

# **User Release Notes**

for eRAD RIS  
Version 1.0  
Build 36

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## **1. Purpose**

This document describes some of the new features and changes implemented in eRAD RIS as of the end of Sprint 36. This version of eRAD RIS is referred to as Build 1.36.

Only features which can be visually demonstrated to the user will be outlined in this document.

## **2. Intended Audience**

This document is created by the RIS Development team for the RadNet RIS management team.

## **3. Installing/Accessing the Application**

The installation guide for the eRAD RIS client have been posted to the RadNet Wiki page at <http://mdbal01rdtweb/Wiki/>

Under the RIS menu click on the rRIS page. The credentials to access the page are:

Username: rRIS

Password: Summerside

*Please note that Build 1.36 is considered a new core release of the application and will require a reinstallation of eRAD RIS. This is accomplished by navigating to the eRAD RIS shared installation drive and running the CoreInstall.bat file (ex: I:\RISDeployment\CoreInstall.bat)*

If you experience difficulties accessing the application please do not hesitate to contact Darcy Noye with the PEI RIS Development Team.

## 4. New Features and Enhancements

### Sending Tech Only Studies to Billing at Exam Done Status

Studies that were flagged as No Report Required Tech Only will never be set to Signed status. Previously only studies in Signed status were sent to billing. Now if a study is flagged No Report (Tech Only) when the study reaches exam done status it will be sent to billing.

The screenshot displays the eRAD RIS interface. At the top, there are two tabs: 'Technologist WL (2)' and 'Perform Exam (Kevin Klondike) \*'. Below the tabs is a table with columns: 'Include', 'Status', 'Flags', 'Procedures', 'Scheduled Date', 'Referring', and 'Rc'. The table contains three rows. The first two rows are 'Cancelled' with a green checkmark in the 'Flags' column. The third row is 'Arrived' with a green checkmark in the 'Flags' column and a green arrow in the 'Include' column. Below the table is a row of tabs: 'Patient', 'Order', 'Documentation', 'Billing Codes', 'Attachments', 'Notes / Exam Times', 'Visit', and 'Image Request (0)'. The 'Documentation' tab is selected, showing 'Tech Notes'. Under 'Tech Notes', there is a section 'Technologists Notes' with a text area containing 'Testing No Report'. To the right of the text area are fields for 'Primary Tech: \*', 'Assisting Tech 1:', 'Assisting Tech 2:', and 'Last Menstrual Period:'. Below the 'Tech Notes' section is the 'Procedure' section. It contains fields for 'Scanner: \*' (CT1LU), 'Performed Procedure: \*' (DX Appendicular Skeleton (77081)), 'Body Part:', 'Laterality:', 'Change Reason Code: \*', and 'Change Reason Note:'. At the bottom of the 'Procedure' section are two checkboxes: 'No Report (Tech Only)' (checked) and 'Report External to eRAD RIS' (unchecked). To the right of the 'Procedure' section is the 'Associated Radiologists' section, which contains fields for 'Assigned Radiologist', 'Performing Radiologist', and 'Assistant Radiologist'.

Include	Status	Flags	Procedures	Scheduled Date	Referring	Rc
<input type="checkbox"/>	Cancelled	✓	XR Foot 2 Views, Bilat [RD30] - Foot - Bilateral	05-02-2012 11:55 AM	Darcy Noye XR	
<input type="checkbox"/>	Cancelled	✓	XR Foot 2 Views, Bilat [RD30] - Foot - Bilateral	05-02-2012 11:15 AM	Darcy Noye XR	
<input checked="" type="checkbox"/>	Arrived	✓	DX Appendicular Skeleton [77081]	05-02-2012 7:45 AM	Darcy Noye CT	

**Tech Notes**

Technologists Notes:

Testing No Report

Primary Tech: \*

Assisting Tech 1:

Assisting Tech 2:

Last Menstrual Period:

**Procedure**

Scanner: \* CT1LU

Performed Procedure: \* DX Appendicular Skeleton (77081)

Body Part: Laterality:

Change Reason Code: \*

Change Reason Note:

☒ No Report (Tech Only) ☐ Report External to eRAD RIS

**Associated Radiologists**

Assigned Radiologist



Performing Radiologist



Assistant Radiologist

Figure 4.1 – Perform Exam: No Report required flag

As you can see from the figure above this study has been flagged that no report is required.

Billing Exception (80) x

Flags	Status	Procedures	Scheduled Date	First Name	Last Name	MRN	Birth Date	Billing St
Contains: ▾	Contains: ▾	Contains: ▾	Equals: ▾	Contains: ▾	Contains: ▾	Contains: ▾	Equals: ▾	Contains
 	Exam Done(Tech Only)	DX Appendicular Skeleton [77081]	05-02-2012 7:45 AM	Kevin	Klondike	11979	12-29-1968	Failed
	Signed	MA DIGITAL MAMMO SCREEN BIL [G0202] - Breast - Bilateral	04-27-2012 11:15 AM	Betty	Brown	11594	04-04-1977	Failed

**Figure 4.2 – Status of Exam Done (Tech Only) added to billing.**

This particular study did not meet the billing requirements and has been added to the Billing Exception work list. Notice the status is Exam Done(Tech Only).

## Study Statuses Display Changes

In previous builds study statuses were displayed as one complete word regardless of how many actually words were in the status. In build 36 the DB study status will be converted to be more easily read. Below is a list of status and the converted text that will be displayed on the work list.

<b>DB Status</b>	<b>Work list Displayed Status</b>
OrderDraftedOrder	Drafted
OrderSigned	Ordered
OrderCancelled	Order Cancelled
Invitation	Invitation
ShortTermFollowUp	Short Term Follow Up
CallBack	Call Back
Scheduled	Scheduled
Cancelled	Cancelled
CheckingIn	Checking In
Arrived	Arrived
Started	Started
Discontinued	Discontinued
ExamDone	Exam Done
ExamDoneTechOnly	Exam Done(Tech Only)
Dictated	Dictated
ReportDrafted	Report Drafted
Transcribed	Transcribed
RepeatDone	Repeat Done
TentativelySigned1	Signed*
Signed1	Signed
ActionPending	Action Pending
ActionComplete	Action Complete

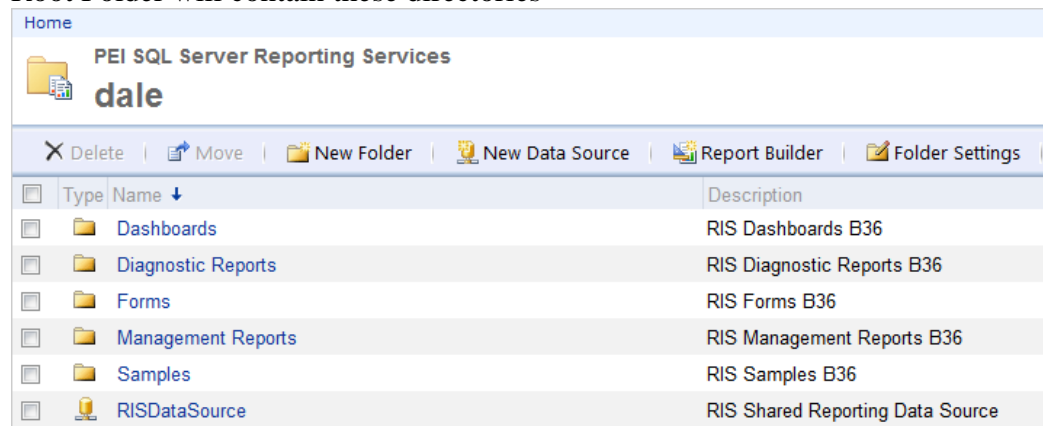
**Table 4.1 – Statuses converted to readable text.**

### Deploying RIS Reporting Services

Utilizing the Report Server utility (RS.EXE which is part of SSRS) a DOS batch file and some VB .NET scripts have been created.

The structure of the report server is deployed as follows:

Root Folder will contain these directories



The screenshot shows a web interface for the 'PEI SQL Server Reporting Services' root folder. The breadcrumb is 'Home'. The folder name is 'dale'. The toolbar includes 'Delete', 'Move', 'New Folder', 'New Data Source', 'Report Builder', and 'Folder Settings'. The table below lists the contents:

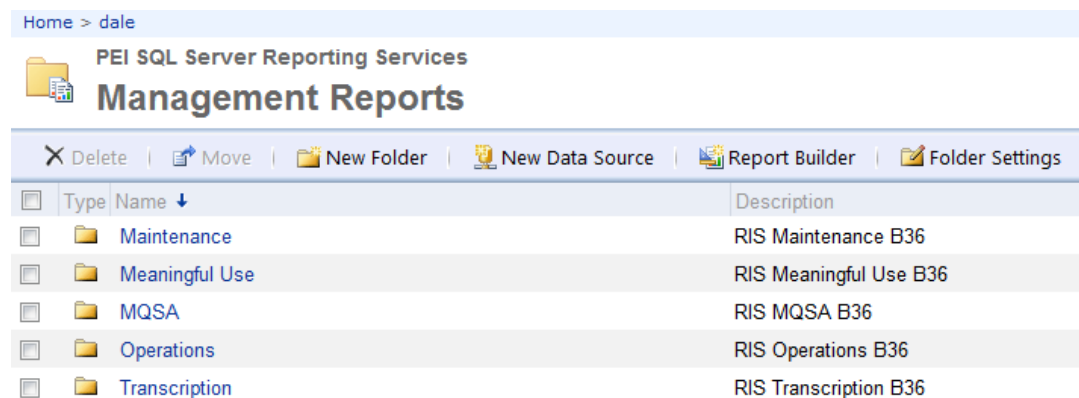
Type	Name	Description
Folder	Dashboards	RIS Dashboards B36
Folder	Diagnostic Reports	RIS Diagnostic Reports B36
Folder	Forms	RIS Forms B36
Folder	Management Reports	RIS Management Reports B36
Folder	Samples	RIS Samples B36
Data Source	RISDataSource	RIS Shared Reporting Data Source

**Figure 4.3 – Root Folder for deploying reports to reporting server**

Dashboards, Diagnostic Reports and Forms folders are designated as site folders. This means they will get an initial deployment, but will not be overwritten during upgrades.

Management Reports folder

This folder will not be deleted, but the following subfolders will be:



The screenshot shows the 'Management Reports' subfolder. The breadcrumb is 'Home > dale'. The folder name is 'Management Reports'. The toolbar includes 'Delete', 'Move', 'New Folder', 'New Data Source', 'Report Builder', and 'Folder Settings'. The table below lists the contents:

Type	Name	Description
Folder	Maintenance	RIS Maintenance B36
Folder	Meaningful Use	RIS Meaningful Use B36
Folder	MQSA	RIS MQSA B36
Folder	Operations	RIS Operations B36
Folder	Transcription	RIS Transcription B36

**Figure 4.4 – Management Reports Subfolders**

*\*The intention below Management Reports is to add a folder (yet to be named) where site specific (custom) reports would live. That folder would not be deleted and rebuilt in the deployment process.*

### Samples Folder

The samples folder will be deleted and rebuilt with the upgrades.

The root of Samples folder has a store for Diagnostic Templates and Forms

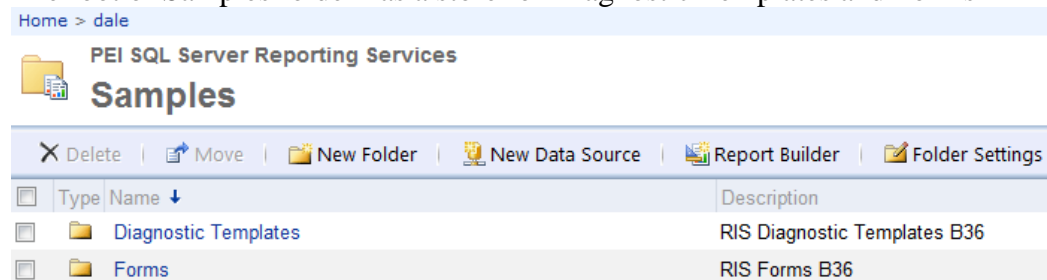


Figure 4.5 – Sample folder deployed

The forms folder underneath Samples contains a large set of examples which have currently been categorized like this, but may change moving forward.

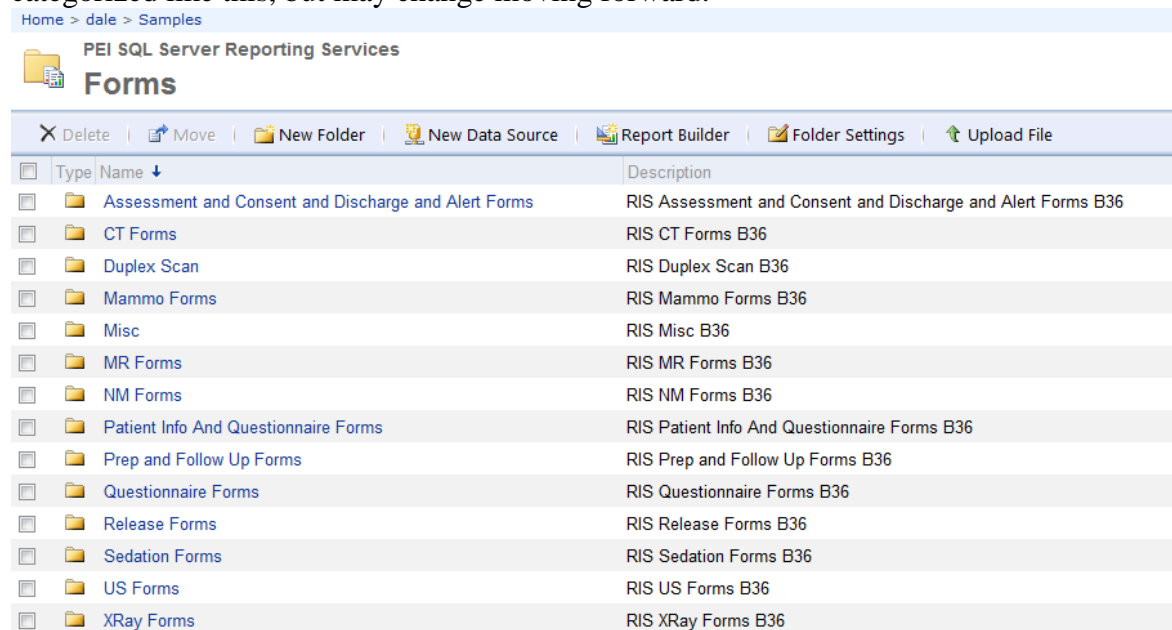


Figure 4.6 – Forms folder



Deploying using the deployment script is pretty basic.

1. Launch the DeployReports.bat file.
2. **Enter report server name:**
  - a. A script will run against the server and return a list of all the root folders on that report server
3. A subscript will execute to display a list of the root folders currently sitting on the report server entered above.
4. **Enter root folder to deploy reports:**
  - a. This will create a new root if the name you give doesn't exist, or it will simply publish below the root of the folder if it does already exist.
5. **Enter the Build Number (ie: B35):**
  - a. This number will get tagged into the description of the folders as they get built (or rebuilt). It will not update folders if they exist and are not being replaced.
6. **Do you wish to deploy core management reports?**
  - a. If you enter "y", it will redeploy the core management reports
7. **Do you wish to deploy sample files?**
  - a. If you enter "y", it will delete, rebuild and deploy the core samples
8. **Do you wish to create a datasource?**
  - a. If you select "y" you will get prompted for more information about the datasource you wish to create

If you selected to create a datasource, the following steps will be requested to complete the connection string.

