White Paper
Single-Platform RIS/PACS: The Key to Effective Radiology Workflow Management
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At the core of any network is the server, modalities, routers and user workstations with applications and cables that connect it all. However, the users are a big part of the network and their efficiency is dependent on how easy the applications can be implemented, installed and adapted in the Radiology world. A truly productive system is one that is virtually invisible to the user. It is a tool that allows the user to do their job easier and faster without introducing overhead. This level of comfort simply cannot be achieved without a strong single interface and single database backend.

Many radiology workflow networks are made from a combination of integrated systems, such as RIS, PACS, transcription packages, reporting, email services and sometimes EMR. Quite often many of the pieces are obsolete and are not designed to handle radiology workflow. This can cause a number of complications for the individual users and the facility as a whole. For the individual users, the learning curve is set high because multiple systems must be mastered to do daily tasks, not to mention the difficulties management faces when hiring an individual who may not be skilled in the organization’s software. There may be no easy way to pair patient data from these separate systems causing data redundancy. This may require the scheduler to schedule the patient in one system, the technologist to re-enter patient demographics in the modality and the biller to work off of a superbill. If you’re using one system for scheduling and another for preparing management reports, you may be losing valuable data you can analyze to help improve processes and increase revenue. Furthermore, the facility may need to purchase user licenses from multiple vendors resulting in ever-increasing annual operating costs. While these examples are limited, the cause and effect of this scenario is this: needing to utilize multiple systems on separate platforms means a greater learning curve for the individual users and reduced productivity, dissatisfaction and frustration for the radiology practice.

Strategic planning before purchasing a RIS/PACS solution is important as you will be entering into a long-term engagement with your vendor.

This white paper will explore the value of utilizing a RIS/PACS built on a single platform and introduce you to the PowerServer RIS/PACS developed by RamSoft, Inc.
Integrated versus Single-Platform RIS/PACS Solutions

An important question to ask when evaluating any RIS/PACS vendor is whether their software has been developed in-house compared to how many pieces have been acquired from other vendors in order to make it function as a RIS/PACS. The programs may have been modified so the systems work together, but in reality, they were never designed that way. With legacy technology, there is always the potential for more problems. You may find yourself working with your vendor to resolve issues instead of focusing on what you do best: providing service to your patients.

A system built on a single-platform from its inception (Fig. 1) ensures the modules were designed to work together resulting in fewer technical issues and more efficient workflow. There is no patchwork in place holding separate products together hoping they will play nice. Single-platform RIS/PACS products provide many advantages such as easier installation and updating and a single-user interface – the most important aspect of a single-platform solution. All users work with the same screens and features, eliminating the need for learning multiple applications and having to verify data between them.

A single RIS/PACS system reduces manual, paper and duplicate processes that otherwise cause inefficiencies and errors. Entering patient data once eliminates the potential for errors because the records are central to a single database. With a separate RIS system (with no HL7 interface), the technologist has to enter the data manually into the modality console as well as the PACS. If an HL7 interface does exist, there is a possibility of the HL7 service going down and someone having to monitor it constantly. A single platform RIS/PACS system automates and integrates many different workflow areas otherwise handled by separate processes and systems.

Figure 1: A RIS/PACS sharing a single database creates a more unified workflow.
The PowerServer product line is a fully web based family of radiology workflow solutions. Therefore, any PC with an internet connection is able to reach the program’s server to become a workstation. To access the system, the user simply logs into a secure internet site which launches the program. SSL encryption, the same security method used for online banking and credit card transactions, ensures all information exchanged with the server is protected.

In order to take full advantage of the independence provided by web-based architecture, PowerServer stores all information in a centralized database. This allows the user to login from any location and always be presented with the same familiar layout, settings, and functionality.

