

# Server Update

For eRAD RIS

Version 2.0

Build 2.2017.1

Update 2.2017.1.2

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## NEW SYSTEM CONFIGURATION SETTINGS

Setting	Default	Purpose
AppointmentSearchMaxResults	-1	(value = int) Specify the number of appointment slot results to be returned by the scheduling engine. -1 turns off the feature. Changing the default is only recommended for customers scheduling via an External Interface Service. These customers should use a number higher than the recommended minimum of 500.

## NEW FEATURES

### FEATURE #16137 – CARESTREAM PACS INTEGRATION – ABILITY TO OPEN PRIOR STUDIES WHEN PRIMARY STUDY IS NOT AVAILABLE

Before an exam is performed, it is sometimes necessary for the radiologist to view the prior images for the patient. Previously, when a radiologist opened the reporting screen, the *view session* would not be initiated if the current study was unavailable. Without this, the prior studies could not be launched from the reporting screen. To allow for this functionality, a new setting is now available in the CSHConfig.xml file: `empty_view_session_on_fail`.

Changing this setting to True will adjust the CSH integration behavior to make the ShowStudy call to PACS act as if the primary study opened correctly, even if it has failed because current images do not yet exist. Please note that with this setting turned on, the radiologist will not be prompted that the primary study failed to open, and the mini-Patient Folder will indicate that the PACS status for the primary study is Open. At this point, the radiologist can double click on the desired prior study. RIS will ask the PACS what studies have loaded and upon finding that nothing is loaded, the normal Append call will be replaced with a ShowStudy call. At this point, images for the prior will open, and both current and prior studies will be listed as Open.

To support this behavior, the `supports_append` setting in the CSHConfig.xml file needs to be set to True.

---

**FEATURE #16240 – APPOINTMENT SEARCH IMPROVEMENTS FOR EXTERNAL INTERFACE SERVICE**

Some customers use an interface to search the RIS for available appointment slots, which required some performance improvements. Alterations to some of the behind-the-scenes logic were made, which has led to significant performance gains.

In addition, there is now a System Configuration setting which will allow an appointment slot search to be made via the interface to return a given number of results, regardless of the appointment date. Because this method of searching via the interface will bypass the time frame requirement and instead limit search results by the number of results returned, this allows users scheduling in an external system to perform one search when there may not be any appointments available in the next few weeks. The user can simply search and X number of the next available appointments will be returned, even if the first is not available for several weeks.

The System Configuration setting is *AppointmentSearchMaxResults*. By default, this setting is “-1” which means that the functionality is turned off. In that case, all possible results in the given time period will be displayed as usual. If set to 2,000, then the first 2,000 time slots will be available, regardless of the timeframe when searching via the interface service.

Setting this value too low will yield searches with few or even no appointment slots returned. The recommended minimum setting is 500, but care should be taken when setting this configuration to anything under 1,000.

**Important Note:** This setting controls both the results from the External Interface Service and the results for users searching directly in the RIS. However, users working directly in the RIS cannot bypass the date range requirement. Therefore, it is recommended to only adjust this setting if scheduling is done via the External Interface Service. If scheduling directly in the RIS, the setting default of -1 should be used to disable the feature.

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**FEATURE #16201 – ERAD RIS NOW SUPPORTS UPDATING SEQUENCE ID VIA THE INBOUND EXTERNAL INTERFACE SERVICE**

When the schema for inbound study container messages was initially built, sequence ID was not included in the schema. In order to perform updates or additions to any table in the study container which has a sequence ID, the sequence ID has been added to the schema.

