

# Server Update

For eRAD RIS  
Version 2.0  
Build 43  
Update 43.1

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### **1. New Features**

#### **a.) Distribution of Encrypted PDF via Email**

##### **1). Person/Address level configuration of email address and password**

For now, this will be configured at the address level and later functionality will be provided to allow a default at the person level (see Outstanding Issues).

Passwords added at the address level are hidden from end users by default. If they have access they can click a button to view the password in plain text. Clicking this button audits their request for access and access to the password.

Changing a password is also an audited event.

Passwords are subject to a “strong password check” as a part of their data validation. The check is running the password against a regular expression. There is a system configuration item for

EmailPDFPasswordRegex to house the regular expression, thus allowing it to be customized per install.

##### **2). Queue Poller**

Changes were made to the queue poller to pick up any referring or CC addresses that prefer to receive email and create a distribution job with the specified email address.

##### **3). PDF Encryption**

In order to password protect the PDF file, an open source PDF library called PDFSharp is being used. This library allows us to pass it a password and a byte array containing a non-encrypted PDF and it then returns the password protected PDF.

##### **4). RADAR**

After some discussion of using Mirth to encrypt the PDF and send the email, it was decided that PDFSharp would be used to encrypt the pdf and RADAR would be used to send the email. This required an enhancement to the RADAR dll in order to pass a file to the service so they could attach it to the email.

Part of the message to RADAR involves an account name. RIS has always used the practice\_code of the relevant practice for this. It is being determined based on the practice related to the \_site\_code of the study of the distribution job. RADAR uses the account name to determine who the sending message is from. Configuration of the email's format will be done in RADAR, including logos, header, footer, colors, and verbiage.

##### **5). Email Sender**

A configuration setting called DDEEnableEmail has been added to the applicationsettings.config file of the RIS services binaries. When this setting is True the main method of the Distribution engine will create a worklist working thread that will poll for Email jobs created by the queue poller. This setting was added in order to provide the ability to disable email functionality on a particular Distribution server, mostly for testing purposes. There is nothing preventing multiple Distribution services from processing email jobs at the same time for scalability purposes.

When the Distribution service finds an email job, it will create a PDF of the report using the Sql Server Reporting Services framework in the same way faxes and print jobs are done. It then encrypts the PDF using the PDFSharp library and sends it via RADAR using the dll the RADAR team has provided.

##### **6). Send Report Dialog**

The Send Report dialog, also used to edit active Distribution jobs, has been enhanced to allow sending emails. The email portion is disabled when the Other radio button is selected. This is because the password used to encrypt the PDF file is set for the particular person and address.

Upon selecting an address with a delivery preference of Email the Email textbox will automatically populate based on the value from the person's address. For addresses with other default delivery preferences, changing the Delivery method dropdown to Email will cause the email textbox to populate if and Email has been specified for that address.

Note there are outstanding issues regarding this screen.

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### 7). Worklists

The Document Distribution Worklists in the RIS client now show Email jobs with a Delivery Method value of “Email” and an Email Address column valued with the destination Email address. See screenshots below.

#### *How to enable the Feature*

- 1) Personnel changes
  - a. Any referring physicians that wish to receive reports via email when they are the referring or a CC doctor on a study must be configured with that preference via the Personnel editor.
- 2) Service setting changes
  - a. The queue used by the Distribution Engine must be set up appropriately to subscribe to report related events. If the service is already set up for Fax and Print jobs the queue is already ready.
  - b. The applicationsettings.config file for the Document Distribution service now contains a setting called “**DDEnableEmail**” which must be set to True for the DD to process email jobs.
- 3) RADAR settings
  - a. RADAR must have accounts for all practices which will be sending emails.

#### *Permission Strings*

Config.LookupEditor.Personnel.EmailPassword = full access to this enables users to view personnel address distribution email passwords (Default == None)

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### *Screen captures of screens / dialog*

**Edit Address**

**Address**

Type: Work Address ☒ Active

Address 1:

Address 2:

City:

State:  Zip code:

Phone #:  Fax #:

Affiliations:

Referring Practices:

**Deliver to**

**Print**

Address 1:  ☐ Refer ☐ CC

Address 2:

City:

State:

Zip code:

**Fax**

Fax #:  ☐ Refer ☐ CC

**Email**

Email \*:  ☒ Refer ☐ CC

Password:

**EMR**

EMR:  ☐ Refer ☐ CC

☐ Disable report delivery for this address ☒

Showing new Email section of address config

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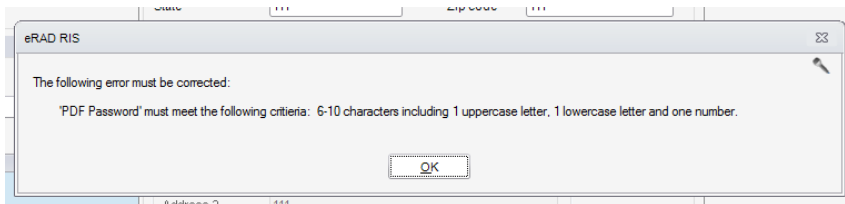
The screenshot shows a web form for updating patient information. A modal dialog box titled "Reveal Password" is open, displaying the message: "Revealing a password is an audited event, and must only be used when requested by the referring doctor. Would you like to proceed with revealing the password?" with "Yes" and "No" buttons. The background form includes fields for Address 2, City, State, Zip code, Phone #, Fax #, and Affiliations. Below the dialog, there are fields for State, Zip code, Fax #, Email, PDF Password, and EMR. A "Reveal Password" button is next to the PDF Password field. To the right, there are checkboxes for "Refer" and "CC" for each section. At the bottom, there is a checkbox for "Disable report delivery for this address".

Showing audit warning.

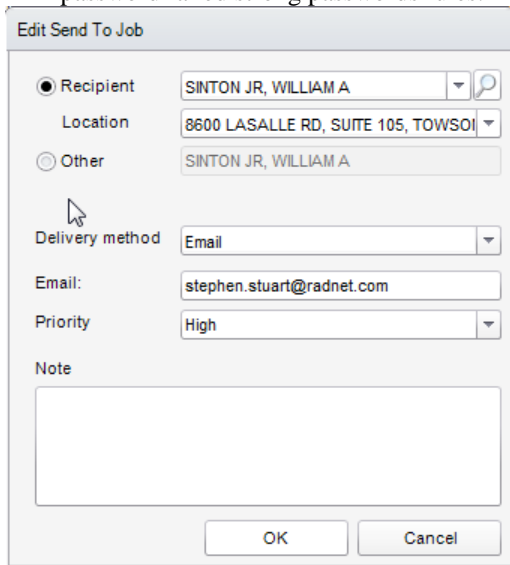
The screenshot shows the same web form as above, but the "Reveal Password" dialog box is closed. The PDF Password field now displays the text "ris123" in clear text. The "Reveal Password" button is still present. The rest of the form and the "Refer" and "CC" checkboxes remain the same.

