



eRAD RIS

RELEASE ANNOUNCEMENT

Build 4.2024.123

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PUBLICATION HISTORY

Revision	Author	Description
December 19, 2024	Kevin Brooks, Michelle Mahabir / Hilary Saltmarsh	<ul style="list-style-type: none"> ▪ Commercial release.

SUMMARY

Release Announcement

This release of *eRAD RIS 4.2024.123* introduces support for *eRAD PACS v9* image retrieval and preparation and merges the content of *eRAD RIS 4.2024.107.2* (providing an upgrade path for users of that version).

New Features

This release introduces the following features and enhancements:

Category	Redmine #	Subject	Description
PACS	33222 33809	Support PACS v9 Server-Side Image Preparation	This enhancement to PACS implements support for monitoring and retrieving server-side images from eRAD PACS v9, displaying the readiness status for studies and relevant priors.
PACS	33611	Unique ID to distinguish PACS v9 viewer from existing viewers	This enhancement to PACS introduces unique windows control ID for the eRAD PACS v9 Viewer to assist in distinguishing it from the previous eRAD PACS v8 Viewer.
PACS	33808	PACS v9 Web Service Emulator	This enhancement to PACS introduces a Web Service Emulator which mimics the PACS v9 Web Service to assist in executing the query and prepare study operations.

SORTED BY CATEGORY AND REDMINE

Refer to the [FEATURE DETAILS](#) section below for configuration and usage information.

Resolved Issues

This release resolves the following issues:

Category	Redmine #	Subject
PACS	35788	Updates PACS configuration option retrieval to support the new PACS V9 server configuration.

SORTED BY CATEGORY AND REDMINE

FEATURE DETAILS

PACS

Feature #33222, Service-Only Feature #33809 – Support PACS V9 Server-Side Image Preparation

Summary

This enhancement to PACS implements support for monitoring and retrieving sever-side images from **ERAD PACS v9**, displaying the readiness status for studies and relevant priors.

Background

ERAD PACS v9 does not cache to the workstation in the same manner as **ERAD PACS v7 AND ERAD PACS v8**. With **ERAD PACS v9**, all image preparation is done on the server, and images are loaded directly from there.

Previously, when a user accessed the **Pending Dictation** worklist, RIS would begin requesting studies and their relevant priors to be cached locally, and display the progress as percentage cached on the worklist. This sometimes caused delays while the user waited for caching to complete for desired images.

Feature Description

With this change, **ERAD PACS v9** will prepare images on the server, and load images directly from there.

This process of preparing the images, referred to as "cooking", can take some time. While underway, RIS display **Study Cache Progress** and **Priors Cache Progress** on the **Pending Dictation** worklist as percent complete, calculated based on the readiness (cooked) status of the primary and prior studies.

If a study is not yet cooked, then attempting to open it will result in the user waiting until that preparation is complete.

Additionally, with this caching functionality, RIS no longer requires manual caching (adding or removing).

Known Limitations

The following significant limitations have been identified and should be communicated to affected users:

- **FEATURE #36243 – PACS v9 CACHING OPTIMIZATIONS (FROM FEATURE #33222)**
 - **Issue:** Excessive queries occur when enabling the current implementation of **ERAD PACS v9** caching.
 - **Impact:** Degraded performance may occur due to excessive queries by caching feature.
 - **Workaround:** Do not enable the caching feature (**#33222**) in production environments until resolution of this planned functionality.



Carefully review all Known Limitations identified here and in the release notes of all other versions being applied and communicate relevant items to all those affected.

Configuration Instructions

System Administrators must complete the following actions to enable this feature:

RIS Client

Changes to PACSServer Lookup Table Settings

There is a new entry to be configured to identify a PACS server as v9:

```

<config>
<UseCurrentAccessions>True</UseCurrentAccessions>
<UseOtherRelevantPriors>True</UseOtherRelevantPriors>
<UseWMICacheManager>True</UseWMICacheManager>
<UseWMICacheInfo>True</UseWMICacheInfo>
<UseCitrixWMICacheManager>False</UseCitrixWMICacheManager>
<UseStudyOpenInfo>True</UseStudyOpenInfo>
<UseExtendedGetState>False</UseExtendedGetState>
<UseModify>False</UseModify>
<ExpireTimeInSecs>60</ExpireTimeInSecs>
<LaunchV8>True</LaunchV8>
<eRAD_V9>True</eRAD_V9>
<EnableWebAuthentication>False</EnableWebAuthentication>
<EnableQuickView>True</EnableQuickView>
<EnableWebView>True</EnableWebView>
</config>