1. **Enter database server name:**
  - a. This is the name of the physical database server
2. **Enter database name:**
  - a. This is the name of the database on the database server
3. **Enter report schema user name:**
4. **Enter report schema password:**

The results of deployment will be written to log.txt in the same folder as the DeployReports.bat file.

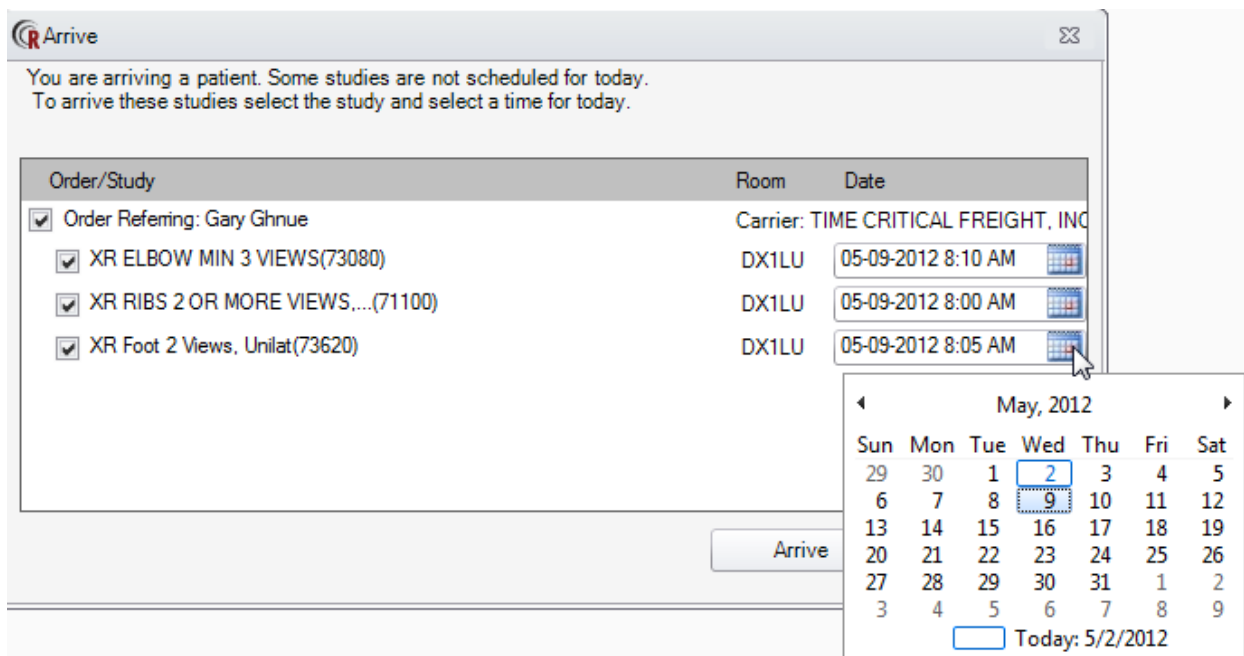
## **Check In / Arrive Before Scheduled Date**

If a patient arrives for their scheduled appointment before the scheduled date, registration needs to accommodate the patient. A new window will open

Studies scheduled for a future date can be checked in / arrived early. A new window has been added to the process. If the patients study being checked in / arrived is for a future date the new window will open prompting the user to select the desired patient's studies in which they would like to check in / arrive.

Order/Study	Room	Date
<input type="checkbox"/> Order Referring: Darcy Noye	Carrier: FUTURECARE CANTON HARI	
<input type="checkbox"/> XR Wrist 2 Views(73100)	DX1LU	04-27-2012 1:00 PM
<input checked="" type="checkbox"/> XR Bone Length Study(77073)	DX1LU	04-27-2012 1:05 PM
<input checked="" type="checkbox"/> CT Chest W Abdomen W/Wo(CT42)	CT1LU	04-27-2012 1:10 PM

**Figure 4.7 – Arrive window displayed on early arrivals**

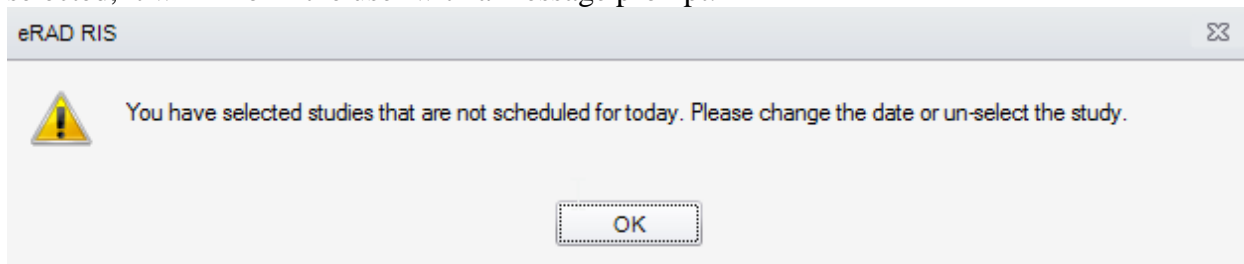


**Figure 4.8 – Order selected auto selects all. Must be current date to arrive**

Looking at the figure above, selecting the Order Referring check box will select all the studies. If you then try to unselect one of the studies it will deselect all including the Order Referring check box.

Selecting the check box for the study will activate the Date control. Selecting the calendar ICON opens the calendar control to select the current date. The date can also be input manually.

If the Check In / Arrive button is selected and a study(s) selected does not have the current date selected, it will inform the user with a message prompt.



**Figure 4.9 – Message of study with a future date.**

## **Site and Practice filtered according to schedule group**

The user group the user belongs to will control what sites the user will now be able to have access to. Also based on those sites the practices will also be filtered to the practices that the user has sites for scheduling.

This will be seen in the dropdown lists in which the practice or site is selectable. For instance, when creating a new appointment on the order tab, the list boxes for Practice and Site will be filtered to what is configured for the user in the schedule group the user belongs to.

Also, included in the dropdown's list of values is any practice/site that is already saved in the dataset. For example if another user (with a different schedule group) opens a study in the New Order, Registration, or View/Edit windows and does not have access to the site that the order was saved with, the user may edit the order/study and save.

### **Logging client side errors to the server**

To aid support in troubleshooting errors that may have occurred, the ability to log the error in a database table has been added in build 36.

The logging is configurable, controlled by a new system configuration value called `EnableLoggingClientErrorsToServer`, which defaults to true. . If this is false then the GUI will not try to upload errors as they occur. If this is true, the GUI will upload errors as soon as they occur, as long as a) the error is not related to authentication, and b) the error is not the exact same as the last error that was logged by that user.

If an error occurs while logging to the server, we silently suppress the error so it is not displayed to the client, and we disable future logging for the rest of the session (i.e. until RIS is restarted). This functionality was put in place to ensure that we didn't fall into an infinite loop of logging an error, logging the error that occurred while logging the error, etc.

Errors are stored in the `c_client_error_log` table. The log contains the date of the error, the `user_id` of the current user, the computer name, the details of the error itself, and a `hash_code` for that error.

The `hash_code` is calculated using the description of the error to help with grouping and filtering.

## Management Report Authorization

eRAD RIS supports both Windows and custom authentication, but our Reporting Services integration has always relied upon the Report Manager web interface to configure permissions. Starting in build 36, we will support managing authorization for Management Reports from within our Configuration module. Authorization should allow members of specified user groups to access the contents of particular folders on the Management Report Server.

When the user opens eRAD RIS, we query the report server to obtain a list of reports and forms that the guest user is authorized to access. We have built new logic into the application to ensure that the Administration -> Management Report screen will only display the reports for which the current user is authorized to access. Note that if a user belongs to Groups A and B, they will have access to folder C if EITHER group A or group B is authorized.

### Initial Configuration

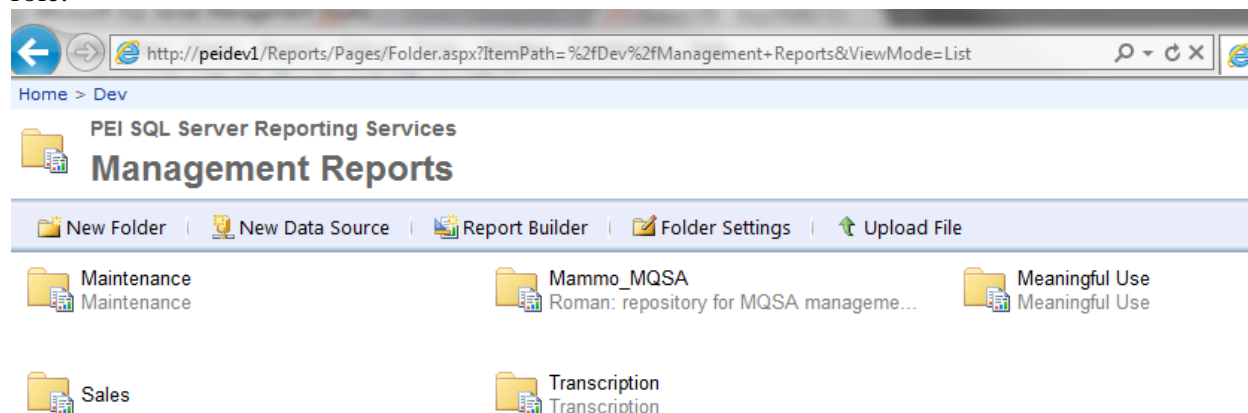
From Administration->Configure->System->SystemConfig, the administrator/installer can set the values for the following key configuration values:

ReportServerUrl	Identifies the URL of the SSRS Report Server web services endpoint.
ReportServerUserName	Identifies the name of a windows account on the report server. If this value is blank, the RIS will try to use the active user's credentials instead. Before populating this value, the user will need to create a windows account on the report server. Consider using the password never expires option when creating the account.
ReportServerPassword	The password that will be used to authenticate to the report server when using the guest account specified above
ReportServerMgmtReportFolderFilter	The folder that will be used as the top level folder for management reports. No folders or reports should be accessible that are not children of this folder

**Figure 4.2 – Report server System Config codes**

### Configuring the guest account's report server permissions

Step 1: visit the report manager in Internet Explorer, by default this is <http://peidev1/Reports> in our environment, substitute the machine name for the report server in place of peidev1 if applicable. From the “Home” folder, click “Site Settings” in the top Right Corner and then click “Security” on the left side of the screen. Ensure that the guest account has the “System User” role.



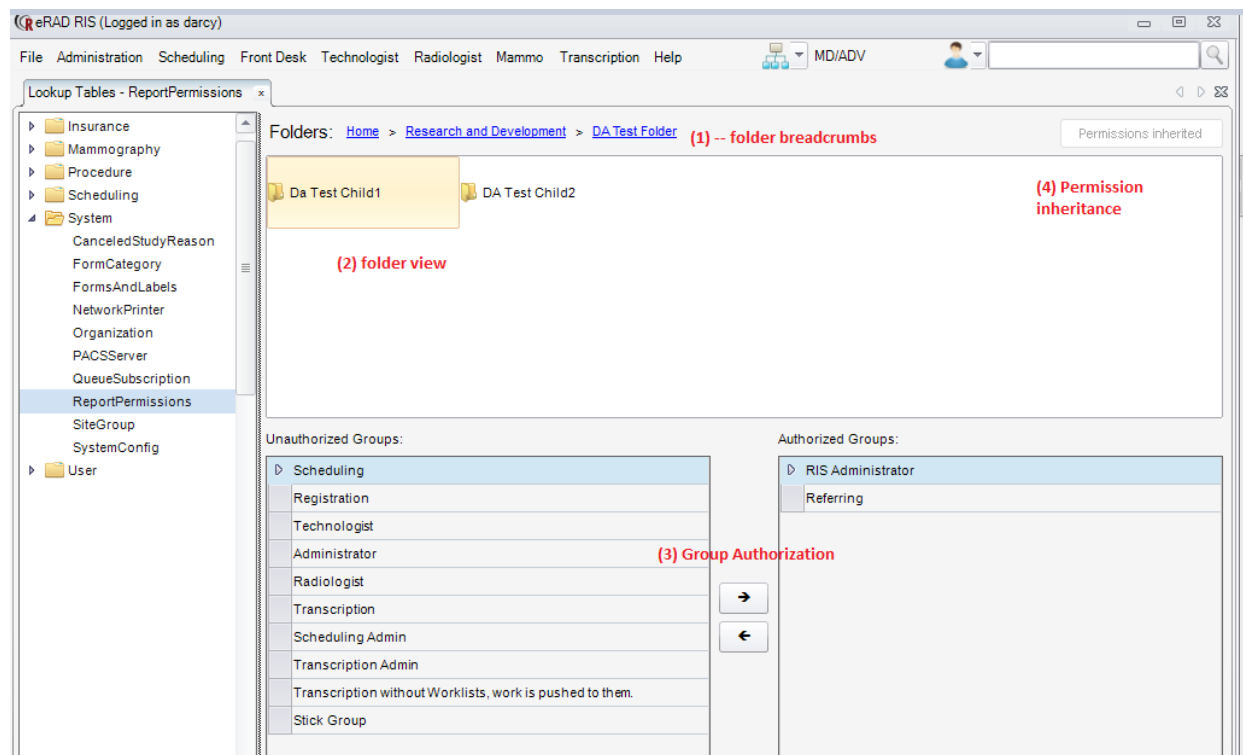
**Figure 4.10 – Report Manager page that is provided by SQL Server reporting Services**

Step 2: again using the report manager, browse to the top level folder that will be specified in the config setting “ReportServerMgmtReportFolderFilter”, click “Folder Settings” and assign the Browser role assignment to this folder. Note that the guest user also needs browser permissions at the root folder for the report server.

### New Report Permissions Editor

1. A list of folder hyperlinks shows which folder is currently being edited. The user is editing the folder “DA Test Folder” in the screenshot above. The user can navigate back up the tree by pressing the backspace button, or by clicking on the link for another folder (e.g. “Research and Development”. The Home folder is the top level folder for this RIS install, it is configured to point to a physical folder on the report server (see ReportServerUrl and ReportServerMgmtReportFolderFilter in the SystemConfig editor).
2. Folder View – displays the folders within the folder that is currently being edited. If the user double-clicks or presses the enter key on a folder, the editor will update all areas to reflect the selected folder. In the screenshot above, the folder “DA Test Folder” contains two other folders. If the user presses enter or double-clicks “DA Test Child1”, the area

in section 1 would update to show “Home > Research and Development > DA Test Folder > DA Test Child1”, the folder list would show “DA Test Child1”’s folder contents and the list of groups in section 3 would update to reflect the permissions for the “DA Test Child1” folder.



**Figure 4.11 – Report permission editor**

3. Group Authorizations – the bottom portion of the editor shows a list of groups. All existing groups should fall into the “Unauthorized Groups” or “Authorized Groups”. The user can move a group from one category to the other by double-clicking, pressing enter, or using the arrow buttons between the two grids.
4. Permission Inheritance – our permission framework is built so that a folder will either have its own list of authorized groups, or it will inherit from its closest ancestor (e.g. parent, grand-parent, great-grand parent, etc). While editing the top level (“Home”) folder, this button will be invisible. If the current folder inherits its permissions from an ancestor, the button will be disabled and show the text “Permissions inherited”. If the current folder has its own defined permissions, it will be enabled and show the text “Revert to parent security”. Reverting to parent security will result in the current set of authorizations being deleted, and the screen will refresh to show the inherited permissions.



