

# Server Update

For eRAD RIS  
Version 2.0  
Build 43  
Update 43.0.6

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### **1. New Features**

#### **Relevancy Based on Laterality**

A new system configuration setting titled “**LateralitiesThatAreNotRelevant**” has been added in 43.0.6 to determine relevant studies based on their laterality. The value field is a comma separated list of laterality codes. The default values for this setting are L,R. The user can also specify NULL, which would be used in the case of a study that doesn’t have a laterality specified.

The values entered (with the exception of NULL) must match the values in the Laterality lookup table. For example if the values in the Laterality lookup are not L or R, but instead Left and Right, the values entered for the setting would be Left,Right.

#### **Help About Window Contact Info Auto Sizing**

There is a system configuration setting titled “**HelpContactInfo**” that allows for contact information to be displayed on the Help About window. Previous to this build, if the contact information entered was larger than the field allowed, the text would not be displayed. Now the Help About screen will expand (auto size) based on the content entered.

If the data entered it to be displayed on multiple lines the keyboard combination of Ctrl + Enter will create a new row. The field in the

#### **Insurance Eligibility Co-pay to be Highest Service Type**

When multiple procedures are specified prefer the CT service type based on the InsuranceServiceType table's display order. Service types with lower display orders will be preferred.

Please check the InsuranceServiceType lookup table and ensure that Insurance Service Type Code of 62 – MRI/CAT Scan is set to a lower display order number than Insurance Service Type Code of 4 – Diagnostic X-Ray

Example: MRI/CAT Scan has a display order of 1, then Diagnostic X-Ray will have a display order of 2.

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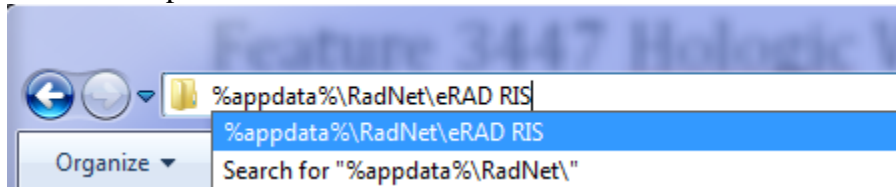
### **Hologic Integration**

This integration is very similar to PACS integration, but differs in how we configure the RIS to communicate to the image viewer. In the PACS integrations the PACS server settings are configured in the PACS Server lookup table and are associated to an entity within the organization structure. Unless overridden, every workstation in the practice will use that PACS server information to launch images.

### **Configuration:**

For Hologic integration, each RIS workstation will be set up to use an adjacent Hologic workstation. This means that instead of having one PACS server configured in a lookup table, the settings need to be made on each workstation that will integrate with Hologic. No entry is required for Hologic in the PACS Server lookup.

The settings for the Hologic integration are contained within a file called HologicConfig.xml that is located in the application data directory of eRad RIS. The best way to find where this should go is to open Windows Explorer and type `%appdata%\RadNet\eRAD RIS` into the address text box at the top.



If this file exists then RIS will make Hologic integration available. Since this directory is up a level from where the RIS client is installed the file will not be pushed out automatically nor will it be overwritten. This is to avoid having Hologic integration set up on every workstation even if it is not desired as well as to not overwrite any configuration that has been modified. A template file called HologicConfigTemplate.xml is contained within the RIS package and will be pulled down on an update of the RIS client into the same directory as the RIS executable. This file can be copied to the appropriate directory, renamed to HologicConfig.xml and have its contents changed to the correct settings. The file looks like this:

```
<configuration>
  <configSections>
    <section name="APPLINKER_PROPERTY_DEFINITION" type="a" />
    <section name="DEVICE" type="b" />
  </configSections>
  <APPLINKER_PROPERTY_DEFINITION>
    <NAME>Hologic Bridge</NAME>
    <IP_ADDRESS>ip_of_Hologic_workstation</IP_ADDRESS>
    <HOLOGIC_AS_PORT>5100</HOLOGIC_AS_PORT>
  </APPLINKER_PROPERTY_DEFINITION>
  <DEVICE name="RIS">
    <COMM type="TCP/IP">
      <IP_ADDRESS>ip_of_RIS_workstation</IP_ADDRESS>
      <PORT_NUMBER>5102</PORT_NUMBER>
      <Encryption>XOrEncryption</Encryption>
    </COMM>
  </DEVICE>
</configuration>
```