```

Feature #33611 – Unique ID to distinguish PACS V9 viewer from existing viewers

Summary

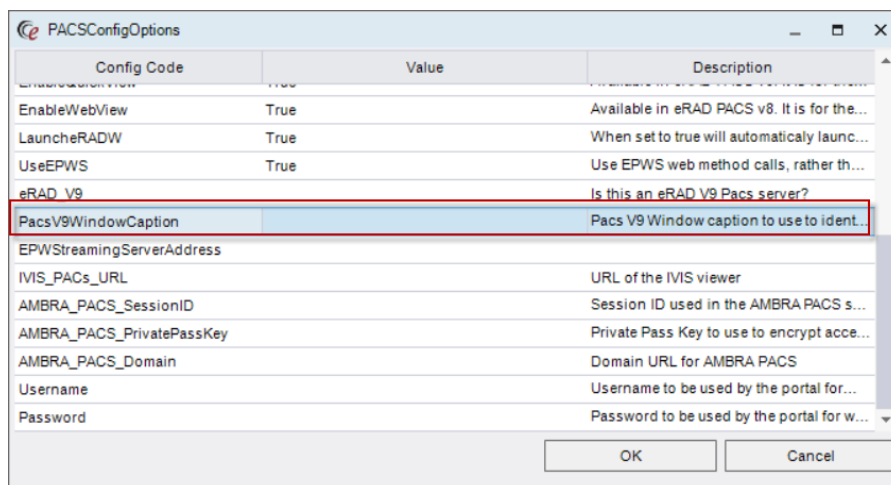
This enhancement to PACS introduces a unique windows control ID for the **eRAD PACS v9 VIEWER** to assist in distinguishing it from the previous **eRAD PACS v8 VIEWER**.

Background

Previously, the **eRAD PACS v9 VIEWER** recognized the unique windows control ID for the **eRAD PACS v8 VIEWER**, however each must have a unique identifier as it is expected that both viewers will diverge in future development.

Feature Description

A new `PACSv9WindowCaption` property has been added to the `PACSConfigOptions` in the `PACSServer` lookup to assist in identifying the v9 client application. Note that if this property is not set, the PACS v9 client will use the hardcoded strings that currently exist for the PACS v7 and v8 viewers.



Configuration Instructions

System Administrators must complete the following actions to enable this feature:

Configure `PacsV9WindowCaption` with a unique ID for your installation.

RIS Client

Changes to PACSServer Lookup Table

- The naming of two existing properties have been updated to be more inclusive of multiple viewers.
 - eRAD_V8 updated to `UseEPWS`
 - LaunchV8 updated to `LauncheRADW`

Service-Only Feature #33808 – PACS v9 Web Service Emulator

Summary

This enhancement to PACS introduces a Web Service Emulator which mimics the PACS v9 Web Service to assist in executing the query and prepare study operations.

Background

Previously, developing and testing PACS functionality required matching studies up in two systems by changing MRN and Accession numbers in the RIS database to match an exam in PACS. This was cumbersome when trying to validate patients with multiple studies, or an entire worklist for different patients.

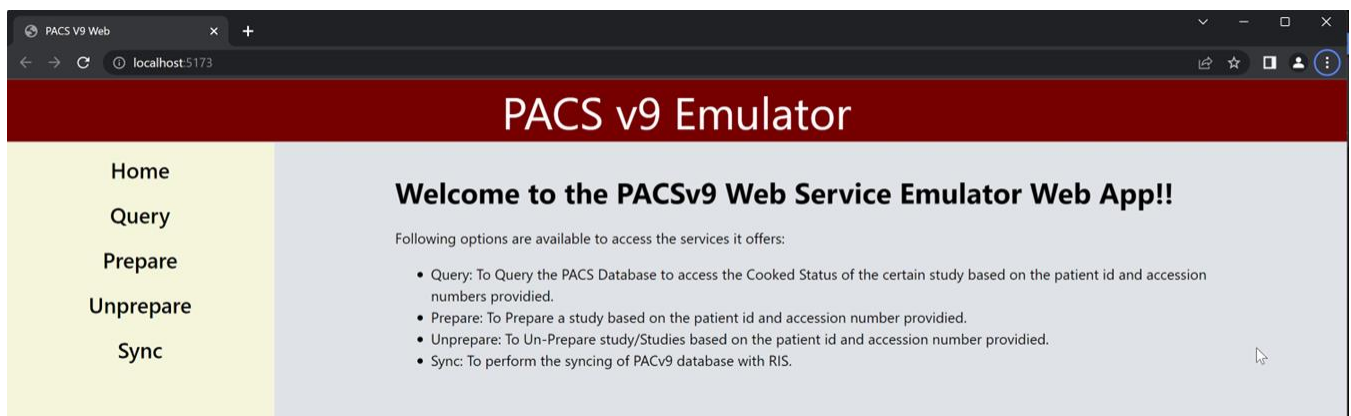
Feature Description

With this change, a new PACS Emulator has been created to populate and synchronize existing RIS data when launched.