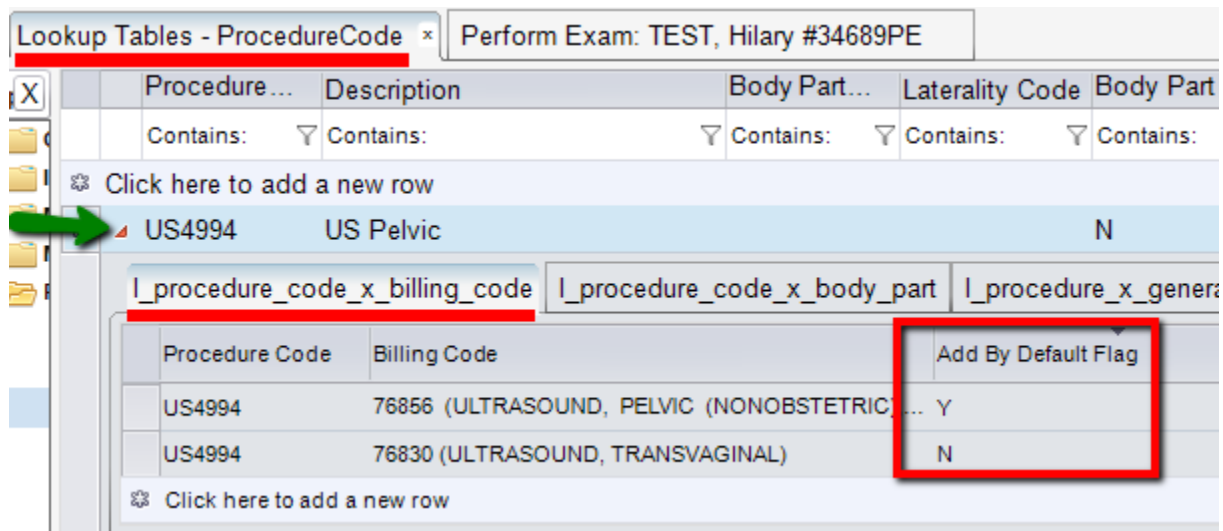
## FEATURE #16299 - ERAD RIS NOW SUPPORTS BOTH DEFAULT AND "RECOMMENDED" BILLING CODES

Previously, all billing codes associated to a procedure were active by default. In some cases, it may be useful to also associate billing codes that are *sometimes* used for a particular procedure. For example, some customers use a workflow in which procedure codes are broad, such as CT Sinus. In this case, the billing code might be the CPT for CT Sinus "with contrast," "without contrast," or "with and without contrast." Also, the contrast CPT may or may not be relevant depending on what is performed.

In these cases, being able to associate the billing codes that are most likely to be used for a particular procedure is more beneficial than creating default billing codes that are always active for the exam and have to be deactivated by the technologist.

To allow for this workflow, a new column has been added to the *l\_procedure\_code\_x\_billing\_code* sub-table, which is found in the Procedure Code look-up table. The column, **Add By Default**, will default to Y, meaning that the billing code will be associated and active for that procedure. This is the same as the previous behavior.

To associate billing codes without actively adding them to the procedure, set the Add By Default column to N. As you can see in the table below, it is possible to have a combination of Default billing codes and recommended/possible billing codes.



Procedure Code	Billing Code	Add By Default Flag
US4994	76856 (ULTRASOUND, PELVIC (NONOBSTETRIC) ...	Y
US4994	76830 (ULTRASOUND, TRANSVAGINAL)	N

In the example above, the only billing code that will be automatically added for the US Pelvic procedure is 76856. The billing code 76830 will now be available from a quick pick list, as shown below.

The screenshot shows the 'Billing Codes' tab in the eRAD RIS interface. A table lists billing codes for a procedure 'US Pelvic (US4994)'. The first row shows code '76856 (ULTRASOUND, PELVIC (NONOBSTETRIC))' with an 'Active' status of 'Y'. A red box highlights the 'Billing Code' column and the code '76856'. A red arrow points from the code to the 'Active' column. A blue box highlights the 'Add' button with a dropdown arrow, which is open, showing options 'Apply', 'Select All', and '76830 (ULTRASOUND, TRANSVAGINAL)'.

When suggested codes are available for a procedure, the Add button will have a dropdown arrow allowing the user to quickly select and apply the suggested billing codes. Clicking the main Add button, instead of the dropdown arrow, will open the normal Add Billing Code screen where the entire list of Billing Codes can be accessed.

