rasterized PDF images as KO	Does not affect typical user workflow
9366	No response when you hit " Back to Viewer" from some of the tabs under Settings > System	Does not affect typical user workflow

9374	Can not respond to qido request if particular patient name is included in the response	Does not affect typical user workflow
9403	De-anonymization loophole: download study from Recently Opened	Does not affect typical user workflow
9409	Edge Rendering - prefetch webservice	Does not affect typical user workflow
9468	KOS document with report from the XDS server not showing on the timeline	Does not affect typical user workflow
9469	XDS: It takes very long to display contents on the timeline	Does not affect typical user workflow
9487	Keyboard shortcuts for toggle timeline is not working on second monitor	Does not affect typical user workflow
9542	QidoLaunch no longer works	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**

*Confidential*

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Release Notes Template (#935-01008, Revision 4.0)

May 25, 2021

Windows	10.0.17763
Microsoft .NET Framework	4.8.03761
Microsoft .NET Core	5.0.3
Microsoft .NET Core SDK	
Visual Studio Professional 2019	16.8.31005.135
Java Runtime Environment	1.8
Google Closure Compiler	200132024
Python	2.7.16150

## 7.2 WIF Dependencies

<b>Software</b>	<b>Version</b>
AngioEngine	5.2.0.1
BreastMapper	5.2.0.1
CardiacMapper	5.2.0.1
CardiacMapper	5.2.1.0
ClearCanvas.Common	2.1.19.0
ClearCanvas.Desktop	2.1.19.0
ClearCanvas.Dicom	2.1.19.0
ClearCanvas.ImageViewer	2.1.19.0
Hyland.UI	1.0.0.0
LicenseManager	5.2.0.1
log4net	2.0.8.0
protobuf-net	2.0.0.640
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.Data.v20.2	20.2.4.0
DiscUtils	0.13.0.0
DiscUtils.Core	0.13.0.0
DiscUtils.Iso9660	0.13.0.0
DiscUtils.OpticalDisk	0.13.0.0
DiscUtils.Streams	0.13.0.0
EntityFramework	6.2.61023.0
EntityFramework.SqlServer	6.2.61023.0
Google.Apis.LifeScienceComputerAutomatedDiagnosis.v1	1.44.1.2219
Google.Apis.LifeScienceComputerAutomatedDiagnosis.v1alpha	1.37.0.1
HtmlRenderer	1.5.0.60001
HtmlRenderer.Core	1.0.0.0
HtmlRenderer.WinForms	1.5.0.60001
HtmlRenderer.WinForms.Core	1.0.0.0
Hyland.DocumentFilters	21.2.0.3893
Microsoft.Deployment.Compression	3.9.1208.0
Microsoft.Deployment.Compression.Zip	3.9.1208.0
Optos.Registration	3.2.0.14
Xceed.Wpf.Toolkit	2.0.0.0
ZedGraph	5.1.5.0
ZedGraph	5.1.2.878

### 7.4 NuGet Packages

Software	Version
AWSSDK.Core	3.5.1.34
AWSSDK.S3	3.5.3.12

DiscUtils.Iso9660	0.15.1-ci0002
DocumentFormat.OpenXml	2.11.3
Google.Apis	1.49.0
Google.Apis.Auth	1.49.0
Google.Apis.Oauth2.v2	1.49.0.1869
Google.Apis.Storage.v1	1.49.0.2117
Google.Cloud.Storage.V1	3.3.0
Grpc.AspNetCore	2.33.1
HL7.Fhir.STU3	1.9.0
HtmlAgilityPack	1.11.27
ITfoxtec.Identity.Saml2	4.0.9
jose-jwt	2.6.1
Microsoft.AspNetCore.Cors	5.2.7
Microsoft.AspNetCore.WebApi	5.2.7
Microsoft.AspNetCore.WebApi.Client	5.2.7
Microsoft.AspNetCore.WebApi.Core	5.2.7
Microsoft.AspNetCore.WebApi.Cors	5.2.7
Microsoft.AspNetCore	2.2.0
Microsoft.AspNetCore.Cors	2.2.0
Microsoft.AspNetCore.Http	2.2.2
Microsoft.AspNetCore.Http.Extensions	2.2.0
Microsoft.AspNetCore.Http.Features	3.1.9
Microsoft.AspNetCore.Mvc.Abstractions	2.2.0
Microsoft.AspNetCore.Mvc.WebApiCompatShim	2.2.0
Microsoft.Azure.KeyVault.Core	3.0.5
Microsoft.Azure.Storage.Blob	11.2.2
Microsoft.Azure.Storage.Common	11.2.2
Microsoft.Build	16.7.0
Microsoft.Build.Utilities.Core	16.7.0
Microsoft.Data.SqlClient	2.0.1
Microsoft.EntityFrameworkCore	3.1.9
Microsoft.EntityFrameworkCore.Design	3.1.9

Microsoft.EntityFrameworkCore.Proxies	3.1.9
Microsoft.EntityFrameworkCore.Relational	3.1.9
Microsoft.EntityFrameworkCore.SqlServer	3.1.9
Microsoft.EntityFrameworkCore.Tools	3.1.9
Microsoft.Extensions.Configuration	3.1.9
Microsoft.Extensions.Identity.Core	3.1.9
Microsoft.IdentityModel.Tokens	6.8.0
Microsoft.IdentityModel.Tokens.Saml	6.8.0
Microsoft.VisualStudio.Web.CodeGeneration.Design	3.1.4
Newtonsoft.Json	12.0.3
protobuf-net	3.0.52
Sprache	2.3.1
System.ComponentModel.Composition	4.7.0
System.Configuration.ConfigurationManager	4.7.0
System.Data.SqlClient	4.8.2
System.Diagnostics.PerformanceCounter	4.7.0
System.DirectoryServices.Protocols	4.7.0
System.Drawing.Common	4.7.0
System.Drawing.Primitives	4.3.0
System.Management	4.7.0
System.Runtime.Caching	4.7.0
System.Runtime.Extensions	4.3.1
System.Security.Claims	4.3.0
System.ServiceModel.Http	4.7.0
System.ServiceModel.NetTcp	4.7.0
System.ServiceModel.Primitives	4.7.0
System.ServiceProcess.ServiceController	4.7.0
System.Threading.AccessControl	4.7.0
UAParser.FormFactor	3.0.4

## 7.5 CSS/Javascript Dependencies

Software	Version
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Google Closure Library	200132024
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