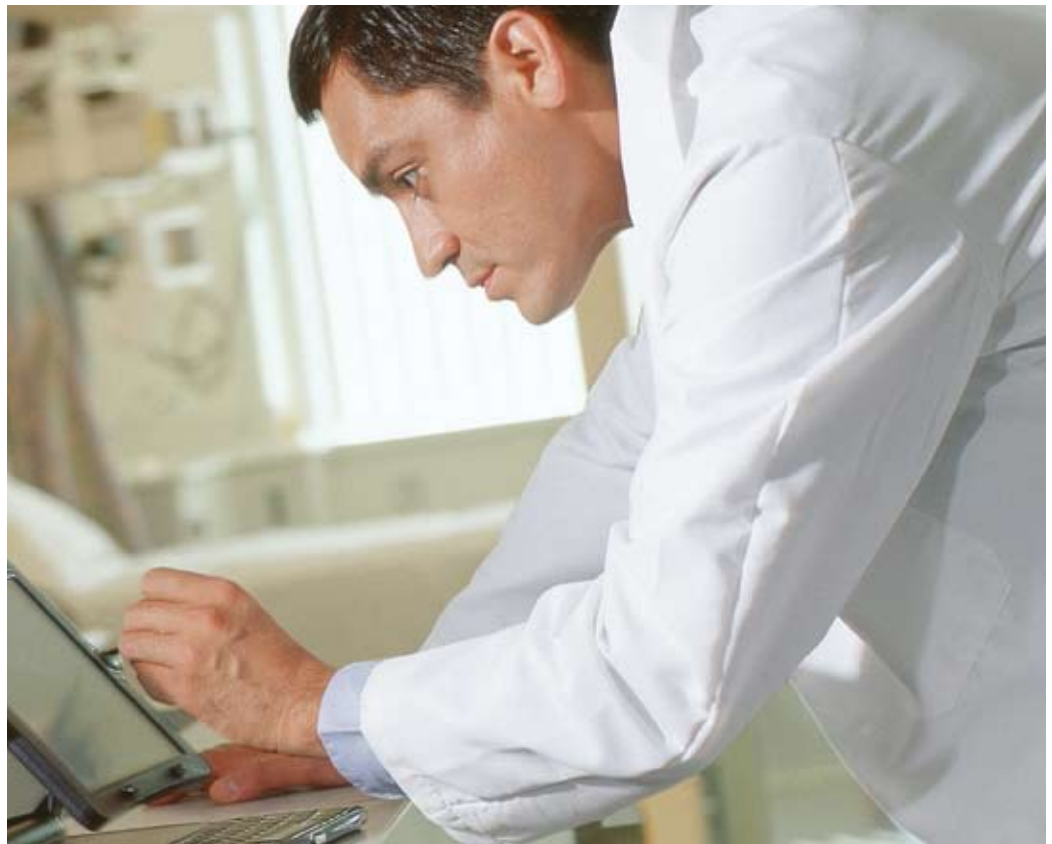




Cisco Connected Imaging



Cisco Connected Imaging Overview

Cisco® Connected Imaging enables healthcare organizations to fully realize the benefits of secure, scalable imaging services. It improves productivity, supports collaboration and reduces costs across the imaging workflow: image acquisition, performance and management, image access, and collaboration and reporting.



Cisco Connected Imaging is comprised of Cisco and leading healthcare imaging technologies running on a Cisco Medical-Grade Network, and provides a complete, comprehensive imaging solution, with full, end-to-end security. It aligns healthcare technology infrastructure with clinical priorities, to improve caregiver effectiveness and significantly improve the quality of patient care. Currently in use by healthcare organizations all over the world, Cisco Connected Imaging provides a solution approach that can either be integrated or component-based, depending on each organization's needs.

Improving the Productivity of Imaging Services: Today's Challenges

In today's healthcare environment, imaging services are a key element in every department and clinical specialty, and are no longer radiology-centric. That's why a growing number of healthcare organizations have made the transition to Picture Archive Communications Systems (PACS) and other advanced digital imaging services, eliminating the delays and costs associated with traditional film imaging.