The 'Add Billing Code' dialog box is shown. It contains the following fields:

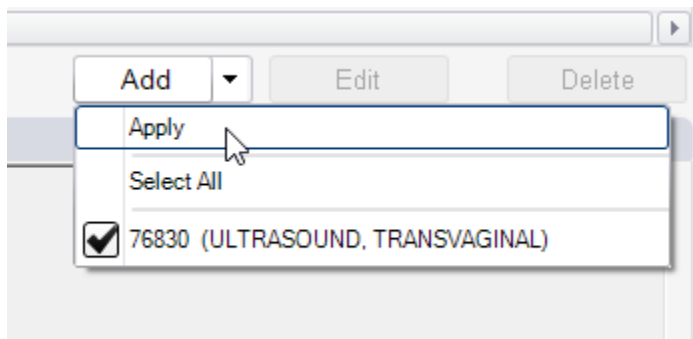
- Billing code \* (dropdown menu)
- Units (spinner box set to 1)
- CPT modifier 1 (dropdown menu)
- CPT modifier 2 (dropdown menu)
- ABN (dropdown menu)
- Change reason (dropdown menu)

Buttons at the bottom: Save, Cancel.



If no recommendations exist, the Add button will not have the dropdown arrow and the Add Billing Code screen is the only option for adding additional billing codes.

To use suggested billing codes, check the box(es) and click the Apply button.



This will add the billing code to the procedure in an Active status.

Exam Details	Billing Codes	Attachments	Notes / Exam Times	Image Request (0)	Goodie Test	ay testing grid
Billing Code	CPT modi...	CPT modi...	PreCert #	Expiry Date	PreCert Status	Active
76856 (ULTRASOUND, PELVIC (NONOBSTETRIC),...					Not Required	Y
76830 (ULTRASOUND, TRANSVAGINAL)					Not Required	Y

Keep in mind that suggested billing codes will not trigger IVT workflow. Once the suggested billing code has been added to the exam, it will be treated like normal active billing codes.

It is also now possible to select multiple lines in the active Billing Codes grid in order to delete them all at once, if needed. Selecting rows and clicking the Delete key on the keyboard is also allowed. The user will be prompted to confirm that they want to delete the selected billing code(s). Deleting a saved billing code row is the same as marking the row as "Active = N". If suggested billing codes are added, but deleted *before* the exam is saved, the row will simply be deleted.

The billing codes associated to any procedure code currently will all be set as Add By Default = Y at the time of the upgrade, which means that they will continue to behave as they did prior to upgrading.