Another aspect of the architecture that sets the PowerServer user experience apart is the image pre-caching mechanism. As long as a user’s computer is on and connected to the internet, PowerServer can pre-cache images to that workstation. These images are temporarily stored on the workstation eliminating the need for the user to wait for the images to download or stream in. This fully eliminates the delays of a typical internet workstation allowing the user to work at LAN speeds from anywhere.

The user experience is further enhanced by the fact that QC and diagnostic modules such as document scanning, CD burning and import, film digitizing, JPG to DICOM conversion, full mammography viewing support, dictation and transcription are all available at the user’s fingertips eliminating the need for installing and managing numerous specialty applications. A tight integration with Dragon Naturally Speaking also provides full voice recognition capabilities.

Behind the scenes, the PowerServer DICOM engine takes full advantage of features such as MPPS, Storage Commitment and TLS, which are defined within the DICOM standards to improve overall efficiency. These features are used to simplify workflow by preventing studies from appearing on the user worklist before they are fully ready. Storage Commitment ensures that studies reach their destination with confidence, while TLS ensures secure communication across the internet and can eliminate the need to set up multiple VPN tunnels.

The DICOM routing and prior pre-fetching modules ensure that studies are delivered to the appropriate location at the desired time and that all relevant priors are present. This mechanism allows the automation of study distribution to the appropriate users across a full enterprise based on daily and weekly schedules as well as specialties. It also ensures that priors are pre-fetched from all DICOM archives, not just those managed by PowerServer.

“Before PowerServer, we had an office-hours-like RIS system and, instead of a PACS, we had simple software. The problem was that the RIS had no communication with the modality. The IT person estimated it would be a very expensive process to create a working interface. Afterwards, with PowerServer in place, everything was simple, all in one perfect system, while still being affordable for a small business. I am very happy with PowerServer!”

Alina Fraguela, Administrator
Miami Diagnostic and Intervention Center, Miami, FL
PowerServer RIS/PACS: A single-platform solution for effective workflow management

PowerServer RIS/PACS has all the features typically found in both a PACS and RIS in one single smart client application; running on a single server and database (Fig. 2). PowerServer RIS/PACS is not an integrated system because the two products were never separate. It is a true single-product solution built from the ground up by the RamSoft team. It is a completely web-based solution that is licensed under a very competitive unlimited user and workstation model.

It is important that a RIS/PACS system allow users to set up their own workflow. PowerServer RIS/PACS is unique because it allows a facility to tailor the workflow for the individual user, group of users or the practice as a whole for an unseen level of flexibility. It is very easy to add features such as a worklist for patients in the waiting room or next week’s exam schedule. The user does not need to adapt to the way things need to be done in the system, the system adapts to the needs of the user.

A RIS/PACS system should allow your billing operations to be more efficient by minimizing data entry and coding. This helps your practice focus on A/R, Insurance contracts and collections. PowerServer RIS/PACS gives you the flexibility and efficiency that is required to meet these goals.

PowerServer RIS/PACS can replace numerous software applications such as an archive, viewer, worklist, scheduler, EMR, document manager, voice recognition/dictation and transcription in order to reduce costs and simplify workflow. For those facilities without a RIS, PowerServer can replace their charting/files. For those users who have never had a RIS or PACS system and wish to go paperless, PowerServer RIS/PACS is their all in one solution. Facilities with a PACS that either have no RIS or plan to buy a RIS later, should be forewarned that those two systems may not integrate well with each other.

In addition, the HL7 engine is flexible enough to work with any EMR or Billing system that the user prefers to provide a complete solution compliant with the latest CCHT standards.

Figure 2: Key Features of PowerServer RIS/PACS
The goal of RIS/PACS technology is to facilitate the radiologist’s ability to perform a diagnosis and use this information to provide appropriate patient care. Regardless of the type or size of the radiology practice this goal remains the same: get the results into the hands of the referring physician so the patient may be treated as quickly and efficiently as possible.