However, many healthcare organizations lack the integrated technology framework needed to maximize the benefits these imaging services can deliver, by connecting digital imaging with clinical application processes. Without this framework, they cannot meet the significant challenges they face, including:

The need to increase productivity, through greater image accessibility. With a growing volume of images, and the increasingly complex nature of image studies, the use of specialists is increasing. Referring physicians are also accessing images more frequently. Moreover, radiologic technologist shortages have hampered imaging services productivity and referring physician satisfaction.

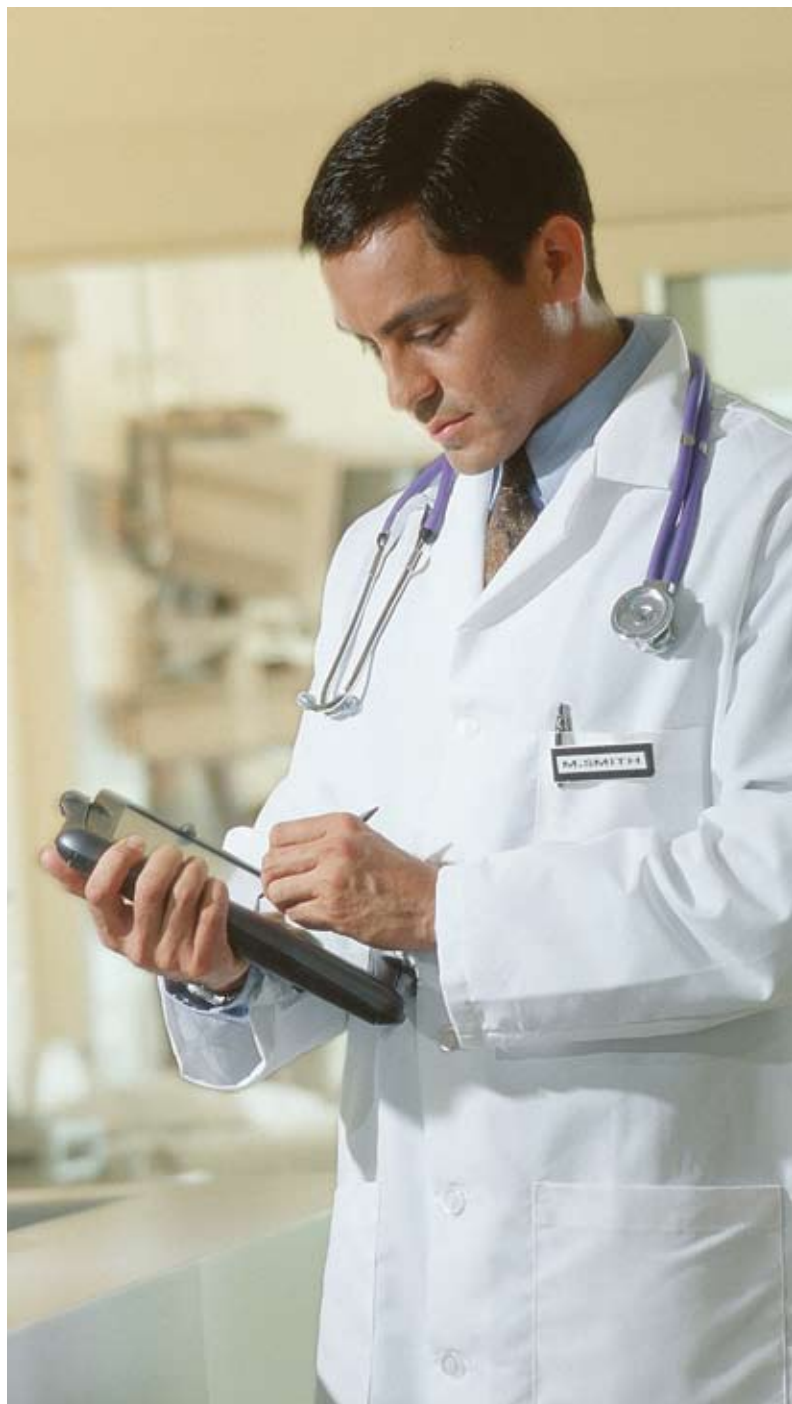
The need to improve collaboration between specialists and across geographic areas. With an increasing need for multi-specialty, multi-radiologist consults, it's imperative for healthcare providers to improve team collaboration and communications during image workflow, to enhance the quality of care and patient and staff satisfaction.