Note: when the user changes the assigned groups from a folder so that it is different from its parent, the user will be prompted with:

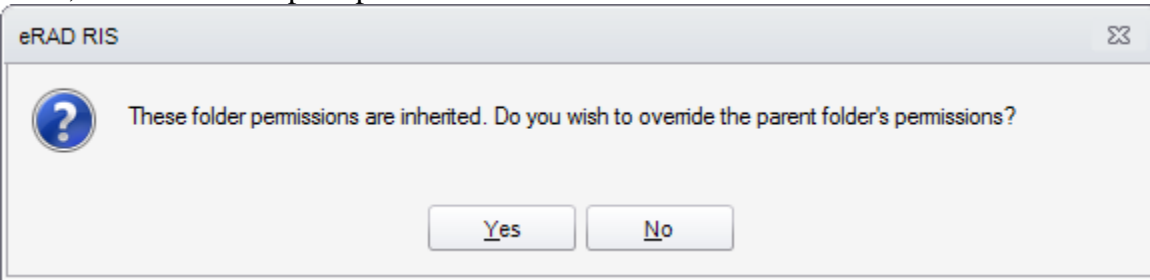
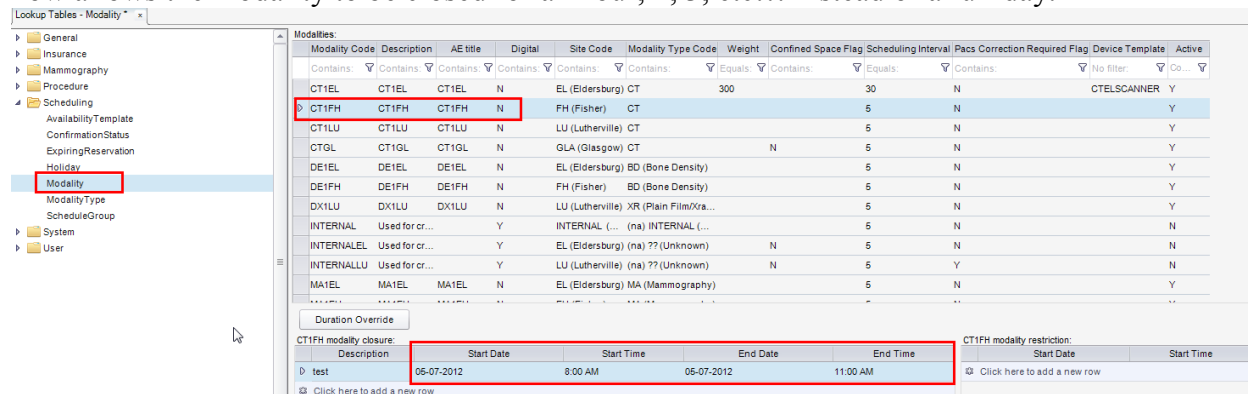


Figure 4.12 – Prompt to override the permissions of a parent folder

## Modality closure “times”

In previous builds of eRAD RIS modalities could be closed in a date range, but the time could not be specified. In build 36 2 new columns have been added to the modality closure grid. This now allows the modality to be closed for an hour, 2, 3, etc... instead of a full day.



Modality Code	Description	AE title	Digital	Site Code	Modality Type Code	Weight	Confined Space Flag	Scheduling Interval	Pacs Correction Required Flag	Device Template	Active
CT1EL	CT1EL	CT1EL	N	EL (Eldersburg)	CT	300		30	N	CTELSCANNER	Y
CT1FHF	CT1FHF	CT1FHF	N	FH (Fisher)	CT			5	N		Y
CT1LU	CT1LU	CT1LU	N	LU (Lutherville)	CT			5	N		Y
CT1GL	CT1GL	CT1GL	N	GLA (Glasgow)	CT		N	5	N		Y
DE1EL	DE1EL	DE1EL	N	EL (Eldersburg)	BD (Bone Density)			5	N		Y
DE1FH	DE1FH	DE1FH	N	FH (Fisher)	BD (Bone Density)			5	N		Y
DX1LU	DX1LU	DX1LU	N	LU (Lutherville)	XR (Plain Film/Xra...)			5	N		Y
INTERNAL	Used for cr...		Y	INTERNAL (... (na)	INTERNAL (...			5	N		N
INTERNALLEL	Used for cr...		Y	EL (Eldersburg)	(na) ?? (Unknown)		N	5	N		N
INTERNALLLU	Used for cr...		Y	LU (Lutherville)	(na) ?? (Unknown)		N	5	Y		N
MA1EL	MA1EL	MA1EL	N	EL (Eldersburg)	MA (Mammography)			5	N		Y

Duration Override			
Description	Start Date	Start Time	End Date
CT1FHF modality closure:	05-07-2012	8:00 AM	05-07-2012
test			11:00 AM

Figure 4.13 – Modality closure times

In the figure above the Modality lookup is opened. The Specific modality to be closed is selected in the top pane. This will show all modality closures. The user can specify the start date, start time, end date and time.

This has also been extended to the modality restrictions.

## Meaningful Use (MU) wizard dialog

The patient visit tab has been enhanced with a MU wizard. The wizard will allow the user to quickly add or remove allergies, medical history and medications via a list of check boxes. When an item is checked, that item will be added to the grid on the patient visit tab. The wizard is accessed from the Meaningful Use Wizard button shown in figure 4.15.

Medications	
<input type="checkbox"/> ActoPlus Med	<input type="checkbox"/> Glumentza
<input type="checkbox"/> Avandamet	<input type="checkbox"/> Glyburid Met
<input checked="" type="checkbox"/> Diabex	<input type="checkbox"/> Janumet
<input type="checkbox"/> Diafomin	<input type="checkbox"/> Melformin
<input type="checkbox"/> Flortamet	<input type="checkbox"/> Metaglip
<input type="checkbox"/> Gluccophage	<input type="checkbox"/> PrandiMet
<input type="checkbox"/> Glucovance	<input type="checkbox"/> Riomet(liquid form Metformin)

Medical History	
<input type="checkbox"/> Aneurysm Clip or Coil	<input type="checkbox"/> Metal in the body
<input type="checkbox"/> Aneurysm Had Surgery	<input type="checkbox"/> Morphine Pump
<input type="checkbox"/> Aneurysm No Surgery	<input type="checkbox"/> Pacemaker
<input type="checkbox"/> Asthma	<input type="checkbox"/> Paraplegic
<input type="checkbox"/> Breast Implants	<input type="checkbox"/> Previous CT Contrast Reaction
<input type="checkbox"/> Cancer	<input type="checkbox"/> Previous MR Contrast Reaction
<input checked="" type="checkbox"/> Diabetes	<input type="checkbox"/> Universal Precautions
<input type="checkbox"/> Insulin Pump	

Allergies	Mild	Mod	Severe
Adhesive Tape	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bee Sting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Betadine (Topical Iodine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contrast (Medical Imaging)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dog, Cat or Animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grass / Pollen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Latex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lidocaine / Novacaine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peanut or other nut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Penicillin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rubbing Alcohol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shellfish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfa Drug	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 4.14 – MU wizard

**Medical History** – The medical history grid allows the user the ability to have the same icd-9 code show multiple times, however we don't allow the dates of an icd-9 code to overlap. If the user selects the same icd-9 code only one can be active at a time (we throw an error saying overlapping dates not allowed). We added code that forces the user to select a start date for active icd-9 codes and we added code to force an end date for inactive or resolved icd-9 codes. This is needed so we can use the mu wizard to activate or inactivate the correct code in the list.

**Allergies** – The allergy shows in the grid only once. If an inactive allergy is flagged again, it will simply activate it.

Medications – Because we are using NewCrop medications can show in the list multiple times. We don't have the concept of start and end dates with medications so the way we use the meaningful use wizard is as follows.

If the user clicks the wizard button we show all active drugs by checking the appropriate medication (no matter if entered in ris or newcrop). If the user unchecks the checkbox we make all medications entered in eRAD RIS (ris\_entered\_flag = Y) inactive. We don't inactive the medications entered in NewCrop because the sync button will control the status of the medication. If the user checks a medication in the wizard we add a new row to the grid.

Schedule Order \* x

Patient Contacts / Demographics Order Schedule Image Request (0) Visit Review

Demographics at Encounter

Height: ft in Weight: lbs BMI: Smoking Status: Is Pregnant

Clinical Summary

Continuity of Care Record (CCR) View External Clinical Document

View/Print Export View/Print

Medications

None Use Grid Show Inactive

Date	Medication	Physician	SIG Text
05-02-2012	Diabex		

Add Edit Sync/Refresh

Allergies

None Use Grid

Allergy	Reaction	Severity	Status	Start
Adhesive Tape		Mild	Active	05-02-

Click here to add a new row

Medical History

None Use Grid

Problem	Start Date	End Date	Status
(250) DIABETES MELLITUS WITHO...	05-02-2012		Active

Click here to add a new row

Lab Results

Date	Test	Result
------	------	--------

Figure 4.15 – Displaying access to the MU wizard and the Medications, Allergies and Medical History grids

## MU Scorecard Management Report

The automated measure report has a details section which allows the user the ability to drill down into each MU status to check each user's numerator/denominator and percentages for each measure MU Status. To help the user easily track down users that are not meeting the MU standard we fill the last textbox red indicating below the MU standard for the MU Status. Ideally, if the users are using the system in a meaningful way we will never see red in the last textbox

### MU Scorecard

Practice: Advanced Radiology

Date Range: 1/1/2012 - 12/31/2012

#### Automated Measure

Description	Radiologist	MU Measure	Numerator	Denominator	Counts
⊕ Allergy list	7.41				14/189
⊕ Clinical summaries	2.16				5/232
⊕ CPOE	77.27				17/22
⊕ Demographics	11.64				22/189
⊕ Electronic copy health information	35.71				5/14
⊕ Lab results	100				2/2
⊕ Medication list	7.94				15/189
⊕ Medication reconciliation	1.16				2/173
⊕ Patient education	1.59				3/189
⊖ Patient reminders	9.76				4/41
	Andrew Waite	10.0 %	0	1	0.0 %
	Darcy Aiken	10.0 %	0	1	0.0 %
	Darcy Noye	10.0 %	0	10	0.0 %
	Gordon Craig	10.0 %	0	1	0.0 %
	Ian Power	10.0 %	2	8	25.0 %
	Kevin Molyneaux	10.0 %	1	12	8.3 %
	Radiologist Test User	10.0 %	1	8	12.5 %
⊕ Patient summary	66.67				2/3
⊕ Problem list	4.76				9/189
⊕ Smoking status	8.07				13/161
⊕ Timely access	2.12				4/189
⊕ Transmit eRx	100				2/2
⊕ Vitals and BMI	2.86				5/175

## CQM Measure

Description	Radiologist	Population	Num Count	Numerator	Exclusion	Denominator	Percentage
☒ NQF 0013	Total			4	0	4	100.0%
☒ NQF 0024	Total			0	0	0	0.0%
☒ NQF 0028a	Total			4	0	8	50.0%
☒ NQF 0028b	Total			0	0	3	0.0%
☒ NQF 0031	Total			6	0	28	21.4%
☒ NQF 0038	Total			9	0	12	75.0%
☒ NQF 0041	Total			1	0	5	20.0%
☒ NQF 0043	Total			1	0	11	9.1%
☒ NQF 0061	Total			0	0	0	0.0%
☒ NQF 0421a	Total			7	0	11	63.6%
☒ NQF 0421b	Total			0	0	117	0.0%

**Figure 4.16 – MU Scorecard management report**

## Outside Read Changes

In build 36, the Add Outside Read data window has seen some change.

The following has been added to Add Outside Read:

### 1. **Digital Flag;**

Added a ‘digital’ flag to the add outside read screen, if one or more of the images are expected to be in eRad PACS then this check box should be checked, which will put it into the PACS correction workflow and when the rad reads the study the images will get loaded; otherwise, the study is considered analog or that the images will be searched for manually on an external system.

Pending Dictation (2 of 22) | Add Outside Read \* x

Patient | Order

Study(s): CT Chest W Abdomen W x

Body Part: Chest

Laterality:

Exam Date: mm-dd-yyyy

Ext. Accession: Test123

Referring Details

Referring: \* [Red Exclamation Mark]

Visited at: \*

CC Physicians:

Visit Location for CC\*

Performed Location

Practice: \* Advanced Radiology

External MRN: Ext123456

Site:

Flags

☐ STAT Read ☐ STAT Precert

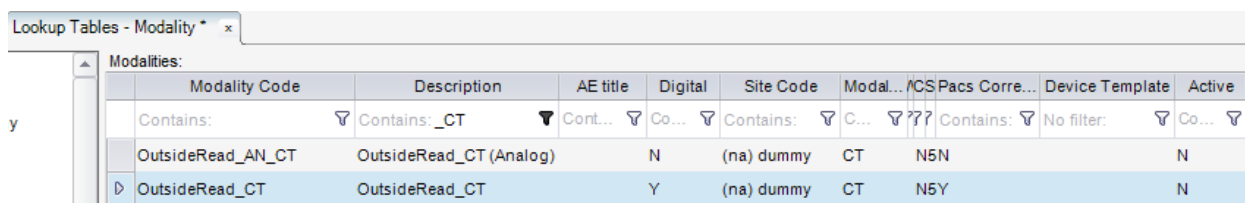
☒ Digital

Order Notes

05-03-12 NoyeD -

**Figure 4.17 – Digital flag on Add Outside Read window**

Under the hood there is a modality named “OutsideRead\_<mod\_type\_code>” such as “OutsideRead\_CT” for each modality type. This is still how things work; however, there is now an additional modality for each type named “OutsideRead\_AN\_<mod\_type\_code>” for each modality type. The <AN> standing for analog. An administrator setting up the system access the outside read screen they will be prompted to create outside modalities for each of the active modality types that is still missing from the l\_modalities table. They will not get prompted to create the \_AN\_ modalities since those can be auto generated from the digital modalities they need to manual create.



Modality Code	Description	AE title	Digital	Site Code	Modal...	ACS Pacs Corre...	Device Template	Active
Contains: ▾	Contains: _CT ▾	Cont... ▾	Co... ▾	Contains: ▾	C... ▾	???	Contains: ▾	No filter: ▾
OutsideRead_AN_CT	OutsideRead_CT (Analog)		N	(na) dummy	CT	N5N		N
OutsideRead_CT	OutsideRead_CT		Y	(na) dummy	CT	N5Y		N



**Figure 4.18 – Modality lookup showing outside read rooms as digital and analog**

The figure below shows a digital outside read study (OutsideRead\_XR) and an outside read study that is analog (OutsideRead\_AN\_XR)

Study that is analog (OutsideRead\_AN\_XR)

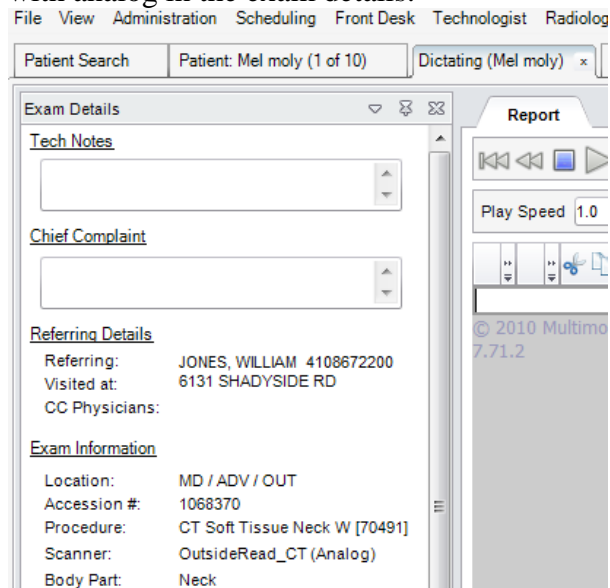
Pending Dictation (2 of 22)

Testing 643

Flags	Status	Scheduled Date	Procedures	Last Name	First Name	MRN	Birth Date	Age At Study	Room	Modality Type	Accession #
Contains: ▾	Contains: ▾	Equals: ▾	Contains: xr	Contains: ▾	Contains: ▾	Contains: ▾	Equals: ▾	Contains: ▾	Contains: out ▾	Contains: ▾	Contains: ▾
	Exam Done	04-24-2012 12:00 AM	XR Facial Bones 1-2 Views [70140] - Head	Tullestry	Tony	10633	11-09-2011	5 months	OutsideRead_XR	XR	1011149
	Exam Done	04-25-2012 12:00 AM	XR Knee 3 Views, Bilat [RD2] - Knee - Bilateral	Viddler	Vernon	11933	09-26-1977	34 years	OutsideRead_AN_XR	XR	1011148

**Figure 4.19 – Work list view of digital and analog outside reads**

The Dictate, Sign Reports, and Create Reports windows also shows analog studies appended with analog in the exam details.



