Server Update

For eRAD RIS
Version 2.0
Build 42
Update 42.0.12

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1. Defects Resolved

Redmine #	Subject	Priority	Found Version
6598	PAC IW Out of sync problem	Urgent	2.42.0.9
6311	Verbal order is hard-coded to associate to a known scan document type - this should be configurable	High	1.40
6594	referring physician "visited at" drop down list contains only numbers, not human readable addresses	High	2.42.0.11
6566	ReportTemplateEditor not being cleaned up when ReportingRadiologist closes	High	2.42.09
6548	bi-rads info not reset when using screen re-use on dictate screen.	High	2.42.11
6543	Reporting - screen reuse and pending save items may hang around on the worklist	Normal	2.42.0.11
6441	PACS images are loaded even if reporting window ultimately does not open.	Normal	2.42
6644	PACS Caching - The RIS is failing to clear out the cache field properly when it is to no longer be cached.	Normal	2.42.0
5401	Cannot re-dock patient folder window because of exception on title bar right-click	Normal	1.41.1

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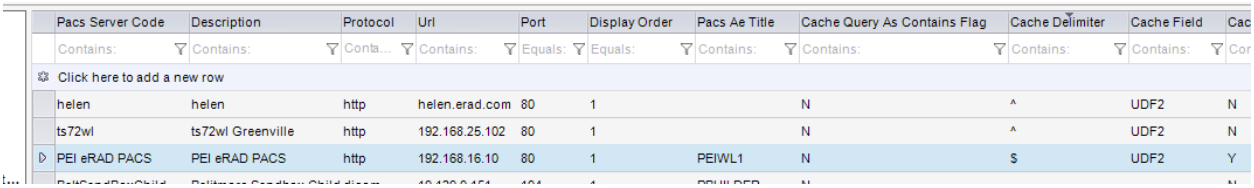
2. Changes to Configuration

New Access Strings and Configuration Settings

Setting Placeholder	Setting	Default	Purpose / Controls Access to
Access string / User Group Permission tables	Clinical.CreateTableInReport	Full	Grants access to creating tables in diagnostic reports
SystemConfig lookup	VerbalOrderScanDocumentType	Script	Default scan document type for a verbal order. Note if this scan document type doesn't exist, the first scan document type will be chosen.
SystemConfig lookup	ElectronicOrderScanDocumentType	Script	Default scan document type for a Electronic/HL7 order.

PLEASE NOTE IMPORTANT CHANGE

NOTE: During testing of these new PACS features, it was discovered that using ^ as a cache delimiter does not work with an "equals" style query. Recommended character is now $. The delimiter is set in the PACSServer lookup table. In the figure below notice the caret ^ is replaced with a dollar sign $ for the PEI eRAD PACS server.



Pacs Server Code	Description	Protocol	Url	Port	Display Order	Pacs Ae Title	Cache Query As Contains Flag	Cache Delimiter	Cache Field	Cac
Contains:	Contains:	Conta...	Contains:	Equals:	Equals:	Contains:	Contains:	Contains:	Contains:	Cor
Click here to add a new row										
helen	helen	http	helen.erad.com	80	1		N	^	UDF2	N
ts72wl	ts72wl Greenville	http	192.168.25.102	80	1		N	^	UDF2	N
PEI eRAD PACS	PEI eRAD PACS	http	192.168.16.10	80	1	PEIWL1	N	$	UDF2	Y

Figure 2.1 – PACSServer lookup displaying new cache delimiter

++

A configuration change to the ris.exe.config file was introduced in build 2.42 this setting was designed to lessen the delays when retrieving lookup tables that are larger in size.
This config setting, as mentioned, is located in the ris.exe.config file located in the <appSettings> section of the file

This setting is:
<add key="RowLevelCacheDataSetNamesCSV" value="ProcedureCode,TemplateMacro,Indication"/>

Where the value can be any lookup table, and a value=”*”, will retrieve all lookups.