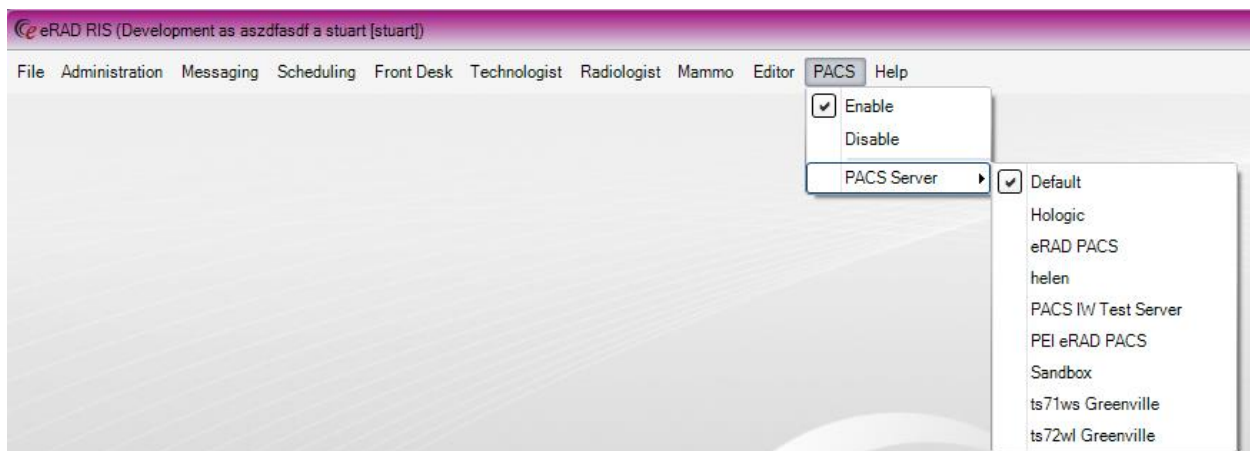
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```
</COMM>  
</DEVICE>  
</configuration>
```

The important pieces of this are the ip addresses and ports of the Hologic workstation and of the RIS workstation. **Use of localhost or 127.0.0.1 will not work.** Matching changes need to be made on the Hologic workstation to define an incoming connection from a device named *RIS* communicating using that IP and port.

### Activation

Hologic integration does not take effect initially when it is available. This is to allow radiologists who also use another PACS to only use Hologic when they are reading mammography studies. A new submenu has been added to the PACS menu on the main RIS menu bar to temporarily override the PACS integration. The PACS Server menu option is controlled by a new access string titled “**PACSIIntegration.Override**” that has a default of None. This setting does not persist across restarts of the RIS application. It is populated with items for Default, Hologic (if it is available), and one entry for each of the PACS servers defined in the PACS Server lookup table.



It is recommended that the user close all tabs prior to selecting Hologic or any other item in this menu. This is to avoid confusion between tabs that were opened and associated to an eRad PACS session attempting to close images from Hologic for example. After selecting Hologic from this menu images will be opened and closed from the Hologic workstation defined in the HologicConfig.xml.

### Use

The RIS attempts to log in to the workstation when the user first tries to open images. Upon successfully logging in the images are opened. If login fails the user will be presented with a login dialog. If no connection can be made to AppSync then the login fails and the integration is disabled. It can be re-enabled from the PACS menu.

After the connection has been made and the user logged in, the images will open upon the user opening a reporting window such as the dictation window or the signature window (in this case

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they need to hit the View Images button). When the user closes the form the images will close on the workstation.

Switching between tabs will keep the images on the workstation in sync. Closing a tab and activating another integrated tab will also cause the appropriate images to be displayed. The View Images menu option from the Patient folder is also supported.

### **Limitations**

The integration with Hologic is done purely on MRN. This means that the images loaded will be determined by what is on the Hologic workstation. The RIS will receive a success or failure message in response to an Open call but has no way to determine what studies actually opened. This means that the Radiologist's Patient Folder will not show any studies other than the current as loaded. Even the current one is only assumed to have been loaded. There are also no relevant priors requested so the Hologic will be responsible for loading them.