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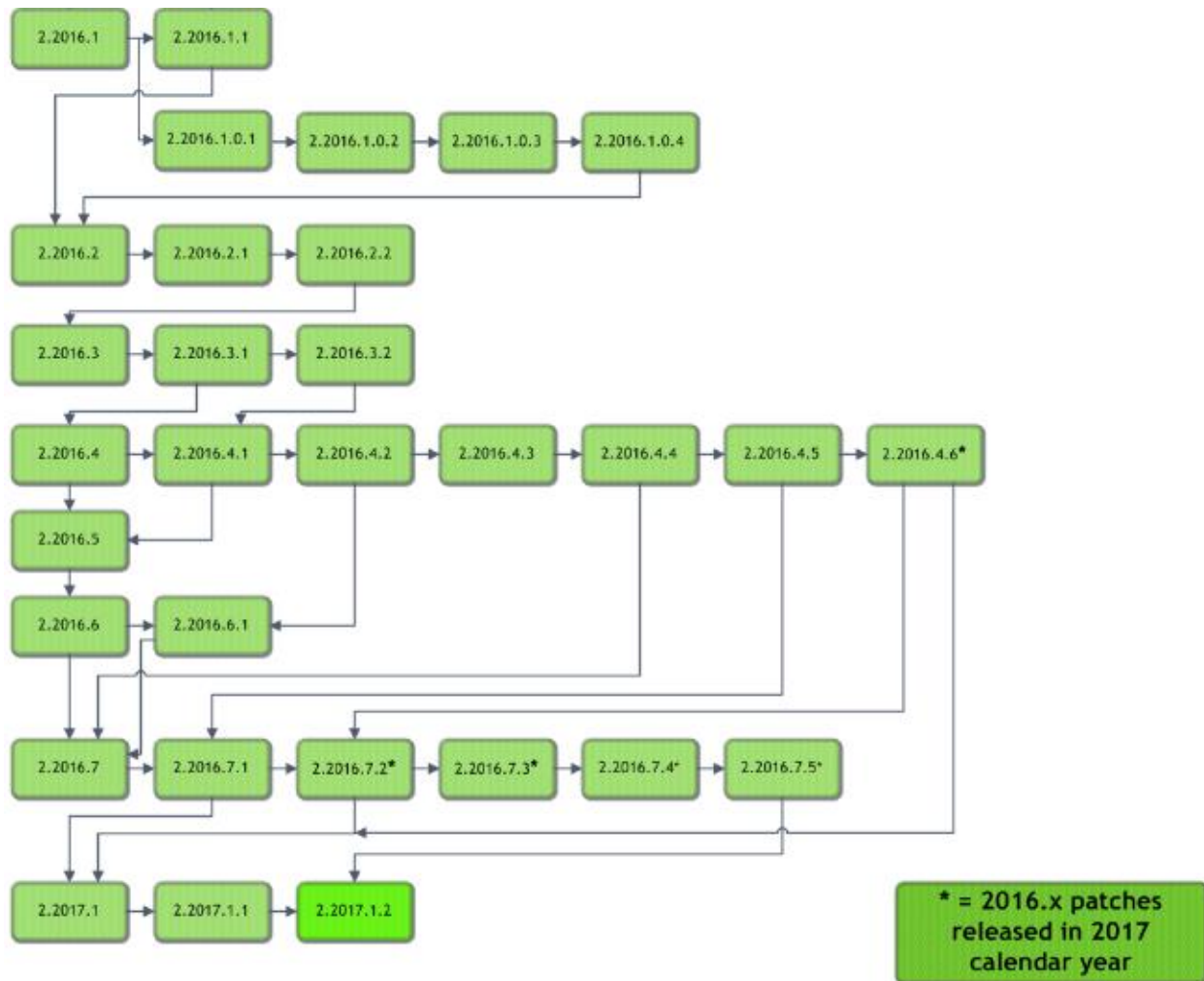
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**RESOLVED ITEMS**

eRAD RIS

Redmine #	Subject
16249	External Interface Service - Appointment Search not respecting time portion of StartDate and EndDate

## CODE STREAM

**Legend:**





Light Green = Previously Released software

Bright Green = Current Release

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## PACKAGE CONTENTS

 _ReleaseNotes	03/10/2017 3:32 PM
 DB	03/10/2017 3:29 PM
 rRISService	03/10/2017 3:30 PM
 ThickClient	03/10/2017 3:30 PM

## INTENDED AUDIENCE

THE INTENDED AUDIENCE FOR THIS DOCUMENT IS THE RADNET CLINICAL SYSTEMS TEAM AND THE ERAD SUPPORT/SERVICE TEAM.

## WHO IS AFFECTED

Build 20117.1 installs. This server update must be applied to 2017.1.1

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## ERAD RIS RELEASE VERSION NUMBERS

