

## Arizona Radiology Practice Improves Patient Care and Customer Service

Valley Radiologists use Cisco Medical-Grade Network, Connected Imaging Solution and Unified Communications to provide state-of-the-art imaging and eliminate call waiting times.

EXECUTIVE SUMMARY
<p><b>VALLEY RADIOLOGISTS</b></p> <ul style="list-style-type: none"> <li>• Healthcare</li> <li>• Phoenix, Arizona</li> <li>• 350 on staff plus 45 radiologists</li> </ul> <p><b>BUSINESS CHALLENGE</b></p> <ul style="list-style-type: none"> <li>• Radiologists unable to provide optimal care and consultative services due to aging legacy network</li> <li>• Patient, referring physician, and employee satisfaction compromised due to long wait times in call centers, leading to revenue loss</li> <li>• Unnecessary costs incurred as a result of older system and reliance on film and other obsolete business methods that affected internal and external stakeholder</li> </ul>
<p><b>NETWORK SOLUTION</b></p> <ul style="list-style-type: none"> <li>• Connected Imaging improves patient care/staff efficiency and helps eliminate obsolete technology like film</li> <li>• Data-based staffing and faster communications system eliminate call-center queues, resulting in improved customer satisfaction</li> </ul>
<p><b>BUSINESS RESULTS</b></p> <ul style="list-style-type: none"> <li>• Return on investment in 14 months, lost opportunities now captured</li> <li>• Maintenance expenses reduced US\$5200 per month</li> <li>• Elimination of US\$30,000 in annual service-provider contracts and US\$60,000 in annual communications expense</li> </ul>

### Business Challenge

Valley Radiologists is one of the oldest and largest full-service medical imaging centers in Arizona. It has 10 locations and forty-five radiologists, performs about 250,000 studies annually, and plans to add locations and grow every year. These locations were supported by a single call center. In 2004, its network infrastructure and telephone system were a mismatched amalgamation of several vendor products without consistent support, backup, or easy internal communications. Further, the staff radiologists did not have access to the most-up-to-date imaging technology, which compromised their ability to consult efficiently with referring physicians and sometimes left open the possibility that a referring physician could send cases to other radiology practices, resulting in lost revenue opportunities.

As a result, prospective patients calling into the call center were sometimes dropped, and hold times could extend to beyond ten minutes. More importantly, patient care was sometimes offered at below optimal levels because radiologists did not have the means to easily access images, and often

had to travel to multiple locations to review cases due to the inability to transfer images in a timely manner. Sometimes, for cases with marginal need for review, referring physicians would forgo radiologist review and not gain specialist input that often makes a difference in care.

“Radiologists provide an important service to the medical community,” said Cisco Senior Medical Informatics Director Dr. Danny Sands, M.D. “Radiology practices must, therefore, provide superior customer service to referring physicians and streamline the efficiency of their operations to maintain viability. That is why it is imperative that radiology practices have access to solutions like Connected Imaging, which eliminates reliance on expensive and outdated resources like film, and makes it easier to collaborate with referring physicians and improve both customer service and patient care.”

Valley Radiologists was also saddled with recurring maintenance and service contracts that cost them more than US\$150,000 per year due to the multiple vendors and the patched together nature of the telecommunications and network systems.

“Our specialists are very busy people, and our inability to deliver quality images on demand hurt us, and sometimes affected patient care,” says Dr. Brian Frohna, M.D., Chief Technical Officer for Valley Radiologists.

“Referring physicians and patients have a choice, and some of them chose not to do business with us because of these difficulties,” says Dave Bennett, CIO of Valley Radiologists. “In the past, we had been too sensitive to price and not sensitive enough to system functionality, long-term maintenance, and expansion needs.”

**“The Cisco solution has helped us serve our customers better and provide better care for our patients, and has allowed for a more solid set of business parameters when we measure our performance and consider expansion opportunities. Infrastructure and telecommunications are no longer negative issues for our business.”**

—Dr. Brian Frohna, M.D., Valley Radiologists

Employees also saw benefits. “One consequence of long-wait times for patients is deteriorating morale for our customer service reps,” says Call Center Manager Barb St. Onge. “When patients have long hold times, they sometimes take it out on the reps. The older system did not provide the data that we need to staff the center properly, which exacerbated the problem.”

### Network Solution

Valley Radiologists realized that they needed a clinically based solution built on a solid and reliable infrastructure. For this they chose the Cisco<sup>®</sup> Connected Imaging solution built on its safe and secure Medical-Grade Network. Connected Imaging delivers imaging as a service from the Medical-Grade Network using Cisco Unified Communications and advanced data center technologies.