In theory Hologic SecurView can provide notifications to the RIS about actions taken by the user directly within it. During testing with an actual workstation this did not work, possibly due to misconfiguration. Testing with the AppSync simulator verified that the RIS responds to these messages with a NotSupported response, which seems appropriate as it does nothing with the information.

The PACSIntegration.log can be used to monitor the interactions between RIS and Hologic.

### 2. Changes to Configuration

Setting Placeholder	Setting	Default	Purpose / Controls Access to
SystemConfig	LateralitiesThatAreNotRelevant	L,R	Comma separated list of laterality codes defaulted to: L,R the user can also specify NULL which would be when there is no laterality specified. In the case of L,R,NULL a left arm would only match with a Left and Bilateral and would not match if the other study was Right or an unspecified laterality.
AccessString and UserGroup Permissions	PACSIIntegration.Override	None	Controls access to the Menu option of PACS Server under the PACS menu. Allows the user to temporarily override the PACS Server from which to launch images.

**3. Defects Resolved**

Redmine #	Tracker	Subject	Priority
7543	Bug	Insurance Eligibility - c_study_item_certification.cost column is a number vs smallmoney	Urgent
7515	Bug	Insurance eligibility - causes an unexpected error when you try and open an order that has missing information.	Urgent
3447	Feature	RadNet - Hologix integration	Urgent
7534	Bug	Insurance Eligibility Pilot - Overriding an exam in the IVT screen does not remove it from the WL.	High
7510	Bug	Insurance Eligibility Pilot - Patient with insurance should never be charged for specific CPT	High
7504	Bug	Ins Eligibility - Multiple Insurance carriers - when verification completes at different times the eligibility shield is not refreshing, hour glass (in progress) icon stays on the eligibility shield for the carrier(s) that didn't completed last.	High
7491	Bug	booking locks not released when opening reschedule	High
7251	Bug	Cannot reschedule patients that do not have a weight on their patient record	High
7547	Bug	Insurance Eligibility Pilot - For multiple Procedure Code Studies based the insurance check off of the most expensive service type.	Normal
7544	Bug	Insurance Eligibility Pilot - Workflow can cause errors when trying to validate insurance	Normal
7525	Bug	Insurance Eligibility Pilot - failing to run eligibility against a study that was previously cancelled (in IVT)	Normal
7513	Bug	MU Make Patient Educational resources available upon the patient arrival process	Normal
7511	Bug	Insurance Eligibility Pilot - When we are missing information to perform the eligibility check we should show the red "!" icon	Normal
7509	Bug	Insurance Eligibility Pilot - Retry logic is building up transactions	Normal
7502	Bug	Insurance Eligibility Pilot - IVT WL issue with Precert status 'Pending'	Normal
7501	Bug	Insurance Eligibility Pilot - Auto check on day of service isn't happening.	Normal
7482	Bug	Availability Template - delete and create a new date range can cause the default time range to copy and move to the new date range.	Normal
7471	Bug	CD Burning - PACS cleanup isn't executed if user exits CD Burning via the windows title bar	Normal
