EXPAND THE REACH AND AVAILABILITY OF INFORMATION BEYOND THE IMAGING-CENTER WALLS THROUGH A RELIABLE, SECURE RADIOLOGY NETWORK

“What scheduling radiology exams and reporting results used to take more than 10 days in our hospital. Now we see a turnaround in less than two days because we integrated our PACS into the Cisco E-Radiology Solution.”

Jerry Kevorkian
VP / CTO
Sentara Healthcare

HEALTHCARE INDUSTRY DRIVERS FOR CHANGE

Radiology services are no longer departmental-centric, but span the entire in-patient and ambulatory environment of a health system; thus, the network and all the applications running on top of it must now be easily and securely available beyond the imaging-center walls. Many radiology centers believe they’ve fully addressed this issue by installing picture archive communications systems (PACSs), which allow for information sharing as well as digital image management and storage. At the same time though, some centers are overlooking whether their networks have the capacity to handle PACS files, which can easily top 500 megabytes. The Cisco® E-Radiology Solution meets the needs of imaging centers now and in the future by maximizing caregiver productivity, improving quality of patient care, and increasing profitability.

CISCO E-RADIOLOGY SOLUTION ADDRESSES RADIOLOGY CENTER CHALLENGES

The Cisco E-Radiology Solution helps healthcare providers realize significant benefits while resolving the challenges of their radiology centers.
## Radiology Center Challenges

| Inefficiency — Inconsistencies with scheduling and conducting procedures affect the quality of patient care. These cause delays in reaching accurate diagnoses and can result in improper and unnecessary treatments. At the same time, costs escalate. | • Helps improve efficiency of procedure scheduling and processes of radiology  
• Helps increase speed of diagnosis and treatment through easy and fast access to results |
| Misplaced and Lost Film — In outdated and inefficient radiology centers, test results and films are often misplaced and, in some cases, completely lost (some reports indicate that one of every five sets of film results is lost). | • Provides network technologies to meet the enterprise requirements for radiology services  
• Enables access and storage of procedure results (film and images) inside and outside the hospital environs  
| Slow Information Sharing — Properly diagnosing patient conditions and illnesses often requires collaboration among individuals within the radiology center, the hospital system, and with experts beyond the walls of the hospital—some may require consultations from experts across the country or the world. Transporting film and other procedure results from the radiology center typically involves shipment or travel by hospital personnel, which means further delay in patient diagnosis and treatment, as well as reduced healthcare giver productivity. | • Allows caregivers worldwide to confer throughout procedures  
• Enables collaboration anywhere, anytime, instantaneously, in real time |
| Lack of System Integration — Radiology information systems (RISs), if used, typically do not link to hospital information systems (HISs) and, more importantly, to specific patient medical records. This results in significant delays in doctors reviewing test results and providing treatment and medication orders for patients. | • Delivers one converged network that enables integration of PACS, storage area network (SAN), RIS, HIS, and electronic medical record (EMR)  
• Results in improved patient care due to quicker diagnoses and treatments  
| New Patient-Privacy Laws — New government regulations throughout the world require privacy of patient information. New laws place stringent demands on healthcare providers to protect patient information as the healthcare industry implements electronic methods for transmitting care, claim processing, and billing information. | • Provides resilient security services from perimeter to core to comprehensively safeguard patient information and radiology and imaging procedures results, in transit or in storage  
• Makes compliance with government privacy regulations easier to achieve  

## THE CISCO E-RADIOLOGY SOLUTION

The Cisco E-Radiology Solution enables integration of network, applications, and devices so that healthcare organizations can take full advantage of their investments in these technologies. Components of the Cisco E-Radiology Solution include:

**Image Acquisition and Storage** — The e-Radiology solution enables complete integration through the Cisco network for image acquisition devices such as PACS for electronic, high-density radiology test results processing and delivery. Also, it is possible to incorporate patient data interfaces such as RIS for scheduling and procedure tracking and HIS for information sharing for admissions, administration, billing and claims processing. Completing this component are several storage system options that are fully capable of handling large radiology image files.

**Image Access** — Diagnostic, clinical, and Web multiplatform not only provide doctors and technicians with multi-platform access, they make it possible for images to be viewed in the hospital or from remote locations with the knowledge that stored or in-transit patient information is protected by comprehensive security.

**Remote Consultation** — Instantaneous, real-time consultation anytime, anywhere is possible with the Cisco E-Radiology Solution thanks to audio/video (A/V) conferencing, video telephony, A/V conferencing software, and online collaboration tools. These components also extend the reach of the hospital and its staff by making possible e-learning, distance diagnosis, and knowledge sharing with globally distributed medical professionals.

**IP Transcription Services** — Dictation workstations and transcription software allow doctors and radiologists to transcribe patient records remotely with speech-to-text technology. This method of electronic charting reduces risk of medical error by making the most up-to-date information available to nurses, technicians, doctors on call, and other staff involved in a patient's care.

## THE CISCO MEDICAL-GRADE NETWORK

The Cisco E-Radiology Solution runs on the Cisco Medical-Grade Network, which enables many partner solutions to deliver the most resilient, secure, responsive, and interactive solution possible.
**Resilient:** The medical-grade network is a highly reliable infrastructure that adapts to continually changing business needs and supports critical applications. The solution features a high-bandwidth network infrastructure, which combines wired and wireless technology to support a converged data, voice, and video network. It addresses key issues such as network availability and redundancy. Capacity planning and protocol resiliency ensure network resources can be optimized.

**Protected:** The Cisco Medical-Grade Network includes the right combination of network intrusion detection solutions, firewalls, and identity authentication for complete protection of patient data, helping the healthcare provider comply with government regulations. This is particularly important in a hospital environment where the staff is mobile or remote and many of the specialists affiliated with the hospital are not full-time employees.

**Responsive:** The single, converged medical-grade network provides improvements in information sharing, worker efficiency, and patient care. This allows doctors and technicians to perform activities such as charting the results of radiology and imaging procedures wirelessly and makes the information instantly available systemwide to those who require it.

**Interactive:** IP Communications in the medical-grade network allow efficient and cost-effective telephony and instant communications. Web conferencing also provides the capability for collaboration among radiologists and other experts within the hospital or in other healthcare locations worldwide.

**HOW HEALTHCARE ORGANIZATIONS BENEFIT**

**Implements patient care significantly**—The patient has a better in-department experience because test results and diagnosis are quick. As a result, treatments, medication, and recovery are faster than ever before.

**Fosters greater collaboration**—Doctors can collaborate virtually to quickly and accurately determine the right treatments for patients, improving the quality of patient care. Information sharing across systems enables nurses, technicians, and other medical personnel involved in a patient’s treatment to have the most recent information readily available.

**Comprehensive solution**—The completeness of the Cisco E-Radiology Solution provides for ease and speed of deployment, reduces (if not eliminates) system integration issues for minimal maintenance, and supports all the required functions to fully meet business and healthcare requirements now and in the future.
Costs are controlled while much-needed improvements are finally possible in the radiology department of your healthcare organization.

Flexible deployment, single converged infrastructure—The Cisco E-Radiology Solution incorporates several technologies, products, and partner solutions, and can be deployed in a single step or through a number of steps over time. A single, converged network provides improvements in information sharing, worker efficiency, and patient care. Whatever deployment method you choose, the infrastructure enables you to benefit almost immediately by improving care standards, increasing profits, and accelerating caregiver productivity.

HOW TO GET STARTED
For more information, call your Cisco representative or reseller today, or visit us on the Web at:

www.cisco.com/go/healthcare

INTELLIGENT NETWORKS. SMART MEDICINE.