Showing clear text password

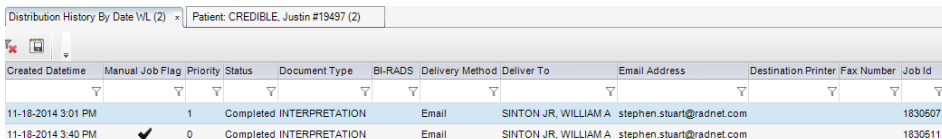
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PDF password failed strong passwords rules.

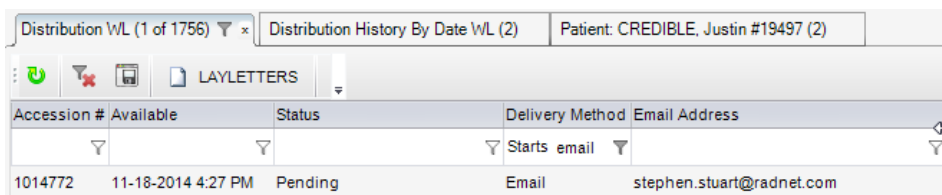
A screenshot of the "Edit Send To Job" dialog box in the eRAD RIS application. It contains several fields: "Recipient" (SINTON JR, WILLIAM A), "Location" (8600 LASALLE RD, SUITE 105, TOWSON), "Other" (SINTON JR, WILLIAM A), "Delivery method" (Email), "Email:" (stephen.stuart@radnet.com), "Priority" (High), and a "Note" text area. There are "OK" and "Cancel" buttons at the bottom.

Send Report dialog with Email in the Delivery method dropdown.



Created Datetime	Manual Job Flag	Priority	Status	Document Type	BI-RADS	Delivery Method	Deliver To	Email Address	Destination Printer	Fax Number	Job Id
11-18-2014 3:01 PM		1	Completed	INTERPRETATION		Email	SINTON JR, WILLIAM A	stephen.stuart@radnet.com			1830507
11-18-2014 3:40 PM	✓	0	Completed	INTERPRETATION		Email	SINTON JR, WILLIAM A	stephen.stuart@radnet.com			1830511

Distribution History By Date WL showing two completed Email jobs.



Accession #	Available	Status	Delivery Method	Email Address
1014772	11-18-2014 4:27 PM	Pending	Email	stephen.stuart@radnet.com

Distribution WL of active jobs, showing one Email job in Pending status

### **b.) CD Burning - new custom fields and support for multiple disc producers**

In addition to the existing discproducer labels:

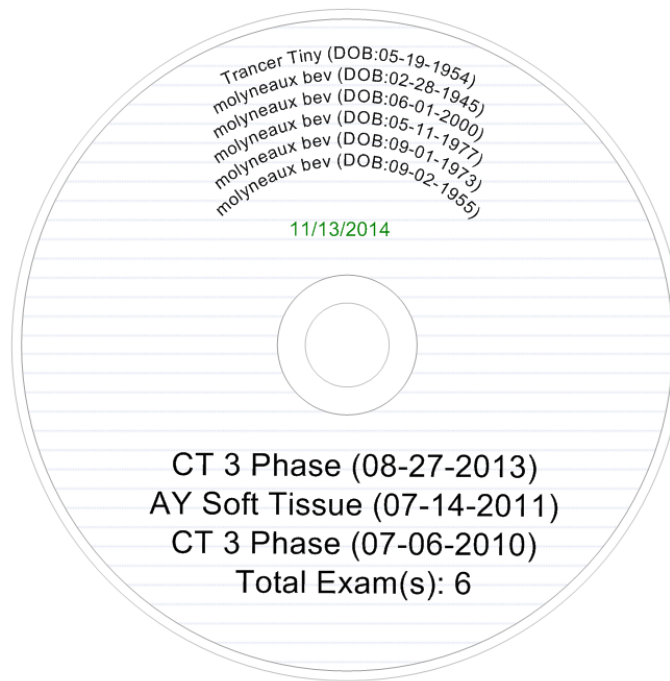
name, patient\_id, site\_code, site\_description, deliver\_to\_first\_name, deliver\_to\_last\_name,  
deliver\_to\_address\_lines, deliver\_to\_city, deliver\_to\_country, deliver\_to\_state, deliver\_to\_zip

We have added:

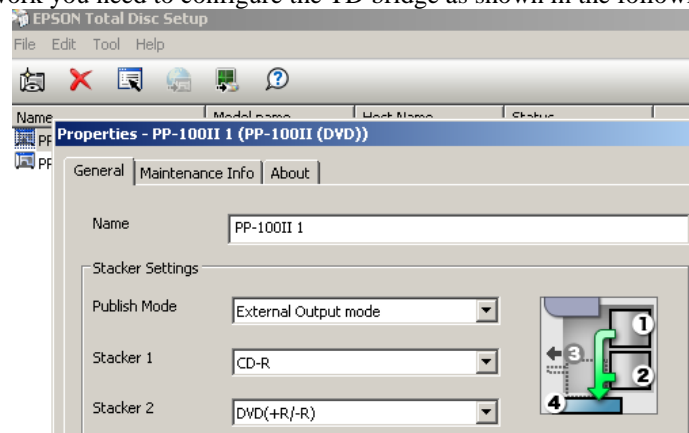
study\_count, study1, study2, study3, study4, study5, study6, study7, study8, study9, study10

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The name parameter now works and has the format <last\_name><first\_name> (DOB: <date>). An example label is shown in the following screen shot. Note in this example, I've burned a CD with data from several different PACS patients. As discussed in the previous RIS release, the format and design of the disc label is totally customizable by site.