File View Administration Scheduling Front Desk Technologist Radiologist

Patient Search Patient: Mel moly (1 of 10) Dictating (Mel moly) x

**Exam Details**

Tech Notes

Chief Complaint

Referring Details

Referring: JONES, WILLIAM 4108672200  
 Visited at: 6131 SHADYSIDE RD  
 CC Physicians:

Exam Information

Location: MD / ADV / OUT  
 Accession #: 1068370  
 Procedure: CT Soft Tissue Neck W [70491]  
 Scanner: OutsideRead\_CT (Analog)  
 Body Part: Neck

**Report**

Play Speed 1.0

© 2010 Multimedix 7.71.2

**Figure 4.20 – Dictate window displaying scanner information**

## 2. External Accession Number for Outside Reads:

Users need to add the external accession number for cases where the images aren't imported into our PACS and the user needs to locate them on an external system where the images were acquired.



For each study we the user can provide an external accession number, which is displayed on the Radiologist and ‘View Edit’ screens. Screens show the external accession number so RADs can search the external system (when applicable). The report will show both the RIS and External accession numbers. The RIS accession number must maintain their uniqueness since our search current must resolve studies uniquely and our interfaces require accession number to be unique. We can’t use the external accession number as the RIS accession number because we must prevent duplicates.

**Figure 4.21 – Add Outside Read window displaying external accession number field**

The external accession number is displayed in the Exam Details and Summary panes of the radiologists and transcription windows.

**Figure 4.22 Exam details and Summary Panes of Dictate window**

The View/Edit data window also has the External Accession number in display on the Note/Exam Times tab. It can also be edited on the Documentation tab.

Patient: Bonnie Blue (1) View/Edit (Bonnie Blue) x


Patient Contacts / Demographics Order Documentation Billing Codes Attachments **Notes / Exam Times** Visit


☐ Place Billing On Hold

**Billing Notes**

05-03-12 NoyeD -


**Scheduling / Arrival**


Scheduled Time:\* 05-02-2012 12:00 AM  Scheduled By:

Arrival Time: mm-dd-yyyy h:mm am/pm  Arrived By:

Arrival Early/Late: 33 hours 20 minutes late

**Exam Time**

Start Time: 05-02-2012 12:00 AM  Primary Tech: Tech, Outside

Completed Time: 05-02-2012 12:00 AM 

Start Early/Late: On time

Exam Duration: 30 min. early

Accession #: 1011179 [Ext: test123Acc]

**Order Notes** **Patient Notes**

05-03-12 NoyeD - 05-03-12 NoyeD -

**Figure 4.23 – External Accession number on the View/Edit window**

The screenshot shows the 'View/Edit (Bonnie Blue)' window. The 'Tech Notes' section has a large text area for 'Technologists Notes'. The 'Procedure' section includes fields for 'Scanner' (OutsideRead\_CT), 'Performed Procedure' (CT Chest W & Abdomen W (CT4)), 'Body Part' (Chest), 'Laterality', 'Change Reason Code', and 'Change Reason Note'. The 'External Accession' field is highlighted with a red box and contains the value 'test123Acc'. The 'Associated Radiologists' section includes fields for 'Assigned Radiologist', 'Performing Radiologist', and 'Assistant Radiologist'. There are also checkboxes for 'Shielded Patient', 'Pregnancy Test', and 'Blood Test'.

Figure 4.24 – Ability to edit the External Accession number

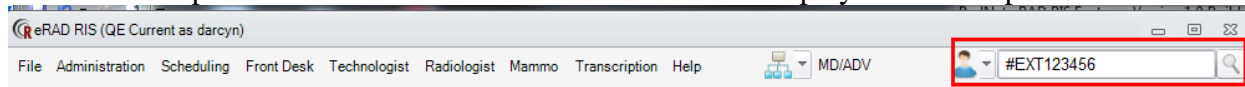
### 3. External MRN:

An External MRN can also be added in the Add Outside Read data window. Located on the Order tab, the External MRN field is a free form text field that will allow users to input and save an external MRN for this patient.

The screenshot shows the 'Add Outside Read' window. The 'Study(s)' field contains 'CT Chest W Abdomen W'. The 'Body Part' is 'Chest', 'Laterality' is empty, 'Exam Date' is 'mm-dd-yyyy', and 'Ext. Accession' is 'test123Acc'. The 'Referring Details' section includes 'Referring' (Graves, Laurie) and 'Visited at' (78 MileHigh Dr., Mountain View, CO, 12345). The 'Performed Location' section includes 'Practice' (Advanced Radiology) and 'Site'. The 'External MRN' field is highlighted with a red box and contains the value 'Ext123456'. The 'Flags' section includes checkboxes for 'STAT Read', 'STAT Precert', and 'Digital'. The 'Order Notes' section contains the text '05-03-12 NoyeD -'.

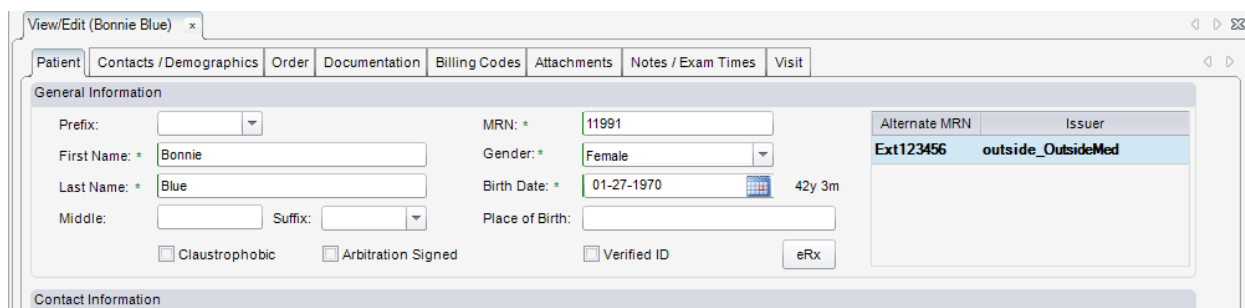
Figure 4.25 – External MRN field on Add Outside Read window

Submitting an outside read with an external MRN also creates a second patient record with that patient\_id/MRN with the issuer\_of\_patient\_id of 'outside\_<site\_code>'. This is so we can locate the patient via the alternate MRN which will be displayed on the report.



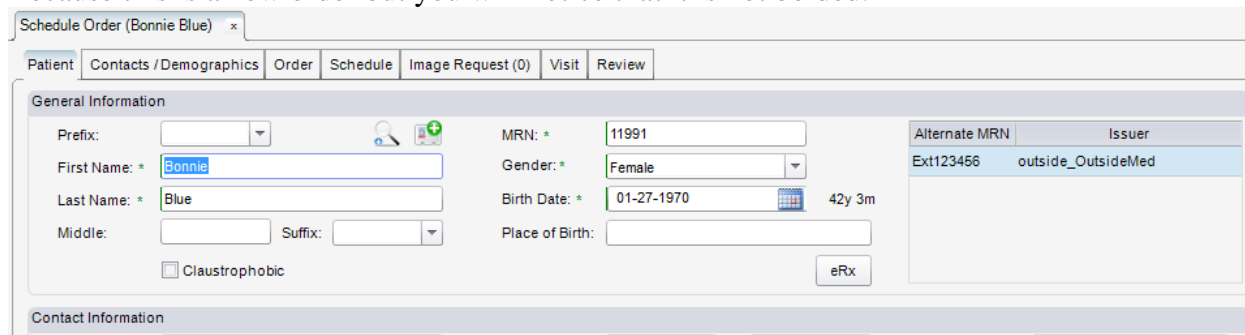
**Figure 4.26 – Searching for external MRN**

A new section has been added on the main patient tab to display the alternate MRN(s) for a patient. If the study that is open was an outside read with an alternate MRN for reporting than that MRN will show in bold if that is the MRN that for the report.



**Figure 4.27 – View/Edit showing Alternate MRN**

When scheduling a new appointment for this patient, the alternate MRN will display. Because this is a new order but you will notice that it is not bolded.



**Figure 4.28 – New appointment showing alternate MRN**

The alternate MRN may be edited in the View/Edit window on the order tab.

The screenshot shows the 'View/Edit (Bonnie Blue)' window. At the top, there are tabs for Patient, Contacts / Demographics, Order, Documentation, Billing Codes, Attachments, Notes / Exam Times, and Visit. Below these are sections for Referring Details, Chief Complaint, Performed Location, Flags, and Insurance Policies. The 'Ext MRN' field is highlighted with a red box.

Section	Field	Value
Patient Search	Patient	Bonnie Blue (1)
Referring Details	Referring:	Graves, Laurie
Referring Details	Visited at:	78 MileHigh Dr., Mountain View, CO, 12345
Referring Details	CC Physicians:	
Referring Details	Visit Location for CC:	
Performed Location	Practice:	Advanced Radiology
Performed Location	Site:	OutsideMed
Performed Location	Ext MRN:	Ext123456
Flags	STAT Exam	<input type="checkbox"/>
Flags	STAT Read	<input type="checkbox"/>
Flags	STAT Precert	<input type="checkbox"/>
Flags	Transportation Required:	
Flags	Special Accommodations:	
Insurance Policies	Billing Method	

**Figure 4.30 – Ext MRN field in View/Edit window**

#### 4. **History Box:**

On the Order tab, the History box replaces the Tech Notes box. In fact the text box itself is the same, but the label of the box has changed.

The screenshot shows the 'Add Outside Read' window. It has tabs for Patient and Order. The 'Study(s):' field contains 'CT Chest W'. The 'Body Part' is 'Chest', 'Laterality' is empty, 'Exam Date' is 'mm-dd-yyyy', and 'Ext. Accession' is empty. The 'History' text box is highlighted with a red box and contains the text 'I will see you later in the tech notes field.' Below the 'History' box is the 'Referring Details' section, and to the right is the 'Order Notes' section.

Section	Field	Value
Study(s):	Study(s):	CT Chest W x
Body Part	Body Part:	Chest
Laterality	Laterality:	
Exam Date	Exam Date:	mm-dd-yyyy
Ext. Accession	Ext. Accession:	
History	History:	I will see you later in the tech notes field.
Referring Details	Referring:	
Referring Details	Visited at:	
Referring Details	CC Physicians:	
Referring Details	Visit Location for CC:	
Order Notes	Order Notes	05-07-12 TestS -

**Figure 4.31 – History text box in Add Outside Read window**

Text entered in the History box will be displayed in the Tech Notes box in View/Edit window and Billing Exception window.

The screenshot displays the eRAD RIS interface with the 'Patient' tab selected. The 'Tech Notes' section is visible, showing a text area with the text 'I will see you later in the tech notes field.' This text is a copy from the 'History' box. To the right of the text area are several dropdown menus and checkboxes for patient information, including 'Primary Tech: \*' (set to 'Tech, Outside'), 'Assisting Tech 1:', 'Assisting Tech 2:', 'Last Menstrual Period:' (with a date picker and radio buttons for 'Pregnant' and 'Not Pregnant'), and checkboxes for 'Shielded Patient', 'Pregnancy Test', and 'Blood Test'. Below the 'Tech Notes' section is the 'Procedure' section, which includes a 'Scanner: \*' dropdown (set to 'OutsideRead\_CT') and a 'Performed Procedure: \*' dropdown (set to 'CT Chest W & Abdomen W (CT4)'). To the right of the 'Procedure' section is the 'Associated Radiologists' section, which includes an 'Assigned Radiologist' dropdown and a 'Performing Radiologist' dropdown.

**Figure 4.32 – Text captured in History box appears in the Tech Notes field**

### **5. Chief Complaint:**

The chief complaint field has been removed from the Add Outside Read window. To fill in the space where the chief complaint was shown, the order notes was resized and moved into the empty space. This had a nice effect on the screen and freed up much needed space for outside reads that require insurance information.

### **6. Patient Tab Changes:**

The Field Place of Birth has been removed, as has the Claustrophobic and Verified ID check boxes. The eRx button for ePrescribe does not appear. All of these fields / buttons were located in the upper right of the Add Outside Read window. This space is now for the display of the Alternate MRN

**Add Outside Read**

**Patient** | **Order**

**General Information**

Prefix:  MRN: \*  Alternate MRN:  Issuer:

First Name: \*  Gender: \*

Last Name: \*  Birth Date: \*

Middle:  Suffix:

**Contact Information**

Address 1:  Zip:  Home Phone:

Address 2:  Country:  ☐ No Alternate Phone

City:  Work Phone:

State:  Email:  Cell Phone:

Preferred Contact Method:  Preferred Delivery Method:

**Patient Notes**

05-07-12 NoyeD -

**Figure 4.33 – Add Outside Read data window**

The Patient Origin data pane has also been removed. The patient note pane was expanded to occupy the page real estate.

### 7. **Site Filtering:**

Finally, we are now filtering practices based on the practices assigned to a user. In addition, a practice will only be displayed in the practice selection if that practice has an outside read site.

## Self-Pay Carrier

In previous builds a study could be flagged as self-pay if the patient did not have an insurance carrier. This created an issue with the billing work flow as insurance was a required step.

In build 36 we have added the ability to assign self-pay methods carrier codes which will be used as the insurance required.

The Carrier lookup table has a new column called “Self Pay Flag” added to specify if the carrier is for self-pay.

Carrier Code	Description	Phone	Fax	Address1	Address2	City	Zipcode	State	Notes	Requires Injury Flag	Carrier Type Code	Policy Number	Self Pay Flag	Active
500509	MARYLAND ASSOCIATION BOARD	8009449092	4108412669	621 RIDGELY AVE	SUITE 301	ANNAPOLIS	21401		**ENTER ONE CALL IN AP...		Z (Other)		N	Y
111110	FUTURECARE CANTON HARBOR	4103426644	4103273949	1300 S. ELLWOOD AVENUE		BALTIMORE	21224		**ENTER ONE CALL IN AP...		Z (Other)		N	Y
100	SELF-PAY NO DISCOUNT										A (Self Pay)		Y	Y

**Figure 4.34 – Carrier lookup displaying new column “Self Pay Flag”**

The Bill to Type lookup table also has a new column “Carrier Code” which allows for the self-pay carrier code to be specified for the Bill to Type Code.

