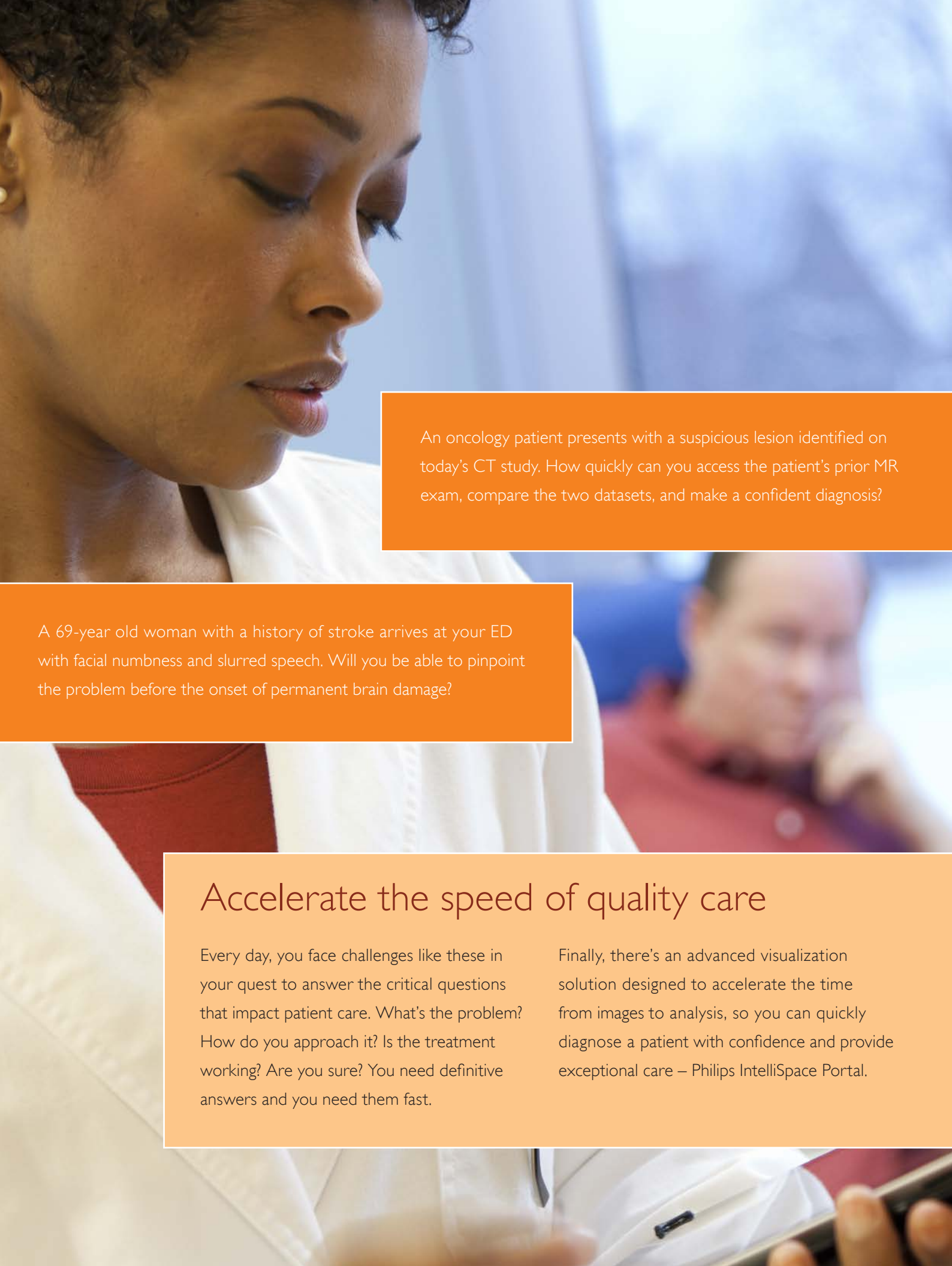# Advanced visualization for real-time radiology

IntelliSpace Portal

PHILIPS

sense **and** simplicity

An oncology patient presents with a suspicious lesion identified on today's CT study. How quickly can you access the patient's prior MR exam, compare the two datasets, and make a confident diagnosis?

A 69-year old woman with a history of stroke arrives at your ED with facial numbness and slurred speech. Will you be able to pinpoint the problem before the onset of permanent brain damage?

Accelerate the speed of quality care

Every day, you face challenges like these in your quest to answer the critical questions that impact patient care. What's the problem? How do you approach it? Is the treatment working? Are you sure? You need definitive answers and you need them fast.

Finally, there's an advanced visualization solution designed to accelerate the time from images to analysis, so you can quickly diagnose a patient with confidence and provide exceptional care – Philips IntelliSpace Portal.

Delivering on the promise of real-time radiology

With Philips IntelliSpace Portal, you can access, analyze, diagnose, collaborate, and present your CT, MR, and NM images virtually anywhere, any time. Do it all right from any networked computer or directly from your PACS – whether it's from Philips or another vendor. Even share its rich set of multimodality clinical applications with peers, specialists, and referring physicians around the world in real time. So they can see the same images you see – at the same time you do – to streamline communication, increase collaboration, and speed diagnosis.