The setting has resulted in undesired results of possible slowness, depending on the lookup table, and possibly additional bugs. Because of this, we are requesting that all sites comment out this line in the ris.exe.config table. The commented line will look like

<!--<add key="RowLevelCacheDataSetNamesCSV" value="ProcedureCode,TemplateMacro,Indication"/> -->

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3. New Features and Enhancements

Allow Billing Codes Edits Controlled from Billing Codes Lookup

This relates to a feature that was released in Build 42 titled "Allow Edit Billing Units". Users were able to add additional billing codes to the study that were not associated with the procedure. While this in itself is not an issue, the fact that users could then increase/decrease the amount units for the billing code is.

What we have done is added a new column to the BillingCode lookup table titled "Allow Edits Units Flag" that has possible values of Y or N.

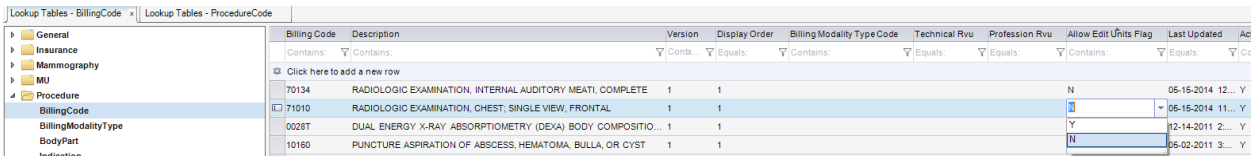

Figure 3.1 – BillingCode lookup displaying new column

If the value on the billing code for Allow Edit Units Flag = N, when a user adds this billing code to a study from the Technologist's Perform Exam window, the View Edit window or the Billing Exception window, they will not be able to edit the unit value for that Billing Code.

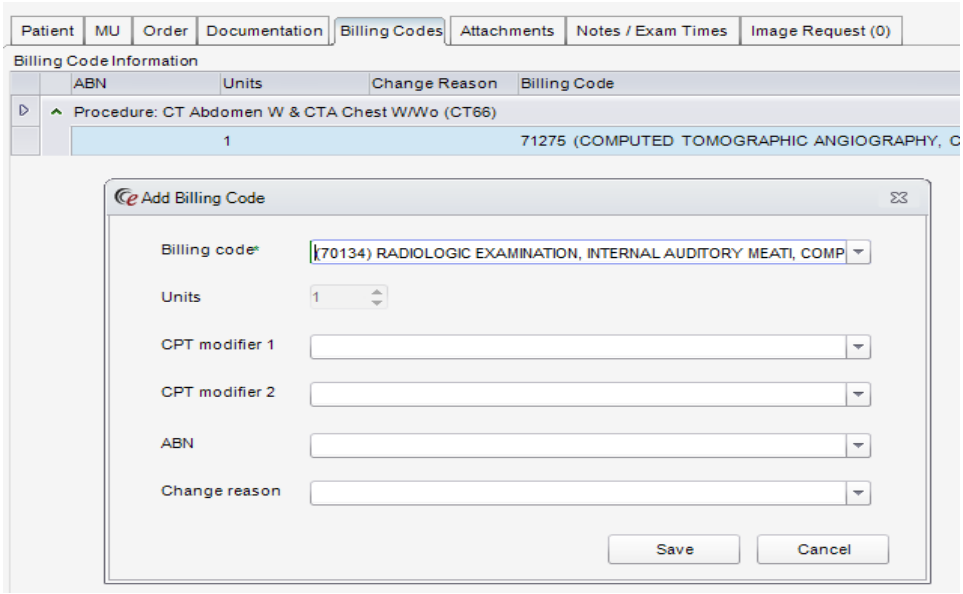

Figure 3.2 – Add billing code not associated with procedure that units cannot be edited

If the billing code doesn't allow for the edit of Units, but when associated to a procedure code in the ProcedureCode lookup table and it is desired to allow the edit of units for this particular procedure, it can be overridden by using the method to add the billing code described in the original feature of 42.

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The procedure code row can be expanded in the lookup table. Under the l_procedure_code_x_billing_code tab the user added the billing code and can select if the billing code should have the option to Allow Edit Units.