Build	Patch	UI Version	Core Version	WS Version	DB Version	Digital Forms	Patient Portal	UM Portal	Notes
2016.1	-	2.16.1.0.33419 (3GB)	2.16.1.0.33079	2.16.1.0.33419	2.16.1.0.33416				GUI.zip, Web Service, DB, Management Reports, Questionnaire and Citrix Bridge
2016.1	1	2.16.1.1.33672 (3GB)	2.16.1.0.33079	2.16.1.0.33419	2.16.1.0.33416				GUI.zip
2016.1	.0.1	2.16.1.0.1 (3GB)	2.16.1.0.33079	2.16.1.0.33419	2.16.1.0.33416				GUI.zip (This is not included in 2016.1.1, version directly above)
2016.1	.0.2	2.16.1.0.1 (3GB)	2.16.1.0.33079	2.16.1.0.2	2.16.1.0.33416				Wedge Web Services only
2016.1	.0.3	2.16.1.0.3 (3GB)	2.16.1.0.33079	2.16.1.0.3	2.16.1.0.3.00128918				GUI.zip, Web Services and DB
2016.1	.0.4	2.16.1.0.4 (3GB)	2.16.1.0.33079	2.16.1.0.4	2.16.1.0.3.00128918				GUI.zip, Web Services
2016.2	-	2.16.2.0 (3GB)	2.16.2.0	2.16.2.0	2.16.2.0.00172540				Full Version Release - GUI.zip, Web Service, DB, Management Reports, Questionnaire and Citrix Bridge
2016.2	1	2.16.2.1 (3GB)	2.16.2.0	2.16.2.0	2.16.2.0.00172540				GUI.zip and Citrix Bridge
2016.2	2	2.16.2.2 (3GB)	2.16.2.0	2.16.2.0	2.16.2.2.00243102				GUI.zip, DB and Citrix Bridge
2016.3	-	2.16.3.0 (3GB)	2.16.3.0	2.16.3.0	2.16.3.0.00257101	2.16.3.0			Full Version Release
2016.3	1	2.16.3.1	2.16.3.0	2.16.3.1	2.16.3.1.00298834	2.16.3.0			GUI.zip, Web Service and DB
2016.3	2	2.16.3.2	2.16.3.0	2.16.3.2	2.16.3.1.00298834	2.16.3.0			GUI.zip and Web Service
2016.4	-	2.16.4.0	2.16.4.0	2.16.4.0	2.16.4.0.00301943	2.16.4.0	1.16.4.0.310284		Full Version Release
2016.4	1	2.16.4.1	2.16.4.0	2.16.4.1	2.16.4.0.00301943	2.16.4.0	1.16.4.0.310284		GUI and Web Service updates
2016.4	2	2.16.4.2 (3GB)	2.16.4.0	2.16.4.1	2.16.4.0.00301943	2.16.4.0	1.16.4.2.460241		GUI and Patient Portal updates
2016.4	3	2.16.4.3 (3GB)	2.16.4.0	2.16.4.3	2.16.4.3.00483474	2.16.4.0	1.16.4.3.489120		GUI and Patient Portal updates
2016.4	4	2.16.4.4 (3GB)	2.16.4.0	2.16.4.3	2.16.4.3.00483474	2.16.4.0	1.16.4.3.489120		GUI
2016.4	5	2.16.4.5 (3GB)	2.16.4.0	2.16.4.3	2.16.4.3.00483474	2.16.4.0			GUI
2016.4	6	2.16.4.6 (3GB)	2.16.4.0	2.16.4.3	2.16.4.3.00483474	2.16.4.0			GUI
2016.5	-	2.16.5.0 (3GB)	2.16.5.0	2.16.5.0	2.16.5.0.00349303	2.16.5.0	1.16.5.0.362009		Full Version Release
2016.6	-	2.16.6.0 (3GB)	2.16.6.0	2.16.6.0	2.16.6.0.00411295	2.16.6.0	1.16.6.0.432471		Full Version Release
2016.6	1	2.16.6.1 (3GB)	2.16.6.0	2.16.6.0	2.16.6.0.00411295	2.16.6.0	1.16.6.1.468583		GUI and Patient Portal updated
2016.7	-	2.16.7.0 (3GB)	2.16.7.0	2.16.7.0	2.16.7.0.00490835	2.16.7.0	1.16.7.0.493031	2.16.7.0.493008	Full version release
2016.7	1	2.16.7.1 (3GB)	2.16.7.0	2.16.7.1	2.16.7.0.00490835	2.16.7.0	1.16.7.0.493031	2.16.7.0.493008	GUI and Web Service updates
2016.7	2	2.16.7.2 (3GB)	2.16.7.0	2.16.7.2	2.16.7.0.00490835	2.16.7.0	1.16.7.0.493031	2.16.7.0.493008	GUI and Web Service updates
2016.7	3	2.16.7.3 (3GB)	2.16.7.0	2.16.7.3	2.16.7.0.00490835	2.16.7.0	1.16.7.0.493031	2.16.7.0.493008	GUI and Web Service updates
2016.7	4	2.16.7.4 (3GB)	2.16.7.0	2.16.7.3	2.16.7.0.00490835	2.16.7.0	1.16.7.0.493031	2.16.7.0.493008	GUI
2016.7	5	2.16.7.5 (3GB)	2.16.7.0	2.16.7.3	2.16.7.0.00490835	2.16.7.0	1.16.7.0.493031	2.16.7.0.493008	GUI
2017.1	-	2.17.1.0 (3GB)	2.17.1.0	2.17.1.0	2.17.1.0.00559886	2.17.1.0	2.17.1.0.572290	2.17.1.0.00000	Full Version Release
2017.1	1	2.17.1.1 (3GB)	2.17.1.0	2.17.1.1	2.17.1.1.00589952	2.17.1.0	2.17.1.0.572290	2.17.1.0.00000	GUI, Web Service and DB updates
2017.1	2	2.17.1.2 (3GB)	2.17.1.0	2.17.1.2	2.17.1.2.00621962	2.17.1.0	2.17.1.0.572290	2.17.1.0.00000	GUI, Web Service and DB updates