The need to reduce costs. Inefficient modality utilization reduces productivity and increases operational costs. Additionally, as the volume of images has increased, so have storage costs. And networks and modalities remain vulnerable to a growing number of security threats, including viruses, worms, and spyware, and must take steps to protect shared patient data.

Cisco Connected Imaging: Enabling Healthcare Organizations to Fully Benefit from Digital Imaging

Now, Cisco is helping healthcare organizations gain fast, scalable, secure imaging services and improved collaboration—through Cisco Connected Imaging. This advanced healthcare solution integrates technologies from Cisco and industry-leading providers of PACS, storage, and imaging solutions to address each organization's imaging needs.

Cisco Connected Imaging can be employed across the imaging workflow to improve image acquisition, performance and management, image access, and collaboration and reporting, or it can be applied to individual imaging components. The solution optimizes image routing and storage with advanced technologies. It enhances image consultations and collaboration between specialists with audio/video conferencing, telephony and on-line collaboration. And it provides the advanced security framework needed to proactively guard against intrusion threats.



The Cisco Connected Imaging Solution

Cisco Connected Imaging improves productivity, collaboration, and cost optimization, across the imaging workflow through these four components:

Image Acquisition. To improve modality availability and utilization and to protect medical device investments, Cisco Connected Imaging enables fast, secure image acquisition and delivery to PACS. Full image data integrity is ensured through integrated security, which covers PACS and modalities, the network, virtual private networks, and archives. This prevents attacks, intrusions, and viruses to reduce downtime and ensure data confidentiality. The Cisco Medical-Grade Network infrastructure meets security, connectivity, and integration requirements for patient-data interfaces, such as radiology information systems (RIS), hospital information systems (HIS), and electronic medical records (EMR).



Performance and Management. Cisco Connected Imaging addresses scalability, application, and storage performance challenges with advanced networking, image routing, and storage technologies. It integrates Cisco server and storage area network (SAN) virtualization capabilities into PACS, for enhanced image query, retrieval, and delivery at the point of care. This end-to-end image management improves image availability, and provides outstanding storage performance at a lower cost. Through the Cisco Medical-Grade Network, Cisco Connected Imaging provides scalable imaging services and boosts PACS performance, to manage today's high-bandwidth images. And it supports centralized, unified image storage, for quick image access and retrieval across a distributed storage environment.

Advanced image acquisition for M.D. Anderson Cancer Center

Devoted exclusively to cancer care, research, education, and prevention, the M.D. Anderson (MDA) Cancer Center at the University of Texas makes extensive use of digital imaging through modalities that include ultrasound, CT scans, MRIs, PET scans, and more. To meet the rapidly-escalating transport and storage demands of this digital imaging environment, MDA deployed Cisco Connected Imaging.

The solution optimized MDA's network for digital image archiving and rapid delivery to caregivers, to improve information sharing and facilitate more efficient diagnosis and treatment. Through digital archiving and granting access to all radiology images over the network, Cisco Connected Imaging helps eliminate film storage and loss, while allowing multiple caregivers to collaborate by viewing images simultaneously. "Today there is a shortage of radiologists and we need to maximize the efficiency and effectiveness of these scarce resources," says Chuck Sutor, MDA's Director of Electronic Medical Record Development and Support. "Connected Imaging helps eliminate time and distance hurdles to improve diagnostic capabilities and treatment planning."