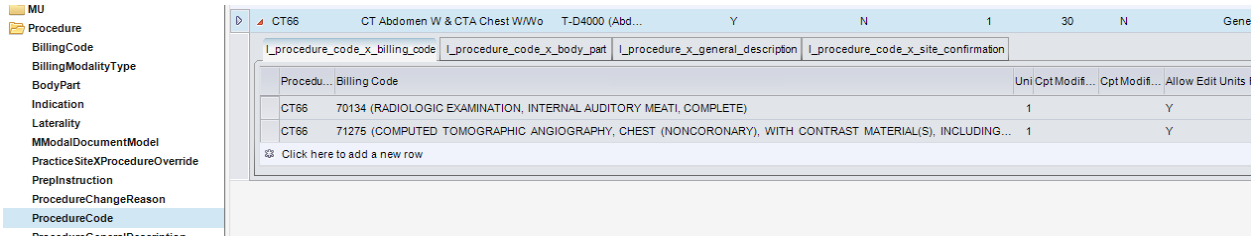

Figure 3.3 – Override for default Allow Edit Units flag at Procedure Code level

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PACS Caching - Query to see what is being cached by a particular user is a contains query and is expensive

On every refresh of the Pending Dictation worklist the RIS initiates a URL call to the PACS to retrieve the list of studies being cached by the user. This call is done using * as a wildcard before and after the filter value. This is an expensive operation on the PACS database. Since changes in 42 prevent more than one user from caching a study anyway, these wildcards are no longer necessary.

We have introduced a new caching option for PACS calls of the images to be cached for a user.

A new column added to the PACSService lookup table titled “Cache Query As Contains Flag” has been added with possible values of Y or N.

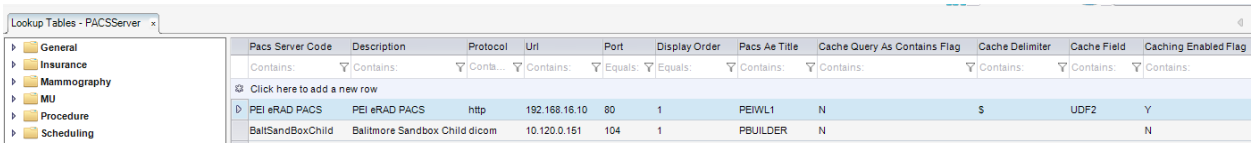

Figure 3.4 – PACSServer lookup displaying new column of Cache Query As Contains Flag.

When set to Y, it works as before, using the wildcard to find the user to cache for. When set to N it will not use the wildcards before and after the username, thus doing an exact search on the username, instead of a “is like”.

The default value of this setting is off and is not recommended to be turned on.

PLEASE NOTE IMPORTANT CHANGE

NOTE: During testing of these new PACS features, it was discovered that using ^ as a cache delimiter does not work with an "equals" style query. Recommended character is now $. The delimiter is set in the PACSServer lookup table. In the figure below notice the caret ^ is replaced with a dollar sign $ for the PEI eRAD PACS server.

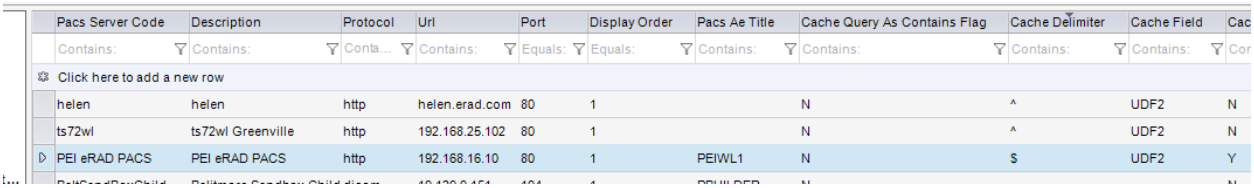

Figure 3.5 – PACSServer lookup displaying new cache delimiter

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PACS Cache Improvement - New field to determine priority/order of studies for the PACS to cache

The current method by which the RIS controls the PACS caching mechanism has no way to provide a priority for the PACS. This means that if there are a large number of studies to cache the first ones that are needed by the user may not be the first ones that the PACS viewer retrieves.

