CASE STUDY

Radiology Associates of Richmond Maximizes its PACS Investment and Positions Itself for Growth with VPLS

INTRODUCTION

Radiology Associates of Richmond, Inc. (RAR) has served the Mid-Atlantic region for more than a century. The group provides full service interventional radiology and diagnostic evaluations to seven major hospitals and several physician practices in the region. As a multi-hospital radiology group, RAR accesses the most advanced imaging equipment. RAR provides primary patient diagnostic evaluations 24 hours a day. Through its heritage of providing outstanding service, applying technology innovation and maintaining continuous availability and quality medical imaging, its business is thriving.

SITUATION

RAR must comply with HIPAA standards including data encryption of patient records from end-to-end. The right network design and protocols are vital to this assurance. RAR also uses multiple Picture Archiving and Communications Systems (PACS) to house medical images such as x-ray images. PACS brings great value to RAR's service delivery, breaking down the physical and time barriers associated with traditional film-based image retrieval, distribution, and display. These efficiencies enable new intervention techniques as RAR quickly delivers images to individual workstations across its network.

As RAR added new applications including PACS to its network and an offsite back-up location, it found its existing network architecture to be a constraint. The existing point-to-point network created bottlenecks as all traffic had to pass through the hub location and did not allow the level of throughput that RAR needed for new applications. Migrating to Cavalier's VPLS network proved to be the right solution. VPLS provides any-to-any connectivity with greater control over traffic by using queuing and class of service technology, all built into Cavalier's network. These features were very important to RAR as transactions volumes, applications and bandwidth utilization grew.

SELECTION

RAR has maintained their voice and data communication services with Cavalier for more than a decade. The Cavalier account team has partnered and consulted with RAR on many projects. Crediting a positive relationship based on a responsive account team along Cavalier's ability to deliver on promises are pillars to this successful teaming.

The Cavalier account team partnered with RAR to fully understand their business requirements and their strategic goals from one, five, to ten years and beyond. Based on RAR's business values and strategic IT plans, Cavalier recommended that RAR evaluate a VPLS network, a new technology that provides the benefits of MPLS/ IP VPN solutions with a greater degree of enterprise control as it is provided at Layer 2 of the OSI model.

As a Layer 2 Ethernet service, VPLS could provide RAR the same control over IP addressing and routing that they were used to with point-to-point links. They additionally realized the benefits of network-based Quality of Service (QoS) and fully-meshed communications that would enable the network to easily add new locations. VPLS enables the group to prioritize traffic as business needs dictate. VPLS is also favorable in its ability to easily scale up capacity and add new locations.

Radiology Associates of Richmond, Inc.
Richmond, VA

Healthcare

BUSINESS CHALLENGES

- Maximize its PACS investment
- Easily add new sites to its secure network
- Manage communication costs

OUTCOME

- Greater Control – a fully meshed, layer two networking
- Single Provider – a capable, responsive and accountable communications service provider
- Grow – effortlessly add new healthcare applications and partners to the network

THE CAVALIER SOLUTION

"Cavalier has provided reliable service and I felt very comfortable selecting them. Customer service really matters to them and likewise it matters to us and our customers." – Joseph Wyatt, Director of Information Technology and Information Systems

The RAR network has expanded to more than 10 sites. The network has significantly advanced over time, first starting with an ISDN BRI point-to-point network and later upgrading to a T-1 point-to-point network, and now a fully meshed, secure VPLS network.

At the host location, RAR upgraded from 3 mbps to 20 mbps of WAN bandwidth and seven core hospital locations doubled their bandwidth on the VPLS network. The migration from point-to-point to VPLS improved throughput. As medical images cannot be compressed, high bandwidth solutions are critical. Doctors must be able to view full images to make the best diagnosis and make the right recommendation for the most effective care.

RAR's network complements its values of delivering its customers radiology evaluation services reliably, securely and efficiently.

"Technology cannot fail for us; we and our partners depend on technology to provide services 24X7. Our network cannot go down," said Wyatt.

RESULTS

RAR effectively maximizes its PACS investment; retrieving patient information fast and transmitting the images back to physicians. RAR is conducting records back-up in real time at an offsite location, meeting state and federal guidelines for storage and data protection. Through the PACS, RAR is easily managing medical images and enabling practioners in multiple locations to view the same information simultaneously.

RAR consistently meets the dynamic needs of its clients. Most recently RAR added a doctor led dictation application onto its network as part of its Electronic Medical Records (EMR) strategy.

RAR has established an inter-hospital linkage, which provides primary diagnostic evaluations 24 hours a day. The linkage is also used to facilitate consultation among group members. RAR also provides secure access to external partners including insurers with a direct link to critical information to make informed decisions to ensure the best patient care.

"As we expand our network, partnering with more family practices we are in a solid position to easily add new sites to the network. We have even better management of costs and can easily predict the cost of adding new sites and ensure the integrity of our network," added Wyatt.