Enhanced performance and management for the University of Rochester Medical Center

Noted for its medical knowledge and expertise, the University of Rochester Medical Center in upstate New York recently chose Cisco Connected Imaging to improve its PACS capability, in order to better manage its growing number of data-rich medical imaging files and gain secure optimized image transport.

"The nature of images is getting more sophisticated with three-dimensional and even four-dimensional imaging," says Gary Scialdone, RIS-PACS Administrator at the University of Rochester Medical Center. "Because of the quality demands of healthcare, there is little room for error, so you do not want to lose any bits of image data. Today, we can easily handle those CT body scans that produce five thousand or more image slices. Besides vastly improved access to images and information, improved reliability, and greater uptime, we have the scalability to keep pace with technology for years to come."

Image Access. Cisco Connected Imaging supports today's multi-site image access demands by providing faster, more secure access to images, regardless of location or platform. Doctors can securely access images through any PC with a Web browser—from hospital, clinic, or home. With better image speed and flexibility, caregiver satisfaction and productivity are dramatically enhanced. Secure remote image viewing also helps scale scarce specialist resources in areas such as mammography. The Cisco Medical-Grade Network aligns image access requirements with the bandwidth necessary to meet the needs of caregivers, including radiologists, specialists, and doctors, in a secure and timely manner.

Improved image access for London Health Sciences Centre

One of Canada's largest teaching hospitals, the London Health Sciences Centre has deployed a wide range of imaging technologies in its new imaging department. Using the Cisco Medical-Grade Network and Cisco Connected Imaging, images from traditional X-rays, fluoroscopy, CAT scans, MRI, ultrasound, and nuclear medicine are immediately available for diagnosing physicians. Within minutes, these images are linked with a report and associated with a patient's file. At the same time, they are available to other doctors and caregivers involved with the patient—whether in the emergency department, in surgery, in the family practitioner's office, or in the patient's community hospital.

"Our referring physicians now have a secure, reliable way to review images in the clinic or in the operating room," says Kathy Wilkins, Director of Diagnostic Imaging at St. Joseph's Health Care. "Physicians will be able to access PowerChart and see all of the diagnostic procedures and results for each patient. They can click and view specific images associated with reports. They are absolutely ecstatic."

Collaboration and Reporting. To support the growing complexity of image studies, Cisco Connected Imaging enables audio/video conferencing, IP telephony, application sharing, and on-line collaboration tools. Communications can be managed quickly and easily through personal productivity tools, ensuring information is received through the most appropriate mediums. This facilitates multi-specialty or multi-radiologist collaboration, for improved clinical reporting efficiency. The solution enables instant information sharing between geographically-distributed medical professionals, and allows images and data to be easily accessed by referring physicians and other specialists.

More effective collaboration for Karolinska University Hospital

When Sweden's leading hospital, Karolinska University Hospital, deployed a Cisco Medical-Grade Network and Cisco Connected Imaging, it greatly improved its delivery of healthcare services. Now, hospital doctors and home-based medical specialists can access, view, and share patient information and images quickly and securely, improving the efficiency and speed of diagnosis and treatment. Using multimedia applications and collaboration tools, Karolinska is now able to utilize medical expertise across a broader global environment.

"Using Cisco technology to get patient information to specialists quickly is saving Karolinska thousands of dollars for each patient," says Anders Eriksson, the Network Operations Manager. "Keeping patients in the hospital is expensive, so the faster we can treat them, the better it is for the patient and more cost-effective for the hospital."