Added new columns to the PACSServer lookup table called Cache Order Field.

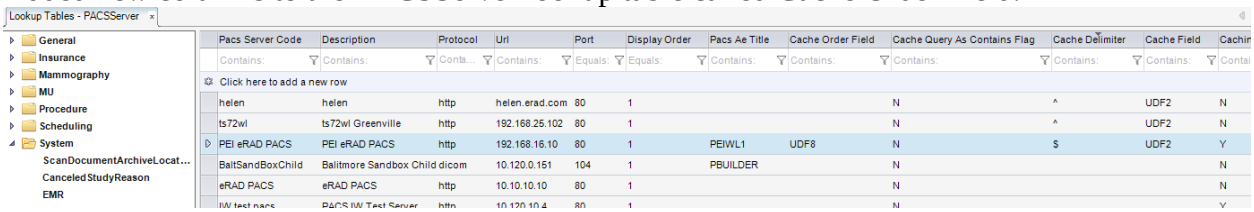

Figure 3.6 – PACSServer lookup displaying new column of Cache Order Field

The cache order field is used to determine the priority of the cache job and is filled with a datetime and a set id.

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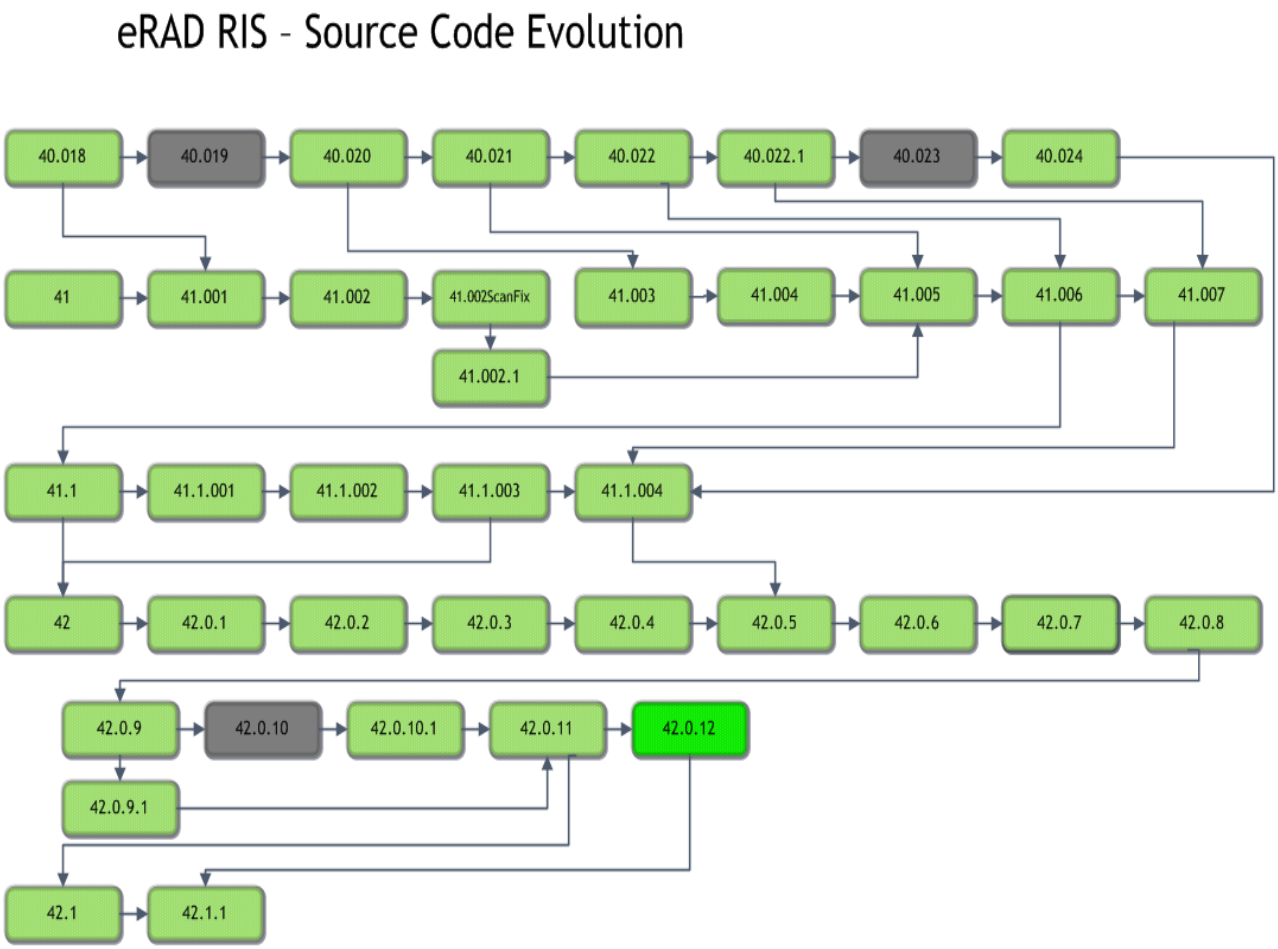
4. Code Stream