IntelliSpace Portal reduces time-consuming tasks and improves throughput by up to 80% with zero-click preprocessing. And it makes management of images, licenses, individual workstation products, software versions, and training simple – with a single solution that connects to your network via a powerful, all-in-one applications server.

Philips IntelliSpace Portal is an advanced visualization solution that gives you the proven clinical applications, workflow, and collaboration tools you need to make real-time radiology a reality.
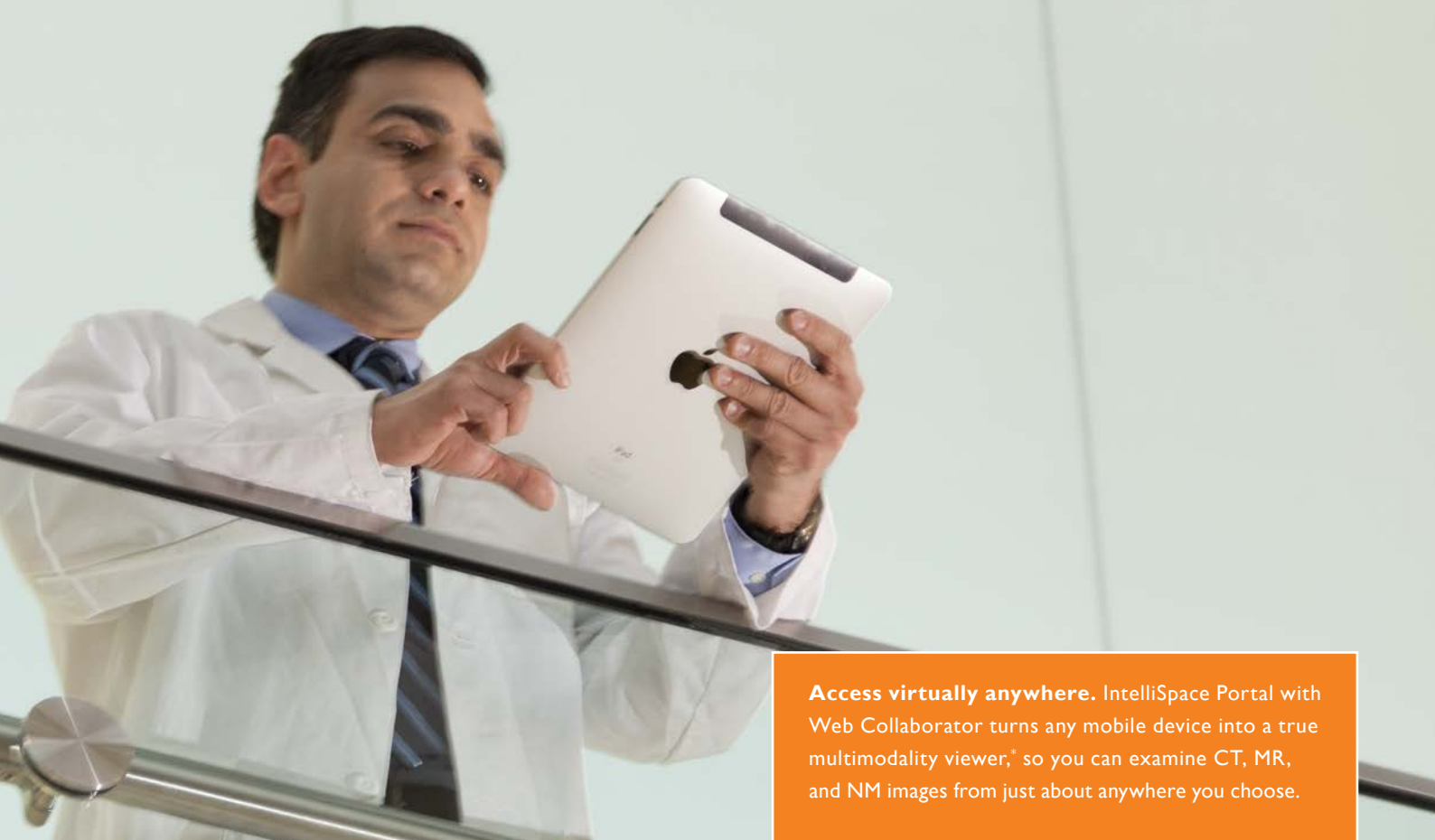
A proven performer
The IntelliSpace Portal user interface and workflow is based on Philips Extended Brilliance Workspace, twice ranked #1 by KLAS in its "Top 20 Best in KLAS Awards: Software & Professional Services" for Advanced Visualization.

Change the way you work, think, and care for patients

Imagine performing advanced visualization studies wherever you choose – without moving to a dedicated workstation. Inviting clinical colleagues to review images together through email or chat, then discussing your key findings with them live, on the spot. Employing automated preprocessing, pre-set retrieval of prior studies, and guided workflow to reduce preparation time and boost productivity. Now imagine performing all these everyday tasks in real time on your PACS workstation, PC, or laptop.