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## INSTALLING

### CLIENT/GUI

Copy and replace the current rRIS...zip file with the eRAD\_rRIS\_2017.1.2.zip file provided with this release.

Be sure to make a backup of the ris.exe.config file contained within the current .zip folder.

### WEB SERVICE

This updated is only required for the Wedge Web Services. The Core RIS Service and Document Distribution Service are not required to be updated.

1. The web service upgrade consists of replacing the files in the RIS Web Service directory with the files supplied in the rRISService folder with this build. Always create a backup of the files being replaced. This upgrade includes 128 files in the rRISService folder and 7 sub folders. Of those folders, 1 is a folder titled **"XSL"** that contains a sub folder and files within the subfolder. Another folder is titled **"deploy"** that contains the new .config files that will be deployed with the user of the file called "ServicesConfigWizard.exe" (see instructions below). Folders ar (Arabic), he (Hebrew), pt\_BR (Brazilian Portuguese) and es-AR (Argentina Spanish) are localization folders. The WedgePlugins folder contains various plugin files for RADAR, MIRTH, Ensemble, etc...

### **Services Configuration Wizard**

With the release of 42 to decrease the chance of losing configuration setting and missing new configuration options, we will no longer include the configuration files in the release in the main set of files, but they will now exist in a "deploy" folder, which will contain the three site configurable config files; applicationsettings, connectionstrings, and services as well as a copy of the rRISServices.exe configuration file. The contents of this folder should not be required to be touched.

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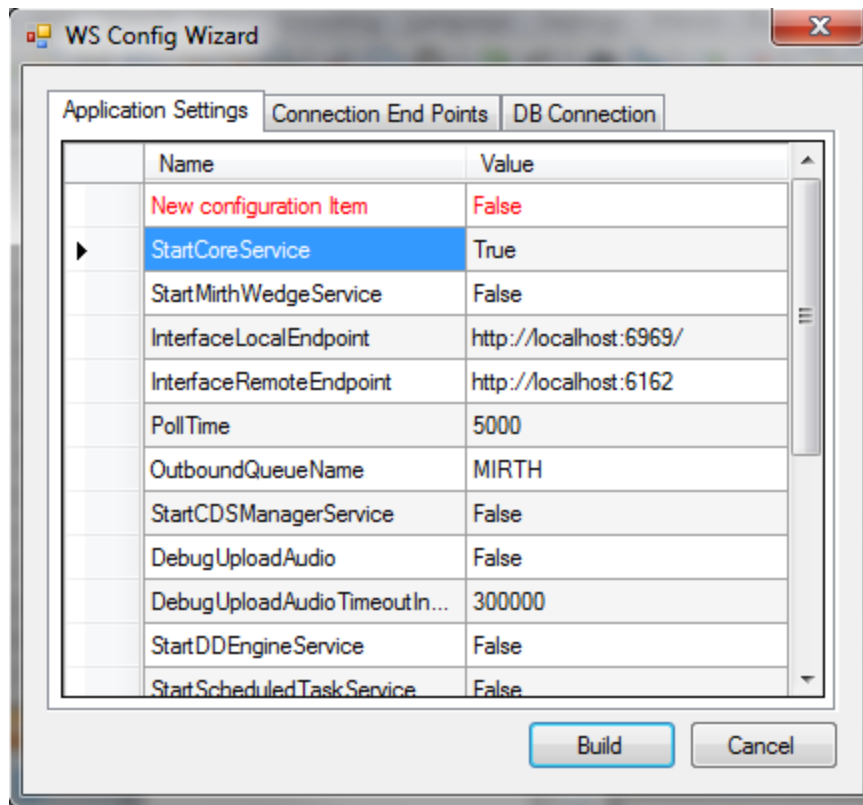
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On the install of a new service, all files will be copied to the appropriate locations on the server (no configurations will be over written). If instructed or to confirm no new configurations have been added the user can run the new application "ServicesConfigWizard.exe"

This application will read the existing configuration file(s) (if files exist), and compare to the provided new configuration files then will display three tabs, for each configuration file:

**Application Settings:** all existing configuration value will be displayed, if there are any new configuration entries they will be displayed in red.



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**Connection End Points:** will display the existing configuration, if the value is left blank then that entry will not be created, in the case of “Study Service” or “CDS Service” if both http and net.tcp were not provided then that endpoint will not be created at all.

WS Config Wizard

Application Settings | **Connection End Points** | DB Connection

Study Service

http:// localhost:8040 /rRIS/

net.tcp:// localhost:8041 /rRIS/

Notify Service

net.tcp:// localhost:7095 /rRIS/

CDS Service

http:// localhost:7092 /rRIS/

net.tcp:// localhost:7093 /rRIS/

Build Cancel

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## DATABASE UPDATES

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.

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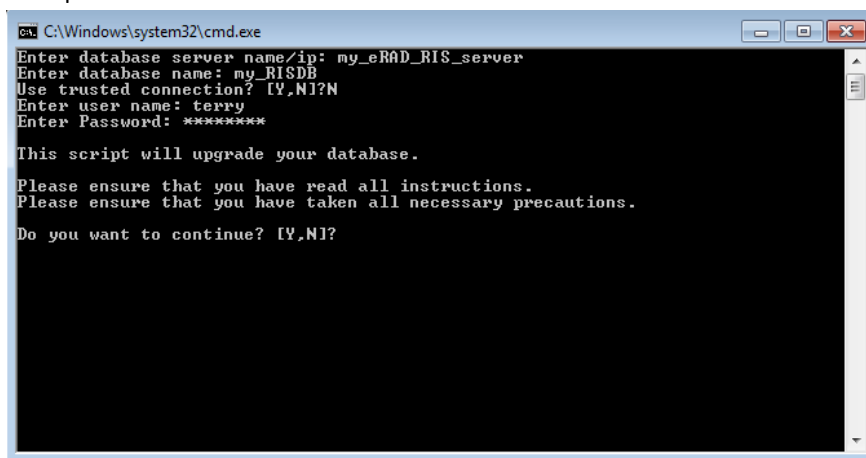
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*Note: There is a new upgrade process introduced with B43.1 called "RunUpgrade.bat". The batch file will open a command window. This process will prompt you for the database server name, database name and authentication credentials. There is no need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

- 1) From the upgrade folder, double click the "RunUpgrade.bat" command file.
- 2) Enter the server name, database name and authentication credentials to the database. You have 2 choices for authentication credentials.
- 3) 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.
- 4) 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]?
```

- 5) 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