Legend:

Light Green = Released software

Gray = Will not be released

Bright Green = Current Release

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5. Package Contents

Files included for this server update:

1) GUI ZIP Updates folder contains:
   - rRIS_1.3.42.0.12.22982.zip

2) RIS_Service_Updates contains:
   - ABCpdf.dll
   - ABCpdf9-32.dll
   - ABCpdf9-64.dll
   - CDSJobManager.dll
   - CDSJobManager.pdb
   - CdsLib.dll
   - CdsLib.xml
   - CdsLib.XmlSerializers.dll
   - CommonLib.dll
   - CommonLib.pdb
   - contents.txt
   - DDEngine.dll
   - DDEngine.pdb
   - Interop.ANYMODALCAPTURECTRLLib.dll
   - Interop.FAXCOMEXLib.dll
   - Microsoft.Practices.EnterpriseLibrary.Caching.dll
   - Microsoft.Practices.EnterpriseLibrary.Caching.pdb
   - Microsoft.Practices.EnterpriseLibrary.Common.dll
   - Microsoft.Practices.EnterpriseLibrary.Common.pdb
   - Microsoft.Practices.EnterpriseLibrary.Logging.dll
   - Microsoft.Practices.EnterpriseLibrary.Logging.pdb
   - Microsoft.Practices.ServiceLocation.dll
   - Microsoft.Practices.ServiceLocation.pdb
   - Microsoft.Practices.Unity.dll
   - Microsoft.Practices.Unity.Interception.dll
   - Microsoft.Practices.Unity.Interception.pdb
   - Microsoft.Practices.Unity.pdb
   - Microsoft.ReportViewer.Common.dll
   - Microsoft.ReportViewer.WinForms.dll
   - Microsoft.ReportViewer.WinForms.xml
   - Newtonsoft.Json.dll
   - Newtonsoft.Json.xml
   - Ninject.dll
   - Ninject.Web.Common.dll
   - Ninject.Web.Common.xml
   - Ninject.xml
   - O2S.Components.PDFRender4NET.dll
   - PDFToImages.exe
   - rRISServices.exe
   - rRISServices.pdb
   - rRISServicesx64.exe
   - ScheduledTaskManager.dll
   - ScheduledTaskManager.pdb
   - ServicesConfigWizard.exe
   - ServicesConfigWizard.pdb
   - SignatureApprovalService.exe
   - SignatureApprovalService.pdb
   - System.Net.Http.dll
   - System.Net.Http.Formatting.dll
   - System.Net.Http.Formatting.xml
   - System.Net.Http.WebRequest.dll
   - System.Net.Http.WebRequest.xml
   - System.Net.Http.xml
   - System.Web.dll
   - System.Web.Helpers.dll
   - System.Web.Helpers.xml
   - System.Web.Http.dll
   - System.Web.Http.SelfHost.dll
   - System.Web.Http.SelfHost.xml
   - System.Web.Http.WebHost.dll
   - System.Web.Http.WebHost.xml
   - System.Web.Http.xml
   - System.Web.Mvc.dll
   - System.Web.Mvc.xml
   - System.Web.Optimization.dll
   - System.Web.Providers.dll
   - System.Web.Razor.dll
   - System.Web.Razor.xml
   - System.Web.WebPages.Deployment.dll
   - System.Web.WebPages.Deployment.xml
   - System.Web.WebPages.dll
   - System.Web.WebPages.Razor.dll
   - System.Web.WebPages.Razor.xml
   - System.Web.WebPages.xml
   - Tourreau.Gilles.FaxDotNet.dll
   - Tourreau.Gilles.FaxDotNet.pdb
   - Tourreau.Gilles.FaxDotNet.xml
   - WCFService.dll
   - WCFService.pdb
   - WCFServiceTests.dll
   - WCFServiceTests.pdb
   - WebApi.dll
   - WebApi.pdb
   - Wedge.exe
   - Wedge.pdb