PowerServer RIS/PACS provides a number of methods for returning reports to the referring physician such as auto-faxing or emailing or even online via the Referring Physician Portal. The Referring Physician Portal is a platform-independent website referrers utilize to access their reports and images, whether their preferred viewing tool is a PC, MAC or PDA. Coupled with email notification that a report is ready to view, referring doctors are always kept in the loop and have instant access to their patient’s records.

Referring physicians may also easily request exams online, thus making the scheduling process much simpler for the patient. This cutting edge application provides unseen levels of interactivity while maintaining the ease of use, security and HIPAA compliance users have come to expect from RamSoft. Whether users are on the go or working from the office, their data is always a click away.
Selecting a RIS/PACS product is about more than opting for the product with the best features or price. It is also about developing a relationship with the vendor. The right vendor is the one that cares about your business and guides you towards a system that will meet the needs of your practice now and in the future.

They understand your day-to-day challenges and work with you to resolve problems. They are concerned about your continued profitability and success and strive to deliver products that allow you to improve patient care. They work with you to ensure a stress-free implementation and provide training for all your team members. The job is not done when the implementation is complete. A true partnership with a vendor lasts well beyond that.

RamSoft takes a partnership very seriously. Our goal is to ensure you are as satisfied with our product a few years down the road as you were on the first day you used it. We gather and learn from the experiences of our entire user-base and are up-to-date on the latest technology advancements and industry standards. We utilize this information to continually improve our products for new customers and provide updates that are valuable for current end-users.

RamSoft also provides redundant server software at no cost to ensure your practice is always secure. Additionally, the core team in place in 1998 is still with the company today – a major achievement in an industry where people and products often come and go.

Our goal is to provide you with a flexible solution that meets your operating and budgetary criteria. Our pricing models are based on annual study volume as opposed to per-user license or pay-per-exam models to take the complexity out of the negotiation.

“I am happy to say that RamSoft took it upon themselves to visit Grove Hill for several days, not as part of a contract or negotiation, but because they wanted to learn about us and make sure that our deployment of the PowerServer RIS/PACS was going well and ensure we were not having any problems.

This goes beyond any other vendor we have done business with in the past.”

Carl Labbadia
Grove Hill Medical Center
New Britain, CT
PowerServer RIS/PACS links its benefits to overcoming productivity challenges and the resulting profitability issues by understanding the value of a single-platform RIS/PACS and how it plays a vital role in the radiology department or imaging center. The potential for productivity and profitability improvements from a newly installed PowerServer RIS/PACS is a compelling argument against extending the life of a legacy RIS system or “waiting to see” what happens with the current environment.

PowerServer RIS/PACS implementation benefits are significant. It replaces numerous software applications such as: archive, viewer, worklist, separate scheduler, EMR, document manager, voice recognition, dictation and transcription. Because PowerServer RIS/PACS utilizes a unified user interface, training time is reduced which saves time and saves money while improving productivity. The system is easier to use, and on the backend, much easier for IT to support because it is one program. Simply put, PowerServer RIS/PACS is a single application that does everything necessary to run an imaging center.

The advantage of improving workflow and efficiency leads to increased referring physician satisfaction, referrals and more profitability. In most cases, a RIS/PACS implementation coupled with delivering the best patient care possible will boost the competitive advantage an imaging facility has in its local market.
A Healthcare Leader

Founded in 1994, RamSoft, Inc. is a leading healthcare software and services company dedicated to developing and delivering cost-effective, high-quality RIS, PACS and Teleradiology solutions for our clients around the world. The complete lines of PowerServer and Gateway products offer radiology workflow solutions that meet the demanding needs of fast-paced radiology facilities of all sizes by streamlining workflow, improving patient care and providing referring physicians with real-time access to patient images and reports. Our solutions are designed for trouble-free installation and ease-of-use so your practice is up and running in the shortest time possible. Since each of our PowerServer products are interconnected in features and capabilities, as your company grows, our solutions will grow with you.