7466	Bug	Relevancy - do not mark as relevant if the laterality is different (Left vs Right)	Normal



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7443	Bug	Eligibility Flag displays in WL after rescheduling to a site that does not have Eligibility Automation enabled	Normal
7402	Bug	Error retrieving WL error when trying to use Equals filter on the columns that contain the new LastName, FirstName MI (userName) format	Normal
7375	Feature	Auto size the Contact block on the Help About screen for eRad Support & Sales contact info	Normal
7260	Bug	The INSERT statement conflicted with the Foreign key constraint "fk_c_scan_document_association_c_study" when rescheduling	Normal
6975	Bug	Unknown referring reconciliation breaks queued wedge messages	Normal
6614	Bug	Retrying multiple completed print jobs uses the printer description instead of code for the destination printer of the new jobs.	Normal
7387	Bug	MTG Reports - Eligibility Failed Requests report - may become quite large	Low

### 4. Code Stream



#### Legend:

Light Green = Released software

Gray = Will not be released

Bright Green = Current Release

### **5. Package Contents**

Files included for this server update:

1) GUI ZIP Updates folder contains:

- rRIS\_1.3.43.0.6.24914.zip

2) RIS\_Service\_Updates contains:

ABCpdf.dll	Radar.DirectMessaging.Model.dll
ABCpdf9-32.dll	Radar.DirectMessaging.Model.pdb
ABCpdf9-64.dll	rRISServices.exe
Antlr3.Runtime.dll	rRISServices.pdb
CDSJobManager.dll	rRISServicesx64.exe
CDSJobManager.pdb	ScheduledTaskManager.dll
CdsLib.dll	ScheduledTaskManager.pdb
CdsLib.xml	ServicesConfigWizard.exe
CdsLib.XmlSerializers.dll	ServicesConfigWizard.pdb
CommonLib.dll	SignatureApprovalService.exe
CommonLib.pdb	SignatureApprovalService.pdb
contents.txt	System.Net.Http.dll
DDEngine.dll	System.Net.Http.Formatting.dll
DDEngine.pdb	System.Net.Http.xml
DiffPlex.dll	System.Web.Http.dll
Interop.ANYMODALCAPTURECTRLLib.dll	System.Web.Http.SelfHost.dll
Interop.FAXCOMEXLib.dll	System.Web.Http.SelfHost.xml
Microsoft.Practices.EnterpriseLibrary.Caching.dll	System.Web.Http.WebHost.dll
Microsoft.Practices.EnterpriseLibrary.Caching.pdb	System.Web.Http.WebHost.xml
Microsoft.Practices.EnterpriseLibrary.Common.dll	System.Web.Http.xml
Microsoft.Practices.EnterpriseLibrary.Common.pdb	System.Web.Mvc.dll
Microsoft.Practices.EnterpriseLibrary.Logging.dll	System.Web.Mvc.xml
Microsoft.Practices.EnterpriseLibrary.Logging.pdb	System.Web.Optimization.dll
Microsoft.Practices.ServiceLocation.dll	System.Web.Razor.dll
Microsoft.Practices.ServiceLocation.pdb	System.Web.Razor.xml
Microsoft.Practices.Unity.dll	System.Web.WebPages.Deployment.dll
Microsoft.Practices.Unity.Interception.dll	System.Web.WebPages.Deployment.xml
Microsoft.Practices.Unity.Interception.pdb	System.Web.WebPages.dll
Microsoft.Practices.Unity.pdb	System.Web.WebPages.Razor.dll
Microsoft.ReportViewer.Common.dll	System.Web.WebPages.Razor.xml
Microsoft.ReportViewer.WinForms.dll	System.Web.WebPages.xml
Microsoft.ReportViewer.WinForms.xml	Tourreau.Gilles.FaxDotNet.dll
Newtonsoft.Json.dll	Tourreau.Gilles.FaxDotNet.pdb
Newtonsoft.Json.xml	Tourreau.Gilles.FaxDotNet.xml