Bill To Type Code	Display Order	Description	Carrier Code	Active
Self Hardship	4	Self pay medical hardship	(100) SELF-PAY NO DISCOUNT,	Y
Self Mgr Override	5	Self pay manager override	(100) SELF-PAY NO DISCOUNT,	Y
Self No Discount	2	Self pay no discount	(100) SELF-PAY NO DISCOUNT,	Y
Self Prompt	3	Self pay prompt pay discount	(300) Test Self Pay	Y

**Figure 4.35 – Bill to Type lookup displaying new column “Carrier Code”**



## Mammo Diagnostic Reporting Window Features

It was desired to have data panels with new properties specifically for the Mammography reporting radiologist. We felt these panels were optimal for other users as well. Although we have them initially associated with Mammography reporting, some of these features will be available for all reporting users.

By default, the windows still load in their themed (grey) look. This was done to prevent shock to any existing radiologists before the mammo features are fully in place.

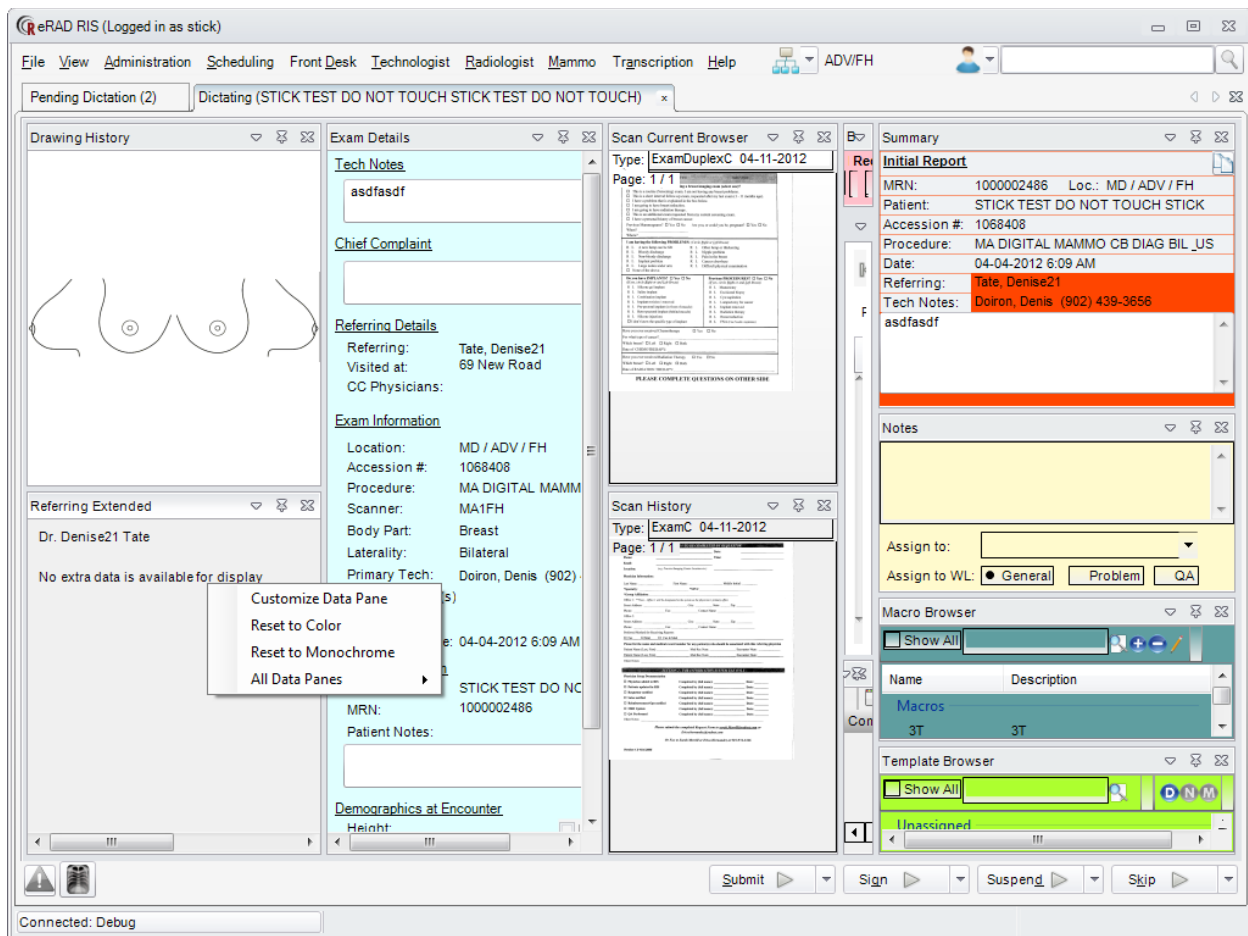


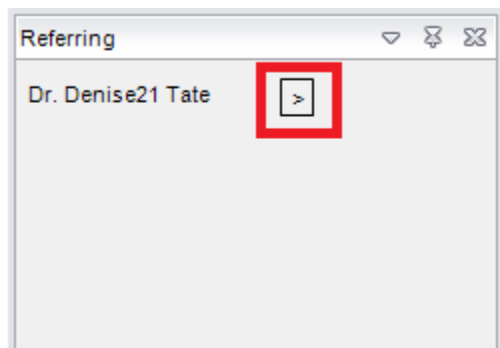
Figure 4.36 – Reporting window showing background and text colors and context menu

A new Class RToolWindow was created that maintains a set of defaults colours, for both the themed (ie, mostly grey), and pastel representation of mammo window. Each RToolWindow

now has a right-click context menu controlled with an access string (menu.CustomizeDataPanes) with options for:

- Customize window – allows the user to set foreground and background colors on each data pane.
- Reset to Color - initializes the window with the default pastel colour assigned to it.
- Reset to Monochrome - set the color to the default monochrome scheme
- All Data Panes – Contains a sub menu
  - Show/Hide Titlebars – will show or hide the title bars on each tool window
  - Reset to Color - initializes all the panes with the default pastel colour assigned to it
  - Reset to Monochrome - set the color of all panes to the default monochrome scheme

Also added was the extended data glyph. This new feature has another tool window that can be associated with an existing tool window. The example that has been coded is the referring physician window, where only a minimal amount of data is visible by default, but the extended data window features supplemental information

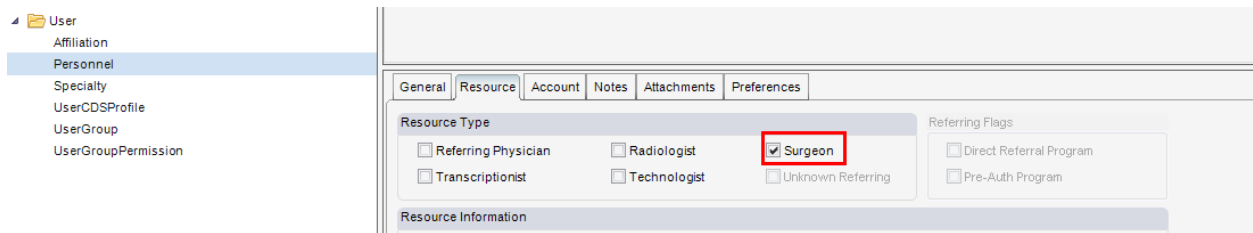


**Figure 4.37 – Extended data glyph button**

When the extended data glyph is hovered over, an additional window is opened as a floating window at the mouse location. This new window is just like any other tool window, so it can be docked into the layout as well.

### Surgeon as Person Type

When adding/editing a person through the Personnel lookup editor there is now a Surgeon checkbox available.



The screenshot displays the 'Personnel' editor interface. On the left, a sidebar lists navigation options: 'User', 'Affiliation', 'Personnel' (highlighted), 'Specialty', 'UserCDSProfile', 'UserGroup', and 'UserGroupPermission'. The main panel has tabs for 'General', 'Resource', 'Account', 'Notes', 'Attachments', and 'Preferences'. The 'Resource' tab is active, showing a 'Resource Type' section with checkboxes for 'Referring Physician', 'Radiologist', 'Surgeon' (checked and highlighted with a red box), 'Transcriptionist', 'Technologist', and 'Unknown Referring'. To the right, a 'Referring Flags' section contains checkboxes for 'Direct Referral Program' and 'Pre-Auth Program'. A 'Resource Information' section is partially visible at the bottom.

**Figure 4.38 – Surgeon flag in Personnel editor**

The Surgeon can only be searched for and used in the “Send To” Report feature. A user flagged as a surgeon will not return in the results for referring search. This includes the “Performing Surgeon” field on the Mammo Biopsy window (referring search only).

## Reporting – Bring RIS to Front

Bring RIS to Front is a new available option that can be mapped to a function key, The EOL button, Instr button or the trigger on the underside of the Philips Speechmike.

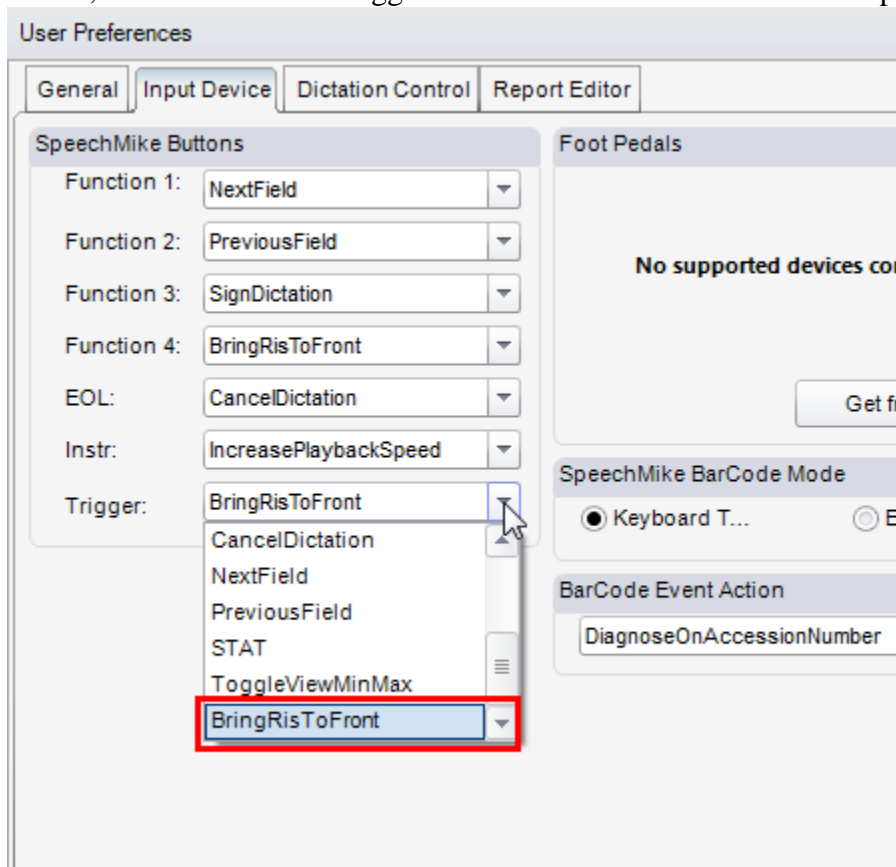
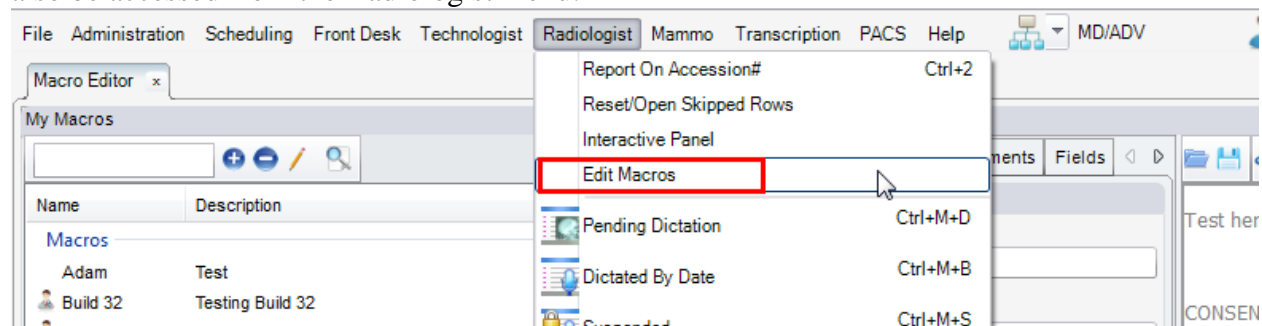


Figure 4.39 – User Preference SpeechMike button action for BringRisToFront

If the RIS is hidden behind another application, such as PACS, the user can select the button programmed for BringRisToFront and the RIS will appear in the foreground.

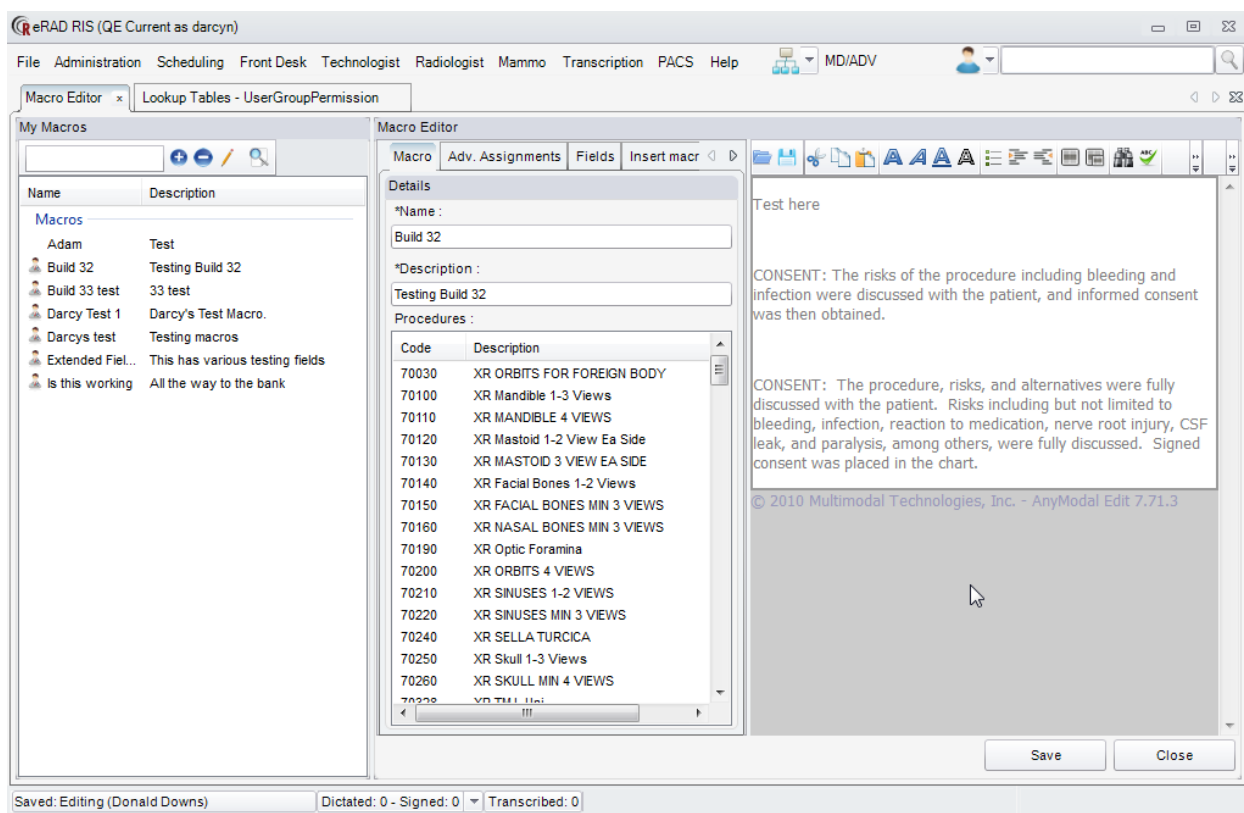
## **Reporting - Easy Access to Macro Editor**

In previous builds the macro editor had to be accessed via Administration menu > Configure > Macro lookup table or from within the diagnose window. In build 36 the macro editor can now also be accessed from the Radiologist menu.