APIServiceInterface has the service metadata for the web service. APIService class implements the APIServiceInterface with Query and PrepareStudy methods implemented to process request on the local database.

PACsv9 Emulator UI – Web app which allows to perform following actions:

- 1) Query – Allows querying PACS for the cooked status of the studies based on the input provided.
- 2) Prepare – Prepares a study (i.e. change prepared status to ‘20’) based on the input.
- 3) Sync Database – Syncs the database with the RIS Database studies, by adding/removing/updating the studies.
- 4) Unprepare Studies– Unprepares studies by changing prepare status to `10`. It allows unpreparing for all, by Patient ID or by both Patient ID and Accession number.



PACsv9 WEB SERVICE UI

The screenshot displays the 'eRAD PACS Standby' interface. On the left is a large empty box labeled 'PACSv9 WEB SERVICE EMULATOR MOCK VIEWER'. To its right is a 'Log' section with a 'Reset viewer' button. Below the log is a 'Response Settings' table and a 'Log Options' panel with 'Clear Log' and 'Save Log' buttons. The 'Response Settings' table has columns for Method, Response, Delay, and Failure Reason. Below the table are dropdowns for 'Response Status' (set to Success) and 'Respond With (For Append/Modify)', along with a 'Delay' input (set to 0) and a 'Clear Table' button. A 'Loaded!' notification box is visible on the right side of the interface.

Method	Response	Delay	Failure Reason
Login	Success	0	
Logout	Success	0	
ShowStudy	Success	0	
CloseSession	Success	0	
AppendImages	Success	0	
Modify	Success	0	

Configuration Instructions

Service Team assistance is required to enable this feature.

To configure PACSv9 Emulator in eRAD RIS:

Pacs_server_code: V9EMU

Description: PACSv9 Emulator

protocol : http

url: "Ip address of the emulator API"

port: "Port number of the emulator API"

active_flag: 'Y'

caching_enabled_flag: 'Y'

pacs_server_type_code: ERAD

config_options:

<config>

<UseCurrentAccessions>True</UseCurrentAccessions>

<UseOtherRelevantPriors>True</UseOtherRelevantPriors>

<UseWMICacheManager>True</UseWMICacheManager>

<UseWMICacheInfo>True</UseWMICacheInfo>

<UseCitrixWMICacheManager>False</UseCitrixWMICacheManager>

<UseStudyOpenInfo>True</UseStudyOpenInfo>

<UseExtendedGetState>False</UseExtendedGetState>

<UseModify>False</UseModify>

<ExpireTimeInSecs>60</ExpireTimeInSecs>

<LaunchV8>True</LaunchV8>

<eRAD_V9>True</eRAD_V9>

```
<EnableWebAuthentication>False</EnableWebAuthentication>
<EnableQuickView>True</EnableQuickView>
<EnableWebView>True</EnableWebView>
</config>
```

To set up API:

PACsv9Emulator will be used for testing Feature #33222 - PACsv9 Caching Replacement and will be made available as a tool. However, it needs to be running separately before configuring RIS to use it.

A new PACS server will need to be added to have the RIS client talk to the Emulator instead of the actual PACsv9 Service.

In PACsv9Emulator API project, update the following:

- 1) **Appsettings.json** –
 - a. “MyConnection” string to reflect the server’s name in Data Source and keep the name of Database as PACsv9Server_DB
 - b. “RisDbName” string to your RIS database name.
 - c. “url” – url to be used for hosting API. eg : "URL": "http://localhost:7500"
- 2) **App.config** – update ip address and port number of the endpoint address to be the same as in API. Eg: <endpoint address="http://localhost:7500/epws/API">

In eRADMockViewer tool - update connection string in app.config to reflect the correct server’s name and keep database name as PACsv9Server_DB. Now run the eRADMockViewer before logging into RIS.

To run Web UI:

- Need the following installed on system to run UI : npm and node.js
- Update api url in /public/config.js file. eg : "URL": "http://localhost:7500"
- Run Bat file at ..\source\Experiments\PACsv9Emulator\PACsv9 Emulator UI\RunWebApp.bat
And open the link mentioned in terminal to access the app.

To run eRADPACSMockViewer:

Update connection string in pbuilder.exe.config to reflect the correct server name and keep database name as PACsv9Server_DB. Now run the pbuilder.exe to run mock viewer before logging into RIS.

VERSION DETAILS

Code Stream

The following source code branches have been merged into this release:

