

Advanced visualization for real-time radiology

Philips IntelliSpace Portal version 5 specifications

PHILIPS

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1. Delivering real-time radiology

Philips IntelliSpace Portal makes real-time radiology a reality. Combining proven clinical applications, workflow, and collaboration tools, Philips IntelliSpace Portal offers exceptional flexibility to access CT, MR and NM images, analyze and quantify information, and collaborate with colleagues.

Accelerate the speed of quality care

Accelerating the time from images to analysis, IntelliSpace Portal's industry-leading, rich clinical applications across specialties are designed to help you realize the full potential of your imaging systems to quickly analyze, quantify, and diagnose as never before.

Access from virtually anywhere

IntelliSpace Portal brings the information and tools needed to answer clinical challenges to a single workspot, located virtually anywhere. It is a single multimodality solution that could potentially replace standalone workstations and specialized 3D servers. It allows remote access to images and applications, including access through web-based viewers. Through a thin client configuration, IntelliSpace Portal helps clinicians analyze, interpret, perform additional reconstructions, quantify results, plan procedures and present virtually anywhere, including the exam room, reading room, using PACS, and remotely, from any networked device.

Key advantages

- **Rich clinical applications:** Unlock the full potential of your imaging systems in order to quickly quantify and diagnose
- **Multimodality access anywhere:** Advanced clinical applications, new workflow and collaboration tools available anywhere
- **Enhanced zero-click preprocessing** accelerates multimodality imaging analysis for increased diagnostic confidence

Collaborate with ease

You can access, create, and disseminate actionable information throughout the enterprise through a secure, real-time, and collaborative platform that includes Web Collaboration medical networking tools. Discuss diagnoses while sharing and dynamically interacting with images in real-time.



2. Accomplish more with more confidence

IntelliSpace Portal delivers more of what you need to increase diagnostic confidence, while reducing complexity, life cycle cost, and concerns about future upgradeability.

A single server keeps it simple

An industry-leading advanced visualization platform with sophisticated tools for CT, MR and NM images, IntelliSpace Portal can be scaled to your needs, from a single-user standalone workstation, to a powerful network solution. The capabilities of the IntelliSpace Portal can reach throughout the enterprise as an application server interfacing with PACS.

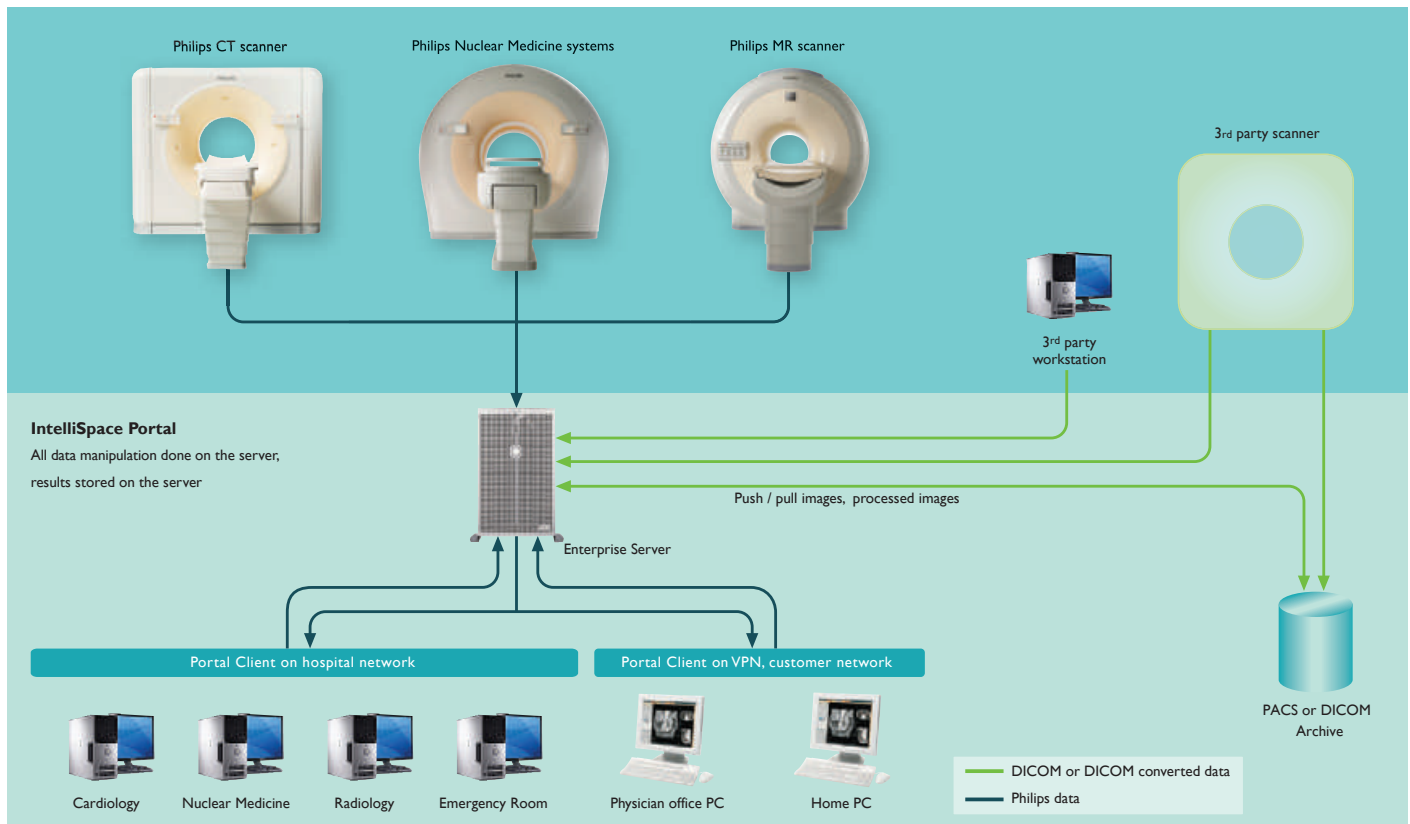
Less management and training

With IntelliSpace Portal, there is only a single product to maintain, and yet images and analysis tools are available throughout the hospital and at remote sites. Training is simplified too, with only one interface to master.

A proven performer


IntelliSpace Portal is based on the award winning Extended Brilliance Workspace, ranked #1 by KLAS in its 2008, 2010 and 2011 "Top 20 Best in KLAS Awards: Software & Professional Services" for Advanced Visualization.¹ KLAS is an independent research firm specializing in monitoring and reporting performance of healthcare information technology vendors.

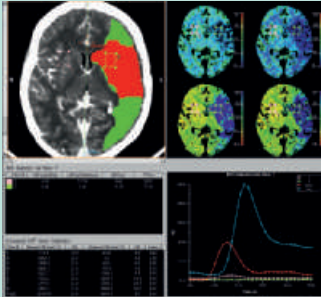
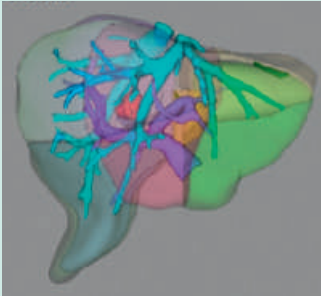
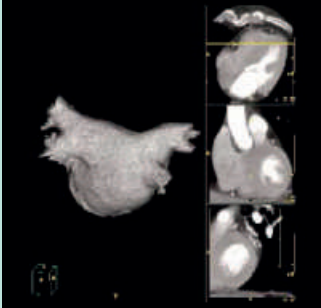
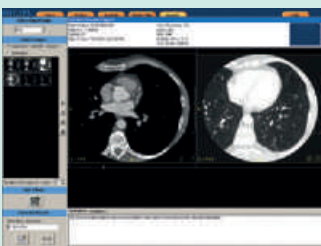
1. The IntelliSpace Portal user interface and workflow is based on Philips Extended Brilliance Workspace, twice ranked #1 by KLAS in its "Top 20 Best in KLAS Awards: Software & Professional Services" for Advanced Visualization.

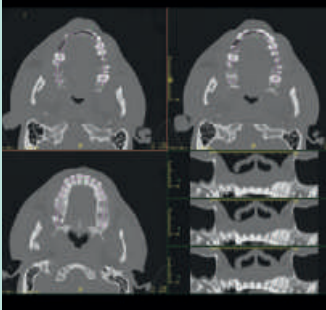

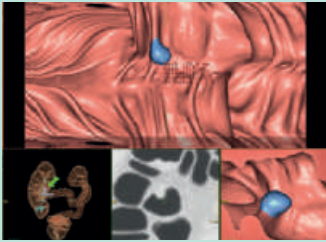
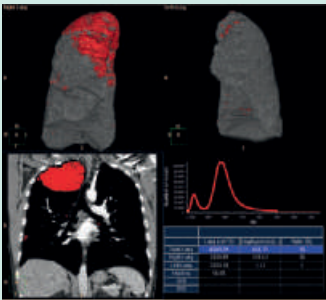


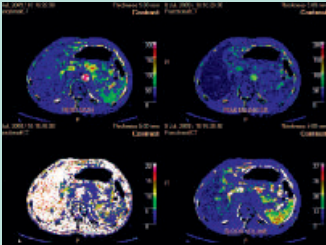
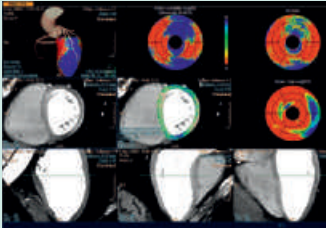

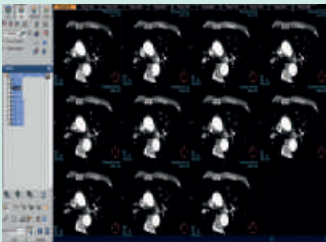
3. CT clinical applications

IntelliSpace Portal gives you exceptional and full-featured access to any applications virtually at anytime, anywhere. These advanced multimodality applications are designed to help you quickly and easily deliver clinical results with insight.

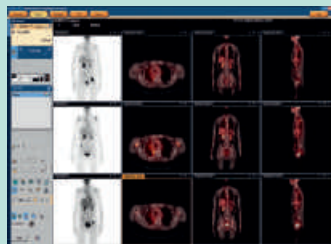
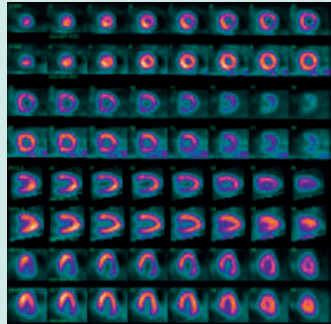

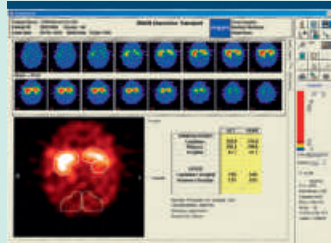
	Description	Clinical Specialty
	<p>Detailed inspection of contrast enhanced vessels</p> <p>CT Advanced Vessel Analysis (AVA) Stenosis includes an automatic centerline for major vessels, zero-click bone removal of bony structures that obscure vascular structures, and skull removal for visualization of carotid siphon.</p>	<ul style="list-style-type: none"> • Neurology • Vascular • Cardiology
	<p>Quickly plan endovascular stent placement</p> <p>CT Advanced Vessel Analysis (AVA) Stent Planning includes multiple preset and user-defined options to gain detailed information for use in stent planning, reducing overall planning time to five minutes compared to 30 to 45 minutes without the program. The application includes an option that allows results to be printed on a customized report.</p>	<ul style="list-style-type: none"> • Vascular • Surgery
	<p>Evaluate plaque risk</p> <p>CT Cardiac Plaque Assessment includes robust capabilities allowing quantification and characterization of coronary plaque from multidetector computed tomography (MDCT) data. This application gives the clinician the capability to assess plaque sites to avert future problems.</p>	<ul style="list-style-type: none"> • Vascular • Cardiology
	<p>One-click 3D calcium segmentation</p> <p>CT Calcium Scoring rapidly quantifies coronary artery calcifications (CAC) and includes mass, Agatston score, and volume scores. It enables paper or electronic results distribution of automated, customizable reports.</p>	<ul style="list-style-type: none"> • Cardiology
	<p>Fast cardiac analysis</p> <p>CT Comprehensive Cardiac Analysis and advanced LV/RV functional analysis provides endoluminal and epiluminal segmentation of the heart chambers to calculate ejection-fraction, stroke volume, cardiac output, and left and right ventricular mass. It allows visualization of the entire coronary tree, vessel lumen morphological analysis, and free lumen diameter area analysis. Comprehensive Cardiac Analysis also provides ventricular functional analysis and 3D heart chamber and valve morphology, including a dynamic cine mode.</p>	<ul style="list-style-type: none"> • Cardiology

	Description	Clinical Specialty
	<p>Identify salvageable areas in acute stroke</p> <p>CT Advanced Brain Perfusion, exclusive to Philips, calculates and displays reduced summary maps to help clinicians identify areas of salvageable tissue in acute stroke patients. The program automatically corrects misregistration or motion artifacts, and displays summary maps that help clinicians distinguish between still-viable and non-viable infarcted tissue – correlated to MR perfusion and MR diffusion imaging – to assist in treatment planning. In addition to summary maps, permeability maps are standard. Optional time-sensitive algorithms are also available.</p>	<ul style="list-style-type: none"> • Neurology • Surgery
	<p>Advanced liver segmentation</p> <p>CT Liver Analysis automatically identifies the liver from a portal venous phase of a tri-phase liver scan, and then semi-automatically segments the liver for a comprehensive analysis and quantification of clinical information. Semi-automatic and manual editing tools are available to fine-tune the segmentation if necessary.</p>	<ul style="list-style-type: none"> • Surgery • Oncology
	<p>Fast planning for EP procedures</p> <p>CT EP Planning provides fast, overall assessment of pulmonary vein, left atrial, and appendage anatomy, enabling the electrophysiologist to quickly identify anatomy that may complicate the EP procedure.</p>	<ul style="list-style-type: none"> • Cardiology • Surgery
	<p>Customized reports in minutes</p> <p>Reporting provides tools and multimedia capabilities for making results communications to referring physicians easy. For example, in just minutes you can create a customized report for a comprehensive multimodality workup for paper or electronic distribution that can include review of multiphase images on a single customized screen or page.</p>	

	Description	Clinical Specialty
	<p>Planning for oral surgery</p> <p>In maxillofacial trauma cases, the course of treatment can often only be decided after a surgical consult. CT Dental Planning is designed to reduce diagnosis response time, shorten procedure length through enhanced surgical planning, and facilitate collaboration between radiologists and surgeons. The Portal server handles large multi-detector CT (MDCT) datasets, while software on the client computers allows clinicians to interactively analyze the scans using the Dental Planning application, from anywhere they have access to the network. Images can be rotated and adjusted to find the optimal location, angle, and depth for surgery. For example, the oral and maxillofacial surgeon can locate tooth fragments embedded in the palate of the mouth. With careful planning, the surgeon can potentially reduce the amount of bone removed to locate and remove supernumerary teeth. Planning with three-dimensional images also helps in estimating the thickness of bone when drilling and inserting metallic dental implants. Clinicians can generate simulated dental X-rays using curved MPR images. And slab MPR images can be set parallel to the optic nerve to determine the extent of fractures.</p>	<ul style="list-style-type: none"> • Surgery
	<p>Assess lung nodules over time</p> <p>CT Lung Nodule Assessment (LNA) provides quantitative information about the size, shape, and change over time of physician-indicated lung nodules. The package provides one-click volume segmentation, advanced reporting for rapid distribution of paper and electronic results, and the ability to compare studies by scrolling through multiple linked datasets.</p>	<ul style="list-style-type: none"> • Oncology • Surgery
	<p>Reduce reading times in virtual colonoscopy</p> <p>Exclusive to Philips, CT Virtual Colonoscopy with Perspective Filet View allows clinicians to perform a “virtual dissection” of the colon by unfolding or unrolling along the centerline and displaying a portion of the colon for inspection, providing a 100% view of the surface of the colon with no image manipulation.</p>	<ul style="list-style-type: none"> • Oncology • Surgery
	<p>Track lung disease</p> <p>CT Lung Density offers a quick and easy mechanism to quantify diffuse lung disease, including emphysema, asbestosis, and black lung, as well as to localize specific, affected areas.</p>	<ul style="list-style-type: none"> • Oncology • Surgery

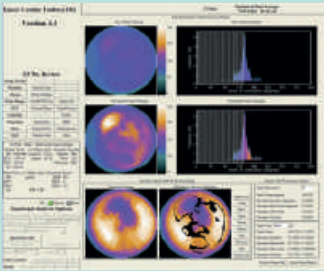
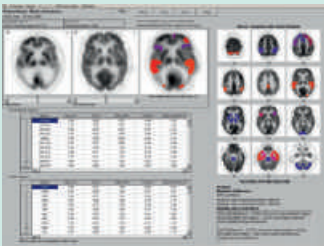
	Description	Clinical Specialty
	<p>Quantifiable perfusion</p> <p>CT Body Perfusion aids in the evaluation of acute or chronic stroke patients, as well as providing whole-organ or single-location liver perfusion. The package provides motion correction for high accuracy, and enables large coverage/low-dose imaging for superb neuro results.</p>	<ul style="list-style-type: none"> • Neurology • Oncology
	<p>Assessing myocardial defects</p> <p>CT Myocardial Defect Assessment provides visual and quantitative assessment of segmented, low-attenuation defect areas within the myocardium from a single, gated cardiac CTA scan (retrospectively-gated spiral or Step and Shoot Cardiac). The ability to derive this information from a single cardiac CTA scan reduces the need for multiple scans, and the resulting radiation. The application itself is based on the robust, automatic, model-based, whole heart segmentation from the Comprehensive Cardiac Analysis application. Myocardial Defect Assessment provides visual assessment of low-attenuation deficits within the left-ventricular myocardium via the following:</p> <ol style="list-style-type: none"> 1. Color maps shown in short-axis views 2. Segmentation maps shown on short-axis and polar plots, displayed along with long-axis reference images 3. Volumetric visualization of coronary arteries along with segmentation maps displayed as an overlay on top of a 3D myocardial surface 	<ul style="list-style-type: none"> • Cardiology
	<p>Fusing cardiac CT-NM</p> <p>Comprehensive Cardiac Analysis (CCA) incorporates support for myocardial perfusion imaging (MPI). CCA with the CT-NM Fusion option allows loading both gated and un-gated rest, and gated and un-gated stress NM datasets simultaneously with the CT. The NM images are displayed in the short axis and the two long-axis planes. The axes definition is derived from the CT study.</p>	<ul style="list-style-type: none"> • Cardiology
	<p>Quick cardiac visualization</p> <p>CT Cardiac Viewer provides a comprehensive set of tools that allows quick visualization of one or multiple cardiac phases, synchronization of multiple cardiac phases with interactive slab-MIP tools for review purposes, cine mode for cardiac axes views, and a simple "Area-Length" calculation of end systolic volume (ESV), end diastolic volume (EDV), cardiac output (CO) and ejection fraction (EF) for basic ventricular functional assessment.</p>	<ul style="list-style-type: none"> • Cardiology

4. MI clinical applications

	Description	Clinical Specialty
	<p>Enterprise-wide NM review</p> <p>The NM Viewer application provides a powerful yet simple to use NM and multimodality image review and analysis environment for clinical evaluation of NM planar, SPECT, SPECT/CT, PET/CT, and PET/MR examinations. The application offers:</p> <ul style="list-style-type: none"> • The ability to add studies to the review list and batch viewing • MPR, MIP and fused 3D volume display • Slab Viewer to view oblique slices • 2D and 3D SUV measurements: SUV Body Weight, SUV Lean Body Mass, SUV Body Surface Area, and SUV Body Mass Index • Automated 3D segmentation of lesions based on SUV value or percentage of SUV max, and the ability to export 3D contours in DICOM-RT Structure Set format to radiation therapy planning systems • A layout editor for personalized display 	<ul style="list-style-type: none"> • Oncology • Cardiology • Neurology
	<p>Enhance SPECT resolution and reduce scan times</p> <p>NM Astonish Reconstruction is an advanced reconstruction algorithm that uses a Philips-patented matched dual filtering technique to minimize noise and improve reconstructed image resolution and uniformity. Additionally, a CT attenuation map can be used in conjunction with Astonish to provide attenuation correction. By improving signal-to-noise ratio, it can provide equivalent image quality with shortened SPECT scan times, to achieve increased throughput, enhanced patient comfort and reduced motion-induced artifacts. Astonish Reconstruction Suite is compatible with the following Philips cameras only: CardioMD (acquisition software v2.x), Forte, BrightView, BrightView X, BrightView XCT, Skylight and Precedence.</p>	<ul style="list-style-type: none"> • Cardiology • Bone SPECT
	<p>Streamline nuclear medicine workflow</p> <p>The NM Processing Applications Suite provides comprehensive analysis and processing protocols for planar and SPECT studies including renal, lung, whole body/bone, cardiac (first pass, shunt and MUGA), gastric, esophageal, hepatobiliary, and endocrine applications.</p> <p>NM Processing Application Suite features Philips AutoSPECT Pro software for fast and automated SPECT reconstruction and re-orientation. It also includes a set of tools to perform daily and periodic quality assurance for SPECT cameras.</p>	<ul style="list-style-type: none"> • General Nuclear Medicine
	<p>Generate new clinical insights</p> <p>JETPack Application Suite for general nuclear medicine includes a complementary set of organ-specific applications to meet the current – and evolving – needs of nuclear medicine users, including endocrine, gastric, hepatobiliary, lung, neuro, renal, and whole body and bone applications. It allows calculation of regional cerebral blood flow, brain perfusion index, dopamine transport, liver perfusion, micturition, gastro-esophageal reflux, and more. In addition, an optional IDL* developers' kit is available for development of applications.</p>	<ul style="list-style-type: none"> • General Nuclear Medicine

* IDL is a registered trademark of Exelis Visual Information Solutions. Developer training required.

	Description	Clinical Specialty
	<p>SPECT and PET cardiovascular quantification, review and reporting</p> <p>Corridor4DM[*] is designed for advanced cardiovascular quantification and image display and includes intelligent workflow and quality assurance measures for increased accuracy. Quantify myocardial perfusion, function, and viability using multiple review screens, with integrated reporting through customizable templates. Corridor4DM also includes CT coronary calcium scoring to enhance diagnostic confidence.</p> <p><small>* Corridor4DM is a registered trademark of Invia, LLC.</small></p>	<ul style="list-style-type: none"> • Cardiology
	<p>Advanced cardiac quantification</p> <p>Developed at Cedars-Sinai Medical Center in Los Angeles, California, Cedars-Sinai Cardiac Suite 2012 provides comprehensive cardiac quantification tools for gated, perfusion, and blood pool SPECT, and quantitative PET. Widely accepted by clinicians worldwide, the Cedars Sinai Cardiac Suite 2012 application provides efficient workflow for study interpretation with exclusive integration of perfusion and function.</p> <ul style="list-style-type: none"> • Quantitative gated SPECT (QGS) • Quantitative perfusion SPECT (QPS) • Quantitative blood-pool SPECT (QBS) • Quantitative PET (QPET) • CT Fusion • DICOM Multiframe Secondary Capture (MFSC) 	<ul style="list-style-type: none"> • Cardiology
	<p>Cardiac analysis</p> <p>The Emory Cardiac Toolbox (ECTb) provides advanced tools for cardiac SPECT and PET analysis including comparison of perfusion to viability data, display of 3D images with coronary overlays and gated 3D cine, normal limits for agent match/mismatch, and optional phase analysis for wall motion and evaluation of thickening.</p> <ul style="list-style-type: none"> • Normal limits for rubidium, ammonia, and FDG protocols • Ability to display endocardial and epicardial edges on gated images • Ability to add user-defined normal files to the toolbox <p><small>Emory Cardiac Toolbox, ECTb, HeartFusion and SyncTool are registered trademarks of Emory University.</small></p>	<ul style="list-style-type: none"> • Cardiology
	<p>Evaluate fused coronary anatomy</p> <p>ECTb HeartFusion tool offers fusion of a patient's coronary tree from cardiac CT angiography with nuclear medicine perfusion images to correlate stenosis with perfusion defects and identify muscle mass at risk.</p>	<ul style="list-style-type: none"> • Cardiology


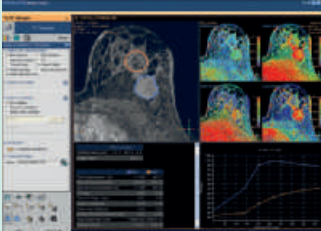
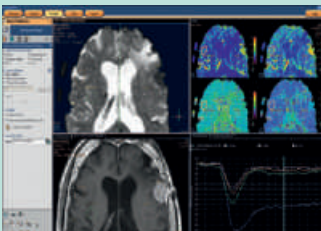
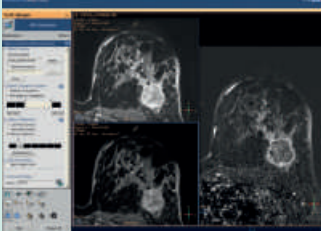
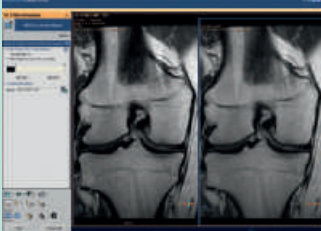
	Description	Clinical Specialty
	<p>Assess cardiac mechanic dyssynchrony</p> <p>ECTb SyncTool provides an objective evaluation of left ventricular (LV) dyssynchrony using phase analysis. It also provides the cardiologist with additional prognostic information that can be obtained from 3D perfusion images, such as the presence and location of scar tissue. The SyncTool review screen includes phase polar maps, phase histograms, and a summary of systolic wall thickening analysis including peak phase and standard deviation of the phase distribution.</p> <p>Emory Cardiac Toolbox, ECTb, HeartFusion and SyncTool are registered trademarks of Emory University.</p>	<ul style="list-style-type: none"> • Cardiology
	<p>Aiding in the differential diagnosis of dementia</p> <p>NeuroQ[®] provides automated analysis and quantification of FDG uptake in multiple brain regions to allow monitoring of disease progression. It automatically identifies and compares regional brain activity in an individual scan to activity values derived from a group of asymptomatic control subjects. NeuroQ with the EQuAL option provides a non-invasive way to determine, in advance of TLE surgery, the likelihood that a patient will become seizure-free after surgery.</p> <p>* NeuroQ was developed by Dr. D. Silverman, UCLA Medical Center and is a registered trademark of Syntermed, Inc.</p>	<ul style="list-style-type: none"> • Neurology (PET)



Easy image sharing

The **NM Enhanced DVD Viewer** is a powerful tool for sharing volumetric NM and hybrid images with referrals and other recipients of DICOM patient studies on a CD/DVD. It includes MPR, MIP, and 3D Fusion displays, triangulation and alpha blending, and 2D quantitative SUV measurements.

5. MR clinical applications

	Description	Clinical Specialty
	<p>Calculating MR Diffusion</p> <p>The MR Diffusion tool enables analysis of diffusion characteristics such as ADC, eADC, and FA in stroke cases and other diseases. Registration of the underlying data allows for reduced blurring in case of data affected by motion. The tool includes capabilities such as user-selected color coding of output maps and user-selected choice of specific b-values for the end calculation.</p>	<ul style="list-style-type: none"> • Neurology • Oncology
	<p>Assessing MR T1 (DCE) perfusion</p> <p>T1 Perfusion Analysis produces measurements of relative enhancement, maximum enhancement, time to peak (TTP), and wash-in rate. Registration of the source images in the dynamic series can remove motion sensitivity, and temporal and spatial smoothing of the input data can be performed to improve SNR. The package includes user-selected color-coding of the functional data. The maps can be viewed and stored as overlays on anatomical reference images. The opacity of the overlay is user-defined. ROI analysis is also included.</p>	<ul style="list-style-type: none"> • Oncology
	<p>Assessing MR Neuro (DSC) perfusion</p> <p>For assessing brain perfusion stroke and other diseases, the Neuro Perfusion analysis package provides mean transit time (MTT), negative integral (NI), time to peak (TTP), time of arrival (T0), and index. The tool includes the ability to register the source images of the dynamic series. Temporal and spatial smoothing of the input data can be performed to improve SNR. The package includes user-selected color-coding of the functional data, and maps can be viewed and stored as overlays on anatomical reference images. The opacity of the overlay is user-defined. ROI analysis can be performed, and an arterial input functions (AIF) can be defined if required.</p>	<ul style="list-style-type: none"> • Neurology
	<p>Calculating MR subtraction</p> <p>MR Subtraction enables subtraction calculations of dynamic studies, and also provides for computation of magnetization transfer contrast ratio (MTC) images from an appropriate set of input images. Weighting factors can be defined to influence the subtraction or MTC outcome.</p>	<ul style="list-style-type: none"> • Oncology
	<p>Calculating MR echo accumulation</p> <p>To optimize the cartilage contrast within high-resolution knee images, the MR Echo Accumulation tool enables the calculation of new images based on the selected sum of echo times. The processing provides interactive update of the results.</p>	

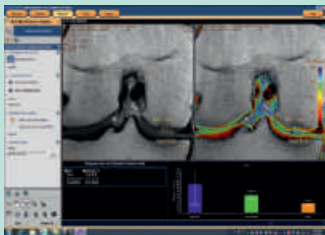
Description

Clinical Specialty



Full FOV MR images

To enable reviewing combined sets of multi-station acquisitions, **MR MobiView** stitches the images into one single, full field of view image result. This is easily accomplished with a single mouse-click in the IntelliSpace Portal Multimodality Viewer. Key clinical cases are MRA runoffs, whole body metastases screening from eye to-thighs, and total spine views to show the complete CNS. The resulting image series can be viewed, filmed, and exported using a DICOM-compliant tool.



Cartilage Assessment

For the advanced analysis of knees in cases such as sports medicine, the **MR Cartilage Assessment** tool enables the visualization of cartilage structures integrated with color-coded T2 maps. Precise positioning of cartilage-shaped, layered ROIs is used to assess variation of T2 values across the cartilage depth to determine the degradation of the cartilage.



Support for MR image processing

The Portal Routine **MR Enterprise License Package** supports processing of images acquired using Philips MR systems and a growing set of third-party scanners. Due to the need for information not supported through standard DICOM fields to perform some of the processing, multivendor capability is not supported in all cases.

6. Real-time collaboration

Web Collaboration

The IntelliSpace Portal **Web Collaboration*** option provides the ability to share image results and views with others directly from your IntelliSpace Portal applications using most standard web browsers. The Portal Web Collaboration is a zero-footprint, interactive viewing environment that requires no proprietary software.

Live views, lively discussions

Users can initiate real-time collaboration sessions via instant-invitation or by scheduling using standard PC scheduling tools. When in the collaboration session, users share the same live view of the image in the web-based image viewer and are able to interact with this shared image view using various tools for annotation and control.

The world is your community

We recognize the value in bringing users together to exchange clinical expertise and share best practices. The NetForum community is a global Internet meeting place where Philips users from around the world can collaborate online any time and any place they choose. Facilitate your own innovation and personal growth by joining thousands of other Philips users in the NetForum community.

- Benefit from the support of expert users around the globe
- Access product training, technical resources, case studies, scientific presentations, web seminars, white papers and abstracts
- Share protocols and ExamCards
- Gain upgrade advice

Send links to images

IntelliSpace Portal Web Collaboration* also allows radiologists to email links of the image results created by the Portal to authorized users. Recipients are able to click the link to get to the image in the web-based viewer.



Clinicians can dynamically interact with the images while discussing diagnosis and treatment plans either by phone or live chat, allowing for shared education between specialties and increased diagnostic confidence.



Collaboration opportunities include critical care reporting, remote consultation, and peer conferencing.

*Web Collaboration enables viewing and sharing – it is not intended for diagnosis.

7. The IntelliSpace Portal keeps it simple

IntelliSpace Portal provides multimodality display of CT, MR, and NM datasets. Proprietary technology streams display to the client device over a LAN, WAN, or any broadband Internet connection through the hospital's VPN (virtual private network) without the need to download the CT, MR or NM data to the client PC. The "heavy lifting" and complex processing of the data is done on the server.

Improve workflow

Enhance productivity through reduced pre-processing times and efficient access to tools and information for quicker diagnostic decisions.

Faster decision-making

The powerful Enhanced Zero Click Performance Option automates image processing, reducing exam work-up times by up to 80% when compared with our previous systems.

Twice the view

Workflow is enhanced through the use of dual monitors.

Stay on the cutting edge

IntelliSpace Portal is updated continually through the server, providing desirable simplicity and scalability while eliminating the need to acquire multiple workstations by modality and specialty over the years.

Make the most of your PACS

IntelliSpace Portal features proven open interfaces for connecting with Philips PACS and PACS from other vendors, allowing radiologists to review and complete entire cases in one session, without leaving their chairs.

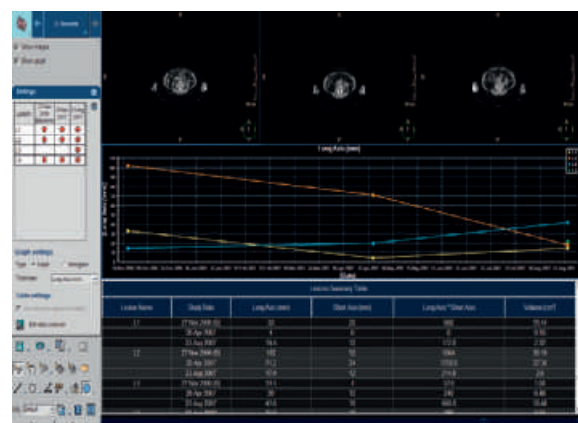
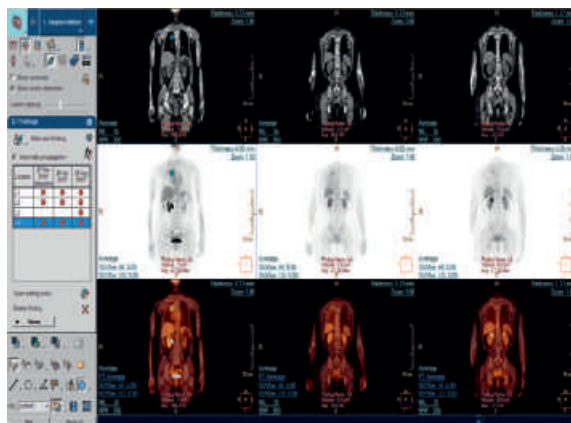
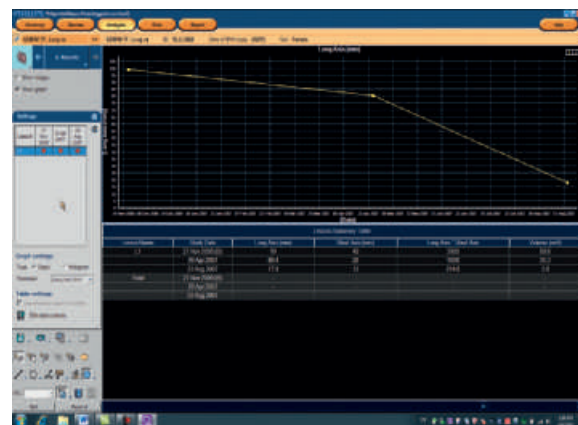
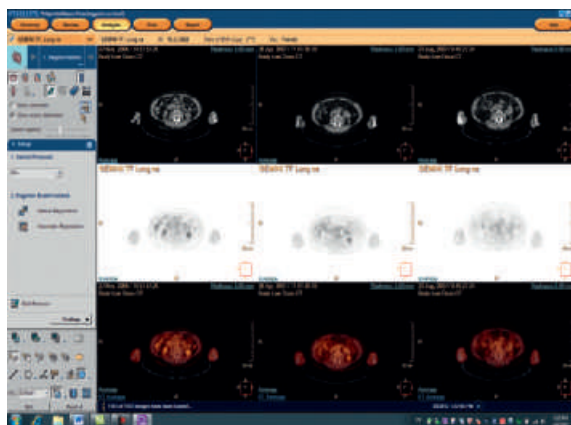


8. Multimodality Tumor Tracking

Multimodality Tumor Tracking offers efficient tools to assist clinicians in monitoring change in disease status, including disease progression or assessment of therapy response using sequential PET/CT, SPECT/CT, MR, and CT exams. It includes automatic segmentation of target lesions and quantified results over time.

Clinical solution for:

- Oncology



The application provides automatic and standardized measurements of tumor progression, including RECIST, WHO, and PERCIST measurements, and tumor burden calculation.

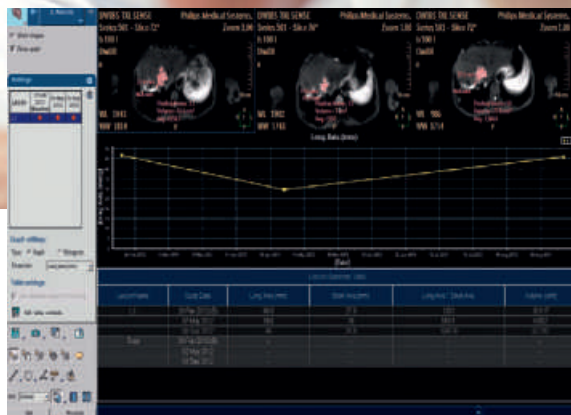
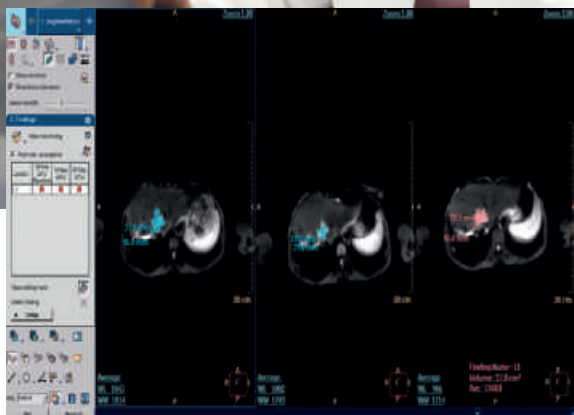
“The MMTT application has really helped us simplify and streamline our workflow. It has all the necessary tools for comprehensive oncologic evaluation of the dataset. This application is a real time-saver for the radiologists.”

J. Louis Rankin, BS, RT(R)(MR)(PET), 3D Lab Technical Coordinator
Imaging Services, Franciscan St. Francis Health

Image co-registration

The Automatic Registration Tool provides automated 3D registration of multimodality studies (PET, SPECT, CT, and MR). The user can select from one of the following image co-registration methods:

- Automatic Registration
 - Local correlation
 - Cross correlation
 - Normalized mutual information
- Semi-automatic method using match points
- Interactive method using image translation and rotation



View registration and segmentation across multiple studies over time.

9. System specifications and requirements

- Unlimited number of client installs
- Number of concurrent users only subject to available server resources
- High-performance image manipulation
- Dual-monitor support

- **Pre-fetch, Redundant Application Availability, 5 TB Extended Storage and Multimodality Web Collaboration** purchasable options available



IntelliSpace Portal v5 DX, HX, EX configurations

Feature	Specification
Server hardware specifications	Dell™ PowerEdge T610/T620 Tower Chassis or R620 Rack Mounted
Server software specifications	<ul style="list-style-type: none"> • Windows Server 2008 R2 64 bit • Philips IntelliSpace Portal server software, including: <ul style="list-style-type: none"> – Proprietary Portal Server Application – IntelliSpace Portal management application for managing user database and additional settings • McAfee® antivirus software • Networking <ul style="list-style-type: none"> – TCP/IP protocol only – Gigabit network card(s) – Static IP address • Security <ul style="list-style-type: none"> – No unused Windows services running – No shared drives – Windows access control defined by client (hospital site IT) – Encrypted users/groups database file – User management application available only to defined Portal administrators – Encrypted transfer over the network of username and password information – Event logging – Windows firewall • Administrative access through server console or remote desktop
Server power requirements	Dual power supplies for 120-240V AC
Network requirements	<ul style="list-style-type: none"> • Dedicated 1 Gigabit/S connections between IntelliSpace Portal servers (in case of a multi-server deployment) • LAN Network bandwidth 100 Mbit/S and above (1 Gigabit/S or above recommended) • VPN access (optional) • Domain based network environment (recommended)

Feature	Specification
Client hardware requirements*	<ul style="list-style-type: none"> • Screen resolution: 1280 x 1024 or above (recommended) or 1024 x 768 (minimum) • Minimum screen resolution for NM applications: 1280 x 1024 <ul style="list-style-type: none"> – Up to 3 megapixel monitors are supported – No support for monochrome or grayscale-only monitors – 96 DPI – 24 bpp (or higher) color depth monitors – Dual monitor capability requires adequate support of client display card and driver • Processor (CPU) <ul style="list-style-type: none"> – Minimum: Intel Core 2 Duo 1.8 GHz /Intel Quad core 1.6 GHz/AMD Athlon 64 1.8 GHz; – Minimum for NM Apps and/or when other applications are running in parallel (e.g. PACS clients): Intel Core 2 Quad 2.4 GHz / AMD Phenom II X3 Triple core 2.8 GHz – Recommended: Intel Core 2 Quad 2.4 GHz / AMD Phenom II X3 Triple core 2.8 GHz – or equivalents/ higher • Memory (RAM) <ul style="list-style-type: none"> – Minimum: 2GB RAM – Minimum: 4GB RAM for clients also running PACS – Minimum for NM Applications and/or when other applications are running in parallel: 4 GB RAM – Recommended: 4 GB RAM or above • Network adapter speed: 100 Mbit/s or above • Free disk space on C: drive: 3 GB or higher: <ul style="list-style-type: none"> – Additional 5 GB of free disk space required to burn DVDs • 3-button mouse
Client software requirements	<ul style="list-style-type: none"> • Supported Operating Systems: <ul style="list-style-type: none"> – Windows XP® (32 and 64 bit) with SP2 or above – Windows Vista® (32 and 64 bit) – Windows 7® (32 and 64 bit) – Windows 7 and Windows Vista require an administrative account for initial installation – .NET® framework 3.5 with SP1 or higher • Ability to add the IntelliSpace Portal to the firewall exception list • Additional software recommended (for optional functionality): <ul style="list-style-type: none"> – Adobe Acrobat Reader (for Reports and Help) – Adobe Flash Player (for online training applications) – Windows Media Player 9.0 or above (for saving movies) – IMAPIv2 (for burning CD/DVD)
Recommended remote or home connection specifications	<ul style="list-style-type: none"> • Network bandwidth and latency: 5 Mbit/s or above download speed, 512Kbit/s or above upload speed, with latency <20ms • Network bandwidth and latency for NM applications: 10 Mbit/s or above download speed, 1Mbit/s upload speed with latency < 10ms • Network bandwidth/latency for NM 3rd Party Applications (AutoQuant, Corridor4DM, ECTb, NeuroQ): 100 Mbps download/10 Mbps upload with <10ms latency

IntelliSpace Portal v5 – Clinical applications portfolio

Feature	Option
Standard features and functionality	<ul style="list-style-type: none"> • CT Viewer • Multimodality Viewing (CT, NM, MR) • Volume rendering • Endo View • VIP, surface MIP, MIP, minMIP, and average displays • Full slab review capabilities • Multiplanar reformations in curved, paddlewheel, and MasterCut • Full 2D capabilities, including compare, pan, zoom, scroll, region of interest (ROI), and annotation • High-priority login for emergencies, regardless of network traffic • Lossy or lossless compression
Multimodality applications	<ul style="list-style-type: none"> • Multimodality Tumor Tracking • Reporting
CT clinical applications	<ul style="list-style-type: none"> • CT Advanced Brain Perfusion • CT Brain Perfusion Time Insensitive Maps (Assist) • CT Comprehensive Cardiac Analysis • CT-NM MPI Cardiac Fusion • CT Advanced Vessel Analysis (AVA) – Stenosis • CT Advanced Vessel Analysis (AVA) – Stent Planning • CT Calcium Scoring • CT Cardiac Viewer • CT Cardiac Plaque Assessment • CT EP Planning • CT Myocardial Defect Assessment • CT Dental Planning • CT Body perfusion (Functional CT) • CT Lung Density • CT Lung Nodule Assessment (LNA) • CT Virtual Colonoscopy with Perspective Filet View • CT Virtual Colonoscopy CAR*** • CT Virtual Colonoscopy Electronic Cleansing*** • CT Lung Nodule CAD*** • CT Liver Analysis • Enhanced Zero-click Performance (pre-processing)
MI clinical applications	<ul style="list-style-type: none"> • NM Review • NM Processing Application Suite (includes Philips AutoSPECT and JETPack v2.5 applications) • NM Astonish Reconstruction • NM ExSPECT II Vantage • Cedars Sinai Cardiac Suite 2012**: – AutoQUANT SPECT** – NM AutoQUANT** – NM/CTA Cedars Fusion** – Cedars MFSC** • Corridor4DM – SPECT** • Corridor4DM – NM** • Corridor4DM – CT Option** • Emory Cardiac Toolbox (ECTb) – SPECT • Emory Cardiac Toolbox (ECTb) – PET • Emory Cardiac Toolbox (ECTb) – NM • Emory Cardiac Toolbox (ECTb) – HeartFusion • Emory Cardiac Toolbox (ECTb) – SyncTool • NM NeuroQ • NM EQual • IDL Developers' Kit • NM Enhanced DVD Viewer
MR clinical applications	<ul style="list-style-type: none"> • Neuro Perfusion • MR Diffusion • T1 Perfusion • MR Subtraction • MobiView • Cartilage Assessment • Echo Accumulation • MR Permeability***

* The minimum requirements specifications are the estimated minimal specifications required to run the IntelliSpace Portal client. If your computer has less than the "minimum requirements", you will not be able to properly install or use the IntelliSpace Portal client. Actual requirements will vary based on the IntelliSpace Portal application you run and other software applications you run on the system in parallel with the IntelliSpace Portal client (e.g. PACS/RIS client, Dictation software, etc.). For optimal performance of IntelliSpace Portal client and typically on clients where additional applications are expected to run in parallel to the IntelliSpace Portal

client itself (e.g. PACS/RIS Client, Dictation software etc.). Clients are required to be equipped with stronger HW specifications beyond the minimum specifications (RAM and Processor) to allow optimal performance of IntelliSpace Portal client in parallel to other software applications running on the client system.

** Not available for sale in all countries. Please check for availability in specific countries.

*** Not available for sale in the US.

Networking and DICOM

The IntelliSpace Portal complies with IHE standards. DICOM 3.0 functionality includes:

- Storage service class as a user
- Storage service class as a provider
- Query/retrieve service class as a user
- Print service class as a user
- Storage commitment service class as a user
- Archiving and networking of images in DICOM 3.0 protocol/format for:
 - Computed Tomography (CT)
 - Magnetic Resonance (MR)
 - Nuclear Medicine (NM)
 - Computed radiology
 - Radiography and fluoroscopy (R&F)

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Environmental	DX/HX/EX with Dell PowerEdge T620/R620 servers
Operating temperature	10°C – 35°C (50°F – 95°F)
Storage temperature	-40°C – 65°C (-40°F – 149°F) with a maximum temperature gradation of 20°C per hour
Operating relative humidity	10% to 80% relative humidity
Storage relative humidity	5% to 95% at a maximum wet bulb temperature of 33°C (91°F); atmosphere must be condensing at all times
Operating vibration	0.26 Grms at 5Hz to 350Hz in all orientations
Storage vibration	1.87 Grms at 10Hz to 500Hz for 15 minutes
Operating shock	Half sine shock in all operational orientations of 31G ± 5% with a pulse duration of 2.6ms ± 10%
Storage shock	Half sine shock on all six sides of 71G ± 5% with a pulse duration of 2ms ± 10%; square wave shock on all six sides of 27G with velocity change at 235 in/sec or greater
Operating altitude	-15.2m to 3048m (-50 ft to 10,000 ft)
Storage altitude	-15.2m to 12,000m (-50 ft to 39,370 ft)

Please visit www.philips.com/intellispaceportal



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