**Figure 4.40 – Macro Editor accessed from the Radiologist menu**

The same access string permissions are required as with previous macro editor access. The Editor will open as a new data window tab. The Macro's displayed on the left are those assigned to the logged in user. This is biggest difference as how the editor is loaded. When accessed from the Radiologist menu, the editor loads those macros assigned to the user. When the editor is accessed from within the dictate window is loads based on the procedure code.



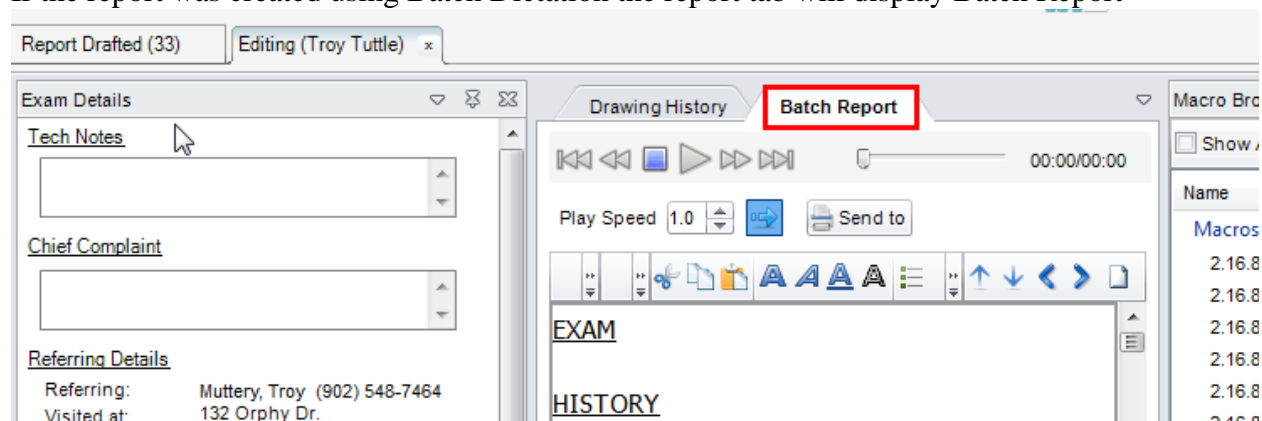
**Figure 4.41 – Macro Editor from Radiologist menu**

## **Reporting – Indicate Reporting Mode**

Users need to know what mode the report was created with (Interactive or Batch). This is very important to the medical transcriptionists as it changes their editing functions.

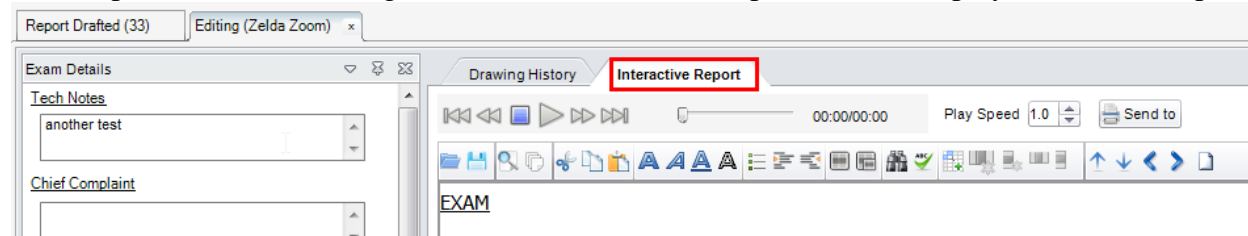
In build 36, the reporting tab within the report editor (dictate, create/edit report, sign report windows).

If the report was created using Batch Dictation the report tab will display Batch Report



**Figure 4.42 – Editor showing report created with Batch dictation**

If the report was created using Interactive Dictation the report tab will display Interactive Report



**Figure 4.43 – Editor showing report created with Interactive dictation**

If for some reason the report was not dictated using batch or interactive dictations, the tab will read “Report” as it did in the past.

## Reporting – Patient History Apply Filtered Views

Work lists such as Pending Dictation, Reception, Reports Drafted, etc... have the ability to create custom views to the work list. The list can be sorted, filtered, columns moved or hidden as saved as a view or default view for the user or for the group. The filtering of a list has been added to the Patient History data pane within the Reporting window.

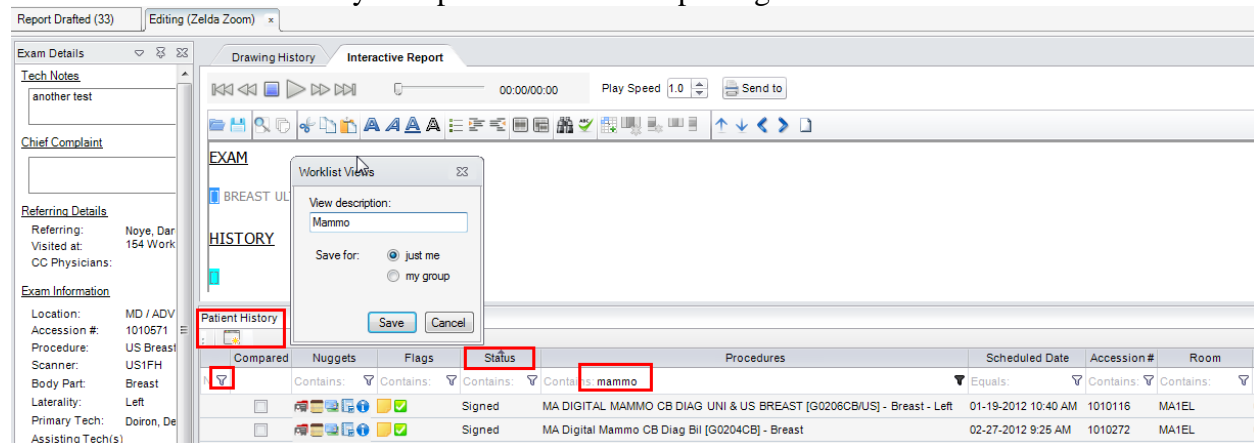


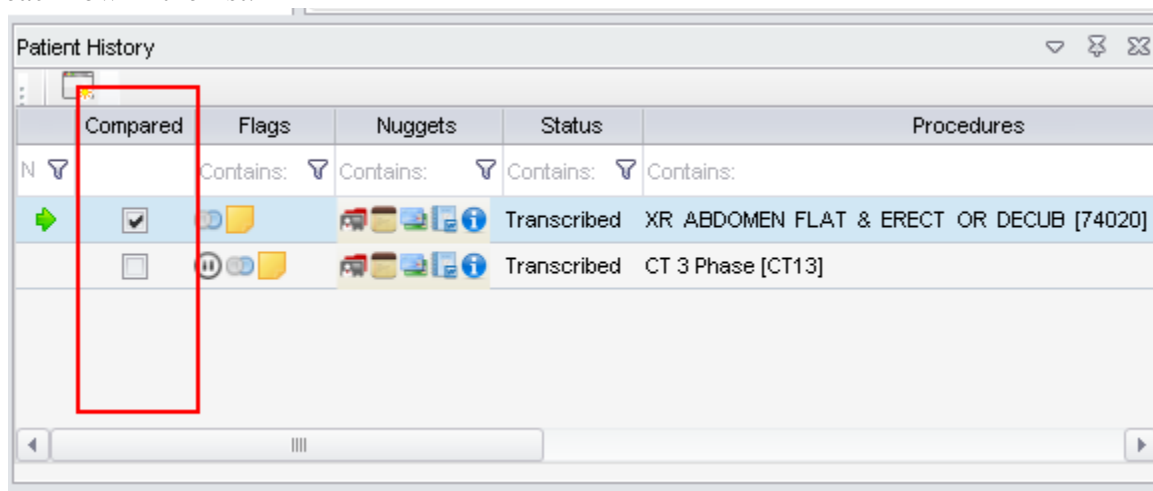
Figure 4.44 – Creating custom view on patient history data pane in reporting window

In the figure above, a custom view for mammo exams is being created. The procedure column is filtered on “Mammo” and the status column is sorted descending.



## Reporting – Patient History Mark Priors

The patient history control has also seen another enhancement in build 36. A new column titled “Compared” has been added on the left side of the control. The column contains a check box for each row in the list.



**Figure 4.45 – Patient History displaying new “compared” column**

When the diagnostic screen is opened the working radiologist is able to make any applicable changes to relevant priors, by clicking the checkbox on study history row to mark a study as a relevant prior. Marked relevant priors can be unchecked (removed) on the fly as well by unchecking a row. When the radiologist saves his/her work in the Diagnostic screen by clicking save, completing a dictation, signing, etc. The relevant prior’s selection will be automatically saved.

**NOTE: It must be noted that because the row has a check in the compared column, this does not initiate a call to PACS to load the images, this is simply a visual marker to display the prior.**

Another part to this feature and enhancement to the Patient History control is the ability to display the current study in the in control or to omit it. This is controlled by a user preference. Looking at the figure above, the reporting window is opened and the current study is displayed and automatically has a check mark in the Compared column.

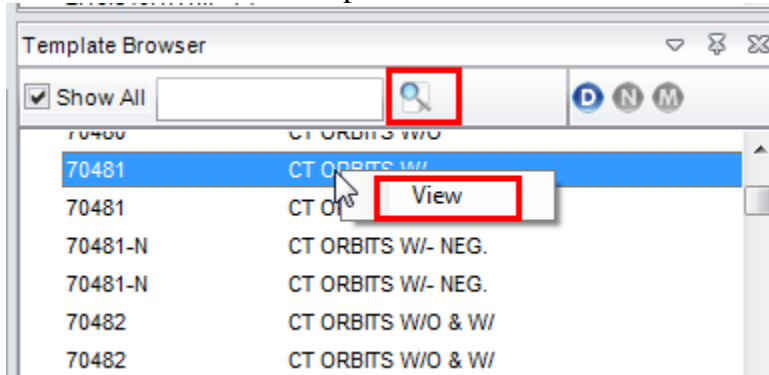
The screenshot shows the 'User Preferences' dialog box with the 'General' tab selected. The dialog is divided into several sections: 'MT Polling Workflow' with an unchecked checkbox 'Open polling workflow on login'; 'Notifications' with two checked checkboxes, 'Notify STAT Pending Signature' and 'Notify Pending Signature on count =>' (with a value of 10); and 'Relevant Priors' with a 'Limit Relevant Priors' spinner set to 2 and a checked checkbox 'Show Current Study in Patient History Tool Window'. To the right of these sections are partially visible options for 'Screen Lock' (Inactivity), 'Diagnostic R', and 'Relea:'. The checkbox 'Show Current Study in Patient History Tool Window' is highlighted with a red rectangular border.

**Figure 4.46 – User preference “Show Current Study in Patient History Tool Window”**

## **Reporting - Preview Report Templates**

Added in build 36 is the ability to view a template or document model. Prior to this version the radiologist would have to load the template into the editor in order to see the layout/contents.

From the report editor window (Dictate window) on the Template Browser data pane a new ICON and context menu options have been added.

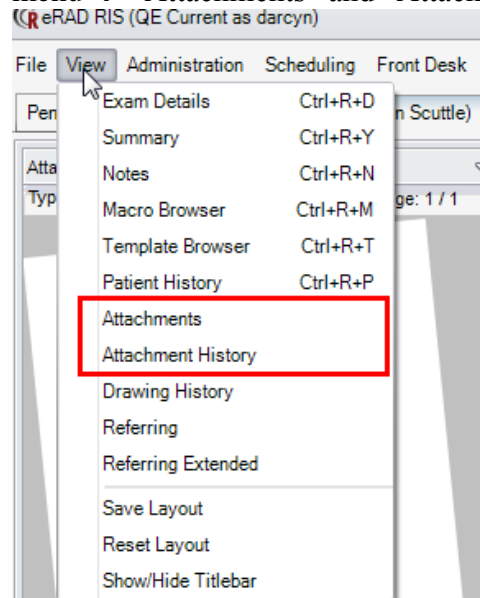


**Figure 4.47 – Access to view report templates and document models**

Highlighting the desired template and selecting the View Icon or the context menu option of View will open a new window displaying the template or document model.

## **Reporting - Viewing Current Study and Prior Study Attachments**

Two new tool windows were created that are accessible to Radiologists through the “View” menu → “Attachments” and “Attachment History”.



**Figure 4.48 – View menu displaying Attachments and Attachment History menu options**

“Attachments” Tool window → will dynamically display attachments (scanned or imported documents) for the current study radiologist is working on, in the diagnostic screen.

“Attachment History” tool window → will dynamically display attachments (scanned or imported documents) for any study that is clicked on (highlighted) in the “Patient History” window.

Both windows, for historic or current study will display relevant attachments according to the user’s preferences for displaying attachments. All usual attachment viewer tools and views are available in both tool windows by right clicking on the attachment.

### **Attachment Navigation Enhancements:**

- Regardless of the view mode: (full page, page width, or original size) → user can click on the attachment, then use the mouse wheel to scroll to the end of the page, continued scrolling will advance user to next page. Individual pages can also be scrolled if needed via scroll bar. This functionality now applies to all attachment controls in other parts of the application ex. (Document Data Nugget)

- Only inside the “Attachments” and “Attachment History” the action of scrolling the mouse wheel through pages → once the last page of a document is reached the viewer will load the next document. This allows the user to scroll through all available documents and pages dynamically.
- Inside the “Attachment History” and “Attachment”, in the top right hand corner of the screen document type is displayed, with a drop down menu. Where a user can select a different document type to jump to a different document in the viewer.
- As user uses the mouse wheel to scroll through different pages of the attachments loaded in the viewer in the top right hand corner page count will be displayed.

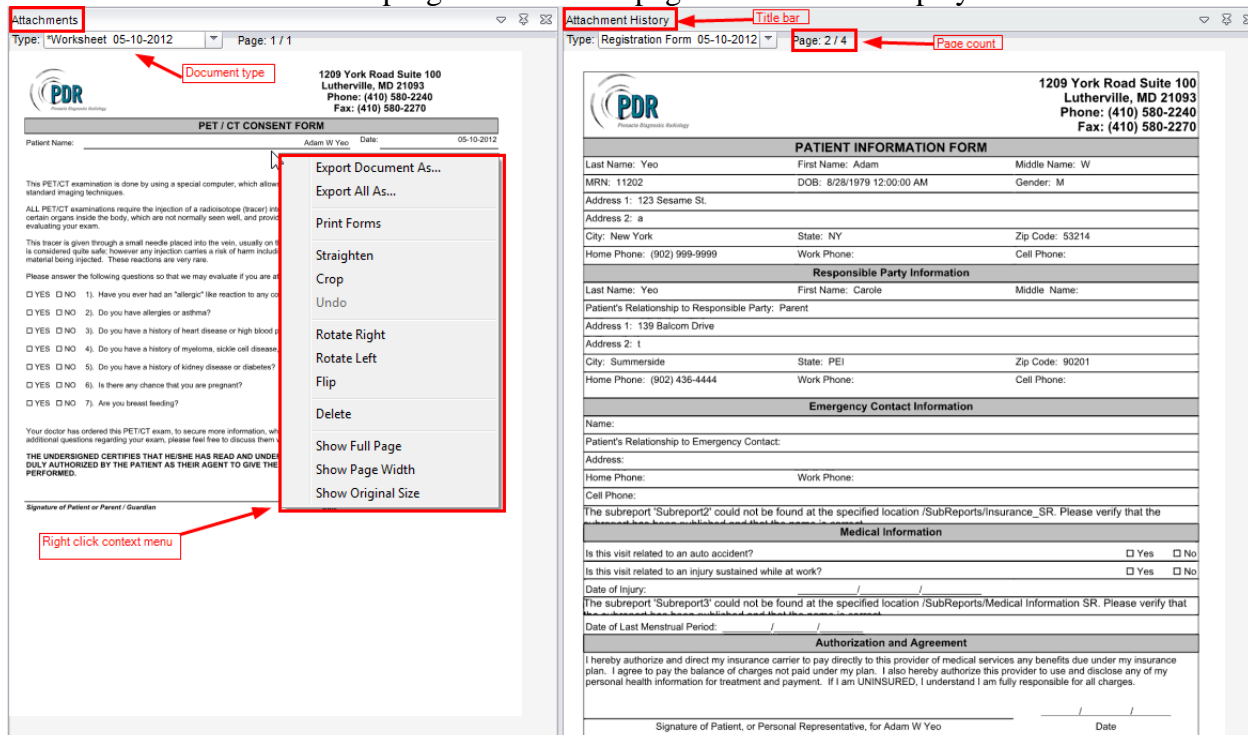


Figure 4.49 – Example of attachments and attachment history tool window

## Reporting – Signed by date Work List for Administrator(s)

A new daily work list “All Signed by Date” has been added under the Radiologist menu. Added for the admin role, this work list contains all signed reports for the date selected.