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The rRIS_Service_Updates also contains to subfolders:

A. Deploy folder contains
   a. Applicationsettings
   b. ReleaseVersion-connectionstrings
   c. rRISServices.exe
   d. services

B. XSL subfolder contains:
   Subfolder titled "Stylesheets" which contains:
   a. CDAToHTMLCompleteReport.xslt
   b. CDAToHTMLImpressionSection.xslt
   c. CDATorRIS.xslt
   d. CDAToTxt.xslt
   e. DocumentModelReport.xslt
   f. DocumentModelReportAsXml.xslt

   g. CCDA Subfolder contains
      a. C-CDA.xsl
      b. eRadStylesheet.xsl
      c. generalTemplates.xsl
      d. header.xsl
      e. sectionAdministeredMedications.xsl
      f. sectionAllergies.xsl
      g. sectionEncounters.xsl
      h. sectionFuncCogStatus.xsl
      i. sectionImmunizations.xsl
      j. sectionInstructions.xsl
      k. sectionMedications.xsl
      l. sectionPlanOfCare.xsl
      m. sectionProblemList.xsl
      n. sectionProcedures.xsl
      o. sectionReasonForVisit.xsl
      p. sectionResults.xsl
      q. sectionSocialHistory.xsl
      r. sectionVitalSigns.xsl

3) SQL folder contains:
   - 42.0.12.sql

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6. Intended Audience

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

7. Who is affected

Build 42 installs. Server updates are not cumulative. This server update must be applied to 42.0.11

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8. eRAD RIS Release Version Numbers

Build	Patch	UI Version	Core Version	WS Version	DB Version	Notes
41	-	1.3.41.19135(3GB)	1.3.41.19135	1.3.41.19135	1.3.41.19135	Full version release
41	1	1.3.41.19256(3GB)	1.3.41.19135	1.3.41.19256	1.3.41.19256	GUI.zip, Web Service and database updates
41	2	1.3.41.19620(3GB)	1.3.41.19135	1.3.41.19620	1.3.41.19346	GUI.zip and Web Service
41	2sf	1.3.41.19620SF(3G)	1.3.41.19135	1.3.41.19620	1.3.41.19346	GUI.zip
41	2.1	1.3.41.20622(3GB)	1.3.41.19135	1.3.41.20617	1.3.41.19346	GUI.zip and Web Service
41	3	1.3.41.20125(3GB)	1.3.41.19135	1.3.41.20171	1.3.41.19346	GUI.zip , Web Service and Recognizer
41	4	1.3.41.20285(3GB)	1.3.41.19135	1.3.41.20171	1.3.41.19346	GUI.zip
41	5	1.3.41.20809(3GB)	1.3.41.20708	1.3.41.20792	1.3.41.20738	GUI.zip, Core install, Web Service and database updates
41	6	1.3.41.20912(3GB)	1.3.41.20708	1.3.41.20792	1.3.41.20738	GUI.zip
41.1	-	1.3.41.20918(3GB)	1.3.41.20791	1.3.41.20918	1.3.41.20739	GUI.zip, Core install, Web Service and DB updates, Help files
41.1	1	1.3.41.20987(3GB)	1.3.41.20791	1.3.41.20918	1.3.41.20739	GUI.zip
41.1	2	1.3.41.21162(3GB)	1.3.41.20791	1.3.41.21162	1.3.41.21150	GUI.zip, Web Service and DB updates,
41.1	3	1.3.41.21264(3GB)	1.3.41.20791	1.3.41.21162	1.3.41.21150	GUI.zip
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	2.42.0.7.22161	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	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	2.42.1.1.22963	2.42.0.0.21261	2.42.1.1.22963	2.42.1.1.22864	GUI.zip, Web Service, DB updates

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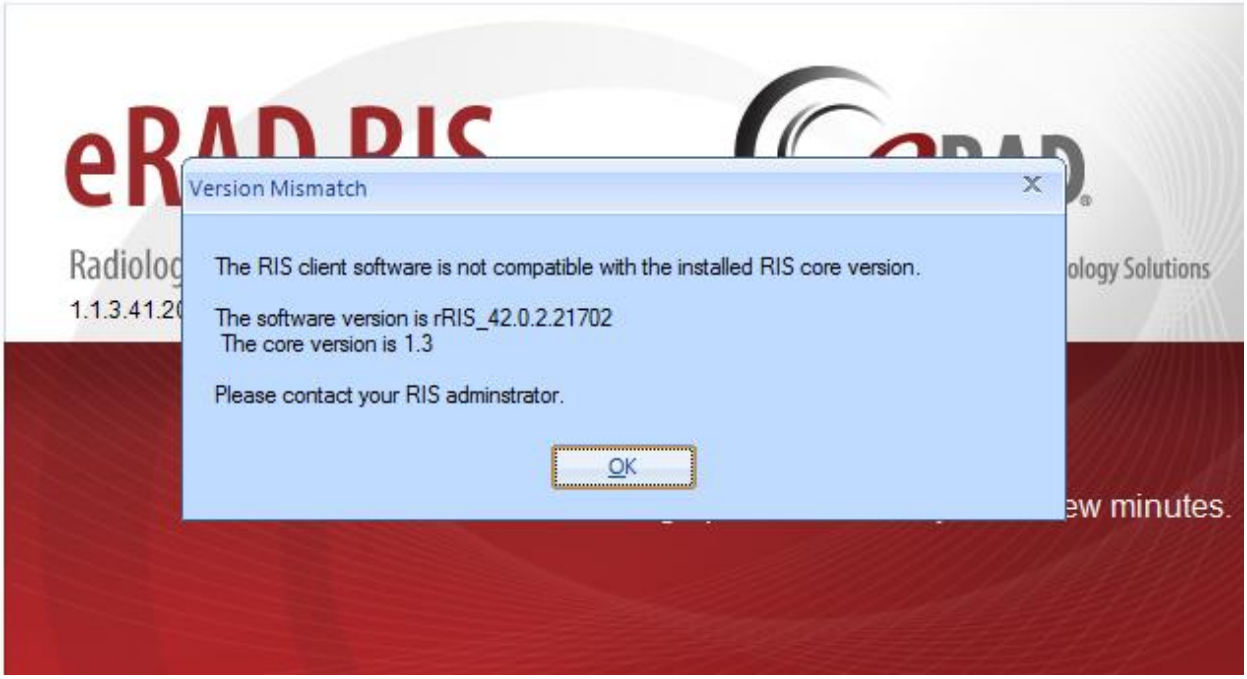
9. Installing

1) Copy and replace the current rRIS…zip file with the rRIS_1.3.42.0.12.22982.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_42.0.12.22982→ rRIS_1.3.42.0.12.22982. 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)

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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 B42.0.12.sql file against the eRAD RIS database instance

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