That's the power of real-time radiology with IntelliSpace Portal.

Access virtually anywhere. IntelliSpace Portal with Web Collaborator turns any mobile device into a true multimodality viewer,* so you can examine CT, MR, and NM images from just about anywhere you choose.

Accomplish more, do less

With IntelliSpace Portal, applications are available on a single server – to help simplify workflow by automating image processing, as well as many of the manual tasks that can get in the way of delivering fast, efficient patient care.

Take advantage of zero-click coronary segmentation to automatically extract and visualize the entire coronary tree. Segment physician-identified lung nodules with a single click of the mouse. Use automatic model-based, whole-heart chamber segmentation to accelerate a 4-chamber functional assessment. Or easily segment both the left and right lungs to determine the total lung volume, diseased lung volume, and percentage diseased, all with a single click.

Get there fast

No longer do you need to spend your valuable time searching for a patient's previous studies before you can get to work. IntelliSpace Portal does that for you. It can pre-fetch all prior studies and transfer them to a local folder with any new ones for fast comparison. Or you can easily call them up from your PACS with a single click. And to further increase speed to diagnosis, you can share bookmarks across computers and users, making it easy for everyone in your department to work together.

Make the most of your PACS

Since IntelliSpace Portal interfaces with Philips iSite PACS, IntelliSpace PACS, and PACS from other vendors,** you can complete an entire case in one review and one session, from one chair. Launch IntelliSpace Portal applications right from your PACS – without entering user names or passwords. And without additional searches for patient or studies. Bookmarks and results are easily exchanged, and studies can easily be transferred using DICOM services.
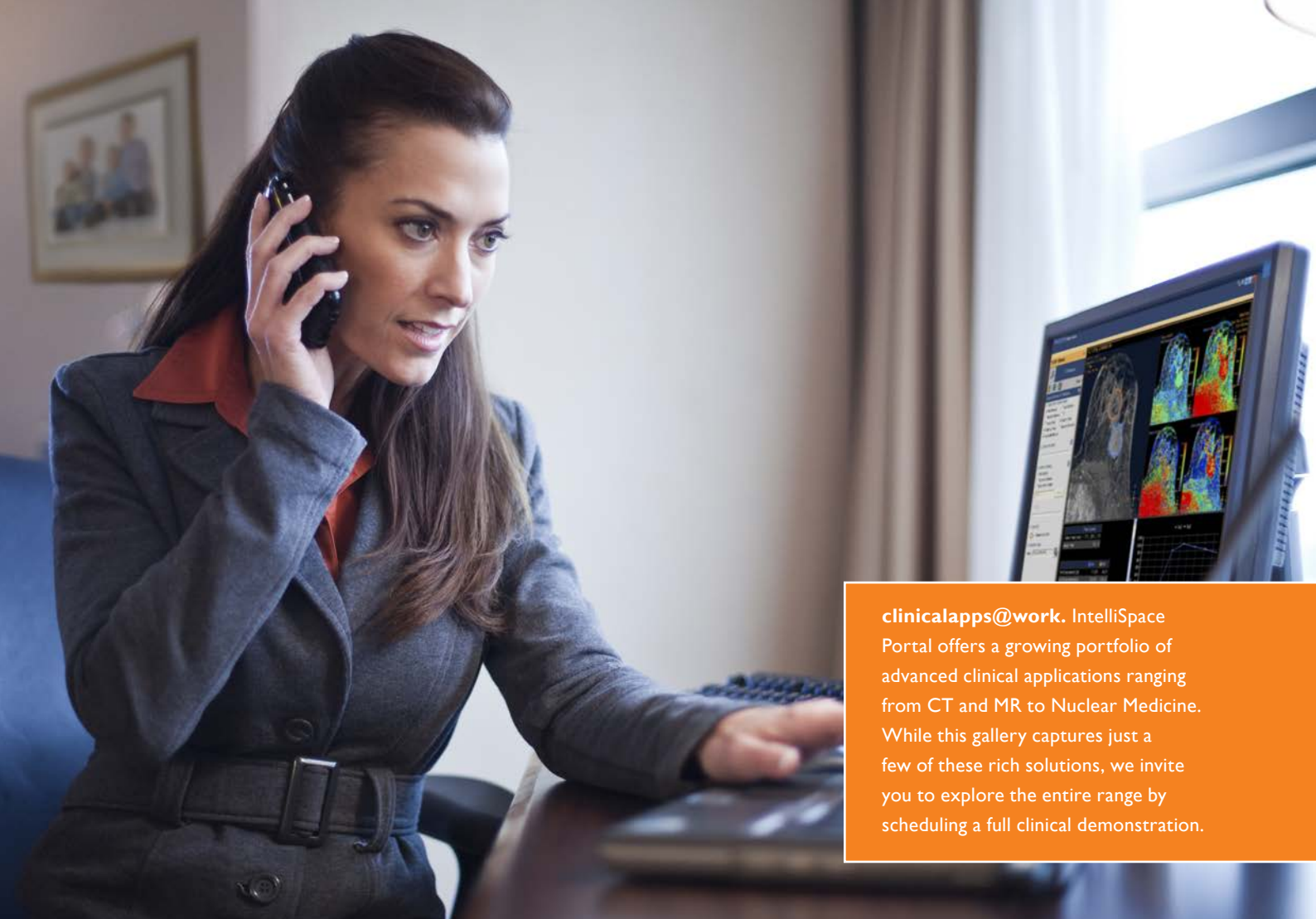
* Web Collaborator enables viewing and sharing with iPad and smartphone devices – not intended for diagnosis.
** Requires integration work with your PACS vendor.

iPad is a registered trademark of Apple Corporation.