Signed By Date (5) x

05-04-2012

Flags	Nuggets	Status	Procedures	Scheduled Date	Accession #	Dictated Date	Transcribed Date	Signed Date	MRN	Site	PACS Corre...	BI-RADS	Room	Scheduled Modality C...
Con...	Contains: ▼	Cont...	Contains: ▼	Equals: ▼	Conta...	Equals: ▼	Equals: ▼	Equals: ▼	Co...	C...	Contains: ▼	Cont...	Cont...	Contains: ▼
		Signed	MR MRCP...	05-12-2011 2:...	1004262	05-12-2011...	10-31-2011 3:0...	05-04-2011...	4952	EL			MR1EL	MR1EL
		Signed	CT Abdom...	08-11-2011 8:...	1009212	10-29-2011...	03-12-2012 3:0...	05-04-2011...	10007	FH			CT1FH	CT1FH
		Signed	XR CHES...	09-01-2011 12:...	1009354	11-01-2011...	12-28-2011 4:1...	05-04-2011...	10005	Outsid...			Outside...	OutsideRead_XR
		Signed	CT Cervic...	10-04-2011 2:...	1009489	03-14-2012...	03-15-2012 11:...	05-04-2011...	10005	EL	✓		CT1EL	CT1EL
		Signed	CT Abdom...	11-29-2011 11:...	1009792	11-29-2011...	11-29-2011 2:0...	05-04-2011...	10596	EL			CT1EL	CT1EL

☒ Auto Refresh

Dictate Perform Exam Register Schedule Reschedule Edit Order View/Edit Sign Report Create/Edit Report

**Figure 4.50 – Signed by date work list.**

This work list takes context menus and buttons from patient mode, but in this case will display all studies signed by date. Just like other by date work lists the user will have the ability to navigate to previous day/next day, or pick a day from a calendar.

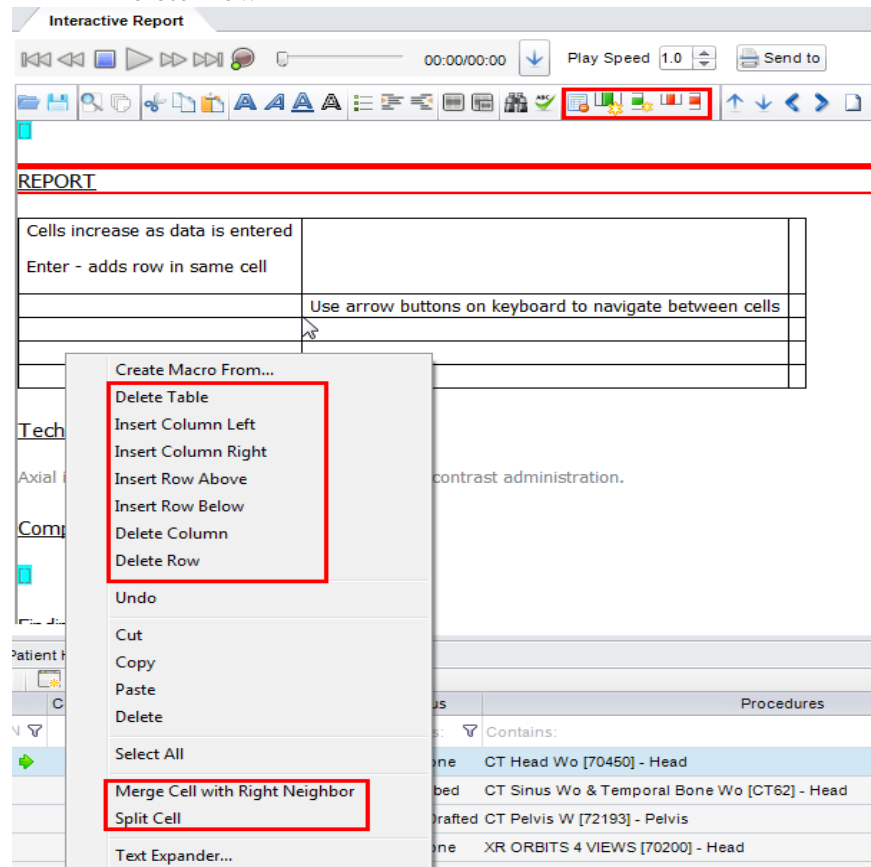
Access to the work list is controlled by Access string = `WL.Rad.SignedFilteredByDate`

### Reporting – Tables in Reports

The ability to add table(s) to reports has been added in build 36. There is a limited set of functionality that is available from the new toolbar buttons and/or context menu options.

In the figure below starting from the left the toolbar buttons are:

- Insert/Delete table
- Insert Column
- Insert Row
- Delete Column
- Delete Row



**Figure 4.51 – Adding table to report and available options**

The context menu in the above figure is displayed from a right click within the table. If focus is in another area of the report the context menu will have the option to Insert Table.

## Reporting – Template Browser Buttons for Default, Normal and My Normal

In the reporting window, buttons have been added to the Template Browser for loading report templates. Looking at the figure below the button **D** is for the Default Template, **N** is Normal Report and **M** is for My Normal.

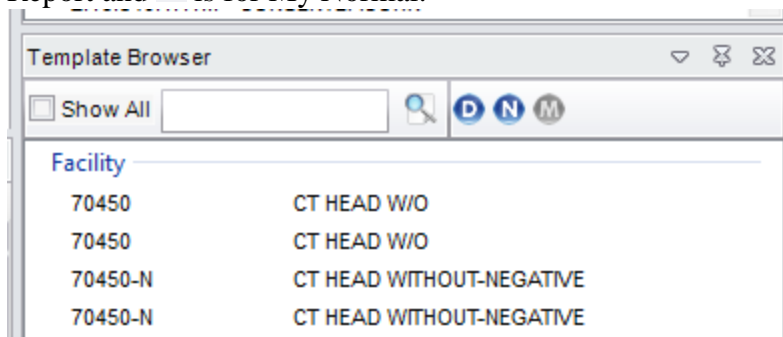


Figure 4.52 – Reporting window Template Browser buttons.

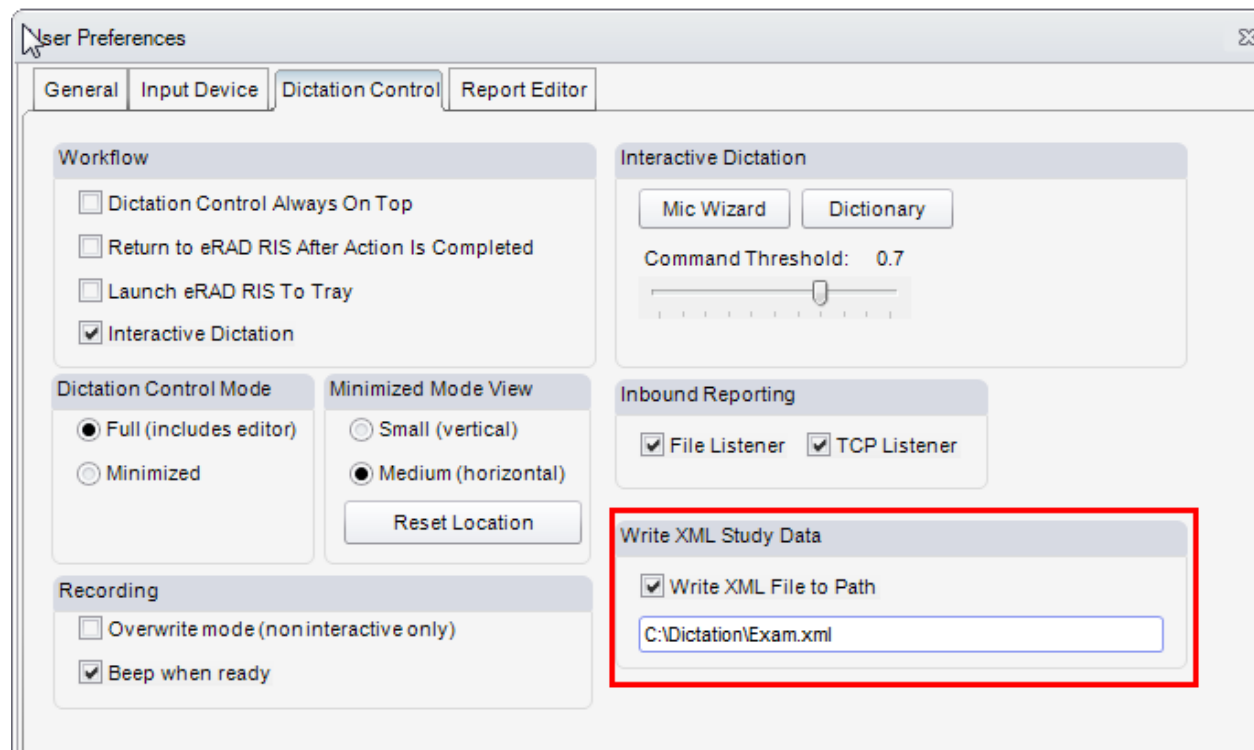
If the buttons is colored blue, this indicates there is a template available for the procedure. If the button is grey (such as the M), this indicates the type of template is not available for the procedure.



## Reporting – Yellow Sticker Support

There is an existing application that is used in the field called Yellow Sticker. This application need to know when a radiologist opens an exam to dictate or is dictating a particular case. Yellow Sticker also needs the ability to update a notes field in the system. This notes field can then be viewed by users.

This has been implemented in build 36 and is controlled via a new user preference “Write XML Study Data”. This new option is in the form of a check box and when checked will enable the File Path text box. When not checked the text box will be disabled.



**Figure 4.53 – User preference window displaying new preference “Write XML Study Data”**

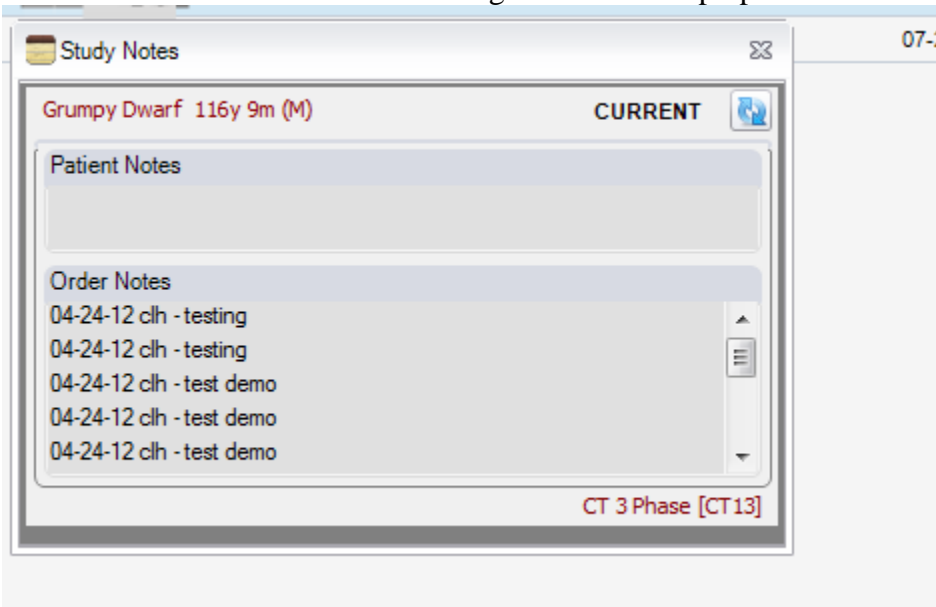
The default value for the path is “C:\Dictation\Exam.xml”. This value can be set to any valid path and file combination. Note that if the path doesn’t exist the system will attempt to create it upon the first open of a study for dictation.

Each time a dictation screen is opened or focused we write an xml file containing the required fields to the specified directory.

Here is the XML that will be created by the RIS when a study is opened or, in the case of multiple studies being open, focused. We do not delete the file but overwrite as a new one is opened or focused.

```
<YellowStickerData xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
<Accession>1067158</Accession>
<PatientName>Cynthia7 Shields</PatientName>
<DOB>2/28/1960</DOB>
<StudyDate>1/19/2012 12:57:54 PM +00:00</StudyDate>
<MRN>T.366</MRN>
</YellowStickerData>
```

Also the ability to update the notes field via the Yellow Sticker application has been added too. These notes are attached to the existing order notes. It prepends to the existing notes.



**Figure 4.54 – Study Notes**

To set the notes the calling application should POST to the [http://\[servername\]:9002/api/notes/](http://[servername]:9002/api/notes/) with values for accession number, initials, and notes. The accession number will determine which order to attach the notes field.

## 5. Resolved Defects

Bugs Suggested Features and Support Issues resolved in build 1.36. The extract is taken from Redmine bug tracking system and only displays defects resolved in 1.36.