NLog.dll	WCFSservice.dll
O2S.Components.PDFRender4NET.dll	WCFSservice.pdb
PDFToImages.exe	WCFSserviceTests.dll
Radar.Common.dll	WCFSserviceTests.pdb
Radar.Common.pdb	WebApi.dll
Radar.Common.WebClient.dll	WebApi.pdb
Radar.Common.WebClient.pdb	WebGrease.dll
Radar.DirectMessaging.Client.dll	Wedge.exe
Radar.DirectMessaging.Client.pdb	Wedge.pdb

## **eRAD RIS Server Update**

The rRIS\_Service\_Updates also contains to subfolders:

- A. Deploy folder contains
    - a. Applicationsettings.config
    - b. ReleaseVersion-connectionstrings.config
    - c. rRISServices.exe.config
    - d. services.config
  - B. XSL subfolder contains:
    - a. Subfolder titled “Stylesheets” which contains:
      - a. CDAToHTMLCompleteReport.xslt
      - b. CDAToHTMLCompleteReportDark.xslt
      - c. CDAToHTMLImpressionSection.xslt
      - d. CDAToRIS.xslt
      - e. CDAToTxt.xslt
      - f. DocumentModelReport.xslt
      - g. DocumentModelReportAsXml.xslt
    - b. CDA Subfolder contains

<ul style="list-style-type: none"><li>a. C-CDA.xsl</li><li>b. eRadStylesheet.xsl</li><li>c. generalTemplates.xsl</li><li>d. header.xsl</li><li>e. QRDA.xsl</li><li>f. QrdaLevel3_Cypress2.4.0.xsl</li><li>g. QrdaLevel3_ViewHtml.xsl</li><li>h. sectionAdministeredMedications.xsl</li><li>i. sectionAllergies.xsl</li><li>j. sectionEncounters.xsl</li><li>k. sectionFindings.xsl</li><li>l. sectionFuncCogStatus.xsl</li><li>m. sectionImmunizations.xsl</li></ul>	<ul style="list-style-type: none"><li>n. sectionInstructions.xsl</li><li>o. sectionMedications.xsl</li><li>p. sectionPlanOfCare.xsl</li><li>q. sectionProblemList.xsl</li><li>r. sectionProcedures.xsl</li><li>s. sectionQRDAMEasures.xsl</li><li>t. sectionQRDAPatientData.xsl</li><li>u. sectionQRDAREporting.xsl</li><li>v. sectionReasonForVisit.xsl</li><li>w. sectionResults.xsl</li><li>x. sectionSocialHistory.xsl</li><li>y. sectionVitalSigns.xsl</li></ul>
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- 3) SQL Folder contains:
  - B43.0.6.sql

### **6. Intended Audience**

This document is created by the RIS Development team for the RadNet/eRAD RIS Implementation teams.

### **7. Who is affected**

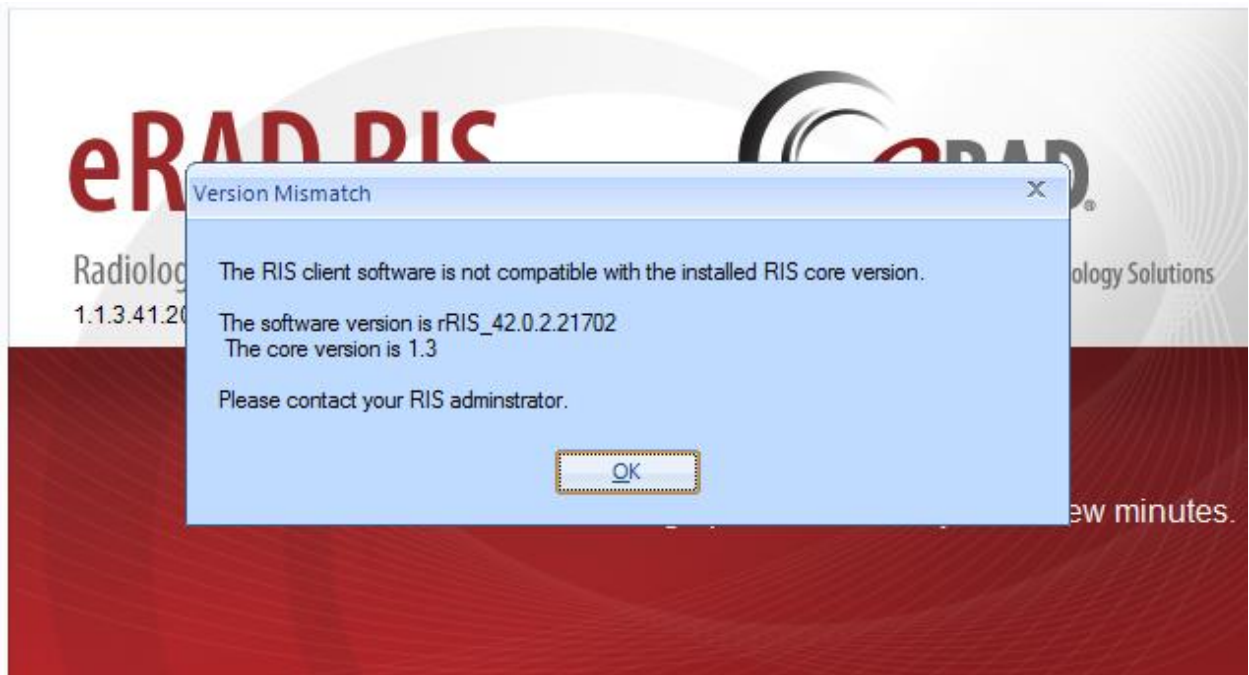
Build 43 installs. Server updates are not cumulative. This server update must be applied to 43.0.5

## 8. eRAD RIS Release Version Numbers

Build	Patch	UI Version	Core Version	WS Version	DB Version	Notes
42	-	2.42.0.0.21261(3GB)	2.42.0.0.21261	2.42.0.0.21261	2.42.0.0.21187	Full version release
42	1	2.42.0.1.21597	2.42.0.0.21261	2.42.0.1.21597	2.42.0.0.21187	GUI and Web Service updates
42	2	2.42.0.2.21702	2.42.0.0.21261	2.42.0.2.21702	2.42.0.0.21187	GUI and Web Service updates
42	3	2.42.0.2.21806	2.42.0.0.21261	2.42.0.2.21806	2.42.0.0.21187	GUI and Web Service updates
42	4	2.42.0.2.21862	2.42.0.0.21261	2.42.0.2.21806	2.42.0.4.21870	GUI and Database updates
42	5	2.42.0.5.21924	2.42.0.0.21261	2.42.0.2.21806	2.42.0.4.21870	GUI
42	6	2.42.0.5.22009	2.42.0.0.21261	2.42.0.5.22009	2.42.0.4.21870	GUI and Web Service updates
42	7	2.42.0.7.22090	2.42.0.0.21261	2.42.0.6.22009	2.42.0.4.21870	GUI.zip updates
