

## V9.4.1 Release Notes

- **General**
  - Added a warning when a user attempts to delete images associated with an HL7 order.
  - Fixed a bug which caused several pages not to load if certain types of series were not present in a scan.
  
- **Home page**
  - Moved study functions for sharing and updating demographics to study options.
  - Made procedure options like Delete and History available even when no images are present.
  
- **Home page - Bug Fixes**
  - Fixed various bugs which caused updates to existing scans or patients to not populate on the home page.
  - Fixed a bug which caused patient searching to return incorrect results when searching with 'My Reports' enabled.
  
- **Interfaces to Third Party Systems**
  - Added ability to automatically populate fields for Attending and Referring Physicians based on HL7 orders.
  - Prevent report finalization if HL7 results are enabled but no HL7 order is attached.
  - Added support for Accepted and Status Changed codes to orders for specific sites.
  
- **Interfaces to Third Party Systems - Bug Fixes**
  - Fixed a bug which caused service for sending HL7 messages to not start properly.
  - Fixed a bug which caused a report's patient account number to fail to auto-populate based on HL7 orders.
  - Fixed a bug which prevented listening for incoming images when no DICOM nodes were explicitly defined.
  
- **Reporting Systems - Searching**
  - Starting a search will no longer select the Summary field by default.
  
- **Reporting Systems - General**
  - Updated custom elements, layouts and aesthetics for specific customers.
  - Updated signature line on final reports for clarity.

- **Reporting Systems - General - Bug Fixes**
  - Corrected misspelling of Atrial Arrhythmia.
  - Fixed a bug which caused an error opening a report which had a billing code selected that had since been removed from the reporting system.
  
- **Reporting Systems - CMR**
  - Display Volumetric Analysis numbers as integers, while still utilizing floating point numbers for calculations.
  - Added optional new condensed layout and functionality, with option to switch between the new and original layouts and have user choice preserved across reports.
  - Added Concentric Remodeling to the LVH pattern section.
  - Added Z-score section to CMR reports.
  - Added reference links for Volumetric Analysis section.
  - Added Regurgitant Volume and Regurgitant Fraction to each valve.
  
- **Scan Viewing**
  - Added a third filter to allow only secondary capture (Results) images to be displayed.
  
- **Scan Arrangement**
  - Added the ability to select multiple images which have already been arranged for removal.
  
- **Scan Arrangement - Bug Fixes**
  - Fixed a bug which caused automatic arrangement to fail for certain types of scans.
  - Fixed a bug which caused automatically arranged images to be immovable.
  
- **Scan Download**
  - Shortened folder names to allow download of series with numbers longer than 5 digits.
  - Added support for various older video playback programs when downloading MP4 files.
  
- **CMR Workstation Capabilities**
  - Tools used for workstation measurements are now under a mod\_perl environment, resulting in increased performance.
  - Added experimental automatic ejection fraction calculation to the Volume tool for beta systems only.
  - Began utilization of machine learning algorithms to distinguish between different types of series.

- o Improved logic for avoiding multiple series with the same slice offset when using auto-drop in the Volume tool.
- o Added auto-propagation of point collection measurements to the Velocity Encoding tool.
- o Added support for certain types of Philips images in the Velocity Encoding tool.
- o Improved initial settings and usability of Volume Rendering in the 3D tool.
- o Removed support for switching between scanner and image axis alignment in the 3D tool.
  
- **CMR Workstation Capabilities - Bug Fixes**
  - o Fixed a bug which caused the marker for ED/ES to fail to update correctly when navigating series in the Volume tool.
  - o Fixed a bug which caused localizer lines to fail to update when number of frames does not match.
  - o Fixed various bugs which caused errors in loading the volume page for certain types of scans.
  - o Fixed a bug which caused the paint and erase tools in Volume to fail to update the calculations.
  - o Fixed a bug which caused necessary values used for the Velocity Encoding tool to be missing for specific types of scans.
  
- **Image Conversion**
  - o Added a button to prioritize a queued study for conversion.
  - o Added support to congregate images into specific series for certain types of viability scans.
  - o Fixed an image aspect ratio issue with MR Brucker images.
  
- **CloudCMR**
  - o Updated CloudCMR's reporting system to utilize the condensed view by default.
  - o Added ability for educational users to sign up via the CloudCMR home page.
  
- **Security**
  - o Added session checking to prevent possible impersonation using browser cookies.
  
- **Other Enhancements and Bug Fixes**
  - o Fixed a bug which caused errors building resources necessary for displaying the user interface.
  - o Improved system performance and resolved various issues with server-side code improvements.
  - o Replaced and improved various older functions of long-running server code.
  - o Improved logic used in locking server resources for editing.

- o Improved auditing of edits to user entries.
- o Improved image backup process to remove any files that were deleted from the source.
- o Improved system installation and upgrade process, with various new automatic system functions and better logic for copying necessary files.
- o Improved logic for determining the last time a changed report was indexed.
- o Added an internal utility for issuing commands on remote systems.
- o Added improved error handling to various functions.
- o Collected and renamed various files to improve clarity and ease of installation.
- o Added new internal utility for cleaning up older, deleted accounts.
- o Added functions to support future implementation for DICOM modality worklists.
- o Removed references to older, unused files.