If the content to be written is greater than 650MB we now instruct the disc producer to burn to a DVD. For this to work you need to configure the TD bridge as shown in the following:

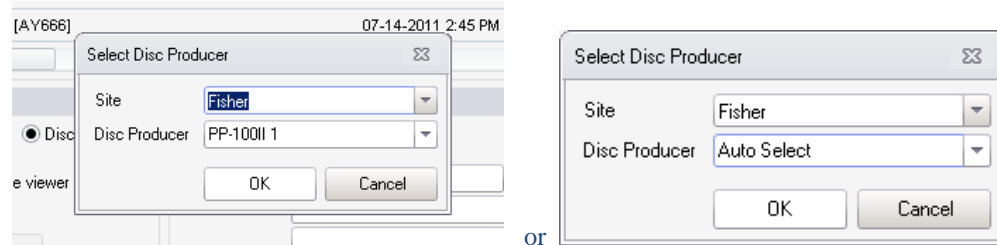


The disc producer's default share location has been added to the site configuration. With this setting, the disc producer location will default base on the site chosen in the "Select CD Burner" dialog. This popup, was previously titled **"Select a label for the CD"**.

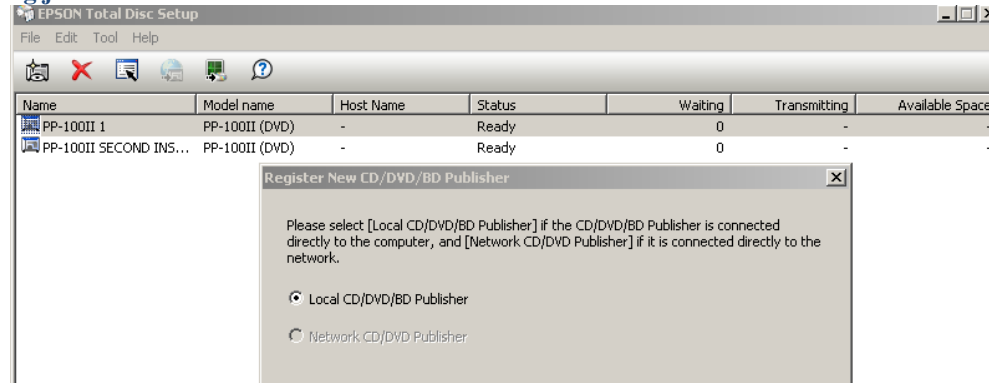
To support multiple burners we have modified the "Select Disc Producer" dialog to include an input for the burner at the selected site. If there is only one burner at the site, the burner dropdown is disabled; otherwise, it defaults to the last selection used for that site. If "Auto Select" is chosen, RIS will randomly pick one of the burners and will use that selection for the remainder of the RIS session. If the user specifically picks one of the burners, that selection will persist for that site.



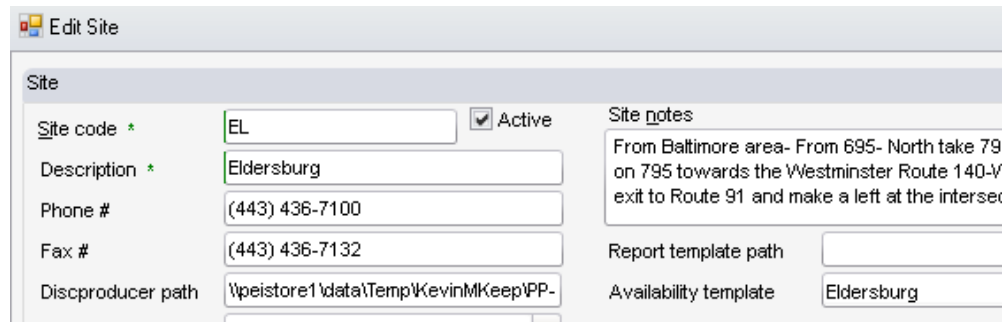
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To configure more than one burner, go to the Epson Total Disc Setup as shown in the following screen shot. After setting up the additional instances you must restart the TD Bridge. **NOTE: DISC PRODUCER NAMES MUST BE TYPED IN UPPER CASE, lower case will cause an error when submitting job files.**



The disc producer path is configurable in the Organization lookup for a Site, as shown in the following:



If you have used the discproducer with a previous B43 build, you will need to delete the label subfolder in all of your discproducer shares; otherwise, you will not have access to the new fields: study\_count and study<n>.

We have also added a text label at the bottom of the CD Burning screen to remind the user what they selected for the destination. A few examples are as follows:

Destination: Disc Producer (<name of burner>) – <site description>

Destination: File System - c:\<path>

Destination: CD\DVD - D:\

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First name  
Last name  
MRN  
Accession  
Destination: Disc Producer (PP-100II 1) - Fisher  
Burn Completed

Address  
City  
State  
Country  
ZipCode

### *DB schema changes*

Added discproducer\_path to the l\_site table.

### **c.) Radiology Reporting - Motorola Symbol Barcode Support**

Motorola provides an SDK for tightly integrating with their devices. See miscellaneous for link info. Within the SDK we used the Interop.CoreScanner.dll file which we included in our main application as a reference. This allows us to call methods and subscribe to events coming from the barcoding device.

*Note at this time we are not undertaking the installation of the Motorola Symbol device. There are installation drivers available directly from Motorola for both 32 and 64 bit.*

We will use the same Barcode control for Motorola Device as we do for the Philips Speech Mike device. We have also simplified the user preference control by eliminating the “Mode” option and adding a new action of “Insert Text Only” and “Nothing”.

Previous screen (dark theme mode)

Barcode Reader Action

Mode: ☒ Keyboard text ☐ Event action

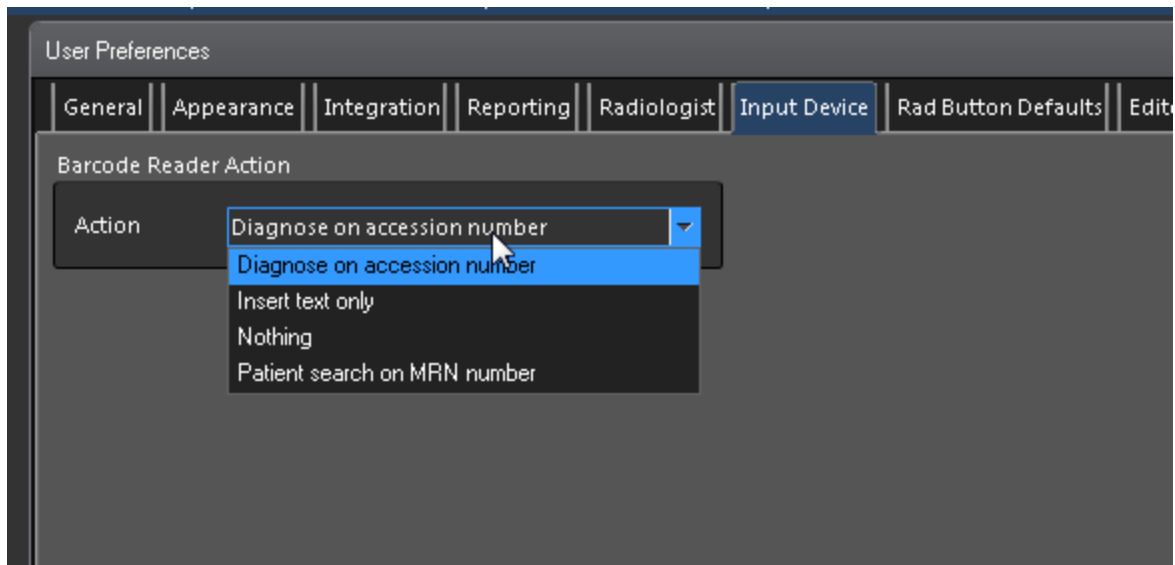
Action: Diagnose on accession number

Foot Pedal Actions: Patient search on MRN number

No supported devices connected.

Current Screen (dark theme mode)

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As illustrated in the above image users can now choose two new options. This simplifies the choice for users.

- “Insert Text Only” will send the text of the barcode plus an <ENTER> press key to the current cursor location. This is not application specific.
- “Nothing” will simply swallow the event and take no action. This may be handy if another application is integrated with the barcoding device.

We now show the “Input Device” tab regardless of reporting mode. Previously we only presented the tab if you were in M\*Modal reporting mode. We do hide the other (non barcode) group boxes when not in M\*Modal mode as they are not relevant to other reporting modes. We don’t initialize all devices (start them up) for particular reporting modes. We do attempt to initialize the Motorola Symbol Barcode scanner for all users. If the drivers exist it will start up if not the users will see no negative side effects.

### *How to enable this feature*

The feature is enabled by default. To make the feature usable workstations will need to install the correct drivers for the Motorola Symbol Barcode device.

## **d.) Support patient electronic signature on defined hardware (Lenox Hill)**

RIS needs to support the ability to show a form (e.g. a consent form, etc) on the screen and allow the Patient to review the document and then sign their name with a stylus.

1. Functionality was designed around our current management report functionality. A special form category can be used to make RIS treat forms as a signature type form.

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Form Category Code	Description	Display Order	Last Updated	Active
Contains:	Contains:	Equals:	Contains:	Contains:
Click here to add a new row				
PatientSignature	PatientSignature	1	11-06-2014 2:15 PM	Y
testb40	testb40	1	02-11-2013 2:30 PM	N
Call Back Letter3	Call Back Letter3	14	01-12-2012 11:55 AM	Y
Reminder Letter1	Reminder Letter 1	15	01-12-2012 11:55 AM	Y
Reminder Letter2	Reminder Letter 2	16	01-12-2012 11:55 AM	y
Reminder Letter3	Reminder Letter 3	17	01-12-2012 11:55 AM	y
Call Back Letter2	Call Back Letter2	13	01-10-2012 12:46 PM	Y
Call Back Letter1	Call Back Letter1	12	01-10-2012 12:46 PM	Y

Figure 1 – Form Category editor allows the creation of a new form category.

form	description	last updated	active	form category
Contains: biopsy	Contains:	No filter:	Cont	Contains:
Click here to add a new row				
/dev/Forms/Signature/BreastBiopsy ConsentForm_DRA	Brest Biopsy Consent	11-06-2014 9:58 PM	Y	PatientSignature

Figure 2 – Assign a form category of PatientSignature to a form to drive the signature.

2. If the user tries to print a form that is signature driven, we collect the signature and then save the form as a scan document, currently using the Scan Document Type of “Consent”, although the user can re-classify the document type afterwards. RIS allows the user to manually print a form by using one of 3 methods below.
  - a. “Print Forms” on the “Patient” tab on Registration/PerformExam, ViewEdit, etc
  - b. Using the right click/context menu from a worklist and choosing “Print Forms”
  - c. Saving a screen in RIS and working with the “Print Forms” dialog to print specially configured forms (e.g. certain forms are configured to fire for different actions in RIS such as CheckingIn based on the modality type, procedure, practice, or other criteria)
3. When a form is previewed or sent to the printer, RIS will check to see if the form requires signature controls and show a maximized window with the report if this is the case.
4. If multiple forms meet the filter criteria when a patient is being checked in, RIS will first print the matching non-signature based forms and will then present the signature based forms one at a time.
5. The users at the front desk will have a WACOM monitor with stylus facing the patient and when they are ready to collect signatures they will press WindowsKey+P and choose Mirror Desktop to allow the patient to complete the forms.
6. The window that pops up with the patient form will have a Sign button to allow the signature to be collected, a reset button to clear the signature on the current page and start again, an accept signature button to save the form with signature as a scan document, and previous page / next page buttons. The buttons are disabled until the user clicks the Sign button. Prev Page / Next Page will be disabled if there is only one page, and are disabled where appropriate at the start and end of the document.

Sign
Clear
Accept Signature
Prev. Page
Next Page

Figure 3 – Signature buttons

### ***How to enable this feature***

Create form category as discussed above, associate category with forms in the forms and labels lookup editor

### **e.) Support ability to enter preferences for a referring physician to receive films or CD based on procedure type performed**

The Personnel configuration screen has been enhanced for setting up or modifying referring physicians. An additional tab called Referring Preferences has been added. The Referring Preferences tab is only enabled when the Referring Physician resource flag is enabled on the Resource tab.

The Preferred Radiologists control has been moved to the new Referring Preferences tab. The Image Request Preferences can also be found here.

The Image Request Preferences selection functions very similarly to the Preferred Radiologists. The user starts by selecting a format. The image request format is a combination of the image medium and delivery method. The image medium options are determined by the values in the ImageMedium lookup table. The delivery method options are limited to Mail, Courier, Pickup, and Other.

Once a format is specified, the user may further filter studies by selecting a modality type. The modality type listing is determined by the active types in the ModalityType lookup. To further filter the study selection for image requests, the user may specify one or more procedures by modality type. The procedure listing is determined by the mappings in the ScheduleGroup lookup.

If a referring physician wants all his or her studies burnt to a CD and sent by courier, simply adding a format of CD and Courier will accomplish this. As the patient is arrived by the front desk staff, a new image request will automatically be created for the study. If the referring physician only wants CDs sent by courier for all CT and US procedures, adding a modality type filter on the CD – Courier node will do this. If the referring physician wants to pick up film copies of XR procedures, adding an additional node of Film – Pickup with a modality type of XR will accomplish this.

If the referring only wants image requests for certain procedures, this can be accomplished by adding one or more procedure nodes to the modality selection.

When a new image request is added based on the above preferences, the image request fields are defaulted as follows:

- Request Datetime - The date and time when the patient is arrived
- Requested by Type – Referring
- Requested by Contact Name – The first name and last name of the referring physician
- Requested by Phone Number – The phone number of the address matched to the order
- Image Medium Code – The image medium from the image request preference
- Delivery Method – The delivery method from the image request preference
- Deliver to Last Name – The last name of the referring physician
- Deliver to First Name – The first name of the referring physician
- Deliver to Name Suffix – The suffix of the referring physician
- Deliver to Name Prefix – The prefix of the referring physician
- Request Status – Pending
- Deliver to Type – Referring
- Site Code – The site code that the scheduled modality belongs to

If a “Deliver To” address is specified in the contact information of the referring physician, the following image request address fields will default to the specified address or they will default to the referring address that is matched to the order.

- Deliver to Address 1
- Deliver to Address 2

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- Deliver to City
- Deliver to State
- Deliver to Country
- Deliver to Zipcode
- Deliver to Phone Number

### *Screen captures of screens / dialogs / screen changes*

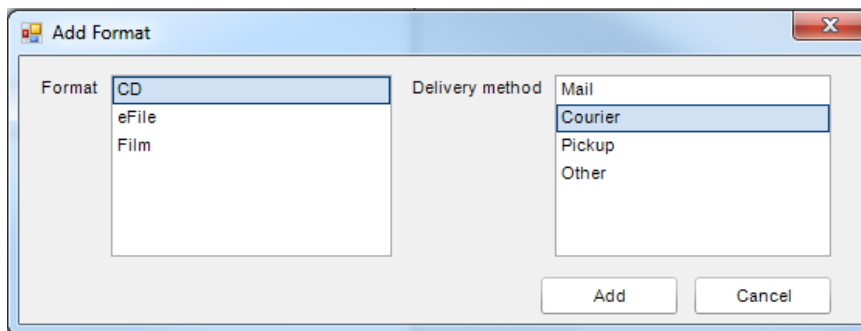


Figure 1 – Adding a Format of CD and a Delivery Method of Courier

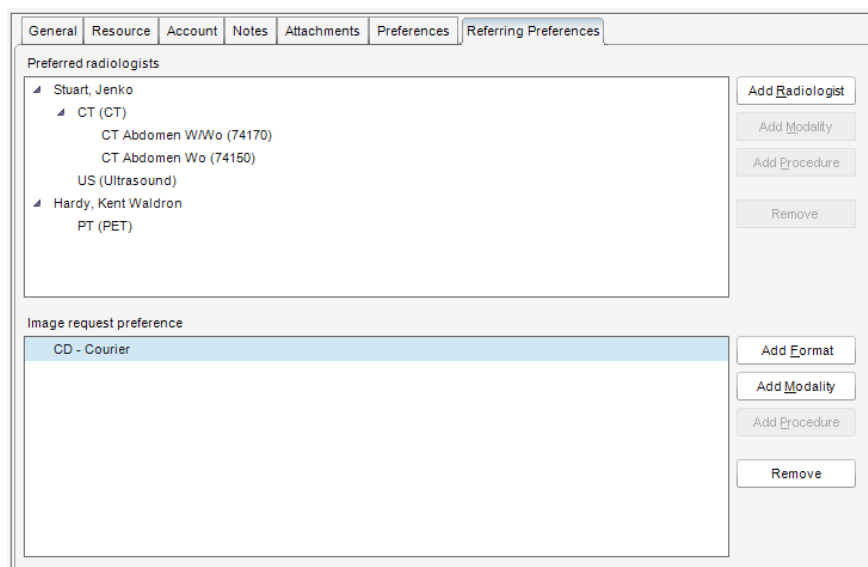


Figure 2 – Image request preference for all studies to be CD - Courier

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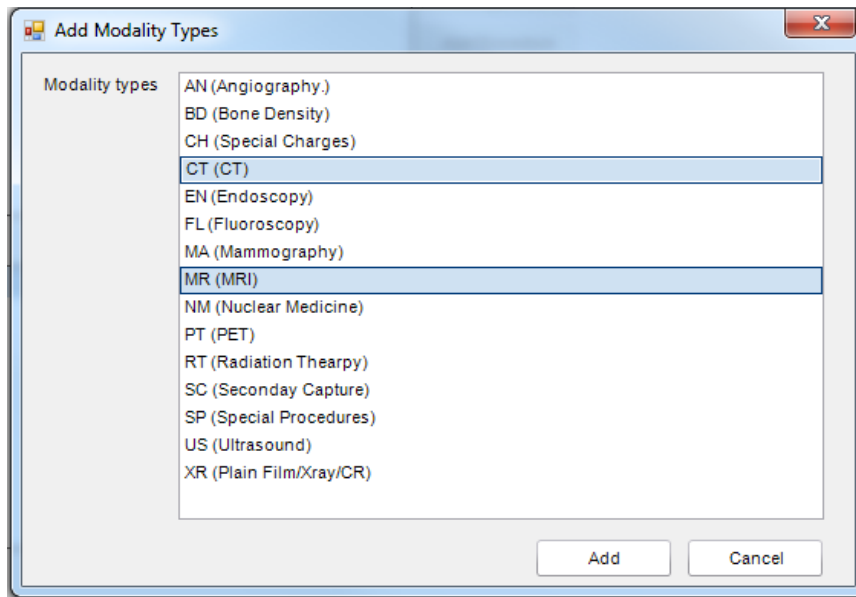