42	8	2.42.0.7.22090	2.42.0.7.22150	2.42.0.6.22009	2.42.0.4.21870	Web Service updates
42	9	2.42.0.9.22203	2.42.0.0.21261	2.42.0.9.22203	2.42.0.4.21870	GUI and Web Service updates
42	9.1	2.42.0.9.22203	2.42.0.0.21261	2.42.0.9.22203	2.42.0.4.21870	Web Service updates
42	10	2.42.0.10.22232	2.42.0.0.21261	2.42.0.9.22203	2.42.0.4.21870	GUI.zip
42	10.1	2.42.0.10.22420	2.42.0.0.21261	2.42.0.9.22203	2.42.0.4.21870	GUI.zip updates
42	11	2.42.0.11.22495a	2.42.0.0.21261	2.42.0.11.22471	2.42.0.11.22527	GUI.zip, Web Service, Database updates. Management Report Deployment
42	12	2.42.0.12.22982	2.42.0.0.21261	2.42.0.12.22982	2.42.0.12.22911	GUI.zip, Web Service, Database updates.
42.1	-	2.42.1.0.22744(3GB)	2.42.0.0.21261	2.42.1.0.22744	2.42.1.0.22736	GUI.zip, Web Service, DB updates and Management Report Deployment
42.1	1	2.42.1.1.2296(3GB)	2.42.0.0.21261	2.42.1.1.22963	2.42.1.1.22864	GUI.zip, Web Service, DB updates
42.1	2	2.42.1.2.23007(3GB)	2.42.0.0.21261	2.42.1.2.23007	2.42.1.2.23007	GUI.zip, Web Service, DB updates
42.1	3	2.42.1.2.23237(3GB)	2.42.0.0.21261	2.42.1.2.23237	2.42.1.2.23007	GUI.zip, Web Services
42.1	4	2.42.1.4.23348(3GB)	2.42.0.0.21261	2.42.1.4.23348	2.42.1.2.23007	GUI.zip, Web Services
42.1	5	2.42.1.5.23406(3GB)	2.42.0.0.21261	2.42.1.5.23406	2.42.1.2.23007	GUI.zip, Web Services
43	-	2.43.0.0.23715(3GB)	2.43.0.0.23171	2.43.0.0.23715	2.43.0.0.23743	Full Version Release
43	1	2.43.0.1.23798(3GB)	2.43.0.0.23171	2.43.0.1.23798	2.43.0.1.23770	GUI.zip, Web Service, DB updates
43	2	2.43.0.2.24017(3GB)	2.43.0.0.23171	2.43.0.2.24017	2.43.0.2.24023	GUI.zip, Web Service, DB updates and Management Report Deployment
43	3	2.43.0.3.24298(3GB)	2.43.0.0.23171	2.43.0.3.24298	2.43.0.3.24283	GUI.zip, Web Service, DB updates and Management Report Deployment
43	3.1	2.43.0.3.24450(3GB)	2.43.0.0.23171	2.43.0.3.24298	2.43.0.3.24421	GUI.zip and DB updates
43	3.2	2.43.0.3.24450(3GB)	2.43.0.0.23171	2.43.0.3.24298	2.43.0.3.24421a	DB updates
43	4	2.43.0.4.24447(3GB)	2.43.0.0.23171	2.43.0.4.24447	2.43.0.4.24442	GUI.zip, Web Service, DB updates and Management Report Deployment
43	5	2.43.0.5.24632(3GB)	2.43.0.0.23171	2.43.0.5.24632	2.43.0.5.24560	GUI.zip, Web Service and DB updates
43	6	2.43.0.6.24914(3GB)	2.43.0.0.23171	2.43.0.6.24914	2.43.0.6.24914	GUI.zip, Web Service and DB updates

### 9. Installing

- 1) Copy and replace the current rRIS...zip file with the rRIS\_1.3.43.0.6.24914.zip file provided with this release.  
Be sure to make a backup of the ris.exe.config file contained within the current .zip folder.



If you receive the Version Mismatch error above the GUI.zip will need to be renamed to add 1.3. to it. The GUI.zip file name change is from rRIS\_43.0..6.24914→ rRIS\_1.3.43.0.6. 24914

NOTE: the GUI.zip included with this release has already been renamed to include 1.3.

This is required for installs that have not reached build 42. Because the software installed on your local workstation is a pre-42 build it detects a version mismatch in the software naming and won't allow the newest build to be launched (it is looking for 1.3. in the name). Once the workstation(s) have reached a build of 42 we will no longer need to add "1.3." to the GUI.zip name. Also note that a core install will not resolve this issue below.