A single server keeps it simple

IntelliSpace Portal is built on our proprietary client-server architecture. It securely streams CT, MR and NM images directly to your PC, laptop, or smart phone over any broadband connection through your hospital's virtual private network. There's no need to download imaging data because the server handles all the complex processing.
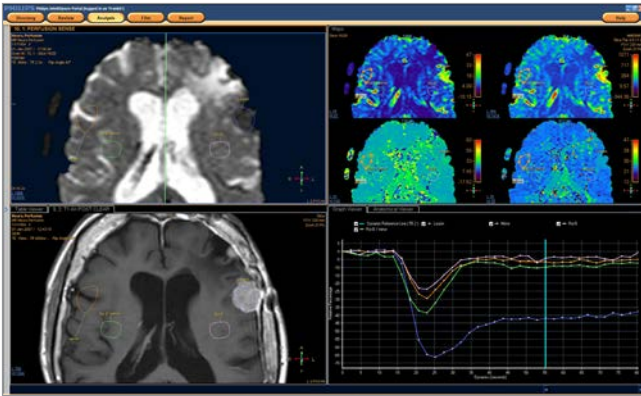
clinicalapps@work. IntelliSpace Portal offers a growing portfolio of advanced clinical applications ranging from CT and MR to Nuclear Medicine. While this gallery captures just a few of these rich solutions, we invite you to explore the entire range by scheduling a full clinical demonstration.

Improve workflow.
Zero-click preprocessing accelerates multimodality imaging analysis for increased diagnostic confidence.
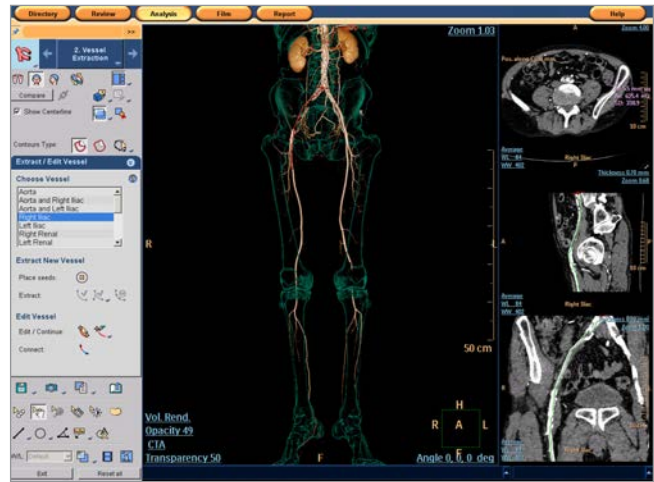
Clinical applications: experience the Philips difference

Multimodality clinical review and insightful quantitative analysis demand robust applications that are up to the task. Philips IntelliSpace Portal's innovative applications are based on advanced clinical science and incorporate a variety of unique automated features and tools that set them apart.
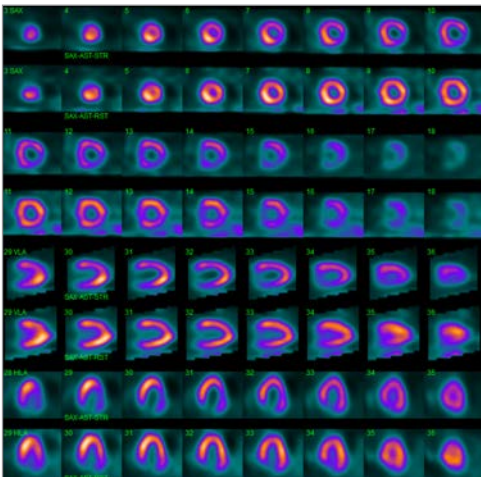
Neurology: MR Neuro Perfusion

Assess brain perfusion in stroke and other diseases with this powerful tool. It provides mean transit time (MTT), negative integral (NI), time to peak (TTP), time of arrival (T0), and index. Both temporal and spatial smoothing of the input data can be performed to improve signal-to-noise ratio. You can also color-code functional data, as well as view and store images as overlays on top of anatomical reference images. Even perform ROI analysis and define an arterial input function (AIF) if needed.
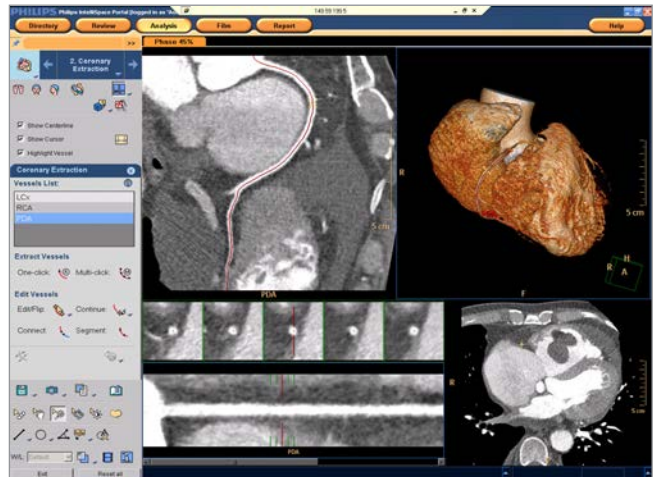

Vascular: CT Advanced Vessel Analysis

When combined with IntelliSpace Portal's Enhanced Zero-click Performance option, CT Advanced Vessel Analysis Stenosis automatically performs bone removal to reveal vascular structures and removes the skull for visualization of carotid siphon. It also labels and places centerlines for major vessels – all before opening a study. CT Advanced Vessel Analysis Stent offers multiple preset and user-defined options to reduce stent planning to five minutes instead of 30 to 45 minutes. Plus, you can reproduce the images on a customized report.
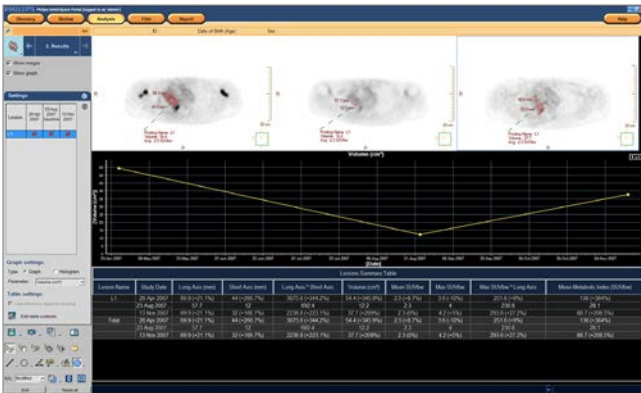

Cardiology: Astonish

Philips Astonish advanced reconstruction algorithm improves image quality in SPECT* by modeling the characteristics of the imaging system and removing the resolution losses due to distance-dependent blurring. Reconstructed resolution has been shown in the NEMA SPECT phantom to improve from 10-11 mm to PET-like levels of 4-5 mm. Astonish also improves signal-to-noise ratio to allow SPECT reconstructions with fewer counts, reducing either time or dose. Attenuation correction helps improve interpretative certainty and diagnostic accuracy.

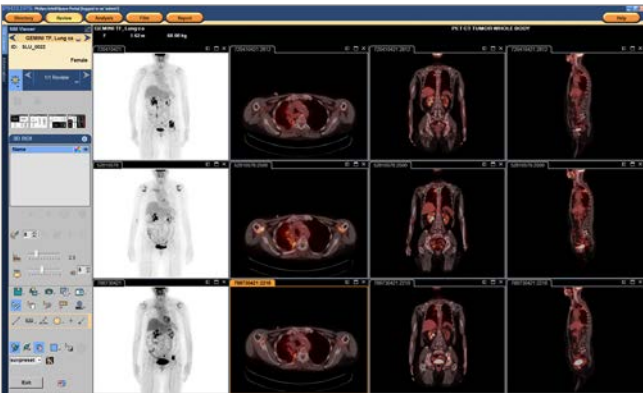## Cardiology: CT Comprehensive Cardiac Analysis

Comprehensive Cardiac Analysis (CCA) incorporates support for myocardial perfusion imaging (MPI). It includes no-click coronary segmentation that enables an automatic extraction and visualization of the entire coronary tree. CCA with the CT-NM Fusion option permits the loading of gated and ungated rest and stress simultaneously with CT images. This allows simultaneous views of metabolic information from NM-MPI with accurate anatomic information from the coronary CTA.

* Compatible with Philips CardioMD (acquisition software v2.x), Forte, BrightView, BrightView X, BrightView XCT, Skylight and Precedence cameras.
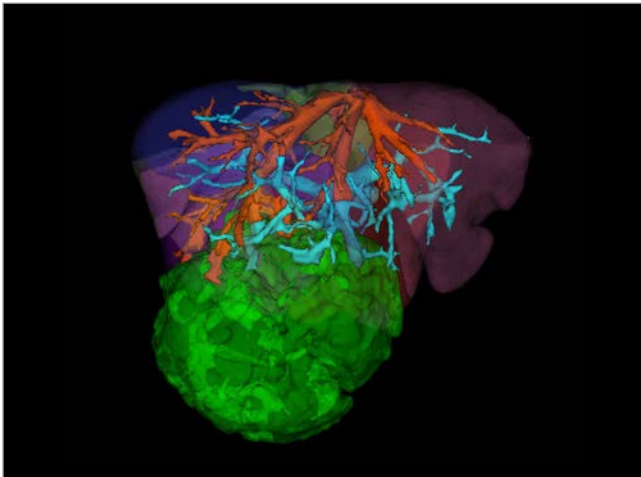
Oncology: Multi Modality Tumor Tracking

This fast, efficient application makes it easy to monitor changes in disease status and therapy response using sequential PET/CT, SPECT/CT, MR, and CT exams. It segments target lesions and quantifies results over time. And it provides automatic and standardized measurements of tumor progression, including RECIST, WHO, and PERCIST, as well as tumor burden calculation. In a recent time study conducted by Franciscan Saint Francis Health, Indianapolis, the average time saved by using Philips MMTT to implement RECIST was six minutes versus PACS methods. Philips MMTT quantifies anatomic and metabolic changes to allow for a personalized treatment.
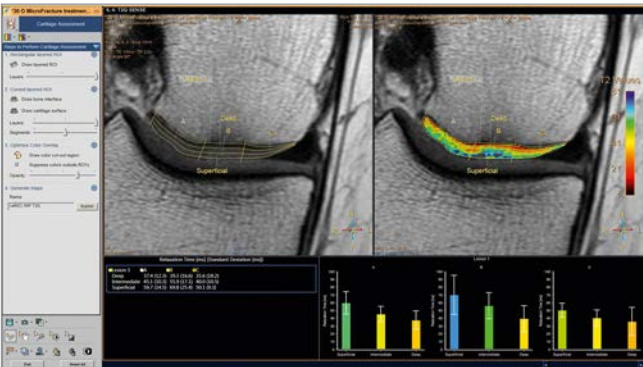
Oncology: PET/CT (NM Review)

Take advantage of this application to speed your review and analysis of nuclear medicine and hybrid SPECT/CT, PET/CT, and PET/MR studies. NM Review provides automatic co-registration tools for PET, SPECT, CT, and MR images. It includes lesion segmentation tools, 3D SUV quantification methods, and user customizable display layouts. Plus it gives you the ability to analyze and compare up to three PET/CT studies side by side.

Surgery: CT Liver Analysis

Advanced Liver Analysis allows complete evaluation of the liver in minutes – from any PC. It provides Couinaud Lobe segmentation and interactive tools for planning liver resection and ablation. This robust application automatically identifies and extracts the liver using Enhanced Zero-click Performance, and then semi-automatically segments the liver for a comprehensive analysis and quantification of clinical information. Semi-automatic and manual editing tools help you to fine-tune the segmentation.

Orthopedics: MR Cartilage Assessment

This orthopedic application enables you to accurately quantify MR cartilage volume, thickness, and measurement of relaxation values to determine the best course of treatment. You can visualize cartilage structures using color-coded T2 maps. Assess the variation of T2 values across the cartilage depth using precise positioning of cartilage shaped layered ROIs. And calculate a new image based on a variety of echo times.

The Philips difference is evident across our entire spectrum of CT, MR, and Nuclear Medicine applications. For example, our Virtual Colonoscopy application can reduce reading times from as long as 25 minutes to five or ten by providing a 100% view of the surface of the colon with no image or hands-on manipulation.

Our CT Advanced Brain Perfusion provides automatic registration of the patient's anatomy to help clinicians identify areas of salvageable tissue in an acute stroke patient and help in treatment planning. And while most vendors can identify plaque, Philips Comprehensive Cardiac Analysis with Coronary Plaque Assessment provides accurate quantification of coronary plaque to aid in diagnosis and treatment.

Multimodality Tumor Tracking for diagnostic confidence

The importance of tracking tumor progression continues to grow as clinicians rely on quantitative imaging to help inform their decisions.

Philips exclusive Multimodality Tumor Tracking (MMTT) is an efficient tool for monitoring change in disease status including disease progression or assessment of therapy response using sequential PET/CT, SPECT/CT, MR, and CT exams. It's our first application to automatically quantify both anatomic and metabolic changes over time, helping to simplify disease management and treatment monitoring.

Fast decisions with zero-click preprocessing

IntelliSpace Portal gives you a head start on the review and analysis of images thanks to automated image processing with the Enhanced Zero-click Performance option. It initiates the time-consuming job of processing data, even before you select a study from the directory. Advanced preprocessing of CT angiography reduces the time spent preparing complex CT aorta and stent planning results by up to 80 percent. And it presents images to clinicians in a ready-to-review condition.

Applied to CT Angiography, Advanced Vessel Analysis, Brain Perfusion and Virtual Colonoscopy studies, zero-click preprocessing uses two innovative methods for bone removal and segmentation: CT threshold-based and model-based. The model-based algorithms fully leverage Philips expertise as a global imaging company and are constructed from thousands of exams. That's the Philips difference.

Do more

IntelliSpace Portal services are designed to deliver more of what you need to increase diagnostic confidence and less of what you don't – including costs, complexity, and concerns about the future.

With IntelliSpace Portal, you no longer need to overcome the challenges of multiple workstations, network connections, pricing schedules, and service agreements. Instead, you have a single applications platform for all processing for CT, MR and NM. With scalable pricing based on your performance needs. And a single, all-inclusive service agreement designed around you – Philips RightFit Service.

Stay on the cutting edge

You expect a lot from your clinical informatics solution and the services associated with it. Like fast response when you have a problem. Timely upgrades to the latest software. And access to a professional support team for telephone and remote support.

Philips RightFit Service delivers all this and more – to help you meet your challenges and allow your IntelliSpace Portal solution to perform at its peak. Our comprehensive offering helps you streamline the adoption of the latest clinical advancements. It delivers fast, professional support to your experienced, department-focused IT staff. And it provides you with a dedicated team of clinical and technical experts to help reduce downtime, improve efficiency, and lower operating costs.
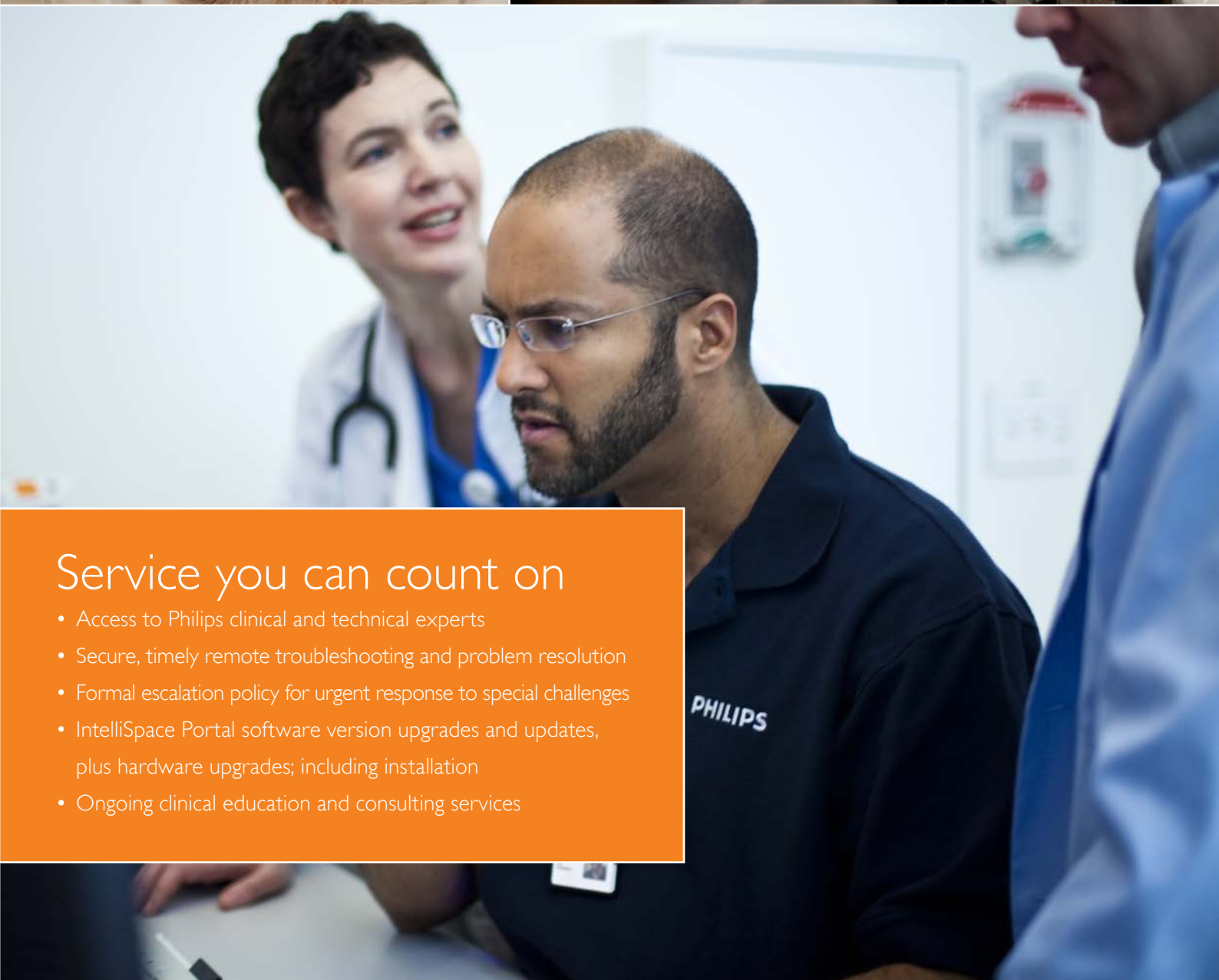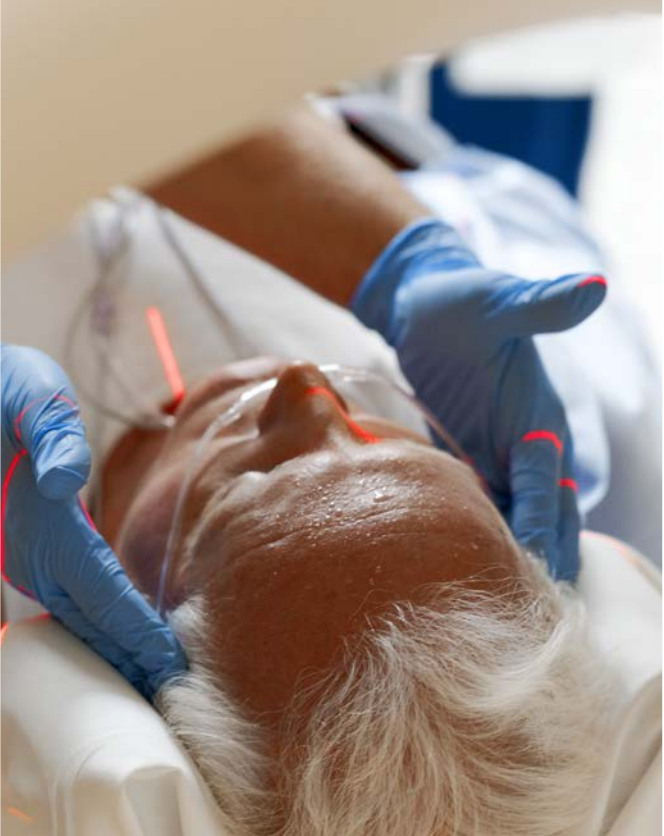
Take advantage of non-stop innovation

With RightFit Service, you have access to a steady stream of innovative solutions to help improve system and clinical performance. New features, functions, clinical advances, and workflow efficiencies enable you to expand your clinical capabilities and keep your hospital on the cutting-edge. You automatically receive IntelliSpace Portal software version upgrades and updates, and our clinical education services. Plus, you have access to hardware support and upgrades to further protect your investment year over year.

Invest in a long-term relationship

Philips is committed to working with you to understand your challenges and provide the services you need to deliver the highest quality patient care – now and in the future.

When you choose Philips, you're investing in a relationship that includes open communications, continuous innovation, and expert consultation. We're focused on helping you realize the full clinical and operational potential of the IntelliSpace Portal solution in your organization. Philips delivers everything from clinical guidance, technical phone support, and remote problem resolution directly from experts at our Customer Care Help Desk to onsite support and implementation services, business improvement consulting, and more.

Philips RightFit Service helps you make the most of your investment in IntelliSpace Portal, year after year.

Service you can count on

- Access to Philips clinical and technical experts
- Secure, timely remote troubleshooting and problem resolution
- Formal escalation policy for urgent response to special challenges
- IntelliSpace Portal software version upgrades and updates, plus hardware upgrades; including installation
- Ongoing clinical education and consulting services

Working together to deliver better patient care

Side-by-side, in-person interaction between radiologists and physicians is the most effective means of clinical collaboration. And IntelliSpace Portal is designed to deliver that same real-time experience – but without all the walking. With Web Collaborator, you can share image results and views with others directly from your IntelliSpace Portal applications using most standard web browsers.* There's no need to download proprietary software or invest in dedicated workstations.

Live views, lively discussions

Web Collaborator gives you the freedom to share and interact with your multimodality images while you discuss diagnosis and treatment decisions, helping to speed the time to arriving at an informed clinical decision.

You can initiate real-time working sessions via instant message or email, and then share the same live view of images with specialists and referring physicians in IntelliSpace Portal's web-based image viewer. Even interact with the image using a variety of tools to annotate and control what you see on the screen. Or simply email links to your images that authorized users can access via the web-based viewer with a single click.

Real-time collaboration with IntelliSpace Portal not only increases your understanding of your colleagues' practices; it brings you closer to the people who matter most – your patients.

* Web Collaborator enables viewing and sharing –
  not intended for diagnosis.

Real-time radiology is here, now your time is yours

Philips Imaging 2.0, our vision for the future of imaging science, is based on the belief that clinical integration and collaboration are key to more personal care, lower costs, and greater patient satisfaction.

IntelliSpace Portal is a direct result of this revolution in imaging science. It brings together technology and people, integrates and expands clinical informatics, removes barriers, and creates a new way for imaging and information to work together. So you can work closely with your colleagues in cardiology, oncology, neurology, orthopedics, and other specialties to provide superior diagnostic imagining services – simply.

With IntelliSpace Portal, you can deliver your expert diagnosis of a stroke patient and triage for thrombolysis. Spend more time communicating and collaborating with a heart patient's cardiologist and interventionist to deliver more coordinated care. Generate consolidated reports on patients from the same place you analyze your multimodality images – to get your job done faster and more efficiently than ever. And most important, have more time to do what you do best – make informed decisions and deliver quality patient care.

Start small, think big

Is your hospital ready for advanced visualization? But not ready for a network solution you can access from virtually anywhere? Then tap the power of IntelliSpace Portal now by starting with an economical single-user workstation. Get access to the sophisticated applications you need to speed diagnostic decisions today, while paving the way for tomorrow. Learn more at www.philips.com/intellispaceportal.

**Philips Healthcare is part of
Royal Philips Electronics**

How to reach us
www.philips.com/healthcare
healthcare@philips.com

Asia
+49 7031 463 2254

Europe, Middle East, Africa
+49 7031 463 2254

Latin America
+55 11 2125 0744

North America
+1 425 487 7000
800 285 5585 (toll free, US only)

Please visit www.philips.com/intellispaceportal