Figure 3 – Adding Modality Types of CT and MR

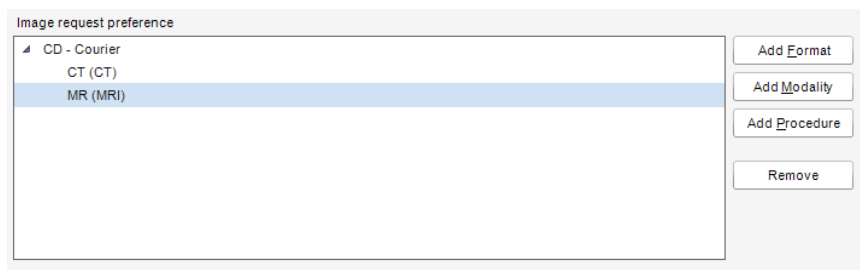


Figure 4 – CD – Courier for CT and MR Modality Types only

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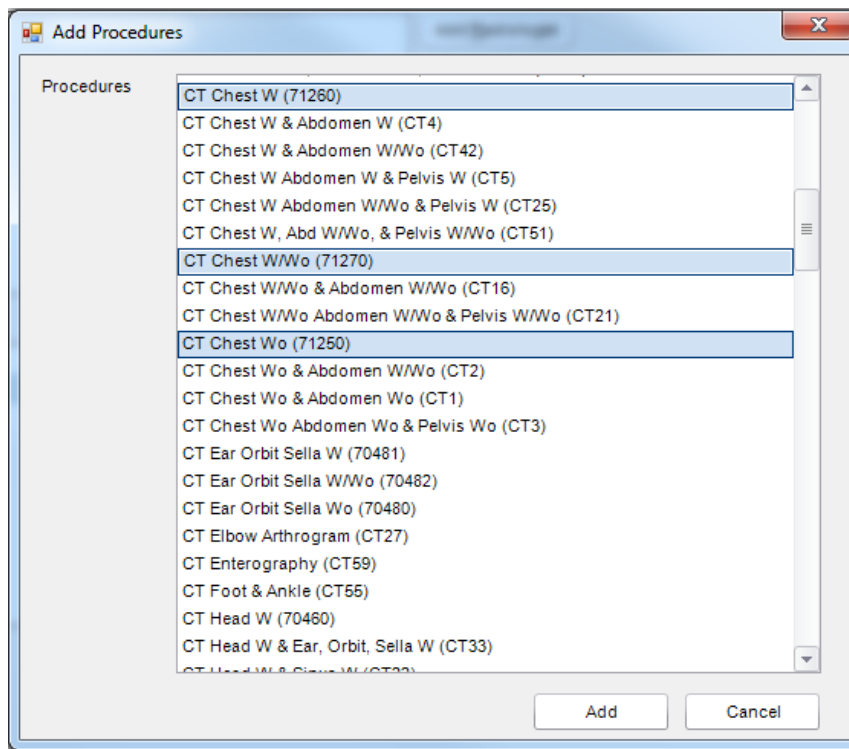


Figure 5 – Selecting Procedures for the CT Modality Type

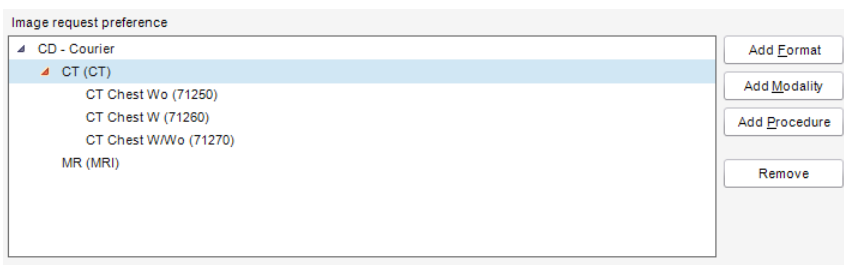


Figure 6 – CD – Courier for 71250, 71260, 72170 and MR Modality Type

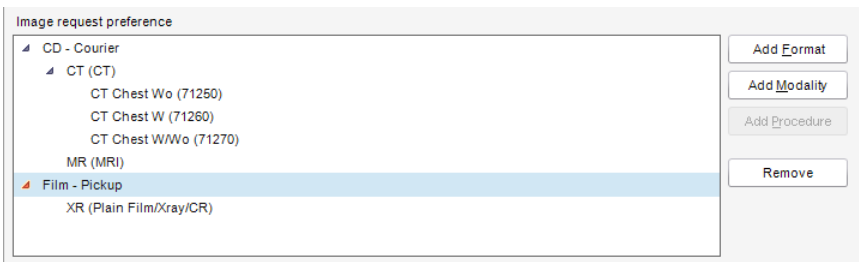


Figure 7 – Adding Film - Pickup for the XR Modality Type



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Image Request

Studies (1)

Date	Last Name	First Name	Study
11/13/2014 1:10:00 PM	Carter	Jeff	71552^MR Chest W/Wo

Previous Requests (1)

Date	Req. By	Source	Format	Delivery	Status
11-13-2014 1:08 PM	John Ben	Referring	CD	Courier	Pending

Requested By

☐ Patient ☒ Referring ☐ Other doctor ☐ Other

Doctor: Ben, John 9

Location: Nobel St., Raleigh, North Dakota, 73295

Name: John Ben

Organization:

Phone number: (999) 888-4512

Details

Requesting site: (LU) Lutherville

Format: CD

Notes:

Delivery method: Courier

Delivery Instructions:

Deliver To / Pickup By

☐ Patient ☒ Referring ☐ Other doctor ☐ Other

☐ Copy requested by

Doctor: Ben, John 9

Location: Nobel St., Raleigh, North Dakota, 73295

Prefix: DR Suffix: Jr

First name: John

Last name: Ben

Address: 12 Oak Road

182 Nobel St.

City: Raleigh

State: North Dakota

Country: Micronesia Zip: 73295

Phone number: (999) 888-4512

Image Request Status

☒ Pending ☐ Cancelled ☐ Ready ☐ Sent ☐ Picked up ☐ Identification verified

OK Cancel

Figure 8 – New Image Request created on arrival for MR of the Chest

### *Impacts on other components*

This feature has changed the behaviour of the Personnel lookup by adding an additional tab called Referring Preferences. This new tab is enabled for Referring Physician resource types only.