**NOTE:** If your upgrade is coming from 40.016.1 or prior a core install will be required. Versions (builds) of 40.017 and greater do not require a core install as long as you are at least at 40.017 (Core Version 1.3.40.18756)

## **eRAD RIS Server Update**

- 2) Stop each service listed below. Copy the files from the RIS Service Updates folder to the directory for each rRISService. Be sure to make backup of all files, but especially the rRISServices.exe.config and rRISServices.vshost.exe.config files.

*rRISService directories include:*

- a) *rRISService*
- b) *CDS rRISService*
- c) *Wedge rRISService*
- d) *DDE rRISService*

**Restart each service.**

- 3) Run the B43.0.6.sql file against the eRAD RIS database instance.

## **Hologic Integration Installation**

- a) Install/upgrade RIS installation to current build
- b) Copy HologicConfigTemplate.xml from the RIS GIU.zip folder to %appdata%\RadNet\eRAD RIS and rename it HologicConfig.xml.
- c) Change the configuration of the IP addresses in HologicConfig.xml to the IPs of the RIS workstation and the Hologic workstation. The port settings should not have to change unless configuration on the Hologic workstation conflicts with them.  
Configure the Hologic workstation to communicate with the RIS device as defined in the config file. This will require logging in to an admin account on the Hologic side and updating the synchronization interface settings. This is accessed via the Configure button in the middle of the screen shown below.



## eRAD RIS Server Update

Click the **Settings** tab to display the window.

**User Setup** | **User Preference** | **Settings** | **ReportFlow** | **Backup / Restore** | **Info**

Changes will only be applied after restart

**Scheduling**  
☐ Off  
☒ On

**Disk space monitoring and Auto-Deletion**  
Disk space capacity level  
Warning level: 80.00 %  
Critical level: 90.00 %  
Maximum storage period  
New read studies: 7 weekdays  
New unread studies: 20 weekdays  
Old studies: 3 weekdays  
Automatic deletion: ☒ On ☐ Off

**Auto-Fetching**  
☒ Off  
☐ On  
☐ Configuration [Configure](#)

**Hanging Snapshots and ReportFlows**  
Time range for discrimination between Current - Prior 1 - Prior 2 - etc:  
30 days

**Network search**  
Display of multi-modality studies  
☒ Comma-separated modality list  
☐ One virtual study per modality

**Study date input**  
☒ Date interval picker  
☐ Combo box with fixed values

**Connectivity with synchronization interface**  
Synchronization: ☐ On ☒ Off

**External application**  
IP-Address: localhost  
Port: 4701  
[Configure](#)

**Screening (MG)**  
☐ To be single read  
☒ To be double read

**Diagnostic (MG)**  
☐ To be single read  
☒ To be double read

**Resolution for MG secondary captures**  
☒ Small (quarter tiling)  
☐ Large (single tiling)

**Worklists**  
☒ Unread studies  
☐ Unread studies screening/diagnostic  
☐ Second read  
☐ Second read screening/diagnostic

[Help](#) 2006-01-10 08:53:33 User Name: application [OK](#)

d) Restart SecurView for the changes to take effect.

e) Launch RIS.