Cisco Connected Imaging aligned with Philips iSite Picture Archive & Communication System (PACS) on the Valley Radiologists imaging solution. Together, Cisco and Philips helped Valley Radiologists eliminate film and render patient or physician geography a non-issue. This became the path to providing superior patient care while protecting privacy.

The Cisco Connected Imaging solution helps radiologists interpret image study, and collaborate with referring physicians in real-time, facilitating rapid diagnosis and treatment of patients. It accelerated the elimination of the costs and delays associated with traditional film imaging and helped Valley Radiologists reap the full benefits of a digital imaging system. Cisco Connected Imaging integrated with PACS improves productivity, supports collaboration, and reduces costs throughout the imaging workflow.

“Thanks to Connected Imaging and PACS, specialists can now confer regardless of where they are or where the patient is,” Dr. Frohna says. “As a result, our service has improved, and our reputation within the medical community is enhanced.”

“Valley Radiologists wanted to manage costs by improving patient workflow and staff overhead,” says Todd Wingler, the Cisco Account Manager. “For Phase One, Valley built a data center that also housed a contact center with 25 agents to centralize patient scheduling and workflow. For Phase 2, Valley purchased a Cisco Unified Communications and Connected Imaging solution. By connecting the imaging systems at the different sites, radiologists at multiple sites are able to balance their workload and collaborate more effectively. The company’s goal is to deliver image study reports to referring physicians within two hours. The improved image access and transport and collaboration enabled Valley Radiologists to meet this service requirement.

**“We have flexibility, rock-solid reliability at the core, all at a very reasonable price point with a 14-month ROI [return on investment].”**

—Dave Bennett, CIO, Valley Radiologists

“Cisco is a world leader, and Valley Radiologists sees itself as best-in-class for what we do, which made the match for us,” says Bennett. “We cannot afford to take any risks on network infrastructure or telecommunications downtime.”

Cisco worked with its partner, local telecommunications vendor Qwest, on the Valley Radiologists core network as the company invested in a Medical-Grade Network infrastructure upgrade that included new routers and new switches. “This phase helped us move three terabytes of data in May 2007 compared to traffic that measured in the hundreds of megabytes before the upgrade,” Bennett says. “Our efficiency has increased by a factor of 10, and Cisco, Philips, and Qwest were able to deliver an overall solution that has 99.99% uptime.”

The new solution utilizing Cisco Unified Contact Center Express helped improve customer service and led to greater job satisfaction with Valley Radiologists’ staff. “Now that we can staff for need, our efficiency has increased and our morale has improved,” says St. Onge. “Hold times have dropped from as much as seven minutes to nearly zero. Our patients can make appointments instantly, and referring physician offices can recommend us with confidence.”

### PRODUCT LIST

#### CISCO CONNECTED IMAGING

##### Routing and Switching

- Cisco 3800 Series Integrated Services Router
- Cisco Catalyst 3750 Series Switch

##### Voice and Unified Communications

- Cisco Unified Communications Manager
- Cisco Unified Contact Center Express
- Cisco Unity
- Cisco VG224 Voice Gateway

### Business Results

“The Cisco solution has helped us serve our customers better and provide better care for our patients, and has allowed for a more solid set of business parameters when we measure our performance and consider expansion opportunities,” says Valley Radiologists’ CTO Dr. Brian Frohna. “Infrastructure and telecommunications are no longer negative issues for our business.”

Precise measurement of patients lost due to outmoded equipment or lengthy waits in the call center are difficult, since many of those were never introduced in the practice. However, the measurable gains are impressive: Valley Radiologists was able to eliminate about US\$150,000 per year in recurring maintenance and service contract expenses and US\$60,000 annually in

telephone-system related expense. According to Bennett, another major savings was that the new system “stopped the losses in terms of immeasurable business lost through dropped calls and some consultations that may not have occurred.” Bennett also notes that the new infrastructure and communications solutions paid for themselves within 14 months with just the measurable savings.

The deployment of the integrated Cisco solution has provided a mechanism through which Valley Radiologists has also been able to reassign at least three full-time equivalent positions as a result of increased clinical connectivity and reengineered workflow. “Our decision to deploy a Cisco Unified Communications solution practicewide continues to provide value in our company’s ability to rapidly deploy applications and tune image and information workflow to meet the needs of the business,” Bennett says.

“We are also able to expand more rapidly,” he says. “With the new solution, an office expansion’s telecommunications and network infrastructure costs are one-third what they were before.” Bennett says that those costs have decreased from US\$18,000-per-new-office to about US\$6000. “We have flexibility, rock-solid reliability at the core, all at a very reasonable price point with a 14-month ROI [return on investment],” Bennett says.

### For More Information

<http://www.cisco.com/go/healthcare>

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