### *DB schema changes*

Added l\_image\_preference

Added l\_image\_preference\_x\_study

## 2. Defects Resolved

Redmine #	Tracker	Subject	Priority
8000	Feature	Distribution of Encrypted PDF via Email	High
7648	Feature	CD Burning - new custom fields and support for multiple disc producers	Normal
8006	Feature	Radiology Reporting - Motorola Symbol Barcode Support	Urgent
7960	Feature	DB upgrade scripts need to be accumulative	Normal
7898	Feature	Support patient electronic signature on defined hardware (Lenox Hill)	Urgent

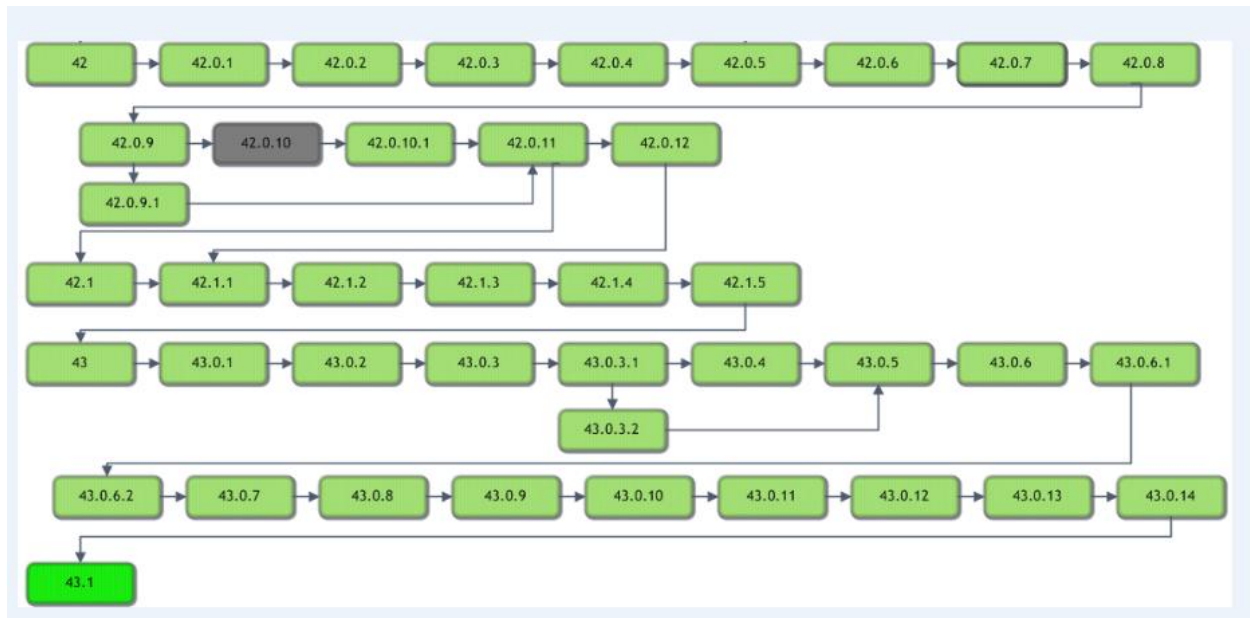
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7797	Feature	Support ability to enter preferences for a referring physician to receive films or CD based on procedure type performed.	Urgent
8109	Bug	Regarding Barcode scanning the file <Interop.CoreScanner.dll> is missing from the build.	High
8039	Bug	Users/Persons with no first names cause View/Edit screen to throw an error and not open	Normal
8003	Bug	Unable to suspend an addendum	Normal
8001	Bug	Epson Discproducer problem does not write DVDs	Normal
7958	Bug	Insurance Eligibility - Zotec TOS not returning payment amounts back to RIS	Normal
7943	Bug	Carestream PACS Integration - Accession Number being used instead of External Study Identifier	Normal
7942	Bug	Carestream PACS Integration - Password is stored in log file	Normal
7926	Bug	Timeout error while burning images to CD	Normal
7856	Bug	CD Burning - w discproducer the pt name is not printed	Normal
7744	Bug	CD Import - Windows 7 CD Burning via Explorer prevents us from scanning CD without DICOMDIR	Urgent

### **3. Changes to Configuration**

Setting Placeholder	Setting	Default	Purpose / Controls Access to
Access string / User Group Permission tables	Config.LookupEditor.Personnel.EmailPassword	None	Full access to this enables users to view personnel address distribution email passwords
Applicationsettings .config	DDEEnableEmail	True	Must be set to True for the DD to process email jobs

### 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\_1.3.43.1.0.25850.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>
--	---
- 3) DB folder contains 1 file and 2 subfolders:
  - Readme.txt
  - a. Common subfolder contains
    - a. RISMaintenancejoBS.SQL
    - b. MU subfolder
  - b. Upgrade
    - a. RunUpgrade.bat
    - b. Scripts subfolder
    - c. Log subfolder

### **6. Intended Audience**

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

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

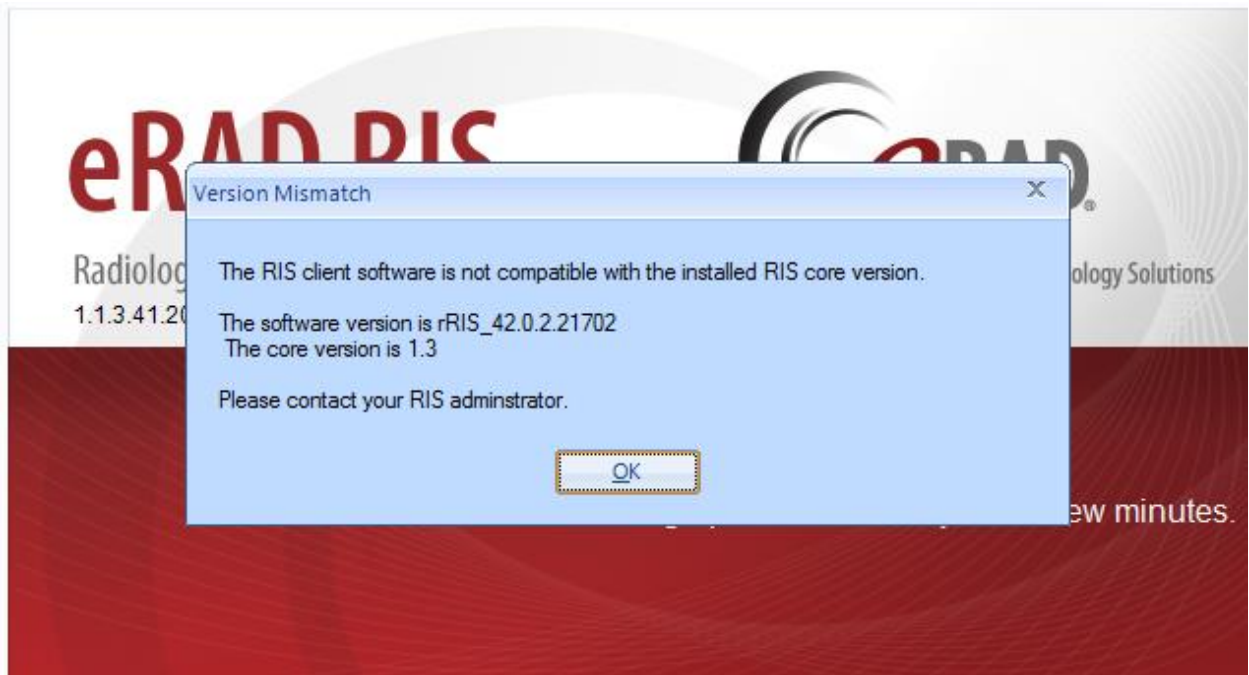
Build 43 installs. Server updates are not cumulative. This server update must be applied to 43.0.14