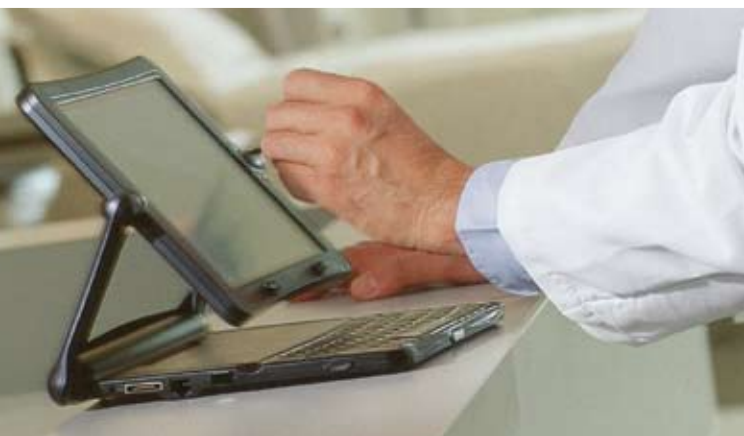


The Benefits of Cisco Connected Imaging

Cisco Connected Imaging enables healthcare organizations to improve patient care and treatment, by allowing them to realize all the benefits of digital imaging technology and a converged network infrastructure, including:

Increased Productivity. Cisco Connected Imaging reduces digital image processing, transport, retrieval, and acquisition times across distributed storage environments, for faster interpretation and improved patient care. It provides secure image access—from any location, through multiple devices—to improve caregiver availability and reduce report turnaround time.

- Reduces risk of medical error by providing prompt, reliable access to the most current patient images and data
- Delivers unparalleled voice and data communications, to improve caregiver responsiveness and response times
- Cuts downtime through enhanced security



Improved Collaboration and Communication. Cisco Connected Imaging promotes knowledge sharing with specialists from anywhere in the world, 24 hours a day, for more proficient diagnosis and treatment, which leads to better patient outcomes. The solution facilitates voice, video, and data consultations among geographically dispersed staff, physicians, and radiologists. Radiologists are also able to choose the most effective method of communication to share images across multiple vendor systems.

- Enables instantaneous, location-independent consultations between caregivers and facilities, and knowledge sharing within the global medical community
- Removes distance as a barrier to image transport, access, and storage, promoting collaboration among staff, physicians, and radiologists, regardless of location
- Helps ensure security of confidential patient information across a wide range of modalities and devices, and across public and private network environments

Reduced Costs. Cisco Connected Imaging improves operational efficiencies, simplifying access to digital images, and lowering film material and storage costs. It enables hospitals and clinics to take full advantage of technology investments in PACS, modalities, networks, applications, and devices.

- Eliminates imaging process “dead time,” to reduce the duration and cost of patient encounters
- Lowers the expense of storing large digital image files
- Easily integrates with major PACS, storage, and imaging vendors
- Reduces or eliminates travel time for medical personnel
- Enhances operational efficiencies and imaging service revenues

Built on an Advanced Healthcare Platform: The Cisco Medical-Grade Network

Cisco Connected Imaging runs on the Cisco Medical-Grade Network, a secure, scalable infrastructure that supports the secure transfer and management of large digital files, giving caregivers rapid access to clinical images and results. This industry-based architecture provides the resilience, protection, responsiveness, and interaction that improve organizational workflow and operations, for improved productivity and cost-effectiveness.

Why Cisco for Digital Imaging?

- Cisco Connected Imaging provides the solid foundation needed to deliver advanced digital imaging services, systems and technologies
- Cisco partners with major PACS, storage, and imaging vendors, including Philips, Kodak, McKesson, GE Healthcare, Acuo Technologies, Siemens, and IBM, for a comprehensive, cohesive solution

- Cisco enables healthcare organizations to take full advantage of their existing investments in PACS, networks, applications, and devices
- Cisco Connected Imaging is backed by Cisco best-in-class technical support

Find Out More

For more information about Cisco Connected Imaging, visit www.cisco.com/web/strategy/healthcare/connected-imaging.html

To view case studies from hospitals and clinics that have deployed Cisco Connected Imaging and other Cisco healthcare solutions, visit www.cisco.com/go/healthcare





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