#	Tracker	Priority	Subject	Category	Found Version
1141	Bug	Urgent	Backend Printing jobs reporting Error	Web Services/DB	1.35
1143	Bug	High	Fax/Print jobs failing with missing dll error	Web Services/DB	1.35
1102	Bug	High	CDS Threads pinning CPU in Balitmore Sandbox environment	Web Services/DB	1.35
1063	Bug	High	New patient button on patient demographics screen.	Thick Client GUI	1.35
1265	Bug	Normal	Imaging Center Dashboard	Mgt Reports	1.35
1264	Bug	Normal	Transcription Dashboard	Mgt Reports	1.35
1207	Bug	Normal	Transcription Dashboard	Mgt Reports	1.35
1173	Bug	Normal	personKeyNotFound in summary panel	Thick Client GUI	1.35
1167	Bug	Normal	PushSignature service causes an unwanted addendum	Web Services/DB	1.35
1156	Bug	Normal	error on getdata/displaydata in tech	Thick Client GUI	1.35
1148	Bug	Normal	Check - in Arrive early and cancel one procedure still appears in Check In window	Thick Client GUI	1.35
1144	Bug	Normal	Document Distribution - Fax number not auto completed when referring selected that has Fax as delivery	Thick Client GUI	1.35
1137	Bug	Normal	Daily Schedule Report	Mgt Reports	1.35
1136	Bug	Normal	After getting message for not paper in scanner second attempt will though error	Thick Client GUI	1.35

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1135	Bug	Normal	Change document type from Attachment viewer includes personal scan type	Thick Client GUI	1.35
1134	Bug	Normal	Scheduling study can require site be selected	Thick Client GUI	1.35
1133	Bug	Normal	Scan cannot be saved because of out of memory error	Thick Client GUI	1.35
1132	Bug	Normal	Clone user clones affiliation at the person level	Admin Tools	1.35
1131	Bug	Normal	Error on Access string WL.MT.GetJob set to none	Thick Client GUI	1.35
1130	Bug	Normal	Unable to use RIS after a cache corruption caused by a hardware failure.	Web Services/DB	1.35
1127	Bug	Normal	Patient Folder not updated to correct patient	Thick Client GUI	1.35
1120	Bug	Normal	Billing Exception occurring when they shouldn't	Thick Client GUI	1.35
1119	Bug	Normal	Post billing exception can return error	Thick Client GUI	1.35
1114	Bug	Normal	Room is not updated on work lists if changed during Perform Exam	Thick Client GUI	1.35
1110	Bug	Normal	Tooltip to create macro from selected text is misspelled	Thick Client GUI	1.35
1109	Bug	Normal	User preference > Interactive Dictation misspelling	Thick Client GUI	1.35
1108	Bug	Normal	When pasting an address into the Report Delivery address field only the first line is filled in	Thick Client GUI	1.35
1107	Bug	Normal	Address paste on personnel screen doesn't work	Thick Client GUI	1.35
1087	Bug	Normal	Unknown Reconciliation - Cannot edit order from this work list if the study is past ordersigned status	Thick Client GUI	1.35

1082	Bug	Normal	Appointment Book "Interval" dropdown does not reflect displayed interval	Thick Client GUI	1.35
1075	Bug	Normal	patient notes and order notes not synchronizing in View/Edit	Thick Client GUI	1.35
1074	Bug	Normal	Location label not populated/recommendation codes not populating.	Thick Client GUI	1.35
1072	Bug	Normal	Graceful exception if new scheduled study deleted before saving	Thick Client GUI	1.35
1067	Bug	Normal	If you click Schedule button on the follow up screen after you have already scehduled the follow up you get an exception	Thick Client GUI	1.35
1066	Bug	Normal	Scheduling - able to schedule procedure to wrong room	Thick Client GUI	1.35
1061	Bug	Normal	Scheduling -- no study -- able to do room search ( runtime error)	Thick Client GUI	1.35
1059	Bug	Normal	Broken Lock on Re-Schedule Should Disable "Schedule Later" and "Cancel Study" Buttons	Thick Client GUI	1.35
1053	Bug	Normal	Mammo Callback can create order with duplicate procedure	Thick Client GUI	1.35
1050	Bug	Normal	An outgoing call cannot be made since the application is dispatching an input-synchronous call. (Exception from HRESULT: 0x8001010D (RPC_E_CANTCALLOUT_ININPUTSYNCCALL))	Thick Client GUI	1.35
1045	Bug	Normal	Foreign Key Contrain error from New Appointment	Thick Client GUI	1.35
1041	Bug	Normal	Index was outside the boudns of the array.	Thick Client GUI	1.35
1039	Bug	Normal	Unable to post billing exception. Claim number is required when carrier doesn't have injury flag set if any data at all is entered in injury details	Thick Client GUI	1.35

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1035	Bug	Normal	Cannot insert duplicate key row in object 'dbo.c_order_item' with unique index 'IX_c_order_item'. The duplicate key value is (23978, 1)	Thick Client GUI	1.35
1019	Bug	Normal	Rad - Macro Editor - Insert Macro ( Cast Error)	Thick Client GUI	1.34 or 1.35
1017	Bug	Normal	Invalid Scheduled Date Error when trying to complete a Tech where the room was closed after scheduling	Thick Client GUI	1.35
1011	Bug	Normal	Rad - Macro Editor -- Object Reference Runtime error	Thick Client GUI	1.35
994	Bug	Normal	When creating a patient, and user adds an attachment, there is no option to delete a row if entered incorrectly.	Thick Client GUI	1.35
989	Bug	Normal	Cannot update 'State' field in Patient	Thick Client GUI	1.35
987	Bug	Normal	Switch user from patient search	Thick Client GUI	1.35
984	Bug	Normal	When doing an "outside read" upon choosing performed location site, the insurance grid appears and some text is cut off.	Thick Client GUI	1.35
981	Bug	Normal	Data nugget and camel notation	Thick Client GUI	1.35
970	Bug	Normal	Schedule Order Patient search does not automatically highlight best available	Thick Client GUI	1.35
969	Bug	Normal	Add Outside Read Billing Method needs more real estate	Thick Client GUI	1.35
962	Bug	Normal	Unknown Referring: Clicking Add with no first name blows up	Admin Tools	1.33
954	Bug	Normal	Outside read - order_item_key not found	Thick Client GUI	1.35
953	Bug	Normal	Study field on procedure picker row (including outside read) is not marked as required	Thick Client GUI	1.35

952	Bug	Normal	Schedulingt: Unable to find modality solution message only lists procedure code	Thick Client GUI	1.34
951	Bug	Normal	PAtient Folder Context Menu for a "Scheduled" study is missing "Reschedule"	Thick Client GUI	1.34
950	Bug	Normal	Weight Restriction Warning has spelling errors	Thick Client GUI	1.34
943	Bug	Normal	Schedule Order Patient tab requests	Thick Client GUI	1.34
942	Bug	Normal	Patient/Order Notes does not follow characters being entered.	Thick Client GUI	1.34
941	Bug	Normal	Schedule Order - Phone number fields lose mask when entering to many extra numbers for extention	Thick Client GUI	1.34
935	Bug	Normal	Erron on launch "Value SendBringRisToFrontEvent is no longer a valid entry"	Thick Client GUI	1.35
929	Bug	Normal	User Group permissions difficult to add	Admin Tools	1.34
924	Bug	Normal	Add outside read on site that requires insurance, but insurance is not chosen, is not added to billing exception	Thick Client GUI	1.34
923	Bug	Normal	Image Request on Multi procedure order belonging to different orders throws error	Thick Client GUI	1.34
922	Bug	Normal	Error thrown attempting to create multi procedure schedule	Thick Client GUI	1.34
916	Bug	Normal	Adding UserGroupPermission with empty access string throws exception	Admin Tools	1.34
911	Bug	Normal	Adding a third study through registration behaves differently.	Thick Client GUI	1.34
905	Bug	Normal	Rescheduling an exam without selecting time returns un-informative error.	Thick Client GUI	1.34

904	Bug	Normal	Rescheduling exam and choose Schedule later and the procedure is not retained	Thick Client GUI	1.34
900	Bug	Normal	Add multiple to UserGroupPermission throws exception	Admin Tools	1.33
879	Bug	Normal	If RIS in minimized with Dictate window open the application will not open to desktop	Thick Client GUI	1.32
877	Bug	Normal	Interactive user cannot dictate if Dictation Control Mode is minimized	Thick Client GUI	1.32
811	Bug	Normal	GUI will not open to full size	Thick Client GUI	1.30
801	Bug	Normal	Possible issue with date / time formats and Perform Exam data window	Thick Client GUI	1.29
781	Bug	Normal	Read Only permission still allows some actions	Admin Tools	1.20
758	Bug	Normal	Drug Allergy Type requires Display order to save	Admin Tools	1.27
691	Bug	Normal	Configure > Lookup Tables scroll bar not always present.	Admin Tools	1.20
644	Bug	Normal	Cannot close application if there is a data window open.	Thick Client GUI	1.25
643	Bug	Normal	Dictate window > Blank error is displayed and rRIS stops responding.	Thick Client GUI	1.25
529	Bug	Normal	Reschedule study search returning incorrect times	Thick Client GUI	1.21
522	Bug	Normal	Search for available times incomplete based on criteria	Thick Client GUI	1.20
447	Bug	Normal	Dictation - User is able to start dictating with SpeechMike when it is not the recording device	Thick Client GUI	1.17
313	Bug	Normal	Appointment Book - Out of memory exception	Thick Client GUI	1.12



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105	Bug	Normal	Worklist - Issue with large worklist and title bar	Thick Client GUI	1.07
1124	Bug	Low	Cannot read contents of list box	Thick Client GUI	1.35
1121	Bug	Low	Book Summary Error	Thick Client GUI	1.35
1077	Bug	Low	Scheduling - Calendar is too small = windows XP	Thick Client GUI	1.35
1069	Bug	Low	Personnel editor inconsistency	Thick Client GUI	1.35
1065	Bug	Low	Error saving user in personnel editor.	Thick Client GUI	1.35
1064	Bug	Low	Clicking Schedule Later on a procedure loses the laterality for the procedure	Thick Client GUI	1.35
1044	Bug	Low	New Patient with Canadian address throws 'Invalid Selection' validation	Thick Client GUI	1.35
1038	Bug	Low	Confirmation Dialog popups do not pop up on the same monitor as RIS ( always primary monitor)	Thick Client GUI	1.35
1015	Bug	Low	Personnel	Thick Client GUI	1.35
1008	Bug	Low	Pasting Address on Patient Screen does not populate state if US is already entered in Country field	Thick Client GUI	1.35
995	Bug	Low	Invisible tab	Thick Client GUI	1.35
973	Bug	Low	Issues adding multiple CC physicians	Thin Client GUI	1.35
959	Bug	Low	Edit Medical Access window title is incorrect	Thick Client GUI	1.35
821	Bug	Low	Newly added access strings are not easily found in UserGroup Lookup editor	Thick Client GUI	1.30
685	Bug	Low	Error When Exporting Table Data	Thick Client GUI	1.35
321	Bug	Low	DataSet Visualizer - Does not show for Studys and CC Physician	Thick Client GUI	1.12

## 6. Known Limitations

The following are Bugs Suggested Features and Support Issues found in build 1.36. This build is the current QE build and testing is ongoing. The list may increase in size. This document will not be updated or re-released.

#	Status	Subject	Found Version	Resolved Version
1272	New	Error trying to import image	1.36	
1270	New	View/Edit data window does not show billing codes	1.36	
1269	Resolved	Relevant priors do not open correctly when user preference to show current study in patient history is off	1.36	1.37.11062
1257	New	Signed by date WL access string not included in build	1.36	
1249	Resolved	Creating custom view on status column can crash RIS	1.36	
1180	New	Mammo follow up work lists > Scheduling from follow up does not always flag study as resolved	1.36	
1290	New	Data nugget - Notes or Study Notes?	1.36	
1289	Resolved	Transcription - Perform Exam ( worklist does not show current study)	1.36	1.37
1288	Resolved	Template viewer title bar has incorrect title.	1.36	
1287	New	Carriers flagged as inactive cannot be found in search.	1.36	
1286	New	Status filtering on worklist - you have to filter by old status value, not the displayed value	1.36	
1283	Resolved	Nuggets shouldn't respond to right click	1.36	1.37.11175
1282	New	MT Polling > Studies from same order are not skipped when locked	1.36	
1281	New	Surgeon can be searched for to send report, but cannot be used to send report	1.36	
1278	New	Error accessing data windows resuming locked RIS application	1.36	

1273	Resolved	Assign to Radiologist window closes if clicking to fast on scroll bar action down	1.36	1.37.11070
1268	Resolved	Personnel > Cannot search for existing after deleting create new	1.36	fixed in 1.37.11062
1259	New	Yellow Sticker - XML file is not updated when using skip function	1.36	
1258	New	Arriving multiple studies for one day, the Relation to Patient is not captured to the other studies	1.36	
1253	New	Questionnaire exception on "Context Menu" / "Close All"	1.36	
1245	New	Unable to cast System.DBNull to System.String	1.36	
1242	New	Null Reference on Payment control	1.36	
1241	New	Selecting BIRAD or Tissue density will show "..." in the associated box and the the value selected.	1.36	
1240	New	Buttons disappear from bottom of Patient folder on Maximize	1.36	
1238	New	Editing patient and repeatedly getting "Status can not be empty" message on save	1.36	
1235	New	Select Search multiple times in Carrier search window will throw error.	1.36	
1229	QE Rejected	Modality closure issues	1.36	1.36
1227	New	Patient Folder Window --> Scheduled Date filter = object reference error	1.36	
1221	New	Drawing History color schemes cannot be reset	1.36	
1220	New	Insurance - Returns Object Reference Error	1.36	
1219	New	Unable to delete billing codes	1.36	
1218	New	Logging client side errors to the server logs the same consecutive error from the same work station	1.36	
1217	New	Drawing History will not open again after Reset Layout	1.36	

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1215	New	Rad - Dictate - Template Browser - runtime	1.36	
1214	New	From diagnose screen choosing Referring Extended from View Menu does not show pane	1.36	
1213	New	Rad - All Pending Signature Worklist --> Dictate --> Click Print Icon "Send to" = runtime	1.36	
1202	New	Registering studies early should pick current time	1.36	
1198	New	Scheduling - Edit Image request --> runtime NULL handling	1.36	
1195	QE Rejected	Rad - Dictate or Transcription window.. Attachments and Attachment History views are missing	1.36	
1192	New	birthday bug -- cannot change birthdate forward 1 day	1.36	
1190	New	Error message appears twice	1.36	
1186	New	Filtered patient folder on Signed and Ordered rows are in the list.	1.36	
1179	New	Walk-in	1.36	1.36
1178	New	Macro Editor --> Insert Macro --> Click Previous Field = COM Error	1.36	
1177	New	Completing fields in report editor and using Back button < will return COM error.	1.36	
1175	New	Transcription editor does not support keyboard shortcut to select text up and down	1.36	
1174	New	Mammo - Followup worklist. Right Click --> Followup "New patient button is available on signed study"	1.36	
1172	New	Rad - Macro Editor - Exception inserting normal	1.36	
1170	New	Warning for scheduling across sites message displayed twice when selecting Yes	1.36	

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1168	New	User is able to add multiple procedures in one row.	1.36	
1162	New	Error from entering alpha numeric number in allergy field	1.36	
1161	New	error on second save within macro editor	1.36	
1160	QE Rejected	Procedure Group function returns Inactive study items	1.36	1.36
1154	New	Removing procedure from study cell can throw exception if Scheduled Date field is selected.	1.36	
1153	New	Save layout not saving selected tabs	1.36	
1145	New	Edit macro twice throws object reference error	1.36	
1088	New	Log RIS Logon Failures to c_Audit log	1.36	
964	New	Payments - Making a credit card payment	1.36	
1291	New	Interactive dictation > non responsive recording using shortcut key	1.36	
1277	New	Self-pay insurance carriers show up in Patient Insurance Policies carrier search	1.36	
1261	Resolved	Double context menu in personnel editor > Contact information	1.36	1.37.11062
1243	New	Able to choose same physician multiple times on CC physicians control	1.36	
1236	New	Patient Folder Preview window issue on patient search	1.36	
1225	New	Scheduling - Image Request WL --> Edit Image request ( new patient icon)	1.36	
1224	New	Image Request list sometimes shows "No Data to Display" in DataGrid when there are items in the list	1.36	
1223	New	Image Request tab shows (0) when there are image requests in the list	1.36	
1211	Resolved	Administration - User - Personnel ( Add, Edit Address validation)	1.36	1.37.11062
1208	New	Study box size on Walk-In Exam tab is too small to see all of the study description	1.36	

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1200	New	Patient Merge - Search - Invalid Search Criteria - click Details = error	1.36	
1185	New	Alert may cause button to grey out, even if action did not take place	1.36	
1184	New	Batch to Interactive Mode changes can result in tab being mislabeled	1.36	