**8. eRAD RIS Release Version Numbers**

Build	Patch	UI Version	Core Version	WS Version	DB Version	Notes
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
43	6.1	2.43.0.6.24937(3GB)	2.43.0.0.23171	2.43.0.6.24937	2.43.0.6.24914	GUI.zip, Web Service
43	6.2	2.43.0.6.24970(3GB)	2.43.0.0.23171	2.43.0.6.24970	2.43.0.6.24914	GUI.zip, Web Service
43	7	2.43.0.7.25258(3GB)	2.43.0.0.23171	2.43.0.7.25258	2.43.0.7.25226	GUI.zip, Web Service, DB updates and Management Report Deployment
43	8	2.43.0.8.25440(3GB)	2.43.0.0.23171	2.43.0.8.25440	2.43.0.8.25425	GUI.zip, Web Service, DB updates and Management Report Deployment
43	9	2.43.0.9.25477(3GB)	2.43.0.0.23171	2.43.0.9.25477	2.43.0.8.25425	GUI.zip and Web Service
43	10	2.43.0.9.25477(3GB)	2.43.0.0.23171	2.43.0.10.25477	2.43.0.8.25425	Web Service
43	11	2.43.0.11.25512(3GB)	2.43.0.0.23171	2.43.0.11.25512	2.43.0.8.25425	GUI.zip and Web Service
43	12	2.43.0.12.25554(3GB)	2.43.0.0.23171	2.43.0.12.25554	2.43.0.12.25536	GUI.zip Web Service and DB Updates
43	13	2.43.0.12.25610(3GB)	2.43.0.0.23171	2.43.0.12.25610	2.43.0.12.25536	GUI.zip and Web Service
43	14	2.43.0.14.25644(3GB)	2.43.0.0.23171	2.43.0.13.25610	2.43.0.12.25536	GUI.zip
43.1	-	2.43.1.0.25850(3GB)	2.43.0.0.23171	2.43.1.0.25850	2.43.1.0.25771	GUI.zip Web Service and DB Updates

### 9. Installing

1. Copy and replace the current rRIS...zip file with the rRIS\_1.3.43.1.0.25850.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\_43.1.0.25850→ rRIS\_1.3.43.1.0.25850  
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)

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*



## eRAD RIS Server Update

- c) Wedge rRISService
- d) DDE rRISService

**Restart each service.**

### 3. Data upgrade Instructions.

Always run the upgrade scripts in a test environment of the actual database to make sure they run cleanly. If any errors occur please contact development.

*Note: There is a new upgrade program with B43.1 called "RunUpgrade.bat". This program will prompt you for the database server name, database name and authentication credentials. There is no need to run the database upgrade scripts manually as was done in previous releases.*

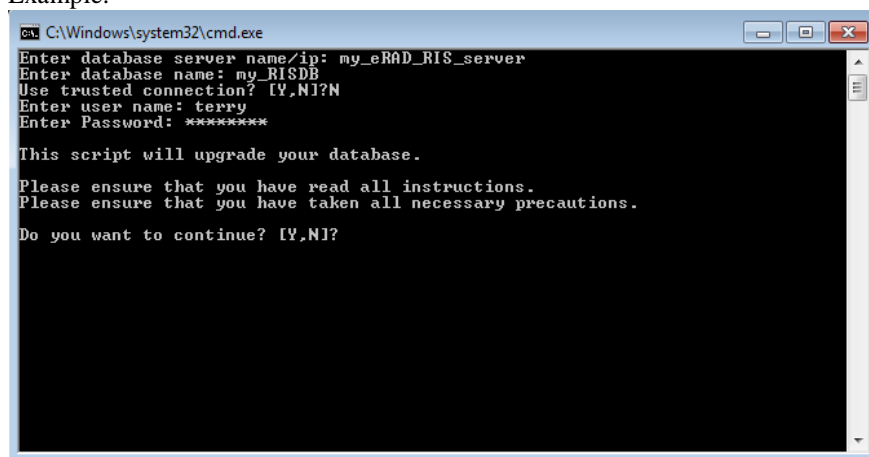
From the upgrade folder, double click the "RunUpgrade.bat" command file.

Enter the server name, database name and authentication credentials to the database. You have 2 choices for authentication credentials.

You can choose to use "Trusted connection". Using this option will pass the identity of the currently logged on user. If this user has "db\_owner" access to the eRAD RIS database then feel free to use this options.

If you decide not to use "Trusted connection" then you will be prompted for user id and password.

Example:



```
C:\Windows\system32\cmd.exe
Enter database server name/ip: my_eRAD_RIS_server
Enter database name: my_RISDB
Use trusted connection? [Y,N]Y
Enter user name: terry
Enter Password: *****

This script will upgrade your database.
Please ensure that you have read all instructions.
Please ensure that you have taken all necessary precautions.
Do you want to continue? [Y,N]?
```

After the upgrade program has finished you can find the upgrade logs in the "log" folder. The file name will be eRAD\_RIS\_db\_upgrade\_timestamp.log, where timestamp is a value representing the date and time the upgrade started. If you see any errors please contact the development team